

**Ministry of Trade and Industry
National Board for Small Scale Industries
Republic of Ghana**

**National KAIZEN Project
in Republic of Ghana**

Project Completion Report

January 2019

JAPAN INTERNATIONAL COOPERATION AGENCY

**PADECO Co., Ltd.
World Business Associates Co., Ltd.**

IL
JR
19-004



Basic KAIZEN Training, Exercise
(May 2016)



Basic KAIZEN Training, Group photo
(June 2016)



Advanced KAIZEN Training,
KAIZEN implementation (July 2017)



Advanced KAIZEN Training,
KAIZEN implementation (July 2017)



KAIZEN Forum @ Accra
(September 2018)



7th JCC Meeting
(October 2018)

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Abbreviations and Acronyms

AGI	Association of Ghana Industry
AS	Ashanti
ASSI	Association of Small Scale Industries
AU	Administration Unit
BA	Brong Ahafo
BAC	Business Advisory Centre
BDO	Business Development Officer
BDS	Business Development Services
BRC	Business Resource Centre
BUSAC Fund	Business Sector Advocacy Challenge Fund
CDO	Community Development Officer
COTVET	Council for Technical and Vocational Education and Training
C/P	Counterpart
CR	Central
DAC	Development Assistance Committee
DANIDA	Danish International Development Agency
DFI	Department of Factory Inspectorate
DFID	Department for International Development
DoG	Department of Gender
EDA	Enterprise Development Authority
ED	Executive Director
EDAIF	Export Trade, Agricultural and Industrial Development Fund
EDD	Entrepreneurship Development Department
EU	European Union
EXIM Bank	Export-Import Bank
FDA	Food and Drug Authority
FIFO	First In First Out
FZA	Free Zone Authority
GA	Greater Accra
GASIP	Ghana Agriculture Sector Investment Programme
GEPA	Ghana Export Promotion Authority
GHS	Ghana cedi
GIZ	Deutsche Gesellschaft fuer Internationale Zusammenarbeit
GoG	Government of Ghana
GRATIS	Ghana Regional Appropriate Technology Industrial Service
GSA	Ghana Standard Authority
GTV	Ghana Today Television
GWES	Ghana Women Entrepreneurship Summit
HACCP	Hazard Analysis and Critical Control Point
HO	Head Office
HRD	Human Resource Development
ICT	Information and Communication Technology

IE	Industrial Engineering
ISSER	Institute of Statistical, Social and Economic Research
IFAD	International Fund for Agriculture Development
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
JPY	Japanese Yen
KGI	Key Goal Indicator
KMC	Knowledge Management Centre
KNUST	Kwame Nkrumah University of Science and Technology
MM	Man-Month
MMDA	Metropolitan, Municipal and District Assemblies
MOC	Memorandum of Cooperation
MOF	Ministry of Finance
MOFA	Ministry of Food and Agriculture
MOLG	Ministry of Local Government
MOTI	Ministry of Trade and Industry
MOU	Memorandum of Understanding
MSEs	Micro and Small Enterprises
MSMEs	Micro, Small and Medium Enterprises
NBSSI	National Board for Small Scale Industries
NR	Northern
OJT	On-the-Job Training
OSHEM	Occupational Safety, Health and Environment Management
PCR	Project Completion Report
PDCA	Plan-Do-Check-Action
PDM	Project Design Matrix
PM	Preventive Maintenance
PMU	Project Management Unit
PPME	Policy Planning, Monitoring and Evaluation Department
PR	Public Relations
PSDS	Private Sector Development Strategy
QC	Quality Control
RCC	Regional Coordinating Council
RDF	Rural Development Fund
R/D	Record of Discussions
RECOMEP	Regional Committee on Micro and Small Scale Enterprises Promotion
REP	Rural Enterprise Programme
RM	Regional Manager
RTF	Rural Technology Facility
SDF	Skill Development Fund
SDGs	Sustainable Development Goals
SME	Small and Medium Enterprises
SNS	Social Networking Service
TOT	Training of Trainers

TQM	Total Quality Management
TU	Technical Unit
UCC	University of Cape Coast
UDS	University for Development Studies
UE	Upper East
UNDP	United Nations Development Programme
USD	United States Dollar
UW	Upper West
WEDD	Women Entrepreneurship Development Department
WG	Working Group
W/P	Work Plan
WS	Workshop
1D1F	One District One Factory

1. Summary of Project Implementation

1.1 Outline of Project

1.1.1 Background of Project

In Ghana, the private sector is dominated by a very large number of micro, small and medium enterprises (hereinafter referred to as “MSMEs”). Especially in the manufacturing sector, 99.5% of companies are MSMEs and 66% of workers are employed by MSMEs. To facilitate the sustainable growth of the Ghanaian economy, diversification of industries is indispensable, and promotion of the manufacturing sector, particularly MSMEs, is important. However, MSMEs face many challenges including inadequate working capital, human resources, managerial/technical knowledge/skills, and ascertaining why the private sector in Ghana remains uncompetitive both locally and internationally. The weak linkage between companies, such as an undeveloped subcontract structure, and undeveloped material and processing industries, are big challenges facing the Ghanaian industrial structure. Companies have been depending on the import of raw materials, resulting in high production costs, which hinder the growth of the manufacturing sector.

In order to ensure effective promotion of Micro and Small Enterprises (hereinafter referred to as “MSEs”), the National Board for Small Scale Industries (hereinafter referred to as “NBSSI”) under the Ministry of Trade and Industry (MOTI), has established Business Advisory Centres (hereinafter referred to as “BACs”) to support MSEs development supported by the Rural Enterprise Programme (REP). Currently, BACs have been established in 177 districts nationwide. They support MSEs by delivering Business Development Services (hereinafter referred to as “BDS”) as providers as well as facilitators. Although the capability of BACs is relatively high, further capacity development is needed to enable them to provide specific BDS in response to clients’ actual and potential needs. NBSSI and Japan International Cooperation Agency (JICA) have been implementing the Project for Formulating a Strategic Model for Quality/Productivity Improvement through Strengthening BDS for MSEs (hereinafter referred to as “the Previous Project”) from 2012 to 2015. The Previous Project is demonstrating positive results on a pilot basis and the Strategic Model has been verified as a capacity development approach in the Ashanti Region, for nation-wide application.

With this background, as a successor project, the Technical Assistance request of the National KAIZEN Project (hereinafter referred to as “the Project”) to Japan was made by the Government of Ghana (hereinafter referred to as “GoG”), and JICA dispatched the project formulation mission in March 2015 to mutually finalize and agree upon the assistance framework of the Project.

1.1.2 Scope of Project

The scope of the Project including the Project period, target area, counterpart (C/P) and beneficiaries is listed below.

Table 1-1 Scope of the Project

Project Period	October 2015 to January 2019
Target Area	Ashanti, Northern, Brong Ahafo (BA), Central and Greater Accra Region ¹
Counterpart	NBSSI Head Office, NBSSI Regional Offices in the target regions, pilot BACs in new target regions and BACs in the Ashanti Region Project Director: Mr. Lukman Abdul-Rahim, Executive Director, NBSSI (until April 2017) Ms Kosi Yankey, Executive Director, NBSSI (from May 2017) ²

¹ Greater Accra Region has been added by the Contract Amendment dated 19th April 2017

² Ms. Kosi Yankey took over the Executive Director of NBSSI from Mr. Lukman Abdul-Rahim in April 2017.

	Project Manager: Mr. Saeed Owusu-Brobbe, Deputy Executive Director, NBSSI (until March 2018) ³ Mr. Bashir Manu, Regional Manager, NBSSI Ashanti (from June 2018)
Beneficiaries	Direct Beneficiaries: <ul style="list-style-type: none"> • Nine (9) officers from NBSSI Head Office • Sixteen (16) officers from NBSSI Regional Offices in the target regions • Twenty-five (25) pilot BACs in new target regions • Twenty-one (21) BACs in the Ashanti Region Indirect Beneficiaries: <ul style="list-style-type: none"> • Non-pilot BACs in three (3) new target regions • MSMEs in the target regions
Overall Goal	
Enterprise Diagnosis and KAIZEN methods are introduced in all regions, and also micro, small and medium enterprises (MSMEs) that have practised KAIZEN activities recommended by the National Board for Small Scale Industries (NBSSI) show improvements in their quality and productivity.	
Project Purpose	
Capacity of NBSSI on its Business Development Service (BDS) provision and facilitation is strengthened in the four target regions through the application of Enterprise Diagnosis and basic and advanced KAIZEN methods.	
Outputs	
Output 1: Management capacity of NBSSI Regional Office of three (3) new target regions is strengthened through the application of a Workflow for management improvement.	
Output 2: Capacity of pilot BACs of three (3) new target regions on their BDS provision and facilitation is strengthened through the application of Enterprise Diagnosis and KAIZEN methods.	
Output 3: Capacity of BAC trainers on their KAIZEN provision is strengthened through the application of advanced KAIZEN methods in Ashanti region.	

Map of the Project site is shown as below.

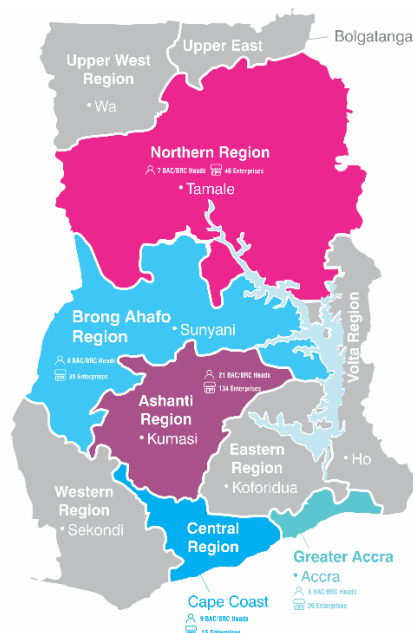


Figure 1-1 Map of Project Site

³ Mr. Saeed Owusu-Brobbe, Deputy Executive Director, NBSSI retired in March 2018.

1.1.3 Policy of Project Implementation

(1) Policy from a Technical Aspect

Policy 1: Aim at the continuous capacity development and dissemination mechanism of KAIZEN with the utilization of the achievements in Previous Project taking root in the target Regional Offices and BACs, with further standardization based on due consideration of local situation

The Strategic Model developed in the Previous Project which used the Ashanti Region as a pilot is the framework and model of NBSSI Regional Offices supporting the continuous capacity development of BACs, and hence subsequently contributing to the improvement of their client enterprises through the new BDS including KAIZEN instructions, both provided and facilitated by BACs. In the Project, the comprehensive and standardized model of each component in terms of human resources, the organizational structure and the reference materials in the Strategic Model, were further elaborated upon to accommodate the culture and environment in Ghana based on the lessons learned from the Previous Project, which enabled easy understanding and application to any Regional Office.

The development of the reference materials was enhanced to add applied cases in Ghana, and also focused to develop more tools and instruments for BDS related KAIZEN, and Public Relations (PR) methodology and its application. MSMEs in the main staple industries of each region were selected for On-the-Job Training (OJT) recipient enterprises, and good practices of KAIZEN application by these MSMEs were accumulated to be referenced in region wide application and to other enterprises, which enables them to contribute to the development of the local economy.

Policy 2: Introduce structured KAIZEN, including basic and advanced KAIZEN techniques, to demonstrate the continuous and concrete impact on the enterprises

- 1) To maximize the impact of KAIZEN it is essential to induce commitment from enterprises; the visible impacts of KAIZEN could further motivate enterprises to continue KAIZEN activities. The visualization of KAIZEN impacts on companies, their main production and further enhancement of the impact by continuing KAIZEN, was focussed to advocate the basic and advanced KAIZEN by utilizing Japanese techniques and experiences.
- 2) The manuals and formats for technical standards, assessment methodologies, Training of Trainers (TOT), and Enterprise Diagnosis and KAIZEN were formulated in the Previous Project, and clearer assessment methodologies and indicators were developed.
- 3) The standard training programme with comprehensive and sufficient contents for BACs to take on were set out beforehand and updated with an aim to facilitate BAC to conduct the advanced KAIZEN independently after the training.
- 4) Incentives mechanism to induce the indigenous motivation were suggested to NBSSI.

Policy 3: Strengthen the management capacity of NBSSI

- 1) The Project Management Unit (PMU) was set out in the NBSSI Head Office to implement the nationwide expansion. Hence, PMU was required to plan, implement and monitor the Project. Regular meetings with PMU, the Ashanti Regional Office, Project Team were held to closely communicate and effectively manage the Project.

- 2) The Technical Unit (TU) to support the Regional Manager for planning and management of the activities and Administration Unit (AU) in charge of arrangement and logistics were set up in each targeted region. The training to TU and AU in addition to the Regional Manager in the other Regional Offices were well supported to enhance the capacity of the implementation of the Workflow.
- 3) The institutional capacity development was focused on to maintain the capacity in case the transfer and unknown retirement of personnel in the organization occurs.

Policy 4: Prioritize the measures to ensure the national expansion

- 1) A close consultation with MOTI and the senior management level of NBSSI Head Office was maintained, thus enabling the NBSSI to promote continuous communication with the other programmes, donors and concerned parties.
- 2) The Project Team supported efforts to disseminate this mechanism to secure the source of funding in terms of budget enhancement and sustainability of the BDS provision/facilitation by NBSSI in the subsequent national expansion plan and also introduce KAIZEN related BDS to the MSME development programme, i.e. Rural Enterprise Programme (REP), Skills Development Fund (SDF).
- 3) To make the national expansion in the post-Project period in the MOTI and NBSSI Head Office mainstream, the results and the progress were shared in the Joint Coordination Committee (JCC) meetings as a common and fixed item in the agenda, to foster understanding, and to specify the target setting of the national expansion.
- 4) The Project Team supported the detailed action plan development for the national expansion and its implementation

(2) Policy from a Management Aspect

Policy 1: Allocate Japanese experts' field assignments efficiently, and establish the management structure

The target areas were wide-spread, and the C/Ps also vary, such as conducting training on the Workflow and KAIZEN in various regions, and also various discussion points take place in NBSSI Head Office. The Project Team formulated the management system consisting of a Chief Advisor and Deputy Team Leader, sharing the responsibility of managing and coordinating various Project activities at the national, regional and district level, with regular monitoring and close communications.

Policy 2: Take measures in management of special concerns particular to Ghana

The following special considerations of indigenous features were taken to the Project management based on the experience and lessons learned from the Previous Project:

It is important to stipulate the roles and responsibilities, goals, and the way of coordination among participants, to bind them together. The demarcation of responsibilities among different participants in the Project were identified and stipulated in a written document, i.e. agreement or memorandum, so that each participant responsibly took on an initiative to bear fruitful outcomes from their activities.

The regulations agreed upon by all concerned donors were followed in terms of the payment of daily allowances, accommodation and transportation fees for activities, and the setting of the payment conditions and terms were in line with JICA Ghana Office internal regulations.

Policy 3: Realize active discussions with the JICA side, and risk management

Activities were implemented in the various regions and with various concerned parties, for instance Head Office, Regional Offices and BACs scattered throughout the various areas. The decision and arrangements were made through close consultation with NBSSI, the Project Team and JICA on a regular basis, to ensure positive outcomes from Project activities. Some of the concerning issues which might cause delay or become obstacles for Project implementation were reported prior to them occurring or when noticeable, and also stated in the Project monitoring items, and in the case these issues or risks were realized, the Project Team informed C/Ps and JICA and found countermeasures for smooth implementation.

1.2 Change from Original Plan

There was no change in the Project Design Matrix (PDM), however the target area and Plan of Operation were changed. The changes from the original plan are summarised below.

Table 1-2 Change from Original Plan

Period	Original Plan	Change	Reasons
Oct. 2015	The Project office was originally located in NBSSI Head Office in Accra.	Two offices have been located in NBSSI Head Office and NBSSI Ashanti Regional Office in Kumasi	The electricity supply in Accra was not stable and transfer efficiency between the Project office and the activity sites was better in Kumasi.
Feb. 2016	Target participants of lecture of basic KAIZEN: Pilot BAC Heads in the target regions, namely Northern, BA and Central	Target participants of lecture of basic KAIZEN: All BAC Heads in the target regions and four (4) BAC Heads who have newly assigned in Juaso, Nkawie, Kuntense and Manso Nkwanta in the Ashanti Region	Non-pilot BAC Heads were included in the lecture session to enable the acceleration of the regional expansion of KAIZEN methods to the remaining BACs in the BA, Central and Northern Region.
1) Mar. 2016 2) Mar. 2017 3) June 2018	NA	1) KAIZEN Knowledge Sharing Seminar in Ethiopia 2) KAIZEN Knowledge Sharing Seminar in Kenya 3) Africa Annual KAIZEN Conference in South Africa were added.	Dr. Ozawa and C/Ps attended the following seminars: 1) KAIZEN Knowledge Sharing Seminar in Ethiopia in March 2016 2) KAIZEN Knowledge Sharing Seminar in Kenya in April 2017 3) Africa Annual KAIZEN Conference in Durban, South Africa in July 2018 (0.83 Man-Month (MM) of field assignment by Dr. Ozawa and Ms. Yokoyama, three-times travel by Dr. Ozawa were added.)

Period	Original Plan	Change	Reasons
Apr. 2017	Target Areas Ashanti, Northern, BA, Central Regions and Accra	Target Areas Ashanti, Northern, BA, Central and Greater Accra Regions	There was a challenge in identifying sufficient OJT MSMEs in the Ashanti Region to which various advanced KAIZEN methods could be applied to. (7.29 MM of field assignment and 0.90 MM of assignment in Japan by Ms. Yokoyama, Mr. Tajima, Mr. Yoshida and Mr. Yamamoto were added.)
Apr. 2017	The MSMEs in the Ashanti Region were targeted for OJT of advanced KAIZEN.	MSMEs in the Greater Accra Region were added.	
Apr. 2017	Output 2	“2-6: Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the pilot BACs” was added to activities in Output 2.	BAC Heads were required to improve their skills in follow-up of MSMEs, which includes providing instruction and advice to the enterprises, considering their business environmental change, and measuring the KAIZEN impact. Therefore, further training on follow-up by the Japanese Experts was added.
Apr. 2017	Output 3	“3-8. Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the BAC trainers” was added to activities in Output 3.	(1.44 MM of field assignment and twice-travel were added for Mr. Tajima, Mr. Tamada and Mr. Yoshida)
Apr. 2017	100 MSMEs were targeted for three years, to be provided KAIZEN as regular work of Ashanti BACs covered by the NBSSI current budget or funds from the REP.	The BAC’s self-implementation of KAIZEN to approximately 100 MSMEs in the Ashanti, Northern and BA Region was supported by Project. JPY 4.2 million for activities was added.	The self-implementation of KAIZEN is essential to enhance the acknowledgement of KAIZEN, and strengthen BAC’s capacity in KAIZEN instruction, however the budget for implementation could not be secured. (0.60MM of assignment in Japan by Ms. Yokoyama was added.)
Apr. 2017	PR activities were conducted in the target regions and districts to which KAIZEN is introduced.	Nation-wide PR activities are conducted.	In order to accelerate nation-wide expansion of KAIZEN, the current NBSSI PR plan needed to be reviewed and PR activities were supported. (1.50 MM of field assignment for Mr. Yamamoto was added.)
Sep. 2018	Output 2 The mechanism should be considered to continuously enhance the capacities of trained BACs.	Training to improve trainer skills in lecturing and OJT for pilot BAC Heads in the target three regions were added.	To achieve the overall goal, it is necessary that selected BAC Heads who were trained in basic KAIZEN are able to deliver lectures and implement OJT with BAC Heads in the remaining regions, namely the Greater Accra, Upper East, Eastern, Upper West, Western and Volta Region. (0.93MM of field assignment by Ms. Yokoyama and Mr. Tamada was added.)
Equipment			
Feb. 2016	NBSSI Northern Regional Office	1 Air Conditioner, 1 Conference Desk, 23 Chairs	The conference rooms were to be hired for the OJT session of basic

Period	Original Plan	Change	Reasons
May 2017	NBSSI BA Regional Office	1 Air Conditioner, 1 Conference Desk, 8 Chairs	KAIZEN in the Northern, BA Region and advanced KAIZEN in the Greater Accra Region, however it turned out that the Regional Office could accommodate the BAC Heads and the Project Team, and the cost of the training could therefore be reduced.
Jun. 2017	NBSSI Greater Accra (GA) Regional Office	3 Air Conditioner, 3 Conference Desks, 23 Chairs	
Apr. 2017	Procurement of laptop computers to Northern, BA and Central Region.	Procurement of 19 laptop computers to NBSSI Ashanti Regional Office and BACs.	The laptops procured for the Ashanti BACs in 2012 required frequent maintenance due to aging degradation. Replacement of laptops was requested by NBSSI to ensure smooth and efficient delivery of the service to the clients.

1.3 Actual Inputs

1.3.1 Japanese Experts

The table below shows the actual assignment of the Japanese Experts both in Ghana and Japan.

- Original Plan: Field 2,091 days (69.70MM) Japan 30 days (1.50MM)
- Actual: Filed 2,428 days (80.93MM) Japan 116 days (5.80MM)

Table 1-3 Assignment of Japanese Experts

No.	Name (Position)	Period			Reasons of Change
		Year	Field	Japan	
1	Dr. Ryoichi Ozawa (Chief Advisor/ MSE Development)	Planned	237 days (7.90MM) Travel :10 times	8 days (0.40MM)	<ul style="list-style-type: none"> • Added MM and travel to participate in KAIZEN Knowledge Seminar and Africa KAIZEN Annual Conference. • Split the field assignment for follow-up of activities.
		Actual	234 days (7.80MM) Travel: 14 times	8 days (0.40MM)	
	<u>Main Responsibility</u> <ul style="list-style-type: none"> • Management of overall Project • Monitoring • Capacity development of NBSSI Head Office • Facilitation on collaboration with other institutions 	2015	1) 6 Oct. – 20 Nov. 46 days	2, 5 Oct. 2 days	
		2016	2) 12 Mar. – 31 Mar. 20 days	7 Oct. 1 day	
			3) 22 Jun. – 8 Jul. 7 days		
			4) 21 Sep. – 1 Oct. 11 days		
			2017	5) 19 Feb. – 10 Mar. 20 days	
		6) 25 Apr. – 30 Apr. 6 days		18, 21 Aug.	
		7) 16 Jul. – 5 Aug. 21 days			
		8) 10 Sep. – 30 Sep. 21 days			
		9) 5 Nov. – 15 Nov. 11 days			
		2018	10) 24 Feb. – 10 Mar. 15 days	10, 11 Oct. 2 days	
			11) 27 May – 9 Jun. 14 days		
			12) 1 Jul. – 6 Jul. 6 days		
13) 21 Jul. – 28 Jul. 8 days					
14) 19 Sep. – 6 Oct. 18 days					
2	Ms. Risa Yokoyama (Deputy Team Leader/ Training Facilitation)	Planned	436 days (14.53MM) Travel: 9 times	0 day (0.00MM)	<ul style="list-style-type: none"> • Transfer of assignment from Chief Advisor, PR Facilitation/ Project Coordination
		Actual	564 days (18.80MM) Travel: 13 times	12 days (0.60MM)	
	<u>Main Responsibility</u> <ul style="list-style-type: none"> • Planning and management of Project activities/ Training 	2015	1) 3 Oct. – 28 Nov. 57 days	-	
		2016	2) 16 Jan. – 7 Apr. 83 days	-	
			3) 9 May – 7 Jul. 60 days		
			4) 7 Nov. – 27 Nov. 21 days		
		2017	5) 21 Jan. – 4 Apr. 74 days	11, 27 Oct. 3 days	
			6) 6 May – 16 Jul. 72 days	28 Nov.	

No.	Name (Position)	Period			Reasons of Change
		Year	Field	Japan	
	<ul style="list-style-type: none"> Base-line/ End-line Survey Capacity development of NBSSI Regional Offices Coordination at regional/district level 		7) 13 Sep. – 1 Oct. 19 days 8) 4 Dec. – 23 Dec. 20 days 9) 7 Jan. – 22 Feb. 47 days 10) 19 May – 22 Jun. 35 days 11) 29 Jun. – 20 Jul. 22 days 12) 23 Sep. – 3 Nov. 42 days 13) 27 Nov. – 8 Dec. 12 days	5 Jan., 9 days 1,14 Mar. 19, 23, 24 Apr. 28, 29 Aug., 5 Sep.	<ul style="list-style-type: none"> Management of additional tasks, 100 KAIZEN, TOT etc.
3	Mr. Satoru Tajima (Productivity Improvement 1) <u>Main Responsibility</u> <ul style="list-style-type: none"> Supervise basic KAIZEN training Train BAC Heads on advanced KAIZEN Training in Japan 	Planed 444 days (14.80MM) Travel: 8 times Actual 501 days (16.70MM) Travel: 9 times	11 days (0.55MM)	<ul style="list-style-type: none"> Additional tasks, such as follow-up and advanced KAIZEN training in Accra 	
		2015 1) 27 Oct. – 10 Dec. 45 days 2016 2) 19 Jan. – 27 Mar. 69 days 3) 23 May – 14 Jul. 53 days 2017 4) 23 Jan. – 2 Apr. 70 days 5) 8 May – 6 Aug. 91 days 6) 10 Sep. – 7 Oct. 28 days 2018 7) 8 Jan. – 25 Feb. 49 days 8) 7 May – 17 Jul. 72 days 9) 26 Sep. – 19 Oct. 24 days	14, 18 Dec. 5 days 6, 7 Oct. 2 days 7, 8, 14, 15, 21 Aug. 13, 14 Oct. 24, 25 Aug. 5 days 19-21 Sep.		
4	Mr. Mitsuo Tamada (Productivity Improvement 2) <u>Main Responsibility</u> <ul style="list-style-type: none"> Supervise basic KAIZEN training Train BAC Heads on advanced KAIZEN Training in Japan 	Planed 375 days (12.50MM) Travel: 6 times Actual 423 days (14.10MM) Travel: 8 times	3 days (0.15MM)	<ul style="list-style-type: none"> Additional tasks, such as follow-up, advanced KAIZEN training in Accra, TOT 	
		2016 1) 19 Jan. – 24 Mar. 66 days 2) 23 May – 14 Jul. 53 days 2017 3) 23 Jan. – 31 Mar. 68 days 4) 19 May – 4 Aug. 78 days 2018 5) 8 Jan. – 24 Feb. 48 days 6) 7 May – 18 Jul. 73 days 7) 1 Oct. – 28 Oct. 28 days 8) 1 Dec. – 9 Dec. 9 days	- 0 days 14 – 18 Aug. 5 days 8, 15, 16 Aug. 3 days		
5	Mr. Noriyuki Yoshida (Productivity Improvement 3) <u>Main Responsibility</u> <ul style="list-style-type: none"> Supervise basic KAIZEN training Train BAC Heads on advanced KAIZEN Training in Japan 	Planed 407 days (13.57MM) Travel: 7 times Actual 484 days (16.13MM) Travel: 9 times	8 days (0.40MM)	<ul style="list-style-type: none"> Additional tasks, such as follow-up and advanced KAIZEN training in Accra 	
		2015 1) 24 Oct. – 20 Nov. 28 days 2016 2) 19 Jan. – 27 Mar. 69 days 3) 23 May – 14 Jul. 53 days 2017 4) 23 Jan. – 2 Apr. 70 days 5) 8 May – 6 Aug. 91 days 6) 10 Sep. – 6 Oct. 27 days 2018 7) 8 Jan. – 24 Feb. 48 days 8) 7 May – 17 Jul. 72 days 9) 29 Sep. – 24 Oct. 26 days	21-23, 25, 26 Dec. 5 days - 0 days 8 – 10, 21, 22 Aug. 10-12 Sep. 3 days		
6	PR Facilitation/ Project Coordination <u>Main Responsibility</u> <ul style="list-style-type: none"> Arrange activities Plan and implement PR 	Planed 192 days (6.40MM) Travel: times Actual 111 days (3.70MM) Travel: times	NA	<ul style="list-style-type: none"> Transfer assignment to Deputy Team Leader, PR Tool 	

No.	Name (Position)	Period			Reasons of Change	
		Year	Field	Japan		
	Mr. Kazutoshi Machida		Replacement		Development and Business Analysis/ Financial Analysis)	
	Ms. Chisato Maruyama	2016	1) 19 Jan. – 8 Feb. 21 days 2) 23 May – 21 Jun. 30 days (9 Feb. – 19 Apr., 22 Jun.- 30 Jul. borne by the Project Team	NA		
	Mr. Kyohei Yamamoto	2017	1) 30 Jan. – 5 Mar. 35 days	NA		
	Ms. Eriko Kosuge	2018	1) 6 Feb. – 2 Mar. 25 days	NA		
7	Mr. Shunichi Ishizaki (PR Tool Development) <u>Main Responsibility</u> Develop KAIZEN documentary	Planned	NA	NA	Develop documentary for PR on KAIZEN	
		Actual	48 days (1.60MM) Travel: 2 times	2 days (0.10MM)		
		2017	1) 2 Jul. – 3 Aug. 33 days 2) 10 Sep. – 24 Sep. 15 days	18, 19 Oct. 2 days		
8	Mr. Kyo Tamura (Business Analysis/ Financial Analysis) <u>Main Responsibility</u> Analyze KAIZEN impact	Planned	NA	NA	Request from JICA to analyze the KAIZEN impact on profit	
		Actual	63 days (2.10MM) Travel: 2 times	NA		
		2018	1) 12 May – 8 Jun. 28 days 2) 18 Sep. – 22 Oct. 35 days	NA		
9	Coordinator of Training in Japan <u>Main Responsibility</u> Plan and Arrange training in Japan	Planned	NA	54 days (2.70MM)	To visit TOYOTA during training in Japan from August to September 2018, Ms. Hatsuko Koroku, who has knowledge of the TOYOTA factories and operation, took over as Coordinator of Training in Japan.	
		Actual	NA	54 days (2.70MM)		
	Mr. Hisashi Nakatsuyama	2016	NA	8, 9, 15, 16, 19 Aug. 17, 27-30 Sep. 1, 3-7, 10, 11 Oct.		18 days
		2017	NA	8, 15, 22, 29 Sep. 6, 13, 16-20, 23-27 Oct. 1, 8 Nov.		18 days
	Ms. Hatsuko Koroku	2018	NA	4-6, 11, 13, 25, 27-31 Aug., 3-7, 9, 10 Sep.		18 days

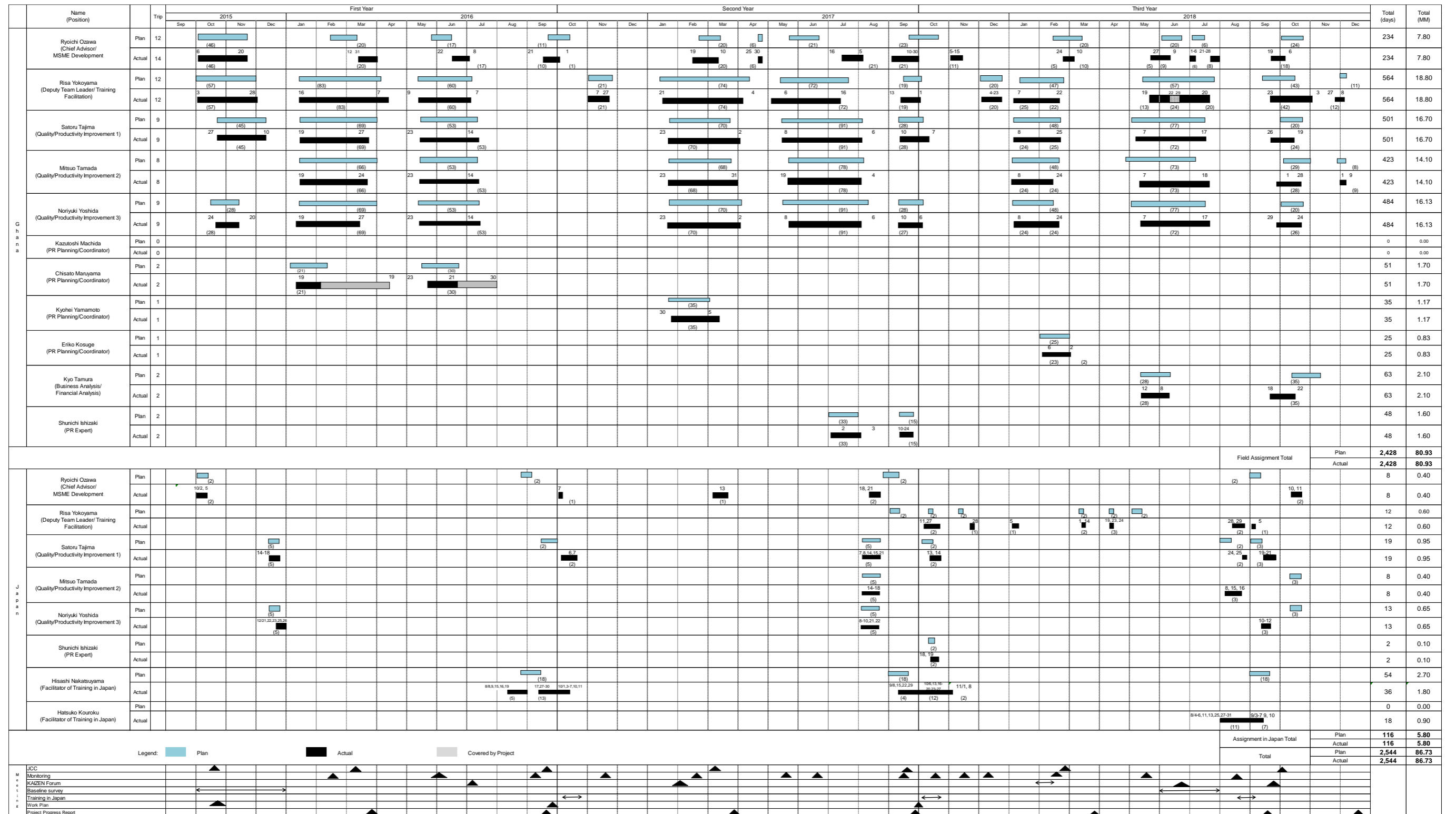


Figure 1-2 Assignment Schedule

1.3.2 Staff in Ghana

The local staff hired by the Project are listed in the below table.

Table 1-4 List of Staff in Ghana

Position	Field	Record
Project Assistant	Support Project implementation	Employed Ms. Gifty Afi Cudjoe from October 2015 to April 2018
Junior Project Assistant	Support Project administration	<ul style="list-style-type: none"> • Employed Mr. Afriyie Boakye Kwabena from October 2015 to October 2018 • Employed Mr. Maxwell Addo from May to December 2018
Research Assistant	Arrange meetings with development stakeholders, i.e. partners, ministries and assist with end-line survey	Employed Mr. Ebenezer Osafo from May to December 2018
Training/Meeting Assistant	Support training and meetings	<ul style="list-style-type: none"> • Employed Ms. Juliet Dadson and Ms. Debora Andoh as assistants for advanced KAIZEN training from January to March 2016 • Employed Ms. Henrietta Edu Gyamfi for 2 days to support KAIZEN Forum in Kumasi in July 2016 • Employed Ms. Yuko Sakaguchi from February to March 2017 to support the second advanced KAIZEN training in Kumasi
Lecturer	Deliver lectures related to the capacity development of the Workflow and preliminary training for basic KAIZEN in the three (3) target regions	<ul style="list-style-type: none"> • Employed Mr. George Ayei as a lecturer on analysis of the regional economy in the Workflow Workshop in July 2018. • Employed Mr. Cletus Kayenwee, Manager of Monitoring and Evaluation, Rural Enterprise Programme (REP) as a lecturer on monitoring and evaluation in the Workflow Workshop in November 2018
Web Consultant	Support development of the web site of NBSSI	<ul style="list-style-type: none"> • Employed Mr. Vincent Torgbor from February 2016 April 2018 to make a map which can identify the location of BACs and update the information on BACs on NBSSI Ashanti website • Employed Mr. Isaac Yeboah from April to October 2018 to upgrade NBSSI Head Office website
PR Consultant	Advise on PR activities and PR tools	<ul style="list-style-type: none"> • Employed Mr. Benjamin Adu in February 2016 to shoot KAIZEN activities and support development of video materials in February 2016. • Employed Ms. Audrey Eni as PR consultant from November to December 2018 to develop NBSSI PR strategy
Research Consultant	Analyse industries in each region and research on medium and large-scale companies in the major industrial areas, as part of the end-line survey	Employed Mr. George Ayei from July to November 2018

1.3.3 Procurement of Equipment

The procured equipment is listed below.

Table 1-5 List of Equipment

Equipment	Type	Qty	Procured Period	Location
Laptop	HP ProBook 450 G3	1	Nov. 2015	Northern Regional Office
	HP ProBook 450 G2	2	Nov. 2015	BA/Central Regional Office
Digital Camera	SONY DSC W830	3	Nov. 2015	Northern, BA, Central Regional Office
Colour Printer	HP Colour Laserjet Pro MFP M476dn	3	Feb. 2016	
Projector	EPSON EB-S31	3	Feb. 2016	
Screen	W/Tripod 200 × 200 cm	3	Feb. 2016	
Laptop	HP 250	10	Mar. 2016	
Digital Camera	Canon IXUS 162	10	Mar. 2016	BA Pilot BACs
Laptop	DELL Inspiron 15 3000 series	8	Feb. 2016	
Digital Camera	Canon IXUS 162	8	Feb. 2016	
Laptop	HP250	19	Jul. 2017	Ashanti BACs and Regional Office
Laptop	HP250	7	Sep. 2017	Central Pilot BACs
Digital Camera	Sony W806	7	Sep. 2017	
Laptop	HP Pavilion G 250	2	Oct. 2015	NBSSI Head Office
Binding Machine	Master Plus	1	Jan. 2016	Ashanti Regional Office
Black/White Printer	HP Laserjet Pro MFP M425dn	1	Oct. 2015	Ashanti Regional Office
Digital Camera	Panasonic LUMIX DMC-G7H-K lens kit	1	Jan. 2016	NBSSI Head Office
Generator	HONDA 10KVA 13000W SILENT	1	Jun. 2016	Greater Accra Regional Office
Air Conditioner	Haier AC	1	May 2016	Northern Regional Office
Air Conditioner	Haier THERMOCOOL HSU-12LKG03	1	May 2017	BA Regional Office
Air Conditioner	LG Air Conditioner 1.5 HP	3	Jun. 2017	Greater Accra Regional Office

1.3.4 Amount of Input by Japanese Side

The expenditure per year during the Project period is stated below.

Table 1-6 Amount of Input by Japanese Side

Item	2015	2016	2017	2018	Total
Wages for staff in Ghana	200	992	1,426	1,341	3,959
Remuneration/ Honoraria	25	277	224	6,100	6,626
Car related expenses	398	3,355	7,320	9,860	20,933
Rental expenses	257	4,127	5,001	6,744	16,129
Facility/Equipment maintenance expenses	95	518	609	343	1,565
Consumable expenses	103	1,617	2,650	3,119	7,489
Travel expenses	750	9,959	18,873	27,511	57,093
Communication expenses	98	294	390	403	1,185
Material development expenses	15	1,086	832	2,662	4,595
Utility expenses	0	0	10	0	10
Others	246	792	1,126	1,230	3,394
Total	2,187	23,017	38,461	59,313	122,978

1.4 Achievement on PDM

The indicators in the Project Design Matrix (PDM) were determined based on discussions in the second JCC meeting in March 2016, and indicators 1-1 and 1-3 for the Project Purpose have been modified based on a Contract Amendment in April 2017.

1.4.1 Prospect for Achievement of Overall Goal

Achievement of the Overall Goal is expected to be realised in five years. The following assessment shows expectations and forecasts based on achievements in the Project period.

1. Enterprise Diagnosis and KAIZEN methods are introduced in all regions and more than 700 MSMEs practice KAIZEN activities recommended by NBSSI.

1) Enterprise Diagnosis and KAIZEN methods are introduced in all regions

Achievement:

KAIZEN training and self-implementation of KAIZEN were undertaken in 5 regions, namely the Ashanti, BA, Central, GA, and Northern Regions, out of 10 regions. Lectures on basic KAIZEN were already delivered to all BAC Heads in the remaining 5 regions.

Prospect:

The KAIZEN National Expansion Plan which includes an OJT plan to non-pilot BAC Heads in the target regions, and an OJT plan to all BAC Heads in the remaining regions, were elaborated upon and the proposals on OJT have been submitted to development partners, such as Business Sector Advocacy Challenge (BUSAC) Fund. Additionally, BACs in the non target regions have included KAIZEN activities in the REP Work Plan. BAC Heads in the non target regions have been introduced to the theoretical aspects of basic KAIZEN, however practical KAIZEN training has not been provided. NBSSI is considering how trainer BAC Heads in the target regions would provide technical support for KAIZEN implementation to BACs in the non target region, but NBSSI could start implementation of KAIZEN in the non target regions. Therefore, this target of introduction of KAIZEN to all regions can be achieved.

2) More than 700 MSMEs practice KAIZEN activities recommended by NBSSI.

Achievement:

255 MSMEs in total, 62 MSMEs in the Previous Project and 193 MSMEs in the Project, were introduced Enterprise Diagnosis and KAIZEN by NBSSI.

Region	Previous Project	Project	Total
Ashanti	62	72	134
Northern	0	46	46
BA	0	40	40
Central	0	15	15
GA	0	20	20
Total	62	193	255

Prospect:

It is achievable, as it has been confirmed that REP would fund KAIZEN implementation and Memorandum of Understanding (MOU) with other development partners have also progressed.

625 MSMEs will benefit if all BAC Heads in the target regions, namely the Ashanti, Northern, BA, Central and GA Regions, have been enrolled in NBSSI by the end of 2018 can practice KAIZEN with one MSME each year from 2019 to 2023.

Region	-2018	2019	2020	2021	2022	2023	Total
Ashanti	134	23	23	23	23	23	249
Northern	46	17	17	17	17	17	131
BA	40	14	14	14	14	14	110
Central	15	14	14	14	14	14	85
GA	20	6	6	6	6	6	50
Total	255	74	74	74	74	74	625

Furthermore, KAIZEN OJT will be implemented in the Eastern, Western, Upper East, Upper West and Volta Regions based on the KAIZEN National Expansion Plan and all 57 BAC Heads in these regions will practice KAIZEN with two MSMEs by 2023, meaning 114 MSMEs will be introduced to KAIZEN. To sum up, more than 700 MSMEs are expected to be introduced to KAIZEN by NBSSI.

2. More than 70% of MSMEs that practiced KAIZEN activities recommended by NBSSI show the improvement on the basis of quality/productivity indicators

Achievement:

The improvement of indicators on quality/productivity were confirmed in the Project and OJT on basic KAIZEN in the GA Region which pilot BAC Heads in the BA and Central Regions performed as trainers could achieve improvement of quality/productivity.

Prospect:

It is foreseen that the target can be achieved if NBSSI can maintain the quality of KAIZEN instruction to MSMEs.

Pre-Conditions to achieve the Overall Goal

The following pre-conditions for achievement of the Overall Goal are:

1. NBSSI secures sufficient human resources, budget and implementational structure.
2. There exists a certain number of MSMEs which are appropriate for provision of KAIZEN.

1.4.2 Achievement on Output and Project Purpose

All indicators of PDM could be achieved. The details of achievements are as follows.

Table 1-7 Achievement on PDM

Output	Indicator	Achievement											
1	1-1. NBSSI Regional Office of three (3) new target regions prepares the Workflow, and integrates it with the annual plan.	It was confirmed that the action plans for the Workflow from 2016 to 2019, which were developed and submitted by NBSSI Regional Offices, have been integrated into the annual plan.											
	1-2. The assessment results of NBSSI Regional Office of three (3) new target regions on their Workflow implementation meet a standard (more than 3.5 in 5-grade evaluation)	Based on the evaluation, the capacity related to Workflow was enhanced to an average of 3.9 in the Workflow Workshop in November 2018. <Achieved> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>Northern</th> <th>BA</th> <th>Central</th> </tr> </thead> <tbody> <tr> <td>Score</td> <td>4.0</td> <td>4.0</td> <td>3.7</td> </tr> </tbody> </table>		Northern	BA	Central	Score	4.0	4.0	3.7			
		Northern	BA	Central									
Score	4.0	4.0	3.7										
1-3. More than 75% of activities listed in the Workflow is implemented in three (3) new target regions.	The following 14 kinds of activities out of 17, namely 82% of activities, in the Workflow action plan were conducted: <Achieved> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Activities</th> <th>NR</th> <th>BA</th> <th>CR</th> </tr> </thead> <tbody> <tr> <td>1) Competency Assessment/ Needs Assessment Plan</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>2) Training Development</td> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table>	Activities	NR	BA	CR	1) Competency Assessment/ Needs Assessment Plan	X	X	X	2) Training Development	X	X	X
Activities	NR	BA	CR										
1) Competency Assessment/ Needs Assessment Plan	X	X	X										
2) Training Development	X	X	X										

Output	Indicator	Achievement																												
		3) KAIZEN Training Management	X	X	X																									
		4) Skill Development Scheme		X	X																									
		5) Trainer Development	X	X	X																									
		6) Staff Training																												
		7) KAIZEN Action Plan	X	X	X																									
		8) KAIZEN Regional Expansion	X	X																										
		9) PR	X	X	X																									
		10) Stakeholder Coordination	X	X																										
		11) Working Group Meeting	X	X	X																									
		12) Incentive Scheme																												
		13) Budgeting	X	X	X																									
		14) Monitoring	X	X	X																									
		15) Annual Review			X																									
		16) Knowledge/ Archive Management																												
		17) Office/Equipment Management	X		X																									
		Total	12	12	12																									
		Legend: NR: Northern Region, BA: Brong Ahafo Region, CR: Central Region, X: implemented.																												
2	2-1. The assessment results of capacity of pilot BACs on their Enterprise Diagnosis and KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation).	The capacities were enhanced to an average of 3.6. <Achieved>																												
		<table border="1"> <thead> <tr> <th>Region</th> <th>Average</th> <th>Target</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>3.71</td> <td>10 pilot BAC Heads</td> </tr> <tr> <td>BA</td> <td>3.74</td> <td>8 pilot BAC Heads</td> </tr> <tr> <td>Central</td> <td>3.48</td> <td>7 pilot BAC Heads</td> </tr> <tr> <td>Average</td> <td>3.64</td> <td></td> </tr> </tbody> </table>				Region	Average	Target	Northern	3.71	10 pilot BAC Heads	BA	3.74	8 pilot BAC Heads	Central	3.48	7 pilot BAC Heads	Average	3.64											
Region	Average	Target																												
Northern	3.71	10 pilot BAC Heads																												
BA	3.74	8 pilot BAC Heads																												
Central	3.48	7 pilot BAC Heads																												
Average	3.64																													
	2-2. More than 70% of MSMEs that accept OJT show the improvement on the basis of quality/ productivity indicators. ⁴	<p>In the Northern Region, all MSMEs showed improvement of both quality and productivity during the follow-up sessions at the OJT enterprises in November 2016. 50% of MSMEs showed improvement of quality or productivity based on the second follow-up at the OJT enterprise in February 2017, and 83 % of MSMEs showed improvement of quality or productivity based on the third follow-up at the OJT enterprise.</p> <p>In the BA Region, all MSMEs showed improvement of quality or productivity based on both the first, second and third follow-up at the OJT enterprise.</p> <p>In the Central Region, all MSMEs showed improvement of quality or productivity based on the first follow-up at the OJT enterprise.</p> <p><Achieved></p>																												
	2-3. Pilot BACs implement Enterprise Diagnosis and KAIZEN activities to more than 40 MSMEs by themselves.	<p>83 MSMEs in total have benefitted: <Achieved></p> <table border="1"> <thead> <tr> <th>Region</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>17</td> <td>0</td> <td>23</td> <td>40</td> </tr> <tr> <td>BA</td> <td>0</td> <td>9</td> <td>25</td> <td>34</td> </tr> <tr> <td>Central</td> <td>0</td> <td>0</td> <td>9</td> <td>9</td> </tr> <tr> <td>Total</td> <td>17</td> <td>9</td> <td>57</td> <td>83</td> </tr> </tbody> </table>				Region	2016	2017	2018	Total	Northern	17	0	23	40	BA	0	9	25	34	Central	0	0	9	9	Total	17	9	57	83
Region	2016	2017	2018	Total																										
Northern	17	0	23	40																										
BA	0	9	25	34																										
Central	0	0	9	9																										
Total	17	9	57	83																										
3	3-1. The assessment results of BAC trainers on their advanced KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation).	The capacity of BAC trainers on their advanced KAIZEN provision meeting a standard was assessed by the Japanese Experts during the fourth advanced KAIZEN training, based on the technical standard, and the average score of BAC trainers for 22 items was 3.97. <Achieved>																												

⁴ If improvement of indicators on quality and productivity could be confirmed during implementation of KAIZEN OJT or follow-up session, it is recognized as having achieved the target.

Output	Indicator	Achievement																				
	3-2. More than 70 % of enterprises that accepted OJT and practiced advanced KAIZEN activities recommended by BAC trainers show the improvement on the basis of quality/productivity indicators.	83% of the first advanced KAIZEN OJT MSMEs, 100% of the second advanced KAIZEN OJT MSMEs, 100 % of the third advanced KAIZEN OJT MSMEs and 83 % of the fourth advanced KAIZEN OJT MSMEs showed improvement on the basis of quality/ productivity indicators were confirmed during OJT or at the follow-up. An average of 92% of MSMEs showed improvement. <Achieved>																				
	3-3. BAC trainers implement Enterprise Diagnosis and KAIZEN activities to more than 25 MSMEs by themselves.	BAC trainers in the Ashanti Region implemented Enterprise Diagnosis and KAIZEN activities with a total of 62 MSMEs . <Achieved> <table border="1"> <thead> <tr> <th>Location</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Ashanti</td> <td>0</td> <td>20</td> <td>40</td> <td>60</td> </tr> <tr> <td>GA</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> </tr> <tr> <td>Total</td> <td>0</td> <td>20</td> <td>42</td> <td>62</td> </tr> </tbody> </table>	Location	2016	2017	2018	Total	Ashanti	0	20	40	60	GA	0	0	2	2	Total	0	20	42	62
Location	2016	2017	2018	Total																		
Ashanti	0	20	40	60																		
GA	0	0	2	2																		
Total	0	20	42	62																		

The achievement on indicators of Project Purpose through the Project period is reported below.

Table 1-8 Achievement on Indicator of Project Purpose

1-1. More than 170 MSMEs of five (5) target regions undergo Enterprise Diagnosis provided by NBSSI and practice the recommended KAIZEN activities.																							
NBSSI carried out Enterprise Diagnosis and KAIZEN instruction with a total of 187 MSMEs <Achieved>																							
	<table border="1"> <thead> <tr> <th>Region</th> <th>Plan</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Ashanti</td> <td>106</td> <td>72</td> </tr> <tr> <td>Northern</td> <td>33</td> <td>46</td> </tr> <tr> <td>BA</td> <td>21</td> <td>40</td> </tr> <tr> <td>Central</td> <td>13</td> <td>15</td> </tr> <tr> <td>GA</td> <td>0</td> <td>14</td> </tr> <tr> <td>Total</td> <td>173</td> <td>187</td> </tr> </tbody> </table>	Region	Plan	Actual	Ashanti	106	72	Northern	33	46	BA	21	40	Central	13	15	GA	0	14	Total	173	187	
Region	Plan	Actual																					
Ashanti	106	72																					
Northern	33	46																					
BA	21	40																					
Central	13	15																					
GA	0	14																					
Total	173	187																					
1-2. Assessment results of management capacity of NBSSI Regional Office of four (4) target regions and of capacity of pilot BACs on their Enterprise Diagnosis and BDS including KAIZEN provision and facilitation are improved by 48 %.																							
Assessment results of management capacity of NBSSI Regional Office and capacity of pilot BACs on their Enterprise Diagnosis and BDS including KAIZEN provision and facilitation have been enhanced by an average of 54 % . <Achieved>																							
<Management Capacity of Regional Office>																							
48% management capacity improvement of NBSSI Regional Offices was found through the Workflow Workshops for four regions in November 2018.																							
	<table border="1"> <thead> <tr> <th>Region</th> <th>November 2015</th> <th>November 2018</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>1.7</td> <td>4.0</td> </tr> <tr> <td>BA</td> <td>1.4</td> <td>4.0</td> </tr> <tr> <td>Central</td> <td>1.5</td> <td>3.7</td> </tr> <tr> <td>Region</td> <td>1.5 (30%)</td> <td>3.9 (78%) improved by 48%</td> </tr> </tbody> </table>	Region	November 2015	November 2018	Northern	1.7	4.0	BA	1.4	4.0	Central	1.5	3.7	Region	1.5 (30%)	3.9 (78%) improved by 48%							
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Region	1.5 (30%)	3.9 (78%) improved by 48%																					
<KAIZEN Capacity of pilot BAC Heads>																							
The capacity of pilot BAC Heads of three target regions in their Enterprise Diagnosis and BDS, including KAIZEN provision and facilitation, was improved by an average of 63%.																							
	<table border="1"> <thead> <tr> <th>Region</th> <th>Before Training</th> <th>July 2018</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>0.35 (7%)</td> <td>3.71 (74%)</td> <td>67 % improved</td> </tr> <tr> <td>BA</td> <td>0.62 (12%)</td> <td>3.74 (74%)</td> <td>62 % improved</td> </tr> <tr> <td>Central</td> <td>0.37 (7%)</td> <td>3.48 (69%)</td> <td>62 % improved</td> </tr> <tr> <td>Average</td> <td></td> <td></td> <td>63 % improved</td> </tr> </tbody> </table>	Region	Before Training	July 2018	Change	Northern	0.35 (7%)	3.71 (74%)	67 % improved	BA	0.62 (12%)	3.74 (74%)	62 % improved	Central	0.37 (7%)	3.48 (69%)	62 % improved	Average			63 % improved		
Region	Before Training	July 2018	Change																				
Northern	0.35 (7%)	3.71 (74%)	67 % improved																				
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Central	0.37 (7%)	3.48 (69%)	62 % improved																				
Average			63 % improved																				

<KAIZEN Capacity of trainer BAC Heads>

The capacity of trainer BAC Heads of the Ashanti Region in their BDS provision and facilitation was improved by **51%** after the fourth advanced KAIZEN OJT in July 2018.

	Jan 2016	Jul 2018	Change
Average score	1.4 (28%)	3.97 (79%)	51% improved

1-3. More than 41 KAIZEN methods are practiced by NBSSI in **five (5)** target regions.

23 basic KAIZEN methods and 29 advanced KAIZEN methods were practised; a total of 52 KAIZEN methods were implemented to this point. <Achieved>

This is detailed in Appendix 5.

2. Outline of Project Activities

2.1 Project Schedule

The Project activities were implemented according to tasks stated as below.

Table 2-1 Project Tasks

No.	Contents
Task 0: Preparation for Project Implementation Structure and Monitoring	
0-0	Organize the Project Management Unit
0-1	Implement a project baseline survey
0-2	Monitor the project activities regularly
Task 1 (Output 1): Management capacity of NBSSI Regional Office of three (3) new target regions is strengthened through the application of a Workflow for management improvement.	
1-0	Review and update the Workflow
1-1	Organize the training on Workflow application for NBSSI Regional Offices of three (3) new target regions
1-2	Implement the problem analysis of target Regional Offices and prepare the action plan for Workflow application
1-3	Prepare the Workflows in the target regions
1-4	Organize the training on Workflow implementation
1-5	Organize the workshops on progress and achievements on the Workflows
1-6	Update the reference materials on the Workflow
1-7	Finalize the Workflow and National Expansion Plan
Task 2 (Output 2): Capacity of pilot BACs of three (3) new target regions on their BDS provision and facilitation is strengthened through the application of Enterprise Diagnosis and basic KAIZEN methods.	
2-1	Set up the technical standards for pilot BACs
2-2	Set up the assessment methods and indicators for KAIZEN impact
2-3	Select the pilot BACs and MSMEs for OJT in three (3) new target regions
2-4	Organize the trainings on Enterprise Diagnosis and KAIZEN provisions (Orientation, Lectures, OJT and etc.) and evaluate the technical capacity of participants
2-5	Implement Enterprise Diagnosis and KAIZEN provisions by the pilot BACs who experienced OJT by themselves
2-6	Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the pilot BACs
2-7	Systematize KAIZEN cases and update the reference materials
2-8	Organize KAIZEN fora and promote information-sharing through media
Task 3 (Output 3): Capacity of BAC trainers on their KAIZEN provision is strengthened through the application of advanced KAIZEN methods in Ashanti region.	
3-1	Implement the needs assessment on advanced KAIZEN provision in Ashanti region
3-2	Set up the technical standards for the advanced KAIZEN methods
3-3	Set up the assessment methods and indicators for the advanced KAIZEN impact
3-4	Select the enterprises for OJT
3-5	Prepare modules and materials for the advanced KAIZEN provision
3-6	Organize the trainings on the advanced KAIZEN provision (Lectures and OJT) and evaluate the technical capacity of participants
3-7	Implement Enterprise Diagnosis and KAIZEN provisions by the BAC trainers who experienced OJT for themselves
3-8	Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the BAC trainers
3-9	Systematize KAIZEN cases and update the reference materials
3-10	Organize KAIZEN fora and promote information-sharing through media

No.	Contents
Task 4: Project Management	
4-1	Prepare and submit the Deliverables
4-2	Organize meetings in Ghana and Japan
4-3	Support procurement of the equipment
4-4	Plan and implement training in Japan
4-5	Support joint monitoring

Task 1 to 3 were determined to achieve Output 1, 2 and 3. Task 0 were activities to prepare for implementation of the Project and monitor the Project activities, such as putting the C/P structure place for implementation of the Project, detailed planning of Project activities, and setting up monitoring system, and Task 4 were activities related management and deliverables, i.e. meeting with related institutions, procurement of equipment, training in Japan. The overall schedule is shown below.

Table 2-2 Schedule of Project Activities

Period	Activities	Task	Target/Participants	Location
Oct. 2015	1 st JCC Meeting	4	JCC Members	Accra
Nov. 2015	Workflow Workshop	1	Target Regional Office, PMU	Kumasi
Jan. - Mar. 2016	1 st Advanced KAIZEN Training	3	Ashanti BAC Heads	Ashanti (AS)
Mar. 2016	2 nd JCC Meeting	4	JCC Members	Accra
May - Jul. 2016	Basic KAIZEN Training	2	Northern (NR) Pilot BAC Heads, AS Trainer BAC Heads	Tamale
Jul.- Sep. 2016	Self-implementation of KAIZEN	2	NR Pilot BAC Heads	Pilot BAC Districts, NR
Jul. 2016	KAIZEN Forum	3	Stakeholders, AS	Kumasi
Sep. 2016	Training in Japan	4	NR Pilot BAC Heads	Tokyo
Sep. 2016	3 rd JCC Meeting	4	JCC Members	Accra
Nov. 2016	Workflow Workshop	1	Target Regional Office, PMU	Tamale
Jan. - Mar. 2017	2 nd Advanced KAIZEN Training	3	AS and selected NR BAC Heads	AS
Feb. - Apr. 2017	KAIZEN Forum	2	Stakeholders, AS	Pilot BAC Districts, NR
Mar. 2017	4 th JCC Meeting, KAIZEN Champion Awards Ceremony	4	JCC Members, Media, Award Winners	Accra
May 2017	Workflow Workshop	1	Target Regional Office, PMU	Kumasi
May - Jul. 2017	Basic KAIZEN Training	2	BA Pilot BAC Heads, AS Trainer BAC Heads	Sunyani, Techiman
Jul. - Sep. 2017	Self-implementation of KAIZEN	2	BA Pilot BAC Heads	Pilot BAC Districts, BA
Jul. - Sep. 2017	3 rd Advanced KAIZEN Training	3	AS Selected BAC Heads and Greater Accra (GA) BAC Heads as observers	Accra
Sep. 2017	5 th JCC Meeting	4	JCC Members	Accra
Oct. 2017	Training in Japan	4	BA Pilot BAC Heads, KAIZEN Champion MSMEs	Tokyo
Dec. 2017	Workflow Workshop	1	Target Regional Office, PMU	Techiman

Period	Activities	Task	Target/Participants	Location
Jan. - Feb. 2018	Basic KAIZEN Training	2	Central (CR) Pilot BAC Heads, AS/NR Trainer BAC Heads	Cape Coast, Winneba
Feb. - May 2018	Self-implementation of KAIZEN	2	CR Pilot BAC Heads	Pilot BAC Districts, CR
Feb. - Mar. 2018	KAIZEN Forum	2	Stakeholders, BA	Pilot BAC Districts, BA
Mar. 2018	6 th JCC Meeting	4	JCC Members	Accra
May- Jul. 2018	4 th Advanced KAIZEN Training	3	Selected AS/BA/CR BAC Heads	Accra
Jul. 2018	Workflow Workshop	1	Target Regional Office, PMU	Winneba
Jul. - Aug. 2018	KAIZEN Forum	2	Stakeholders, CR	Pilot BAC Districts, CR
Jul. - Sep. 2018	Self-implementation of KAIZEN	3	AS BAC Heads	AS, Accra
Aug. - Sep. 2018	Training in Japan	4	CR Pilot BAC Heads, AS Regional Manager,	Tokyo
Sep. 2018	KAIZEN Forum	3	All region	Accra
Oct. 2018	7 th JCC Meeting	4	JCC Members	Accra
Oct. 2018	Training of Trainer (TOT) (Lecture)	2	Selected Trainer BAC Heads from NR, BA, CR, AS	Tamale. Koforidua, Takoradi
Nov. - Dec. 2018	TOT (OJT)	2	Selected Trainer BAC Heads from BA, CR, AS and GA BAC Heads	6 Districts, GA

2.2 Summary of Outputs

Actual outputs according to tasks are summarized in the following table.

Table 2-3 Outputs Based on Tasks

No.	Task	Outputs
Task 0: Preparation for Project Implementation Structure and Monitoring		
0-0	Organize the Project Management Unit	Project Management Unit, Technical Unit and Administration Unit members were set out in 2015. Some of the members were replaced due to transfer/resignation. For the Post-Project, the supports a new staff member in the newly established KAIZEN department in NBSSI. Various organizational development activities of NBSSI were undertaken by the NBSSI for the conversion to the Enterprise Development Authority (EDA). For the Project activities and development of the inputs like the Concept Paper series of the discussion, sessions were included in the meetings with the concerned parties.
0-1	Implement a project baseline survey	The project baseline survey was implemented from October to December 2015 and the end-line survey was conducted from July to November 2018.
0-2	Monitor the project activities regularly	<ul style="list-style-type: none"> PMU conducted various monitoring missions on various training and workshops in the Project. Meetings were regularly held between the Project and Executive Director of NBSSI for the preparation of Monitoring Reports and the Project Completion Report.
Task 1 (Output 1): Management capacity of NBSSI Regional Office of three (3) new target regions is strengthened through the application of a Workflow for management improvement.		
1-0	Review and update the Workflow	The components of and reference materials for the Workflow for the Regional Office were revised in 2015.
1-1	Organize the training on Workflow application for NBSSI Regional Offices of three (3) new target regions	<ul style="list-style-type: none"> The introduction workshop on the Workflow was conducted with target regions from 16 to 20 November 2015 in Kumasi. The self-evaluation on the targeted Regional Offices' capacity in implementation of each Workflow component was conducted to obtain the score at the outset of the Project. The Workflow components were introduced to the Regional Offices in the remaining regions in the Workflow workshop in October 2018, in which Regional Managers and Project Officers of all regions participated.
1-2	Implement the problem analysis of target Regional Offices and prepare the action plan for Workflow application	<ul style="list-style-type: none"> Problem analysis and development of the Action Plan were conducted each year. It was confirmed that the Workflow Action Plans prepared by NBSSI Regional Office for three (3) new target regions were integrated with the annual plan for 2016, 2017, 2018 and 2019. At the Workflow workshop in October 2018, the Action Plan, especially activities for receiving OJT, were developed by the remaining five regions.
1-3	Prepare the Workflows in the target regions	Regional Managers prepared and implemented the Workflow components according to action plans, especially KAIZEN training.
1-4	Organize the training on Workflow implementation	Six times workshops on progress and achievements of the Workflows were implemented and the training to enhance capacities related to Workflow implementation were included in each workshop.
1-5	Organize the workshops on progress and achievements on the Workflows	TU and AU members of each Regional Office made self-evaluation on the Workflow implementation, and feedback was provided by the Project Team at each Workflow workshop.

No.	Task	Outputs
1-6	Update the reference materials on the Workflow	The reference materials were updated occasionally and finalised in November 2018.
1-7	Finalize the Workflow and National Expansion Plan	The Workflow components and reference materials were reviewed during the final Workflow workshop in October 2018. The results will be detailed in 3.2 (5). <NBSSI Head Office> Source of funding and partnering activities with various concerned parties were conducted, and the National Expansion Plan that was developed.
Task 2 (Output 2): Capacity of pilot BACs of three (3) new target regions on their BDS provision and facilitation is strengthened through the application of Enterprise Diagnosis and basic KAIZEN methods.		
2-1	Set up the technical standards for pilot BACs	The technical standards for basic KAIZEN were discussed with Ashanti Technical Unit and determined together with advanced KAIZEN in 2015. Formats, detailed plans, and the schedule of evaluation were also considered with Ashanti TU and finalised with PMU of Head Office.
2-2	Set up the assessment methods and indicators for KAIZEN impact	The indicators of KAIZEN impact which are easily measured and understood were set. The format of the follow-up sheet was developed and revised in accordance with these indicators for the purpose of data comparison and analysis of causes of the change, and the guidelines on assessment of KAIZEN impact indicators including how to calculate were also prepared. Indicators set: Productivity, Sales Volume, Production Cost (monthly), Quality (defect rate), Inventory level (quantity or amount), Production lead time, Turnover ratio of employees. The impact assessment and follow-up methods were taught to the pilot BAC Heads by the trainer BAC Heads, and the KAIZEN impact indicators have been measured during the quarterly enterprise visits after KAIZEN implementation, in accordance with the follow-up sheet.
2-3	Select the pilot BACs and MSMEs for OJT in three (3) new target regions	Pilot BAC Heads had been selected by the Regional Managers with reference to NBSSI performance appraisal and the final selection was made by interview to confirm, based on selection criteria such as commitment and consultation skills. For OJT MSMEs, the NBSSI Regional Offices short-listed the OJT candidate MSMEs and the Japanese Experts visited and interviewed them together with the TU members, and made final selection of the OJT MSMEs based on the results of evaluation according to the selection criteria.
2-4	Organize the trainings on Enterprise Diagnosis and KAIZEN provisions (Orientation, Lectures, OJT and etc.) and evaluate the technical capacity of participants	The BAC Heads in Ashanti Region trained the BAC Heads in the Northern, BA and Central Regions for preliminary training, lecture, Enterprise Diagnosis and KAIZEN implementation at the OJT MSMEs, and evaluated them in terms of KAIZEN technical standard. The Japanese Experts supervised and advised on the training. As a result, it was confirmed that the targets which the BAC Heads' capacities of KAIZEN implementation could be improved.
2-5	Implement Enterprise Diagnosis and KAIZEN provisions by the pilot BACs who experienced OJT by themselves	Pilot BAC Heads implemented Enterprise Diagnosis and KAIZEN activities by themselves with client enterprises in their districts after completion of OJT. In addition to them, the Northern and BA Pilot BAC Heads carried out Enterprise Diagnosis and KAIZEN by themselves as part of KAIZEN with 100 MSMEs.

No.	Task	Outputs
2-6	Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the pilot BACs	The follow-up sessions were conducted by visiting the enterprises in order to continuously measure the KAIZEN impacts after the KAIZEN implementation. The follow-up sessions at the OJT MSMEs had been undertaken four times in both Northern and BA Regions and twice in the Central Region. The follow-up sessions at the self-implementation MSMEs had also been carried out three times in the Northern Region and twice in the BA Region and once in the Central Region respectively. The follow-up sheets indicating the changes at each impact indicators and their causes in figures, words and photos were made and provided the feedback to the OJT MSMEs by the BAC Heads.
2-7	Systematize KAIZEN cases and update the reference materials	KAIZEN good practice on OJT MSMEs and self-KAIZEN implementation MSMEs were developed by pilot BAC Heads and they were compiled and summarized. The lecture materials and exercise for basic KAIZEN training were being updated periodically and finalized by the Ashanti TU members under the supervision of the Japanese Experts in October 2018.
2-8	Organize KAIZEN fora and promote information-sharing through media	KAIZEN fora were conducted with inviting media, i.e. TV, newspaper and radio, in 10 districts in the Northern Region from February to April 2017, 8 districts in the BA Region from February to March 2018 and 8 districts in the Central Region from July to August 2018.
Task 3 (Output 3): Capacity of BAC trainers on their KAIZEN provision is strengthened through the application of advanced KAIZEN methods in Ashanti region.		
3-1	Implement the needs assessment on advanced KAIZEN provision in Ashanti region	The needs assessment was implemented from October to December 2015. The needs assessment for C/P was done by a hearing from the NBSSI Ashanti Regional Manager by the Project Team and the needs assessment for the enterprises was done by visiting 29 enterprises in the Ashanti Region.
3-2	Set up the technical standards for the advanced KAIZEN methods	The technical standard was developed with TU in the Ashanti Region. The 22 technical standards for advanced KAIZEN methods out of 50 were used to assess the scope for KAIZEN implementation. The evaluation items on technical standards were revised alongside guidelines on key points of the evaluation were developed. They were provided for C/P.
3-3	Set up the assessment methods and indicators for the advanced KAIZEN impact	The assessment methods and indicators of KAIZEN impact were developed and it was decided to apply them to both basic and advanced KAIZEN. Follow-up visits to OJT enterprises were made quarterly to evaluate the post-OJT KAIZEN impact. The Japanese Experts provided BAC Heads with instructions on follow-up procedures and the impact assessment.
3-4	Select the enterprises for OJT	The OJT enterprises were selected based on the following table: The Japanese Experts and NBSSI Regional Managers of the Ashanti and the Greater Accra Regions collaborated for the selections, which PMU then approved. The first and second OJTs were conducted for enterprises in the Ashanti Region and third and fourth OJTs were done in the Greater Accra Region. <ul style="list-style-type: none"> - First OJT: October to December 2015 - Second OJT: July 2016 - Third OJT: March to April 2017 - Fourth OJT: March to April 2018

No.	Task	Outputs
3-5	Prepare modules and materials for the advanced KAIZEN provision	The modules and materials for advanced KAIZEN training were prepared from October 2015 to January 2016. The modules comprised twenty-one subjects related to advanced KAIZEN methods and IE methods developed by the Japanese Experts, who strove to deepen understanding of methods by creating exercises, checklists and various video and other available visual contents. The modules and materials were revised and added to as required.
3-6	Organize the trainings on the advanced KAIZEN provision (Lectures and OJT) and evaluate the technical capacity of participants	A total of four advanced KAIZEN training sessions were organized during the Project period. The Japanese Experts undertook lectures, OJT, evaluation on technical standards and advice on further improving in their KAIZEN provision directly.
3-7	Implement Enterprise Diagnosis and KAIZEN provisions by the BAC trainers who experienced OJT for themselves	Enterprise Diagnoses and KAIZEN provision were implemented by 20 BAC Heads divided into seven groups, one of which worked in the Greater Accra Region and the remainder in the Ashanti Region, focusing on the provision of advanced KAIZEN menus. The Japanese Experts confirmed the selection of the enterprises and implementation of KAIZEN menus. In addition to them, the Ashanti BAC Heads implemented Enterprise Diagnosis and KAIZEN by themselves in their districts as part of KAIZEN with 100 MSMEs.
3-8	Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the BAC trainers	Follow-up visits were conducted to measure the KAIZEN impacts after KAIZEN provisions. Follow-ups on the first and second OJT enterprises were made four times, three times for the third and once for the fourth OJT. BAC Heads captured the impact of KAIZEN and developed follow-up sheets with data, description and pictures. They also held feedback meetings with the enterprise managements based on the report.
3-9	Systematize KAIZEN cases and update the reference materials	KAIZEN good practice sheet was developed by the Ashanti BAC Heads and submitted to Ashanti Regional Manager after completion of advanced KAIZEN training. The training materials on advanced KAIZEN were reviewed and elaborated to be utilised for KAIZEN activities and they were handed over to C/P.
3-10	Organize KAIZEN fora and promote information-sharing through media	KAIZEN fora were conducted to share the KAIZEN good practices and promote collaboration with related institutions, academia and the other programme. The media were also invited to publicize KAIZEN. First KAIZEN Forum: 5 July 2016 in the Ashanti Region Second KAIZEN Forum: 28 September 2018 in the Greater Accra Region

2.3 Training and Participants

Trainings related to Task 1 to 4 and participants of each training are listed below.

Table 2-4 List of Training and Participants

Output 1	
Target: Northern, BA, Central, Ashanti Regional Offices	
1) Introduction Workshop on Workflow	
Period: 16 to 20 November 2015	Location: Kumasi
Outline: Explanation of Workflow components, development of Workflow action plan, self-implementation of capacities to implement the Workflows	
2) Workshop on Progress on the Workflows	
Period: 16 to 20 May 2016	Location: Kumasi
Outline: Presentation on progress of Workflow action plan, review of action plan, self-evaluation of capacities to implement the Workflows	
Training: Problem Analysis, Instructional Design, Lobbying/ networking, Study tour of the advanced KAIZEN OJT MSMEs	
3) Workshop on Achievement on the Workflows	
Period: 15 to 17 November 2016	Location: Tamale
Outline: Presentation on achievement of Workflow action plan, development of action plan for 2017, self-evaluation of capacities to implement the Workflows	
Training: Adaptive leadership, Stakeholder coordination, Study tour of the basic KAIZEN OJT MSMEs	
4) Workshop on Progress on the Workflows	
Period: 9 to 11 May 2017	Location: Kumasi
Outline: Presentation on progress of Workflow action plan, review of action plan, self-evaluation of capacities to implement the Workflows	
Training: Proposal Development, Study tour of the advanced KAIZEN OJT MSMEs	
5) Workshop on Achievement on the Workflows	
Period: 13 to 15 December 2017	Location: Techiman, BA
Outline: Presentation on achievement of Workflow action plan, development of action plan for 2018, evaluation of capacities to implement the Workflows	
Training: Presentation on overseas training (Japan, Malaysia) Discussion on improvement of communication among NBSSI, Introduction on Knowledge Centre, Office management, Study tour of the basic KAIZEN OJT MSMEs	
6) Workshop on Progress on the Workflows	
Period: 16 to 19 July 2018	Location: Winneba, Central
Outline: Presentation on progress of Workflow action plan, Development of action plan for 2019, self-evaluation of capacities to implement the Workflows	
Training: Research and Analysis of Regional Economy, Discussion on NBSSI report format, Study tour of the basic KAIZEN OJT MSME	
7) Workshop on Achievement on the Workflows	
Period: 30 October to 2 November 2018	Location: Accra
Outline: Review of the Workflows, updating reference material, Development of action plan for National/Regional expansion of KAIZEN, self-evaluation of capacities to implement the Workflows	
Training: Monitoring/Evaluation	
List of Participants of Output 1 activities	
Name of Participants	Position
Northern Region	
Eric Affram	Regional Manager
Ahmed Abdul-Razak	Project Officer
Alidu Ewura	Damongo BAC Head
Henrietta Zaato	Sagnarigu BAC Head
Bukari Mohammed	Tamale BAC Head
Suragdeen Iddrisu	Saboba BAC Head

Abdallah Yussif	Accountant
Duriyu Abdulai	Secretary
Haruna Mohammed	Tolon BAC Head (Resignation in 2017)
Salman Ahmed	Sawla BAC Head (demise in 2017)
BA Region	
Akolbire A. Anthony	Regional Manager
Oppong Isaac	Atebubu BAC Head
Amil Ibrahim	Wenchi BAC Head
Daniel Sena Tsorme	Dormaa BAC Head
Frederick Apraku Amoateng	Nsawkwaw Head
Vanessa Asomea Takyi	Duayaw Nkawanta BAC Head
Nuhu Dimah Salifu	Bechem BAC Head
Abdul Rahaman Talhat	Accountant
Mabel Ninson	Secretary
Central Region	
Albert Boachie-Amofa	Regional Manager
Emmanuel Deteah	Twifo Praso BAC Head
Patrick Asafo Agyei	Asikuma BAC Head
Linda Oduro Amoaning	Winneba BAC Head
Henrietta Addai-Poku	Agona Swedru BAC Head
Nathan Arkaah	Afransi BAC Head
Mathias Sukah	Secretary
Francisca Dokua	Cape Coast BAC Head
Kwadwo Boadi Mensah	Winneba BAC Head (Resignation in 2016)
Ashanti Region	
Manu Bashir	Regional Manager
Nana-Sam Himbson	Foase BAC Head
Tchedre Ibrahim	Kumawu BAC Head
Maahi Mohammed	Mamponteng BAC Head
Marina Kusi	Kodie BAC Head
Thomas Opoku	Tepa BAC Head
Kelvin Ofori-Atta	Obuasi BAC Head
Evelyn Nyim	Secretary
Mercy Manu	Accountant
Samuel Asiedu	Project Officer (Transfer in 2017, Resignation in 2018)
Output 2	
Target: Northern Region	
1) Refresher Training	
Period: 24 March 2016	Location: Kumasi
Outline:	Review of contents of basic KAIZEN and check lists, Allocation of lecturers, Revision of materials, evaluation of KAIZEN technical standard, explanation of OJT MSMEs, tips for trainer, preparation for OJT
Participant:	6 Ashanti BAC Heads who dispatched to basic KAIZEN training in the Northern Region
Name of Participant	Position
Nana Sam-Himbson	Foase BAC Head
Priscilla Kwakye Fosu	Konngo BAC Head
Patience Asamoah Aidoo	Agona BAC Head
Kipo Dari	Akomadan BAC Head
Eric Oti Nyarko	Ejisu BAC Head
Ibrahim Tchedre	Kumawu BAC Head
2) Preliminary Training	
Period: 29 March to 1 April 2016	Location: Tamale, Northern
Outline:	Training on consultation skills, MS Office which required for KAIZEN implementation
Trainer:	3 Ashanti BAC Heads and 1 Ashanti Project Officer
Trainee:	Pilot BAC Heads, Project Officer and Regional Manager in the Northern

Name of Participant	Position
Alidu Ewura	Damongo BAC Head
Suragdeen Iddrisu	Saboba BAC Head
Bukari Mohammed	Tamale BAC Head
Henrietta Zaato	Sagnarigu BAC Head
Mathew Azoya	Gambaga BAC Head
Rashidatu B. Alhasan	Buipe BAC Head (Transfer to Upper East in 2018)
Adam Mohammed Gadaf	Kumbungu BAC Head (Transfer to Volta in 2018)
Ahmed Salman	Sawla BAC Head (Demise in 2017)
Tienah Emmanuel Mohammed	Mion BAC Head (Resignation in 2018)
Haruna Mohammed	Tolon BAC Head (Resignation in 2017)
Ahmed Abdul-Razak	Project Officer
Eric Affeam	Regional Manager
3) Basic KAIZEN Training (Lecture)	
Period: 31 May to 3 June 2016	Location: Kumasi
Outline: Lecture on basic KAIZEN and study tour of advanced KAIZEN OJT MSMEs	
Trainer: 6 Ashanti BAC Heads (listed in 1. Refresher Training)	
Trainee: All BAC Heads, Project Officer, Regional Manager in the Northern Region (listed in 2. Preliminary training)	
Name of Participant (non-pilot BAC Head)	Position
Muniru Abdul-Rahman	Savelugu BAC Head
Wasilatu Seidu	Yendi BAC Head
Osman Adam Issah	Karaga BAC Head
Adam Sina	Bole BAC Head
Brigette Niena Sheini	Gushegu BAC Head
Shafique Mohammed Abubakar	Zabzugu BAC Head
Abdulai Fuseini Abukari	Bunkpurugu BAC Head
Abdul-Basit Amin	Daboya BAC Head
4) Basic KAIZEN Training (OJT)	
Period: 4 June to 2 July 2016	Location: Tamale
Outline: 12 BAC Heads were divided into 3 groups and group OJT for Enterprise Diagnosis and KAIZEN implementation were conducted with 6 OJT MSMEs.	
Trainer: 6 Ashanti BAC Heads (listed in 1. Refresher Training)	
Trainee: 12 (10 Pilot BAC Heads, Project Officer, Regional Manager in the Northern Region (listed in 2. Preliminary training)	
Target: BA Region	
5) Refresher Training	
Period: 27 March 2017	Location: Kumasi
Outline: Allocation of lecturers, explanation of OJT MSMEs, tips for trainer, preparation for OJT	
Participants: 6 Ashanti BAC Heads who dispatched to basic KAIZEN training in the BA Region	
Name of Participant	Position
Aikins Agyepong	Asokore Mampong BAC Head
Michael Golightly	Kumasi BAC Head
Alexander Nyame	Mampong BAC Head
Mohammed Maahi	Mampong BAC Head
Kwame Agyenim-Boateng	Mankraso BAC Head
Thomas Opoku	Tepa BAC Head
6) Preliminary Training	
Period: 29 to 31 March 2017	Location: Sunyani
Outline: Training on consultation skills, MS Office which required for KAIZEN implementation	
Trainer: 3 Ashanti BAC Heads and 1 Ashanti Regional Manager	
Trainee: Pilot BAC Heads, Accountant and Regional Manager in the BA Region	
Name of Participant	Position
Isaac Oppong	Atebubu BAC Head
Mavis Yaa Owusu	Berekum BAC Head (Resignation in 2018)
Daniel Sena Tsorme	Dormaa BAC Head

Vanessa Afia Asomea-Takyi	Duayaw Nkwanta BAC Head
Nuhu Salifu Dimah	Jema BAC Head (Transfer to Bechem BAC, BA)
Kwasi Abayie Acheampong	Kenyasi BAC Head
Frederick Apraku Amoateng	Nsawkaw BAC Head
Amil Ibrahim	Wenchi BAC Head
Abdul-Rahaman Talhat	Accountant
Anthony Akolbire	Regional Manager
7) Basic KAIZEN Training (Lecture)	
Period: 22 to 25 May 2017	Location: Kumasi
Outline: Lecture on basic KAIZEN and study tour of advanced KAIZEN OJT MSMEs	
Trainer: 6 Ashanti BAC Heads (listed in 5. Refresher Training)	
Trainee: All BAC Heads, Accountant, Regional Manager in the BA Region (listed in 6. Preliminary training), Lecture of University of Cape Coast (UCC)	
Name of Participants (non-pilot BAC Head)	Position
Lydia Annan	Sunyani BAC Head
Abdul Zakaria Mutalib	Bechem BAC Head (Transfer to Northern)
Thomas Afreh Stephenson	Goaso BAC Head
Ophelia Amponsah Tabi	Banda BAC Head
Abraham Kanbontaa	Techiman BAC Head
Abubakar Saddique	Yeji BAC Head
John Hammond	Kintampo North BAC Head
Victoria Daniels Awotwe	Jema South BAC Head
Phanuel Wunu	Lecturer of UCC
8) Basic KAIZEN Training (OJT)	
Period: 26 May to 23 June 2017	Location: Sunyani/Techiman, BA
Outline: 11 BAC Heads were divided into 3 groups and group OJT for Enterprise Diagnosis and KAIZEN implementation were conducted with 6 OJT MSMEs.	
Trainer: 6 Ashanti BAC Heads (listed in 5. Refresher Training)	
Trainee: 11 (8 Pilot BAC Heads, Accountant, Regional Manager in the BA Region listed in 6. Preliminary training, Lecture of UCC)	
Target: Central Region	
9) Refresher Training	
Period: 12 December 2017	Location: Kumasi
Outline: Allocation of lecturers, explanation of OJT MSMEs, tips for trainer, preparation for OJT	
Participant: 5 Ashanti BAC Heads and 1 Northern BAC Head who dispatched to basic KAIZEN training in the Central Region	
Name of Participant	Position
Marina Kusi	Kodie BAC Head
Benjamin Marfo	Nyinahin BAC Head
Kelvin Ofori-Atta	Obuasi BAC Head
Thomas Fofie	Nsuta BAC Head
David K. Oduro	Fomena BAC Head
Henrietta Zaato	Sagnarigu BAC Head (Northern)
10) Preliminary Training	
Period: 18 to 20 December 2017	Location: Cape Coast, Central
Outline: Training on consultation skills, MS Office which required for KAIZEN implementation	
Trainer: 3 Ashanti BAC Heads and 1 Ashanti Regional Manager	
Trainee: Pilot BAC Heads, Accountant and Regional Manager in the Central Region	
Name of Participant	Position
Kwasi Atta Boakye Jnr.	Kyegyewere BAC Head
Nathan Arkaah	Afranse BAC Head
Henrietta Addai-Poku	Swedru BAC Head
Emmanuel Deteah	Twifo Praso BAC Head
Patrick Asafo Agyei	Asikuma BAC Head
Francisca Dokua	Cape Coast BAC Head
Linda Oduro-Amoaning	Winneba BAC Head

Mathias Sukah	Accountant
Albert Amofa Boachie	Regional Manager
11) Basic KAIZEN Training (Lecture)	
Period: 15 January to 17 February 2018	Location: Kumasi
Outline: Lecture on basic KAIZEN and study tour of advanced KAIZEN OJT MSMEs	
Trainer: 5 Ashanti BAC Heads and 1 Northern BAC Head (listed in 9. Refresher Training)	
Trainee: All BAC Heads, Accountant, Regional Manager in the Central Region (listed in 10. Preliminary training), MBA Student of UCC, Researcher of Leiden University, the Netherlands, Students of Kwame Nkrumah University of Science and Technology (KNUST)	
Name of Participants (non-pilot BAC Head)	Position
Veronica Essel	Elmina BAC Head
Henry Kwaku Osei	Nsaba BAC Head
Nora Fleistcher Djoletto	Awutu Breku BAC Head
Rexford Ofosuhene	Ekumfi BAC Head
Alice Mapenzi Kubo	Researcher of Leiden University
Maxwell Quainoo	MBA Student, UCC
10 students from KNUST	
12) Basic KAIZEN Training (OJT)	
Period: 15 January to 17 February 2018	Location: Cape Coast/Winneba, Central
Outline: 11 BAC Heads were divided into 3 groups and group OJT for Enterprise Diagnosis and KAIZEN implementation were conducted with 6 OJT MSMEs.	
Trainer: 6 Ashanti/Northern BAC Heads (listed in 9. Refresher Training)	
Trainee: 12 (7 Pilot BAC Heads, Accountant, Regional Manager in the Central Region listed in 10. Preliminary training, Elmina BAC Head, MBA student of UCC, Researched of Leiden University)	
Training of Trainer Target: Northern, BA, Central Region	
13) Refresher Training	
Period: 15 October 2018	Location: Tamale
Outline: The Ashanti BAC and the Japanese Expert gave guidance to participants on review of lecture of basic KAIZEN, practice of exercise and preparation for lecture.	
Participant: 4 selected BAC Heads in the Northern and BA Region	
Name of Trainer	Position
Henrietta Zaato	Sagnarigu BAC Head, Northern
Bukari Mohammed	Tamale BAC Head, Northern
Daniel Sena Tsorme	Dormaa BAC Head, BA
Vanessa Afia Asoomea - Takyi	Duayaw Nkwanta BAC Head, BA
Kipo Dari	Akomadan BAC Head, Ashanti (Instructor)
14) Training of Trainer (Lecture of Basic KAIZEN)	
Period: 16 to 21 October 2018	Location: Tamale
Outline: To improve skills on lecture of basic KAIZEN, trainer BAC Heads delivered lecture on basic KAIZEN, study tour of basic KAIZEN OJT MSMEs, consultation skills and MS Office skills.	
Trainer: 4 Northern/BA BAC Heads (listed in the 13 Refresher Training)	
Trainee: All BAC Heads, Regional Manager and Project Officer in the Upper East and Upper West Regions	
Name of Participant	Position
1. Daniel Boffour	Regional Manager, NBSSI Upper East
2. Nii Lante Lamptey	Project Officer, NBSSI Upper East
3. Abubakar Zakari	Bawku BAC Head
4. Naomi Panwum	Bolgatanga BAC Head
5. Joseph Tiewul	Navrongo BAC Head
6. Akeeda A. Rogers	Sandema BAC Head
7. Suwaiba Hamidu	Talensi BAC Head
8. Abdul-Rahaman Yakubu	Zebilla BAC Head
9. John Gershon Koomson	Regional Manager, NBSSI Upper West
10. Baba Yunus Alhassan	Project Officer, NBSSI Upper West

11. Abdullah Siita Yakubu	Funsi BAC Head
12. Richard Agana Avooro	Gwollu BAC Head
13. Abdul Rahman Moomin	Jirapa BAC Head
14. Guo Bagyi Solomon	Lambussie BAC Head
15. Mohammed Mahamood	Lawra BAC Head
16. Tahiru Mohammed	Nadowli BAC Head
17. Mohammed Jamal	Nandom BAC Head
18. Mohammed Abdul Moomin	Wa BAC Head
19. Ar'miyau Haruna	Wechiau BAC Head
15) Training of Trainer (Lecture of Basic KAIZEN)	
Period: 15 to 20 October 2018	Location: Koforidua, Eastern
Outline: To improve skills on lecture of basic KAIZEN, trainer BAC Heads delivered lecture on basic KAIZEN, study tour of basic KAIZEN OJT MSMs, consultation skills and MS Office skills.	
Trainer: 4 Ashanti BAC Heads 1. Mohammed Maahi (Mampong BAC Head), 2. Kelvin Ofori-Atta (Obuasi BAC Head), 3. Marina Kusi (Kodie BAC Head), 4. Thomas Opoku (Tepa BAC Head)	
Trainee: All BAC Heads, Regional Manager and Project Officer in the Eastern and Volta Regions and 2 GA BAC Heads	
Name of Participant	Position
1. Isaac Nimako	NBSS Eastern Regional Manager
2. Abubakar Adnaan	NBSSI Eastern Project Officer
3. Jane Asiedu Gyekye	Akuapim North BAC Head
4. Owusu Ansah Daniel	Asuogyaman BAC Head
5. Richard Mongson	Birim Central BAC Head
6. Robert Agbobli	Birim North BAC Head
7. Patrick Arhin	Donkorkrom BAC Head
8. Stephen Amoako	Kwahu South BAC Head
9. Stephen Kwame Yeboah	New Juabeng BAC Head
10. Kwashie Davies Adamtey	Nsawam Adoagyiri BAC Head
11. Eric Obeng	Suhum BAC Head
12. Reindolf Akuoko Amoaning	Yilo Krobo BAC Head
13. Emmanuel Yao Nyaku	NBSSI Volta Regional Manager
14. Liman Prosper Narambah	NBSSI Volta Project Officer
15. Samuel Gomashie	Adidome BAC Head
16. Joseph Sekere Braimah	Dambai BAC Head
17. Selassie Donudenu	Denu BAC Head
18. Alfred Seshie	Dzodze BAC Head
19. Christopher Azumah	Ho BAC Head
20. Makafui Hodanu	Hohoe BAC Head
21. David Agbeko Pomefa	Keta BAC Head
22. Martins Boanya	Kete Krachie BAC Head
23. Seth Klutse	Kpando BAC Head
24. Prince Anku	Kpeve BAC Head
25. Eric Batse	Sogakope BAC Head
26. Adelaide Korri	Dodowa BAC Head
27. Vida McCarthy	Abokobi BAC Head
16) Refresher Training	
Period: 22 October 2018	Location: Takoradi, Western
Outline: The Ashanti BAC and the Japanese Expert gave guidance to participants on review of lecture of basic KAIZEN, practice of exercise and preparation for lecture.	
Participants: 4 selected BAC Heads in the BA and Central Regions	
Name of Trainer	Position
Isaac Oppong	Atebubu BAC Head, BA
Nuhu Salifu Dimah	Bechem BAC Head, BA
Emmanuel Deteah	Twifo Praso BAC Head, Central

Linda Oduro-Amoaning	Winneba BAC Head, Central
Nana Sam-Himbson	Foase BAC Head, Aahanti (Instructor)
17) Training of Trainer (Lecture of Basic KAIZEN)	
Period: 23 to 28 October 2018	Location: Takoradi, Western
Outline: To improve skills on lecture of basic KAIZEN, trainer BAC Heads delivered lecture on basic KAIZEN, study tour of basic KAIZEN OJT MSMEs, consultation skills and MS Office skills.	
Trainer: 4 BAC Heads in the BA/Central Regions (listed in 16. Refresher Training)	
Trainee: All BAC Heads, Regional Manager and Project Officer in the Western Region	
Name of Participant	Position
1. David-Andoh Kesson	NBSSI Western Regional Manager
2. Grace Howard	NBSSI Western Project Officer
3. Dora Adomako	Agona Nkwanta BAC Head
4. Richard Fosu	Asankrangwa BAC Head
5. Kusi Boateng Kingsley	Axim BAC Head
6. Fuseini Sumaila	Bia East BAC Head
7. Bernard Agyemang-Duah	Bibiani BAC Head
8. Daniel Sarpong Adjei	Daboase BAC Head
9. Christian Ababio	Juaboso BAC Head
10. Alfred Enoch Essel	Mpohor BAC Head
11. Edward Arthur	Nkroful BAC Head
12. Daniel Amponsah	Shama BAC Head
13. Emmanuel Krampa Ghorman	Tarkwa BAC Head
14. Elvis Gbango	Wassa Akropong BAC Head
18) Training of Trainer (OJT of Basic KAIZEN)	
Period: 5 November to 6 December	Location: GA
Outline: To improve trainer skills in terms of OJT of basic KAIZEN, trainer BAC Heads conducted OJT with GA BAC Heads. Ashanti BAC Head supervised the OJT.	
Trainer: 3 (1 BA BAC Head and 2 Central BAC Heads) 1 Ashanti BAC Head as supervisor	
Trainee: All BAC Heads in the GA Region	
Name of Trainer	Position
Emmanuel Deteah	Twifo Praso BAC Head, Central
Nathan Arkaah	Afransi BAC Head, Central
Daniel Sena Tosome	Dormaa BAC Head, BA
Kipo Dari	Akomadan BAC Head, Ashanti
Name of Trainee	Position
1. Akwasi Afriyie	Project Officer, NBSSI GA
2. Philomena Norman	Adentan BAC Head
3. Juliana Adubofour	Amasaman BAC Head
4. Jemimah Arthur	Ada BAC Head
5. Alidu Mohammed Amin	Ashaiman BAC Head
6. Vida A. McCarthy	Abokobi BAC Head
7. Adelaide Korri	Dodowa BAC Head
Output 3	
Target: Ashanti Region	
1) First Advanced KAIZEN Training	
Period: 25 January to 18 March 2016 (total of 8 weeks: Lecture: 1 week, OJT: 7 weeks)	
Location: Kumasi	
Outline: 22 BAC Heads were divided into 3 groups, and the Japanese Experts directly conducted OJT of Enterprise Diagnosis and KAIZEN implementation with 6 OJT MSMEs.	
Trainees: 22 Officers (21 Ashanti BAC Heads and 1 Ashanti Project Officer)	
Name of Participant	Position
1. Patience Asamoah Aidoo	Agona BAC Head
2. Dari Kipo	Akomadan BAC Head
3. Aikins Agyepong	Asokore Mampong BAC Head
4. Eric Oti Nyarko	Ejisu BAC Head
5. Nana Sam-Himbson	Foase BAC Head

6.	Marina Serwaah Kusi	Kodie BAC Head
7.	Ibrahim Tchedre	Kumawu BAC Head
8.	Mohammed Maahi	Mamponteng BAC Head
9.	Agyenim Boateng Kwame	Mankraso BAC Head
10.	Thomas Fofie	Nsuta BAC Head
11.	Kelvin Ofori-Atta	Obuasi BAC Head
12.	Thomas Opoku	Tepa BAC Head
13.	Kwasi Boateng	Bekwai BAC Head
14.	David Kwabena Poku Oduro	Fomena BAC Head
15.	Michael O. Golightly	Kumasi BAC Head
16.	Alexander Nyame	Mampong BAC Head
17.	Benjamin Kwasi Marfo	Nyinahin BAC Head
18.	Theodore Bayeldeng	Offinso BAC Head
19.	Priscilla Kwakye-Fosu	Konongo BAC Head
20.	Kwasi Owusu	Effiduase BAC Head
21.	Nana Antiri Irenaeus Ahwireng	Jacobi BAC Head
22.	Samuel Asieud	Ashanti Project Officer
2) Second Advanced KAIZEN Training		
Period: 30 January to 24 March 2017 (a total of 8 weeks: Lecture: 0.5 weeks, OJT: 7.5 weeks)		
Location: Kumasi		
Outline: 24 BAC Heads were divided into 3 groups, and the Japanese Experts directly conducted OJT of Enterprise Diagnosis and KAIZEN implementation with 6 OJT MSMEs.		
Participants: 24 Officers (20 Ashanti BAC Heads, 4 selected Northern BAC Heads/Project Officer)		
Name of Participant		Position
BAC Heads of No. 1 to 20 on the list of participants for the first advanced KAIZEN training.		
1.	Henrietta Zaato	Sagnarigu BAC Head, Northern
2.	Ahmed Salman	Sawla BAC Head, Northern
3.	Haruna Mohammed	Tolon BAC Head, Northern
4.	Abdul-Razak Ahmed	NBSSI Northern Project Officer
3) Third Advanced KAIZEN Training		
Period: 7 July to 4 August/ 21 to 31 August/ 12 to 15 September 2018		
Location: GA		
Outline: 12 selected Ashanti BAC Heads were divided into 3 groups, and the Japanese Experts directly conducted OJT of Enterprise Diagnosis and KAIZEN implementation with 6 OJT MSMEs.		
Participants: 12 Selected Ashanti BAC Heads (NBSSI GA Regional Manager, Project Officer and 6 BAC Heads participated to support)		
Name of Participant		Position
BAC Heads of No. 1 to 12 on the list of participants for the first advanced KAIZEN training.		
Lecture on Basic KAIZEN		
Period: 12 to 16 June 2017		Location: Accra
Outline: Lecture on basic KAIZEN and training for MS Office were delivered.		
Trainer: Ashanti BAC Heads		
Participants: 8 Officers (6 GA BAC Heads, NBSSI GA Regional Manager and Project Officer)		
Name of Participant		Position
1.	Philomena Dsane	NBSSI GA Regional Manager
2.	Anthea Ohene	Tema BAC Head
3.	Jemimah Arthur	Ada East BAC Head
4.	Philomena Norman	Adentan BAC Head
5.	Juliana Adubofour	Amasaman BAC Head
6.	Alidu Mohammed Amin	Ashaiman BAC Head
7.	Emma Odame Antwi	Weija BAC Head
8.	Akwasi Afriyie	NBSSI GA Project Officer
4) Fourth Advanced KAIZEN Training		
Period: 14 May to 11 July 2018 (a total of 8 weeks, Lecture: 0.5 weeks, OJT: 7.5 weeks)		
Location: GA		

Outline:	24 BAC Heads were divided into 3 groups, and the Japanese Experts directly conducted OJT of Enterprise Diagnosis and KAIZEN implementation with 7 OJT MSMEs.	
Participants:	24 BAC Heads (18 Ashanti BAC Heads, 3 BA BAC Heads, 3 Central BAC Heads)	
Name of Participant	Position	
BAC Heads of No. 1 to 18 on the list of participants for the first advanced KAIZEN training.		
1. Nuhu Salifu Dimah	Jema BAC Head (BA)	
2. Daniel Sena Tsorme	Dormaa BAC Head (BA)	
3. Vanessa Afia Somea-Takyi	Tano North BAC Head (BA)	
4. Emmanuel Deteah	Twifo Praso BAC Head (Central)	
5. Patrick Asafo Agyei	Bremang Asikuma BAC Head (Central)	
6. Linda Oduro- Amoaning	Winneba BAC Head (Central)	
Task 4		
1) Training in Japan		
Period: 26 September to 7 October 2016	Location: Tokyo	
Name of Participant	Position	
1. Alidu Ewura	Damongo BAC Head	
2. Suragdeen Iddrisu	Saboba BAC Head	
3. Bukari Mohammed	Tamale BAC Head	
4. Henrietta Zaato	Sagnarigu BAC Head	
5. Mathew Azoya	Gambaga BAC Head	
6. Rashidatu B. Alhasan	Buipe BAC Head	
7. Adam Mohammed Gadaf	Kumbungu BAC Head	
8. Ahmed Salman	Sawla BAC Head	
9. Tienah Emmanuel Mohammed	Mion BAC Head	
10. Haruna Mohammed	Tolon BAC Head	
2) Training in Japan		
Period: 16 to 27 October 2017	Location: Tokyo	
Name of Participant	Position	
1. Isaac Oppong	Atebubu BAC Head	
2. Mavis Yaa Owusu	Berekum BAC Head	
3. Daniel Sena Tsorme	Dormaa BAC Head	
4. Vanessa Afia Asomea-Takyi	Duayaw Nkwanta BAC Head	
5. Nuhu Salifu Dimah	Jema BAC Head	
6. Kwasi Abayie Acheampong	Kenyasi BAC Head	
7. Frederick Apraku Amoateng	Nsawkaw BAC Head	
8. Amil Ibrahim	Wenchi BAC Head	
9. Kipo Dari	Akomadan BAC Head	
10. Ibrahim Tchedre	Kumawu BAC Head	
11. Alex Opoku Agyemang	SALOM PHARMACY LTD.	
12. Anthony Assumang	SALOM PHARMACY LTD.	
13. Emmanuel Orman	SALOM PHARMACY LTD.	
14. Anna Esinam Manyo	Shekina Glory Bakery Ltd.	
3) Training in Japan		
Period: 27 August to 7 September 2018	Location: Tokyo	
Name of Participant	Position	
1. Kwasi Atta Boakye Jnr.	Kyekyewere BAC Head	
2. Nathan Arkaah	Afranse BAC Head	
3. Henrietta Addai-Poku	Swedru BAC Head	
4. Emmanuel Deteah	Twifo Praso BAC Head	
5. Patrick Asafo Agyei	Asikuma BAC Head	
6. Francisca Dokua	Cape Coast BAC Head	
7. Linda Oduro-Amoaning	Winneba BAC Head	
8. Bashir Manu	NBSSI Ashanti Regional Manager	

3. Results of Project Activities

3.1 Task 0

Task 0 was conducted with the aim of; 1) putting the C/P structure in place for implementation of the Project, 2) detailed planning of Project activities based on the results of the base-line survey, and 3) monitoring Project activities implemented according to the plan.

0-0 Organize the Project Management Unit

(1) Implementation Structure of NBSSI Head Office

At the start of the Project, the Project Management Unit (PMU) was formulated.

In October 2015, the PMU was set out by NBSSI Head Office and the structure, tasks and roles of the PMU were determined and confirmed, based on its original duties in NBSSI. The structure is shown in the below figure.

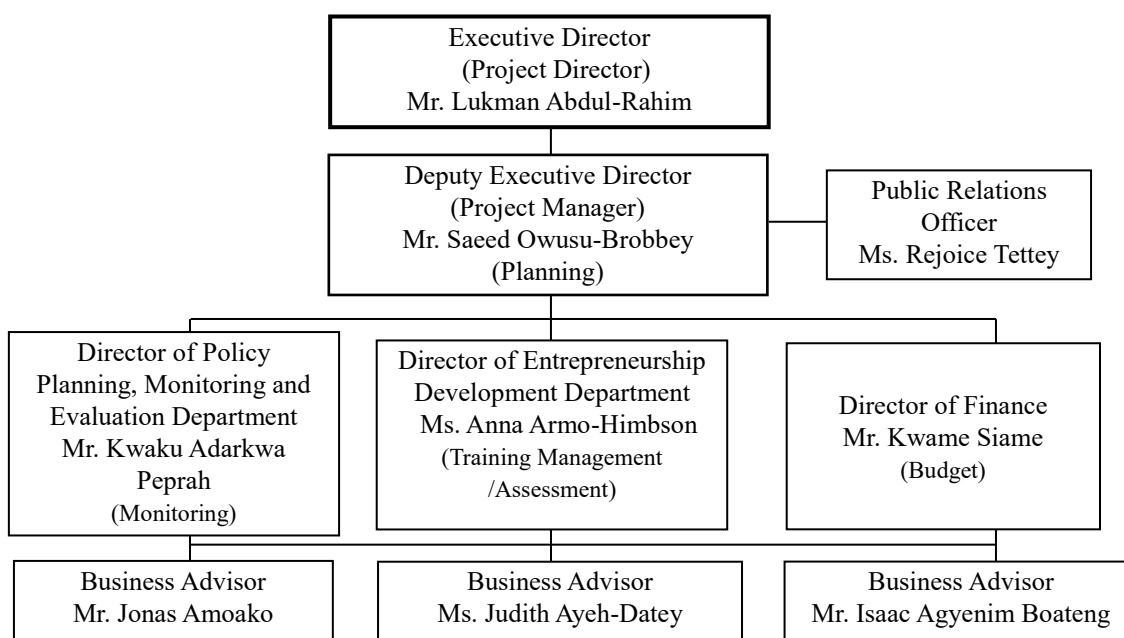


Figure 3-1 Structure of PMU (October 2015)

The roles and functions of the NBSSI PMU are defined as; a) to jointly monitor and control the progress of the Project, b) to develop the Workflow of the NBSSI Head Office for the management of the post-Project, and c) Source of funding and partnering activities with various concerned parties. The Workflow of the PMU and its components were designed, and actual development started with the staff members of the PMU being assigned, however, the NBSSI Head Office PMU Workflow was closely related to the Workflow of the Regional Office, so that the Workflow development was modified to reflect the Workflow for the Regional Office. The structure of PMU were mostly confirmed when monitoring sheet was regularly developed with some input provided for the PMU operation throughout the Project.

- 2016
Monitoring activities were undertaken to check on the initial stage of the Project. The source of funding activities was identified as a prominent issue, as it was found Export Trade, Agricultural and Industrial Development Fund (EDAIF) could not support KAIZEN training. A more focused approach was taken for source of funding such as Rural Enterprise Programme (REP) in the Project and post-Project. Some support in relation to the source of funding was provided by the Project.
- 2017
NBSSI Head Office continued monitoring of the Project with some changes of PMU members. The issues of the Project were also dealt with, mainly with the Project Manager, through discussions and coordination between the Project Manager and the Project Team. In line with the intentions of the New Executive Director, a clear organizational change was contemplated in September 2017, in which a change to the Authority rank that would allow NBSSI to have more self-standing in terms of source of funding, service delivery organizational management, effective use of the BACs, reinforcement of the regional offices, and revitalization of the NBSI Head Office. Hence some strategy development and procedural/work related studies were initiated. For development of this some input was provided by the Project Team at the request of the Executive Director.
- 2018
From early 2018, the Project monitoring continued with the PMU. The source of funding for new activities was further highlighted, and the NBSSI Head Office was very active, so the Project Team provided some support and input.

In June 2018, the new PMU, while delayed, was set out as per the below table. The Ashanti Regional Manager, who was assigned to the person in charge of the KAIZEN Unit (KAIZEN Department), took part in and worked as a Project Manager.

Table 3-1 List of PMU Members (June 2018)

No.	Name	Position
1.	Kosi A. Yankey	Executive Director, Project Director
2	Manu Bashir	Ashanti Regional Manager, Project Manager
3	Philomena Dzane	Director of PPME
4	Jonas Nana Yaw Amoako	Senior Business Advisor – PPME
5	Baffour Akuffo Ankama	Ag. Director Finance
6	Habiba Sumani	Director of Women Entrepreneurship Development Department
7	Anna Armo-Himbson	Director of Entrepreneurship Development Department, Deputy Executive Director
8	Anthea Ohene	Greater Accra Regional Manager
9	Rejoice Tetteh	Assistant Public Relations Officer

Inputs with some documentation to the organization of the National KAIZEN Expansion in the post-Project NBSSI which was expected to be in June 2018, the organizational development in relation to the change to an EDA, and mid-term NBSSI Plan making provided by the Project Team to the Executive Director and Project Manager for their drafting work.

(2) Implementation Structure of NBSSI Regional Office

The Technical Unit (TU) to support the Regional Manager for planning and management of the activities, and the Administration Unit (AU) in charge of arrangement and logistics, were set up in each targeted region.

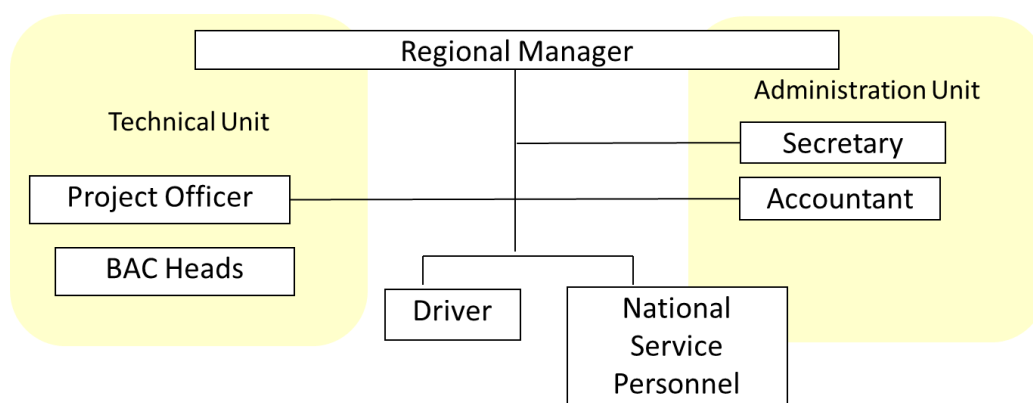


Figure 3-2 Implementation Structure of Regional Office

The replacement was made due to transfer and resignation of members, the following table shows final members of TU and AU in each region.

Table 3-2 List of TU/AU Members

Northern	Name	Position
TU	1. Eric Affram	Regional Manager
	2. Ahmed Abdul-Razak	Project Officer
	3. Henrietta Zaato	Sagnarigu BAC Head
	4. Bukari Mohammed	Tamale BAC Head
	5. Suragdeen Iddrisu	Saboba BAC Head
	6. Alidu Ewura	Damongo BAC Head
AU	1. Eric Affram	Regional Manager
	2. Abdallah Yussif	Accountant
	3. Duriyu Abdulai	Secretary
BA	Name	Position
TU	1. Akolbire A. Anthony	Regional Manager
	2. Oppong Isaac	Atebubu BAC Head
	3. Amil Ibrahim	Wenchi BAC Head
	4. Daniel Sena Tsorme	Dormaa BAC Head
	5. Nuhu Salifu Dimah	Bechem BAC Head
	6. Frederick Apraku Amoateng	Nsawkwaw BAC Head
	7. Vanessa Asomea Takyi	Duayaw Nkawanta BAC Head
AU	1. Akolbire A. Anthony	Regional Manager
	2. Abdul Rahaman Talhat	Accountant
	3. Amil Ibrahim	Wenchi BAC Head
	4. Mabel Ninson	Secretary
Central	Name	Position
TU	1. Albert Boachie-Amofa	Regional Manager
	2. Emmanuel Deteah	Twifo Praso BAC Head
	3. Patrick Asafo Agyei	Breman Asikuma BAC Head
	4. Linda Oduro Amoaning	Winneba BAC Head
	5. Henrietta Addai-Poku	Swedru BAC Head
	6. Nathan Arkaah	Afranse BAC Head
AU	1. Albert Boachie-Amofa	Regional Manager
	2. Mathias Sukah	Accountant
	3. Henrietta Bainson	Secretary
	4. Francisca Dokua	Cape Coast BAC Head

Ashanti	Name	Position
TU	1. Manu Bashir	Regional Manager
	2. Nana Sam-Himbson	Foase BAC Head
	3. Tchedre Ibrahim	Kumawu BAC Head
	4. Maahi Mohammed	Mamponteng BAC Head
	5. Marina Kusi	Kodie BAC Head
	6. Thomas Opoku	Tepa BAC Head
	7. Kelvin Ofori-Atta	Obuasi BAC Head
AU	1. Evelyn Nyim	Secretary
	2. Mercy Manu	Accountant

0-1 Implement a project baseline survey

The project baseline survey was implemented from October to December 2015 and the end-line survey was carried out from July to December 2018. The base-line survey is outlined in the following table.

Table 3-3 Outline of Base-line Survey

Period	Three months from October to December 2015		
Target	NBSSI Head Office, NBSSI Regional Office in Ashanti, BA, Central and Northern Region, BACs and MSMEs, Stakeholders		
Methodology	NBSSI Head Office: Questionnaire, interview Regional Office: Project Team and PMU explain the baseline survey to each Regional Office. The questionnaire was distributed and collected from each Regional Office and analysis was reported to PMU. The Project Team confirmed the questionnaire results through interviews and site visits. MSMEs: Profile sheets for enterprises were filled in to select the OJT enterprises. Stakeholders: Interview based on the questionnaire		
Survey items	Target	Contents	Tools
	Head Office	<ul style="list-style-type: none"> Competency related to the Workflow, namely Human Resource Development (HRD), finance, processes, organizational structure (with a gauge of planning, actions, communication, achievement, innovativeness) Office Environment, such as equipment, communication, internet connection, electricity, vehicle and so on The relationship and collaboration activities with other programmes, donors, academic/training and concerned institutions The situation of securing the budget 	Assessment sheet on Head Office, Questionnaire
	Regional Office	<ul style="list-style-type: none"> Competency related to the Workflow, namely HRD, finance, processes, organizational structure (with a gauge of planning, actions, communication, achievement, innovativeness) Office Environment, such as equipment, communication, internet connection, electricity, vehicle and so on The collaboration activities with other programmes, donors, academic /training and concerned institutions The situation of securing the budget Structure and staff members, i.e. TU, AU, BAC, Business development Officer (BDO), Driver, Secretary, National Service and so on Main industries and client MSEs 	Assessment sheet, Questionnaire, Profile sheet, Interview

	Pilot BAC	Knowledge of KAIZEN, participation in other training, professional field, accounting, ICT skills, the equipment in BAC Office, vehicle, driver, communication, electricity	Questionnaire, Profile sheet, Interview
	OJT MSMEs	Basic information, commitment/willingness to apply KAIZEN, growth level, English ability, market etc.	Profile sheet, Interview
	Stakeholders	Project outline, strategy and plan on private sector development, possibility of collaboration with NBSSI	Interview

The results of the base-line survey are summarized in the table below. The report of the base-line survey is attached in the Appendix 1.

Table 3-4 Summary of Results of Base-line Survey

Target	Results
NBSSI Head Office	<ul style="list-style-type: none"> • Workflow Implementation Planning (mid/long term plan, training plan, monitoring plan etc.), donor coordination, PR, incentive scheme are not well developed and needed to be improved. • Office Environment Necessary facilities are equipped, however the unstable provision of electricity causes the challenges in using electronic equipment. • Budget The disbursement by GoG is delayed or the disbursed amount is not enough to implement planned activities, so it is necessary to seek other funding sources. • Donor relations Directors are assigned and manage each project, however overall coordination system does not exist.
<Northern Region> NBSSI Regional Office	<ul style="list-style-type: none"> • Structure/ Workflow Implementation The staff members are well assigned to Regional Office, and TU and AU are well organized. The Regional Office itself does not plan capacity development of BAC and PR. The coordination with stakeholders, information sharing and management of equipments are not well structured and needed to be strengthened. • Office Environment Office Space is available to accommodate training. The printer and desktop computers are equipped, but personal laptop computer and USB modem are used. The vehicle of Regional Office was procured in 2014. • Main Industry Agriculture (shea nuts, yam, cotton), fishery, agro processing (shea butter, dry mango), smock weaving
Pilot BAC	The vehicles are procured for BACs, however the use of them is more restricted when compared with Ashanti BAC, for instance request for releasing vehicle should be made to MMDA.
OJT Enterprises	Bakery, sachet water, soya ice, shea butter association were observed. The willingness to introduce KAIZEN was presented, but a part of the enterprises already received similar consulting service.
<Brong Ahafo Region> NBSSI Regional Office	<ul style="list-style-type: none"> • Structure/ Workflow Implementation The Project Officer is not assigned, so Accountant works as Project Officer. The situation related to the Workflow is similar to the Northern Region. The deadline of submission is well managed compared to the other regions. • Office Environment Office Space is available to accommodate training. The printer, desktop computer are equipped, but personal laptop computer and USB modem are used. The vehicle of Regional Office is old and maintenance is needed. • Main Industry Agriculture (cashew nuts, mango), agro processing, mining, forestry, wood work, clay products, poultry farming Market is open in Techman.

Target	Results	
Pilot BAC	More than half of Pilot BAC Heads participated in JICA co-creation training in Japan, Malaysia or Egypt, so some of them have the basic knowledge of KAIZEN and 5S.	
OJT Enterprises	Garment and sachet water enterprises were observed. Ajinomoto's affiliate enterprise was considered to be selected as OJT enterprise	
<Central Region> NBSSI Regional Office	<ul style="list-style-type: none"> • Structure/ Workflow Implementation The Regional Manager is taking sick leave (as of Feb. 2016), so the implementation structure is weak compared to the other regions. The situation related to the Workflow is similar to the Northern Region. Written documents are not prepared, but the process of each activity is well presented. • Office Environment Office Space is available to accommodate training. The printer, desktop computer are equipped, but personal laptop computer and USB modem are used. The vehicle of Regional Office is old and maintenance is needed. • Main Industry Agriculture (pineapple, citrus) agro processing (juice), fishery, tourism 	
Pilot BAC	Younger officers are dominant, and the new vehicles are available (provided in 2014 and 2015).	
OJT Enterprises	Cassava processing enterprise was observed and willingness to introduction on KAIZEN was demonstrated.	
Stakeholder (Private Sector Development)	EDAIF	The integrated proposal including National Expansion of KAIZEN was not approved. The proposal of only KAIZEN and the documents on KAIZEN impact were submitted. The selection criteria are sustainability and export-oriented factor.
	REP	Mid-term review was conducted from October to November 2015, and the policy did not change. Introduction of BDS fee scheme is considered. BDO and CDO training was requested.
	GRATIS	Collaboration with NBSSI is continued through Rural Technology Facilities (RTF)
	MOTI	PSDS II was planned to be cancelled and the detailed design survey of PSDS III would be conducted, but PSDS II would be extended and redesigned. The SME policy was going to be developed and REP, GRATIS and NBSSI would be invited.
	European Union	Trade Related Assistance and Quality Enabling Programme is complete. Project of Ghana's Employment and Social Protection Sectors would be started. The approach was being shifted to private sector involvement.
	African Development Bank	Apart from REP, MSME finance service is also provided.
	International Fund for Agriculture Development (IFAD)	Apart from REP, support through Ghana Agriculture Sector Investment Programme (GASIP) and Northern Rural Growth Programme.
	World Bank	Support through Ghana Commercial Agriculture Project (GCAP) and Ghana Climate Innovation Center. The research on PSDSII was planned.
	Deutsche Gesellschaft fuer Internationale Zusammenarbeit (GIZ)	Programme for Sustainable Economic Development Phase 2, Ghana Skills Development Initiative, insurance service are implemented.
USAID	GCAP, Agricultural Development and Value Chain Enhancement and Financing Ghanaian Agriculture Project are implemented mainly in Northern Ghana related to the value chain for soya beans, rice, maize etc.	

Target	Results	
	Danish International Development Agency (DANIDA)	Support to the PSDS II is not continued. Support to Private Sector Development III is being designed and will be operational in 2016, in which Business Sector Advocacy Challenge (BUSAC) Fund is a major component. The support for Swame magazine is suspended.
	Department for International Development (DFID)	Support through Enhancing Growth in New Enterprises.
Academic Institutions	Tamale Polytechnic	Positive participation in WG. Collaboration with NBSSI in Entrepreneurship programme.
	Sunyani Polytechnic	The programme supported by EDAIF and Council for Technical and Vocational Education and Training (COTVET) is ongoing. Collaboration with NBSSI in Entrepreneurship programme, new technology application, research on MSMEs.
	University of Cape Coast	Positive participation in Working Group. Collaboration with NBSSI in Incubator programme.
	Kumasi Polytechnic	The programme supported by Ministry of Environment, Science, Technology and Innovation and COTVET is on-going. KAIZEN is well understood, since the Lector served as Chairperson of KAIZEN Forum in the Previous Project. The new technology, such as energy, can be introduced to client MSEs.

The outline of the end-line survey is described below.

Table 3-5 Outline of End-line Survey

Period	Three months from July to December 2018	
Target	NBSSI Head Office, NBSSI Regional Offices, BACs, Development Partners/Related Institutions, MSMEs	
Methodology	NBSSI Head Office: Questionnaire, interview NBSSI Regional Office: BAC: Questionnaire Development Partners, Related Institutions: Interview MSMEs: Questionnaire, interview	
Survey items	Target	Contents
	Head Office	<ul style="list-style-type: none"> • Structure • Structure of National Expansion of KAIZEN • Office environment • The relationship and collaboration activities with other programmes, donors, academic/training and concerned institutions • The situation of securing the budget
	Regional Office	<ul style="list-style-type: none"> • Office environment • Structure of Regional Office • BAC • Main industry, economic situation, stakeholders and medium sized companies in the region • The collaboration activities with other programmes, development partners, academic /training and concerned institutions • (Target regions) Capacity related to Workflows • (Target regions) BAC's capacity related to BDS provision/facilitation including KAIZEN
	BAC	<ul style="list-style-type: none"> • Profile of BAC Head and BAC Office • Office environment • Main industries, client MSEs and stakeholders in the district • Management structure of BAC and skills of BAC Head

Development Partners/ Related Institutions	<ul style="list-style-type: none"> • Policies and strategy of private sector development • On-going/planned projects • Possibility of collaboration with NBSSI
MSMEs	<p>OJT MSMEs: KAIZEN impact, needs</p> <p>Potential MSMEs: Profile of MSMEs and needs</p>

The results of the end-line survey are summarized in the table below. The report of the end-line survey is attached in Appendix 2.

Table 3-6 Summary of Results of End-line Survey

Target	Results																																									
NBSSI Head Office	<ul style="list-style-type: none"> • Workflow Implementation Honarium Policy and Institute Awards Scheme have been developed and Long Service Awards have been reactivated. • Office Environment Necessary facilities/equipment are in place. • Budget The disbursement by GoG is delayed or the disbursed amount is not enough to implement planned activities, so it is necessary to seek other funding sources. • Donor relations Executive Director, Deputy Executive Director and Heads of Department are in charge of development partners coordination. Executive Director oversees the progress. 																																									
NBSSI Regional Offices (target regions)	<ul style="list-style-type: none"> • Structure/ Workflow Implementation The staff members are appropriately assigned to Regional Office, and TU and AU are well organized. After intervention by the Project, all of the Workflow components have been planned and most of activities were implemented. Securing funds for implementation remains a challenge. • Office Environment The office environment has been improved by procurement of equipment, air conditioners, tables/chairs. The vehicle for the BA Regional Office is still out of order. • Plan and Budget for KAIZEN Implementation of KAIZEN BDS and OJT to non-pilot BAC Heads were included in the Workflow action plan and the budget was applied. 																																									
NBSSI Regional Offices (non-target regions)	<ul style="list-style-type: none"> • Structure/ Workflow Implementation The staff members are appropriately assigned. Regional Office itself did not plan capacity development of BAC, PR and incentive. • Office Environment The office environment is similar to the target regions, except procured equipment by the Project. 																																									
Pilot BAC Heads	<ul style="list-style-type: none"> • Academic Background (23 BAC Heads from the Northern and the BA Regions) Bachelor: 12 BAC Heads (52%), Diploma: 4 BAC Heads (17 %), Master: 7 BAC Heads (31%) Most of BAC Heads majored in business or management, and engineering was not found. • Evaluation on Skills The evaluation by Regional Managers <table border="1"> <thead> <tr> <th rowspan="2">Region</th> <th colspan="2">Northern</th> <th colspan="2">BA</th> <th colspan="2">Central</th> </tr> <tr> <th>Base</th> <th>End</th> <th>Base</th> <th>End</th> <th>Base</th> <th>End</th> </tr> </thead> <tbody> <tr> <td>No of Pilot BAC</td> <td>10</td> <td>5 (-5)</td> <td>8</td> <td>7 (-1)</td> <td>7</td> <td>7</td> </tr> <tr> <td>KAIZEN skills</td> <td>2.0</td> <td>3.2</td> <td>2.5</td> <td>3.6</td> <td>2.3</td> <td>3.4</td> </tr> <tr> <td>Business Skills (Basic)</td> <td>2.7</td> <td>4.2</td> <td>3.1</td> <td>4.2</td> <td>-</td> <td>-</td> </tr> <tr> <td>Business Skills (Professional)</td> <td>2.7</td> <td>4.3</td> <td>2.8</td> <td>4.2</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Region	Northern		BA		Central		Base	End	Base	End	Base	End	No of Pilot BAC	10	5 (-5)	8	7 (-1)	7	7	KAIZEN skills	2.0	3.2	2.5	3.6	2.3	3.4	Business Skills (Basic)	2.7	4.2	3.1	4.2	-	-	Business Skills (Professional)	2.7	4.3	2.8	4.2	-	-
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Business Skills (Basic)	2.7	4.2	3.1	4.2	-	-																																				
Business Skills (Professional)	2.7	4.3	2.8	4.2	-	-																																				

Target	Results													
	<ul style="list-style-type: none"> • The number of pilot BAC Heads in the Northern Region has been reduced by 5, however 2 BAC Heads are expected to implement KAIZEN in their districts in the Upper East and the Volta Regions. • In addition to skills on KAIZEN, the business skills of BAC Heads have also been improved through the Project activities. As skills in business plan making is critical for loan facilitation, this training is recommended to NBSSI. • Plan and Budget for KAIZEN Not only pilot but also non-pilot BAC Heads and BAC Heads in the remaining regions applied the budget for KAIZEN implementation to REP. 													
Gender	<p>Cultural Barriers</p> <ul style="list-style-type: none"> • Many social norms do not favor women (women should give more attention to family and home, women subordinate to their husbands including decision making) • Unfavorable land tenure practices (women do not inherit land and therefore find it difficult to present land as collateral for credit) • Poor access to land and other productive resources. • High rate of teenage pregnancy • Lack of self-confidence: will power, and strong mental outlook <p>Technical Barrier</p> <ul style="list-style-type: none"> • Low level of Financial Management Skills • Low education and literacy rate <p>Support from Project</p> <ul style="list-style-type: none"> • Although analysis and activities specialized in gender were not originally planned in the Project, the women entrepreneur support programme by NBSSI was assisted and additional points were given to enterprises which ratio of female employees was high in the selection of OJT enterprises. • 10 OJT MSMEs were owned by female out of 42 OJT MSMEs, and some of OJT MSMEs' main promoters of KAIZEN were female. The distinguished achievement by female was found in the Northern and GA Regions and garment industry, such as Shekinah Glory Bakeries, KAIZEN Champion MSMEs in the Northern Region in 2016. • Apart from the above, no particular impact on gender issues was reported from Regional Offices and BACs through the Project. 													
OJT MSMEs	<p>KAIZEN</p> <p>As a result of the analysis of KAIZEN impact on OJT MSMEs according to industries, the garment industry could achieve most successful results. The average number of applied KAIZEN methods was 29 methods which is the highest among industries. It is suitable to OJT since many KAIZEN methods can be applied.</p> <p>In the most of companies, the layout can be changed as equipment and machine (sewing machine, cutting table etc.) are not fixed.</p> <p>Although the number of applied KAIZEN methods to the wood work industries was on average 22 methods, which was less than the other industries, the indicators on productivity sales and lead time were improved more than most of the industries.</p> <p>Basic KAIZEN methods, especially 5S, are able to contribute their productivity, quality and images.</p> <p>Results of Questionnaire</p> <table border="1"> <thead> <tr> <th>Items</th> <th>Medium to Large Companies</th> <th>Small to Micro Enterprises</th> </tr> </thead> <tbody> <tr> <td>Association</td> <td>Association of Ghana Industry (AGI)</td> <td>AGI, Association of Small Scale Industries (ASSI)</td> </tr> <tr> <td>Payment amount for Consultation</td> <td>2 companies answered more than GHS 2,000, and 5 companies offered GHS 1,000 to 2,000</td> <td>3 enterprises answered GHS 1,000 to 2,000.</td> </tr> <tr> <td>Challenges</td> <td colspan="2">Finance (including tax, sales), insufficient capacity and attitude of workers</td> </tr> </tbody> </table>		Items	Medium to Large Companies	Small to Micro Enterprises	Association	Association of Ghana Industry (AGI)	AGI, Association of Small Scale Industries (ASSI)	Payment amount for Consultation	2 companies answered more than GHS 2,000, and 5 companies offered GHS 1,000 to 2,000	3 enterprises answered GHS 1,000 to 2,000.	Challenges	Finance (including tax, sales), insufficient capacity and attitude of workers	
Items	Medium to Large Companies	Small to Micro Enterprises												
Association	Association of Ghana Industry (AGI)	AGI, Association of Small Scale Industries (ASSI)												
Payment amount for Consultation	2 companies answered more than GHS 2,000, and 5 companies offered GHS 1,000 to 2,000	3 enterprises answered GHS 1,000 to 2,000.												
Challenges	Finance (including tax, sales), insufficient capacity and attitude of workers													

Target	Results		
	Needs	Capacity improvement of workers, equipment, finance to expand the factory	Marketing, finance
	Information Source	Internet, radio, WhatsApp	Word of mouth, radio, internet
	For more detail on the KAIZEN impact of OJT and self-implementation of KAIZEN, please refer 3.3 Output 2 (2) Basic KAIZEN Training <Follow-up>, (3) Self-implementation of Enterprise Diagnosis and KAIZEN, 3.4 Output 3 (2) Advanced KAIZEN Training <Follow-up>, appendix of the end-line survey report (Appendix 2 of this report) and Appendix 8 Collection of Good Practice.		
Stakeholder (Private Sector Development)	EDAIF	EDAIF has been repealed and integrated into the Ghana Export-Import (EXIM) Bank under Ministry of Finance (MOF). The funding for KAIZEN training could not be realized.	
	REP	The Memorandum of Cooperation (MOC) between REP, NBSSI and the Project, and it was confirmed that REP would fund KAIZEN activities to NBSSI in 2019.	
	GRATIS	Collaboration with NBSSI through RTF (No change)	
	MOTI	The reviewed SME policy draft was given back to the consultant to work on the comments and changes, and it was submitted to the Cabinet. SME policy is a pre-condition for approval of the EDA.	
	EU	The EU strategy is to maximize their trade and investments by increasing Foreign Direct Investments in Ghana, and to support enterprises directly without any intermediaries in the next 5-10 years.	
	IFAD	IFAD's current projects with GASIP, REP and NBSSI ends in 2021. Additional funding of over USD 40 million has been secured particularly to support the 30 Business Resource Centres (BRCs) of NBSSI under MOTI.	
	United Nations Development Programme (UNDP)	As Ghana is categorized as a middle-income country, the budget has been drastically reduced and UNDP is currently working to help achieve the Sustainable Development Goals. The current project of UNDP is in sustainable development and environmental protection with a focus on renewable energy and the transfer of its technology, such as the platform.	
	Rural Development Fund Ghana (RDF)	Currently reviewing KAIZEN impact and how to utilize NBSSI BACs as KAIZEN Consultants for technical assistance. Memorandum of Understanding (MOU) has been finalized with NBSSI for incubation training and development in rural districts.	
	SDF	MOU is currently being finalized for NBSSI to offer KAIZEN training to successful applicants of the current phase with particular emphasis on small and micro enterprises.	
	BUSAC Fund	BUSAC has existing cooperation and partnership with NBSSI and funded the recent Ghana Women Entrepreneurial Summit, study tour to Denmark as part of their restructuring into an EDA, and provided computer training to BACs. NBSSI submitted a proposal for KAIZEN training to BUSAC and it is under review.	
GIZ	MOU between GIZ and NBSSI which targets scope is around 8,000 people on entrepreneurship training at designated centres in the rural areas of the Brong Ahafo, Ashanti and Greater Accra Regions.		
DFID	DFID is supporting policies related private sector development.		

0-2 Monitor the project activities regularly

The Project Monitoring was conducted with the input and support from the Project Team.

- In the early part of 2016, monitoring was included in the PMU Workflow; the Project progress was monitored once every three (3) months, and then monitoring meetings on the results reported by the NBSSI Policy Planning, Monitoring and Evaluation Department (PPME) and its staff members were held between PMU and the Project Team.
- PPME and PMU members assigned by the Project Manager took part in the monitoring activities. PMU had discussions with the Project Team on the problems, lessons learnt, and recommendations of the Project training and other activities. Furthermore, active involvement of the Executive Director and some staff members with the checklist led to more active /effective discussions on the training. It is further noted that the training sessions conducted by the target Regional Offices in charge of implementation were reported to the NBSSI Head Office.
- Over the period, information sharing was undertaken between the Project Team and the Project Manager in terms of problems and issues, and challenges in relation to the various NBSSI activities such as source of funding were discussed occasionally. The checklist drafted by the Project Team led to discussions on the improvement of the training, and the Executive Director and other directors also took part in the visits to the training sessions, while not on a regular basis.
- The Project Monitoring Reports have been furnished on a regular basis with the monitoring form templates which include the results and progress of the Project Tasks and Outputs against the Project PDM, and also some alterations to the Project Workplan. The issues in relation to Project execution were discussed with the Executive Director and Project Manager. The Monitoring Reports were submitted every half year and presented at each JCC meeting with the Progress Reports. Those reports have been developed by the Executive Director and Chief Advisor.
- The Project Completion Report (PCR) drafting was undertaken, which includes DAC 5 Items Evaluation, the prospects of achieving the Overall Goal, and issues of the Sustainability of the Project. It was submitted to the JICA Ghana Office at the end of July 2018. The PCR was presented to the final JCC for sharing the assessment of the Project and development of the recommendations in the post-Project.

PMU members conducted monitoring of Project activities and the monitoring report was shared with the Project Team and challenges, lessons learnt, and recommendations identified were discussed. The following table shows the schedule of monitoring.

Table 3-7 Schedule of Monitoring

Quarter	Period	Focused Regions	Activities	Monitoring Meeting
2016 First	Feb. and Mar. 2016	Ashanti	Advanced KAIZEN Training	Mar. 2016
Second	May 2016	Ashanti	Workflow Workshop	Sep. 2016
	Jun. 2016	Northern	Basic KAIZEN Training	
Third	Aug. 2016	Northern	Self-implementation of KAIZEN Workflow implementation	
Fourth	Nov. 2016	Northern	Workflow Workshop	Mar. 2017
2017 First	Feb. and Mar. 2017	Ashanti Northern	Advanced KAIZEN Training KAIZEN Forum	
Second	May 2017 Jun. 2017	Ashanti BA	Workflow Workshop Basic KAIZEN Training	Sep. 2017
Third	Jul. 2017	GA	Advanced KAIZEN Training	
	Aug. 2017	GA BA	Advanced KAIZEN Training Self-implementation of KAIZEN Workflow implementation	
Fourth	Sep. 2017	GA	Advanced KAIZEN Training	Mar. 2018
	Oct. 2017	Northern	Follow-up Workshop	
	Dec. 2017	BA Central	Workflow Workshop Preliminary Training	
2018 First	Jan. 2018	Central	Basic KAIZEN Training	
	Feb. 2018	BA	KAIZEN Forum Workflow implementation	
	Mar. 2018	Central Northern, Ashanti, BA	Self-implementation of KAIZEN Workflow implementation Self-implementation of KAIZEN	
Second	Apr. 2018	Central	Self-implementation of KAIZEN	Sep. 2018
	Apr. to Jun. 2018	Northern, Ashanti, BA	Self-implementation of KAIZEN	
	May, Jun. 2018	GA	Advanced KAIZEN Training	
Third	Jul. 2018	GA	Advanced KAIZEN Training	
	Jul. 2018	Central	Workflow Workshop	
	Jul., Aug. 2018	Central	KAIZEN Forum	
	Sep. 2018	Northern	Self-implementation of KAIZEN	
Fourth	Oct. 2018	Central	Follow-up of OJT MSMEs	-
	Oct. 2018	Eastern, Northern	TOT (Lecture of Basic KAIZEN)	
	Oct., Nov. 2018	Ashanti	Self-implementation of KAIZEN	
	Oct., Nov. 2018	GA	Workflow Workshop	
	Nov. 2018	BA	Self-implementation of KAIZEN	

The monitoring reports for the third and the fourth quarter of 2018 which were shared by NBSSI PMU are attached in Appendix 3.

3.2 Output 1

Task 1 (Output 1) was to introduce the Workflow to strengthen the management capacity of NBSSI Regional Offices. The Workflow is a framework to establish and streamline the structure of NBSSI Regional Offices, to realize the continuous development of BACs on BDS provision/facilitation. The implementation schedule of Output 1 is shown below.

Table 3-8 Implementation Schedule of Output 1

Task	2016	2017	2018	Remarks
1-2 Problem analysis and development of action plan	Nov. 2015 (venue: Ashanti)	Nov. 2016 (Northern)	Dec. 2017 (BA)	From 2017, 1-5 Workshops on achievements of the Workflows were carried out together.
1-3 Preparation for Workflow implementation	Dec. 2015	Dec. 2016	Dec. 2017	
1-4 Training on Workflow implementation 1-5 Workshop on <u>progress</u> of Workflow	May 2016 (Ashanti)	May 2017 (Ashanti)	July. 2018 (Central)	Study tour of KAIZEN OJT MSMEs was included
1-4 Training on Workflow implementation 1-5 Workshop on <u>achievements</u> of Workflow	Nov. 2016 (Northern)	Dec. 2017 (BA)	Oct. 2018 (GA)	Study tour of KAIZEN OJT MSMEs was included
1-6 Updating reference materials	Nov. 2016-	-	Nov. 2018-	

(1) Review of Workflows

The components of and reference materials for the Workflow for Regional Offices were revised at the outset of the Project with PMU, NBSSI Ashanti TU and AU, based on those introduced to the Ashanti Regional Office. Additional contents and countermeasures for issues raised were incorporated into the updated Workflow. PDCA (Plan-Do-Check-Action) cycle was introduced into the Workflow and the Workflow and reference materials were continuously upgraded. The Workflow components are listed in the following table.

Table 3-9 Workflows Components

Category	Sub-component
1. Capacity Development	1-1 Competency Assessment/ Needs Assessment Plan
	1-2 Management Development
	1-3. KAIZEN Training Management
	1-4. Skill Development Scheme
	1-5. Trainer Development
	1-6. Staff Training
2. KAIZEN Implementation	2-1. KAIZEN Action Plan
	2-2. KAIZEN Regional Expansion
3. PR	
4. Stakeholder Coordination	4-1. Stakeholder Coordination
	4-2. Working Group Meeting
5. Incentive Scheme	Incentive Scheme
6. Budgeting	
7. Monitoring	
8. Annual Review	
9. Knowledge/ Archive Management	
10. Office/Equipment Management	

1) Planning

The following components were set in the Workflow to continuously enhance BACs' capacity and Regional Offices' ability to manage BACs: 1) Capacity Development; 2) KAIZEN Implementation; 3) PR; 4) Stakeholder Coordination; 5) Incentives; and 6) Budgeting (set to secure the funds for these activities). Each component was planned and incorporated into the Regional Annual Plan.

2) Implementation

The above activities were implemented based on each plan.

3) Monitoring

These activities were monitored to confirm if they were implemented as planned and the objectives were achieved, and to identify any challenges and recommend countermeasures.

4) Review

A review of the Workflow activities was conducted at the end of the year and the challenges and countermeasures were analysed. The annual plan for the following year was developed with incorporation of lessons learned and countermeasures.

(2) Introduction of Workflow

The introduction workshop (WS) on the Workflows prepared was conducted targeting the BA, Central and Northern Regions from 16 to 20 November 2015 in Kumasi. Both problem analysis and development of the action plan were conducted in the workshop. It was found that the ability to identify the problems, analyse the causes and create countermeasures needed to be improved, therefore this component was incorporated into the Workflow workshop.

The self-evaluation on the targeted Regional Offices' capacity on implementation of each Workflow component was conducted with 5 point-scale to obtain the score at the outset of the Project to determine the appropriate target figures of the PDM. The results of the assessment were detailed in (6) Evaluation.

(3) Organization of Workshops on Workflows

Workshops on progress and achievements of the Workflow were organised six times during the Project period. The Regional Offices of the target three regions and the Ashanti Region were in charge of the planning and implementation of the workshops after receiving OJT, with the aim of enhancing capacities in planning and management of training, competency assessment/needs assessment plan, management of BACs, and the skill development scheme. The implemented workshops are listed below.

Table 3-10 List of Workshop on Workflow

No .	Workshop (WS)	Period	Region in charge	Contents
1	WS on Progress on the Workflows	16 to 20 May 2016	Ashanti	Presentation on progress of Workflow action plan, review of action plan, self-evaluation of capacities to implement the Workflows Training Problem Analysis, Instructional Design, Lobbying/networking, Study tour of the advanced KAIZEN OJT MSMEs
2	WS on Achievement on the Workflows	15 to 17 Nov. 2016	Northern	Presentation on achievement of Workflow action plan, development of action plan for 2017, self-evaluation of capacities to implement the Workflows Training Adaptive leadership, Stakeholder coordination, Study tour of the basic KAIZEN OJT MSMEs

No .	Workshop (WS)	Period	Region in charge	Contents
3	WS on Progress on the Workflows	9 to 11 May 2017	Ashanti	Presentation on progress of Workflow action plan, review of action plan, self-evaluation of capacities to implement the Workflows Training Proposal Development, Study tour of the advanced KAIZEN OJT MSMEs
4	WS on Achievement on the Workflows	13 to 15 Dec. 2017	BA	Presentation on achievement of Workflow action plan, development of action plan for 2018, evaluation of capacities to implement the Workflows Training Presentation on overseas training (Japan, Malaysia) Discussion on improvement of communication among NBSSI, Introduction on Knowledge Centre, Office management, Study tour of the basic KAIZEN OJT MSMEs
5	WS on Progress on the Workflows	16 to 19 Jul. 2018	Central	Presentation on progress of Workflow action plan, Development of action plan for 2019, self-evaluation of capacities to implement the Workflows Training Research and Analysis of Regional Economy, Discussion on NBSSI report format, Study tour of the basic KAIZEN OJT MSME
6	WS on Achievement on the Workflows	30 Oct. to 2 Nov. 2018	Project Team	Review of the Workflows, updating reference material, Development of action plan for National/Regional expansion of KAIZEN, self-evaluation of capacities to implement the Workflows Training Monitoring/Evaluation

Output 1 Indicator 1-1

NBSSI Regional Office of three (3) new target regions prepares the Workflow, and integrates it with the annual plan.

Achieved

Regional Offices of three (3) new target regions developed the Workflow action plan for the following year and these were integrated with the annual plan for 2016, 2017 and 2018.

Final Workshop on Achievement on the Workflow

The final workshop on achievement on the Workflow was carried out from 30 October to 2 November 2018 in Accra. The outline and participants from PMU are described in the following table.

Table 3-11 Outline of Final Workshop on Achievement on Workflow

Date	30 October to 2 November 2018 (4 days)
Location	Conference Hall, Cleave House, Accra
Participants	<ul style="list-style-type: none"> • TU, AU of NBSSI Northern, BA, Central and Ashanti Regional Offices • Regional Managers and Project Officers of NBSSI Upper East (UE), Upper West (UW), Eastern, Western, Volta and GA • PMU 30 October: Ms. Kosi Yankey, Ms. Anna Armo-Himbson, Ms. Philomena Dsane 2 November: Ms. Kosi Yankey Whole days: Mr. Jonas Amoako

Objectives	<ul style="list-style-type: none"> • To confirm the achievement on the Workflow activities from 2015 to 2018 • To review and finalise the Workflow components and materials • To introduce the Workflow to Regional Offices in the Eastern, Greater Accra, Western, Upper East, Upper West and Volta Regions • To discuss Regional Expansion and National Expansion, and related challenges • To strengthen the capacities on monitoring
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The programme is stated below.

Table 3-12 Programme on Workshop on Achievement on Workflow

Date	Day	Time	Contents	Person in charge
30 Oct.	Tue	AM	Opening remarks	Ms. Kosi Yankey
			Orientation	Ms. Risa Yokoyama
			Presentation on KAIZEN National Expansion	Mr. Manu Bashir
		PM	Introduction on Workflow	Ms. Risa Yokoyama
			Presentation on Workflow Implementation	Target Regional Offices
31 Oct.	Wed	AM	Development of KAIZEN National/Regional Expansion Action Plan	Regional Offices
			Presentation on Action Plan	Regional Offices
			Presentation on Action Plan of Head Office	Mr. Manu Bashir
		PM	Discussion on Revision of Workflow	Mr. Manu Bashir/ Ms. Risa Yokoyama
			Revision of Reference Material on Workflow	Regional Offices
			Revision of Reference Material on Workflow	Regional Offices
			Presentation on Revised Reference Material on Workflow	Regional Offices
1 Nov.	Thu	AM	Revision of Reference Material on Workflow	Regional Offices
		PM	Revision of Reference Material on Workflow	Regional Offices
			Presentation on Revised Reference Material on Workflow	Regional Offices
2 Nov.	Fri	AM	Presentation on Revised Reference Material on Workflow	Regional Offices
			Discussion on PR/ Incentive Scheme	Mr. Manu Bashir
			Lecture on Monitoring/Backstopping	Mr. Cletus Kayenwee, REP
			Closing Remarks	Ms. Kosi Yankey

- **Action Plan for KAIZEN Regional/National Expansion**
The KAIZEN National Expansion Plan and its progress were explained by the Ashanti Regional Manager and the target regions developed the 2019 action plans for KAIZEN Regional Expansion, such as OJT from pilot BAC Heads to non-pilot BAC Heads, and basic KAIZEN training to BDOs who are leading BAC due to the absence of BAC Heads and self-implementation of KAIZEN by pilot BAC Heads. Regional Offices of non-target regions elaborated the 2019 action plans, especially preparation for OJT, for instance selection of pilot BAC Heads, OJT MSMEs.
- **Review of Workflow components and Reference Materials**
The Workflow components and their reference materials were reviewed and updated.
- **Discussion on PR/Incentive Scheme**
The new ideas on PR, i.e. NBSSI PR strategy, regional PR activities and the incentive scheme, such as the awards system, were discussed and shared by each Regional Office. Regarding the awards system the committee is to be set up and the committee members will discuss selection criteria, evaluators, selection methods, schedule and the award ceremony.

- Training
To strengthen capacities on monitoring, the lecture on monitoring/evaluation and backstopping was delivered by Mr. Cletus Kayenwee, Manager of Monitoring/Evaluation, REP.

(4) Results of Implementation of Workflows

The role of TU, AU and BAC for each component was clarified and Workflow activities were implemented in line with the action plan of the Workflow, especially preparation for receiving the Project training, implementation of the KAIZEN activities by BACs independently, and the regional expansion were focused on.

Output 1 Indicator 1-3

More than 75% of activities listed in the Workflow is implemented in three (3) new target regions.

Achieved

There are 17 components in the Workflow stated below.

- | | |
|--|-----------------------------------|
| 1. Competency Assessment/
Needs Assessment Plan | 2. Training Development |
| 3. KAIZEN Training Management | 4. Skill Development Scheme |
| 5. Trainer Development | 6. Staff Training |
| 7. KAIZEN Action Plan | 8. KAIZEN Regional Expansion |
| 9. PR | 10. Stakeholder Coordination |
| 11. Working Group Meeting | 12. Incentive Scheme |
| 13. Budgeting | 14. Monitoring |
| 15. Annual Review | 16. Knowledge/ Archive Management |
| 17. Office/Equipment Management | |

Apart from 6. Staff Training, 12. Incentive Scheme and 16. Knowledge/ Archive Management, 14 components could be implemented.

Out of 17, 14 components were implemented, namely 82% (=14/17).

The implemented activities of the Workflow are detailed in the following table.

Table 3-13 Implemented Workflows

Component	Sub-component	Implemented Activities	Region	Challenges
1. Capacity Development	1-1. Competency Assessment/ Needs Assessment Plan	The training needs were identified in the performance appraisal every year, and through the Workflow workshops.	Northern, BA, Central	The specific training needs for further improvement of KAIZEN skills have not been discussed. Based on evaluation sheets, the skills which require improvement from BAC Heads should be identified and reflected in the skill development plan.
	1-2. Management Development	<ul style="list-style-type: none"> The following training was conducted at the Workflow workshop: <ul style="list-style-type: none"> - Problem Analysis - Adaptive Leadership - Communication - Human Resource Management - Instructional Design - Stakeholder Coordination - Office Management - Research on Economy, Report Writing - Lobbying/ Networking - Proposal Writing - NBSSI Report Writing - Monitoring/Evaluation/ Backstopping From 2016 Regional Managers Meetings were held after the Workflow workshop to discuss challenges/countermeasures and lessons learnt on Workflow implementation and KAIZEN training. Monitoring of BACs and KAIZEN self-implementation was made based on the management sheet. 	Northern, BA, Central	The recurrent costs, i.e. communications, electricity, maintenance, monitoring, and so on, could not be secured sufficiently. The cost for properly running Regional Offices should be secured.
	1-3. KAIZEN Training Management	The basic KAIZEN training (selection of OJT MSMEs, lecture and OJT) was managed by the Regional Offices of the Northern, BA and Central Regions under the supervision of the Ashanti Regional Office and Project Team.	Northern, BA, Central	
	1-4. Skill Development Scheme	<ul style="list-style-type: none"> The KAIZEN good practices were shared in the Workflow Workshop through the study tour of OJT MSMEs. Presentation on lessons from overseas trainings (training in Japan and JICA Knowledge Co-Creation Program in Japan and Malaysia) were also made. 	BA, Central	Securing the budget is a challenge.

Component	Sub-component	Implemented Activities	Region	Challenges
		<ul style="list-style-type: none"> Enterprise Diagnosis Peer-review meetings to brush up on KAIZEN recommendations among BAC Heads were held in the BA, Central and Ashanti Regions during self-implementation of KAIZEN. 		
	1-5. Trainer Development	<ul style="list-style-type: none"> Refresher training for trainer BAC Heads who were dispatched to basic KAIZEN training at the initiative of the Project Team. Trainer BAC Heads were evaluated on their trainer skills and feedback was given to them after OJT. The workshop for BAC Heads who performed as trainers in the University for Development Studies (UDS) industrial attachment was carried out in the Northern Region in 2018. Refresher training for selected BAC Heads of the Northern, BA and Central Regions who were assigned as lecturers of basic KAIZEN, to review basic KAIZEN components, and practice exercise. Then, they tried to deliver lectures to BAC Heads in the remaining regions. The training of trainers for BAC Heads of the BA and Central Regions was conducted through KAIZEN OJT to BAC Heads of the GA Region. 	Northern, BA, Central	Securing the budget is a challenge.
	1-6. Staff Training	The proposal on the training for business management, marketing, basic accounting and the business plan for BAC staff members (BDO and Community Development Officers (CDO)) was submitted to REP by BA but could not be approved.	Not implemented	Securing the budget is a challenge.
2. KAIZEN Implementation	2-1. KAIZEN Action Plan	<ul style="list-style-type: none"> Regional Offices managed the progress of self-implementation of KAIZEN and KAIZEN with 100 MSMEs. The BAC annual plan for 2019 supported by REP needs to be approved by Regional Managers before submission to REP. Regional Managers confirmed that the budget for implementation of KAIZEN was included in the BAC annual plan. 	Northern, BA, Central	
	2-2. KAIZEN Regional Expansion	<ul style="list-style-type: none"> KAIZEN OJT for non-pilot BAC Heads was implemented in the BA Region by utilising the budget for KAIZEN 100 businesses. In the Northern Region, OJT to Tolon BAC Head was executed. The action plans for KAIZEN Regional Expansion, such as OJT to non-pilot BAC Heads and basic KAIZEN training to BDOs were developed. Non-pilot BAC Heads applied the budget for KAIZEN to REP. 	Northern, BA	The travel allowance required to visit non-pilot BACs might not be funded by REP.
3. PR		<ul style="list-style-type: none"> With support by the Project PR tools, such as polo-shirt, mug cup, business card, poster, brochure etc. were developed, and a radio jingle was on air. KAIZEN fora were conducted in the districts. PR Officer in each district was assigned. 	Northern, BA, Central	Securing the budget for PR implementation is required.


Component	Sub-component	Implemented Activities	Region	Challenges																			
		<table border="1"> <thead> <tr> <th>Region</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>Bukari Mohammed (Tamale BAC Head)</td> </tr> <tr> <td>BA</td> <td>Nuhu Salifu Dimah (Bechem BAC Head)</td> </tr> <tr> <td>Central</td> <td>Linda Oduro Amoaning (Winneba BAC Head)</td> </tr> <tr> <td>Ashanti</td> <td>Mohammed Maahi (Mamponteng BAC Head)</td> </tr> </tbody> </table> <ul style="list-style-type: none"> In the BA Region KAIZEN was advertised through radio talk shows and facebook. (The Social Networking Service (SNS) and platform would be integrated into Head Office) 	Region	Name	Northern	Bukari Mohammed (Tamale BAC Head)	BA	Nuhu Salifu Dimah (Bechem BAC Head)	Central	Linda Oduro Amoaning (Winneba BAC Head)	Ashanti	Mohammed Maahi (Mamponteng BAC Head)											
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4. Stakeholder Coordination	4-1. Stakeholder Coordination	<p>The following collaborations were made in each region.</p> <table border="1"> <thead> <tr> <th>Region</th> <th>Institution</th> <th>Achievement</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>University for Development Studies (UDS)</td> <td>MOU was made in 2017, and KAIZEN was introduced to student industrial attachment programme in 2017 and 2018.</td> </tr> <tr> <td rowspan="3">BA</td> <td>University of Energy and National Resources</td> <td>MOU is under consideration by UNER from 2017.</td> </tr> <tr> <td>Sunyani Technical University</td> <td>MOU was concluded in 2018.</td> </tr> <tr> <td>Twene Amanfo Secondary Technical</td> <td>Initial contract to deliver KAIZEN lecture was made in 2018 and the detailed programme is under discussion.</td> </tr> <tr> <td>Central</td> <td>University of Cape Coast (UCC)</td> <td>1 lecturer and 1 MBA student participated in basic KAIZEN training. Introduction of KAIZEN to business school has been promoted.</td> </tr> <tr> <td>Ashanti</td> <td>KNUST</td> <td>10 students participated in lecture on basic KAIZEN. Introduction of KAIZEN to business school and incubation centre have been promoted.</td> </tr> </tbody> </table>	Region	Institution	Achievement	Northern	University for Development Studies (UDS)	MOU was made in 2017, and KAIZEN was introduced to student industrial attachment programme in 2017 and 2018.	BA	University of Energy and National Resources	MOU is under consideration by UNER from 2017.	Sunyani Technical University	MOU was concluded in 2018.	Twene Amanfo Secondary Technical	Initial contract to deliver KAIZEN lecture was made in 2018 and the detailed programme is under discussion.	Central	University of Cape Coast (UCC)	1 lecturer and 1 MBA student participated in basic KAIZEN training. Introduction of KAIZEN to business school has been promoted.	Ashanti	KNUST	10 students participated in lecture on basic KAIZEN. Introduction of KAIZEN to business school and incubation centre have been promoted.	Northern, BA	The collaboration with academia has been advanced, however it takes a long time and is a drawn-out process to secure funding by universities. The approaches to the other stakeholders apart from academia needs to be accelerated.
Region	Institution	Achievement																					
Northern	University for Development Studies (UDS)	MOU was made in 2017, and KAIZEN was introduced to student industrial attachment programme in 2017 and 2018.																					
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Ashanti	KNUST	10 students participated in lecture on basic KAIZEN. Introduction of KAIZEN to business school and incubation centre have been promoted.																					
	4-2. Working Group Meeting	The purposes and member organizations are overlapped with the Regional Committee on Micro and Small Scale Enterprises Promotion (RECOMEP) supported by REP, therefore RECOMEP was used as WG. The fund sharing related to the RECOMEP meeting between REP and Regional Coordinating Council (RCC) was agreed upon, but the Project supported costs which RCC should have covered. The Project activities were shared at the RECOMEP meeting and collaboration with the stakeholders was sought.	Northern, BA, Central	Securing funds after the Project and REP is a critical challenge.																			

Component	Sub-component	Implemented Activities	Region	Challenges
5. Incentive Scheme	Incentive Scheme	<ul style="list-style-type: none"> As a part of the incentive scheme, the KAIZEN Champion Awards ceremony was held in 2017 with the support of the Project to select KAIZEN Champion MSMEs/BACs and best BAC/Regional Office. The incentive plan was incorporated into the action plan by each Regional Office. It was suggested that the incentive at the regional level should not require much cost. 	Not implemented at the initiative of Regional Offices	Incentive scheme is expected to be streamlined at the initiative of NBSSI Head Office.
6. Budgeting		Annual budget, into which Workflow action plan is incorporated, was submitted to NBSSI Head Office during the Project period, but sufficient budget could not be disbursed.	Northern, BA, Central	Support from other development partners or income generation by BDS provision are required.
7. Monitoring		<ul style="list-style-type: none"> The monitoring of the Project activities was conducted by Regional Managers and the reports also were submitted to Head Office. The format of reports, i.e. quarterly report and annual report, was revised based on discussion at the Workflow workshop in July 2018. The lecture on monitoring/evaluation/backstopping was delivered at the Workflow workshop in November 2018. The weekly report, submitted every Friday, has been introduced by NBSSI. 	Northern, BA, Central	Securing the budget is a challenge.
8. Annual Review		The budget for regional review meeting was applied to NBSSI and REP every year, however it was held in the Central Region in 2015 only.	Central	Securing the budget is a challenge.
9. Knowledge/ Archive Management		<ul style="list-style-type: none"> The good practice sheet was prepared in the Northern, Ashanti, BA and Central Regions. Since the Knowledge Management Centre (KMC) was established in NBSSI Head Office supported by REP, it was explained at the Workflow workshop in December 2017 and was determined to follow KMC's instruction. It was announced by KMC that the reports on activities including Enterprise Diagnosis and KAIZEN reports should be submitted to KMC, however it has not been fully enforced. 	Not implemented	The way of submission of documents, list of stored documents, methods to search and browse stored documents should be clearly informed to all parties.
10. Office/ Equipment Management		Office management including office 5S was implemented.	Northern, BA, Central	

<3. PR>

Development of PR strategy and implementation of PR activities were supported by the Project Team to induce KAIZEN demand from MSMEs and for NBSSI to obtain the necessary budget.

Table 3-14 List of PR Activities

No.	Activities	Period	Outline
1	Media Briefing	Oct. 2015 Mar. and Sep. 2016 Mar. and Sep. 2017	Media briefing was carried out after JCC meeting to advertise the progress of the Project and impact of KAIZEN.
2	Development of PR tools (KAIZEN polo-shirts, mug cup)	Jul. 2016	To enhance the acknowledgement of KAIZEN and NBSSI and motivate OJT MSMEs to continue KAIZEN, KAIZEN polo-shirts and mug cups were produced and distributed.
3	KAIZEN Champion Awards for 2017	Mar. 2017	KAIZEN Champion BAC/MSMEs and best BAC/Regional Office were selected, and the awards ceremony was conducted with media.
4	Development of PR tools (business cards)	Feb. 2017	Business cards with information about KAIZEN were developed, aimed at creating awareness of KAIZEN and to motivate pilot BAC Heads and Regional Managers to implement KAIZEN.
5	Development of PR tools (NBSSI poster, banner, brochure)	Jul. 2017	2 types of poster, brochure and standing banner for NBSSI were produced.
6	Media Engagement	Aug. 2017 Nov. 2018	Media engagement was planned in August 2017 at the initiative of NBSSI, however it was cancelled for MOTI's reason. The MSME stakeholder engagement was organised to advocate new SME policy and NBSSI's initiative.
7	KAIZEN Documentary (https://www.youtube.com/watch?v=69THVJsei44&t=6s)	Jul. to Dec. 2017	A KAIZEN documentary, with a full version of 18 minutes and a digest version of 3 and a half minutes, were developed for inducing KAIZEN demand from MSMEs and stakeholders. It consisted of Good Practices of OJT MSMEs in the third advanced KAIZEN training, and interviews with MSMEs, NBSSI and JICA.
8	Advertisement of KAIZEN with 100 Businesses	Oct. to Nov. 2017	The advertisement of KAIZEN with 100 Businesses in the newspaper twice in November 2017, was requested by NBSSI, to publicize KAIZEN and increase acknowledgement of NBSSI.
9	KAIZEN Champion Awards for 2018	Feb. 2018	KAIZEN Champion BAC/MSMEs in the Ashanti, Greater Accra, Northern, BA and Central Regions and best BAC/Regional Office in all regions were selected, and the awards ceremony was planned with media, however it was cancelled due to NBSSI's reason.
10	Radio jingle	May 2018	The radio jingle in local language was on air in the target regions to increase the appeal of KAIZEN.
11	KAIZEN logo 	Dec. 2017 to May 2018	Design of the KAIZEN logo was advertised from December 2017 to February 2018 for young designers and students, for the localization of KAIZEN and youth empowerment. The logo was reviewed from March to May 2018 and the logo was launched in July 2018. It was utilized for the enhancement of awareness of KAIZEN and branding.

No.	Activities	Period	Outline
12	Ghana Women Entrepreneurship Summit	4 and 5 Jun. 2018	NBSSI hosted the Ghana Women Entrepreneurship Summit (GWES) on 4 and 5 June 2018 in Accra as a part of supporting women to strengthen women entrepreneurship and improve business environment for women. The Project supported a KAIZEN booth, KAIZEN master class and panel discussion on KAIZEN, to advocate KAIZEN.
13	KAIZEN Brochure	May to Dec. 2018	The brochure for the promotion of KAIZEN was designed for NBSSI to continuously obtain client MSMEs and provide BDS related to KAIZEN after the completion of the Project.
14	Website	Apr. to Oct. 2018	The renewal of the website of NBSSI was supported by the Project. KAIZEN page was created and a digest version of KAIZEN documentary is available on the web. The URL of website is http://nbssi.gov.gh/
15	TV programme	Jul. and Sep. 2018	KAIZEN documentary was broadcast on Moomen Tonight, GTV programme, on 12 July 2018, and Ms. Kosi Yankey, Executive Director of NBSSI, Mr. Hirofumi Hoshi, Chief Representative of JICA Ghana Office, Mr. Mitsuo Tamada, Ms. Linda Kankor, Chief Operation Officer of Nallem Clothing Ltd, and Ms. Francesca Brenda Opoku, Chief Executive Officer, Solution Oasis Company Limited, made an appearance on this TV programme. Ms. Kosi Yankey and Dr. Ozawa also appeared on GTV morning show to talk about NBSSI and KAIZEN impacts, on 27 September 2018.
16	KAIZEN Forum	Jul. 2016 Mar. to Apr. 2017 Feb., Jul. to Aug., Sep. 2018	The KAIZEN fora were conducted in Kumasi, Accra and ten districts in the Northern Region, eight districts in the BA Region and eight districts in the Central Region to induce KAIZEN demand and promote collaboration with NBSSI.
17	NBSSI Magazine	Dec. 2018	NBSSI magazine was developed to advertise the achievement of NBSSI to development partners, Ministries and related institutions. The Project achievements and KAIZEN were introduced, and an interview with the Chief Representative of JICA Ghana Office also appeared.

<4. Stakeholder Coordination>

- UDS Industrial Attachment Programme

As a part of stakeholder coordination in the Workflow, NBSSI Northern Regional Office made an MOU with UDS in 2017, to introduce OJT of KAIZEN to their eight-week Industrial Attachment, for students in the Faculty of Agribusiness and Communication Sciences to support entrepreneurs and improvement of the employment rate.

UDS and the Regional Office of NBSSI could not source funding for the 2018 programme, the budget for KAIZEN with 100 businesses was utilized, but securing funding is still a challenge.

The outline and grouping are stated below.

Table 3-15 Outline of UDS Industrial Attachment

Period	1) 22 May to 7 July 2017 2) 28 May to 5 July 2018
Location	NBSSI Northern Regional Office, BAC Offices, MSEs
Objectives	<ul style="list-style-type: none"> • Equip students with the requisite knowledge and skills in Enterprise Diagnosis and KAIZEN • Enable students to enhance their employment opportunities, or start-up businesses, through practical application of knowledge/skills obtained
Programme	<ul style="list-style-type: none"> • Four-day lecture on Enterprise Diagnosis, KAIZEN and ICT skills is delivered by BAC Heads • Three groups are formed with five to six students and one BAC Head, and Enterprise Diagnosis and KAIZEN are introduced to one enterprise by each group as OJT • Presentation on Achievements is made
Participants	1) Trainer: 4 Northern BAC Heads, Trainee: 24 students of UDS 2) Trainer: 3 Northern BAC Heads, Trainee: 15 students of UDS
OJT MSEs	1) 4 MSEs: Asheba Enterprise, Ritadamp's Ventures, (Shea butter), Dream Consult and Supplies (Cereal production), Adom Ara Kwa Bakery (Bakery) 2) 3 MSEs: Wunitra Rice Processing Centre (Rice processing), Sasco Mighty Enterprise (Water production), Pure Home Water (water charcoal filtering)

- Working Group (WG) Meeting in each region

Initially WG was planned to be structured in each target region to ensure the national expansion and sustain the activities, discuss the MSME development in the region, and seek further collaboration with members. However, the purposes and member organizations are overlapped with RECOMEP, therefore RECOMEP was used as a WG. Though the RECOMEP meeting was scheduled to be held quarterly, it was organised roughly once a year as the budget was not approved by REP. The Project provided financial support of the cost which should have been borne by RCC. It was confirmed that KAIZEN and the Project activities were reported during the RECOMEP meeting. The following list shows the members in each region.

Table 3-16 List of RECOMEP Meeting

Region	RECOMEP Member	2016	2017	2018
Northern	MOTI, Ministry of Food and Agriculture (MOFA), Department of Gender (DoG), GRATIS, ASSI, Ghana Standard Authority (GSA), Tamale Technical University, ARB Apex Bank, Ghana Export Promotion Authority (GEPA), Food and Drug Authority (FDA), RCC, NBSSI	9 Aug.	13 Jul.	13 Nov.
BA	MOTI, MOFA, DoG, GRATIS, ASSI, FDA, Department of Factory Inspectorate (DFI), Regional Economic Planning, RCC, NBSSI	2 Aug.	19 Aug.	-
Central	MOTI, MOFA, DoG, GRATIS, Central Region Development Commission, FDA, GSA, Chamber of Commerce and Industry, RCC, NBSSI	21 Jul.	-	12 Apr.
Ashanti	MOTI, MOFA, DOG, GRATIS, ASSI, GSA, GEPA, FDA, ARB Apex Bank, RCC, NBSSI	26 Feb.	28 Jul.	-

The minutes of the RECOMEP meeting held in Northern Region in November 2018 are attached in Appendix 4.

(5) Revision of Workflow

Although the job description and guidelines would be reviewed when NBSSI would become an EDA, the Workflow components were discussed and reference materials were updated at the final Workflow workshop in October 2018. To be designed according to actual Regional Offices' tasks and to improve quality and efficiency of work, as well as plan and implement activities

which Regional Offices are expected to carry out, some of the components were integrated and client management was added. The revised Workflow is listed below.

Table 3-17 Revised Workflow

No.	Component
1	Capacity Development
	1-1. Competency Assessment/Needs Assessment
	1-2. BDS/Skill Development (BAC Heads, Trainers, Staff)
2	Planning
	2-1 Overall Planning
	2-2 Budgeting
3	Client Management
	3-1 Client Identification
	3-2 Client Registration
4	PR
5	Stakeholder Coordination
6	Incentive Scheme
7	Monitoring and Reporting
	7-1 Regular Monitoring/Reporting
	7-2 Annual Review Meeting
8	Knowledge/Archive Management (File/Data Management)
9	Office/Equipment Management

TU/AU of the target Regions and Regional Offices of non-target regions reviewed the reference materials to update some of the components and make new guidelines for client management.

(6) Evaluation

The capacities of Workflow implementation were assessed with a 5-point scale at each Workflow workshop. Although all TU/AU members conducted self-evaluation, the average score was calculated with the Regional Manager, and one member each from AU and the TU of each region, since the members were replaced due to resignation and transfer. The score was reviewed by the Project Team and feedback was given to Regional Managers periodically. The assessment of capacities related to the implementation of the Workflow during the Project period is described below.

Table 3-18 Results of Evaluation on Capacities of Workflow Implementation

Component	Northern				BA				Central			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
1. Capacity Development	1.3	3.8	4.1	3.9	1.3	3.8	3.9	3.8	1.2	2.3	3.5	3.9
2. KAIZEN Implementation	1.1	3.8	4.3	4.1	0.8	3.3	4.0	4.5	0.9	1.7	2.3	4.0
3. PR	1.8	3.0	3.9	4.0	1.5	3.0	3.5	4.0	1.2	1.7	2.7	3.7
4. Stakeholder Coordination	1.5	3.5	3.9	4.6	1.5	3.8	4.0	4.7	1.4	3.0	2.8	3.8
5. Incentive Scheme	1.5	2.3	3.3	3.5	1.3	4.0	3.8	3.2	1.4	2.0	2.3	3.0
6. Budgeting	2.3	3.8	4.0	4.0	2.0	4.3	4.0	4.0	1.4	3.0	3.7	4.0
7. Monitoring	1.4	3.5	4.3	4.2	0.5	3.3	3.3	4.4	2.2	2.7	3.5	4.0
8. Annual Review	1.3	3.0	3.5	3.3	1.5	4.3	4.0	3.0	1.4	2.0	2.3	3.3
9. Knowledge/Archive Management	2.3	3.5	4.3	3.9	2.0	3.8	4.1	4.0	1.8	3.2	3.0	3.7

Component	Northern				BA				Central			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
10. Office/ Equipment Management	2.8	4.0	4.0	4.0	2.0	4.0	4.0	4.0	1.8	3.0	3.7	4.0
Average	1.7	3.4	4.0	4.0	1.4	3.8	3.9	4.0	1.5	2.5	3.0	3.7
Average of 3 regions	2015: 1.5 2016: 3.2 2017: 3.6 2018: 3.9											
Target of PDM	3.5											

<The evaluation indicators>1: Poor/Not Applied (NA), 2: Fair/partly NA 3: Good, 4: Very Good, 5: Advanced/Innovative

The score on some of components were downgraded to under 3, as the implemented Workflow activities at the initiative of the Project were recognised as “not fully implemented” at the final evaluation in November 2018, however the capacity in implementation of Workflow by TU/AU members could be built up through the basic KAIZEN training, self-implementation of KAIZEN, KAIZEN Forum as well as Workflow Workshops to share the experience and good practices and apply them.

The reasons that the score of the Central Regional Office was lower than the other Regional Offices could be analysed as being that Mr. Amofa, the Regional Manager, was absent at the outset of the Project due to sick leave, and the transfer and resignation of succeeding Regional Managers in 2018 were effected, and support from the Project was relatively short as the basic KAIZEN training was conducted in the last year of the Project.

Output 1 Indicator 1-2

The assessment results of NBSSI Regional Office of three (3) new target regions on their Workflow implementation meet a standard (more than 3.5 in 5-grade evaluation)

Achieved

As a result of evaluation of Regional Offices on their Workflow implementation in November 2018, the target could be achieved;

Northern: 4.0, BA: 4.0. Central: 3.7 Average: 3.9

The average score at the outset of the Project: 1.5 out of 5, namely 30 % (= 1.5/5)

The average score at the end of the Project: 3.9 out of 5, namely 78 % (= 3.9/5)

78% - 30% = 48% increase

(7) Capacity Development of the NBSSI Head Office

In terms of the capacity development activities, the Project Team has worked as resource persons to provide some input, information and opinion exchanges in relation to the Project, with post-Project sustainability in mind.

- In 2016, the identification of the Head Office Workflow components was jointly discussed by the Project Team, and also the Project Team has supported NBSSI Head Office directors and PMU in getting involved in the regional office workflow development activities and project monitoring, mainly around training.
 - 1) NBSSI Head Office staff members took part in the workshops for the capacity development of the target regions in relation to KAIZEN introduction, Workflow developments in the Regional Office activities etc., and have developed the NBSSI Head Office action plan to deal with the issues on the Workflow in the Regional Offices.

- 2) In relation to the identification of sources of funding for the national expansion, approaches to new additional sources have been made in addition to the existing REP, EDAIF, Private Sector Development Strategy II (PSDS-II). This covers the implementation agencies under MOTI such as the Free Zone Authority, and also GASIP under another ministry.
 - 3) Coordination support to the NBSSI and MOTI in the development of Ghana SME policy, in which NBSSI is to be mainstreamed for SME development institution.
- In 2017, the introduction of the new Government and new Executive Director, the supporting activities to deal with the NBSSI's new roles and services, and KAIZEN mainstreaming.
 - 1) The new Executive Director, appointed in April 2017, was looking at a reorganization to expand the position, roles, and functions of the NBSSI in relation to the establishment of a new "Enterprise Development Authority", as envisaged by the MOTI and NBSSI. In this connection, the Executive Director's vision, approach and strategy were shared in the Regional Office review meeting for the annual plan development of the Regional Offices.
 - 2) Closely checking on the progress of the conversion to EDA, the concept paper of EDA was presented as inputs by the Project Team.
 - 3) Upon the decision by NBSSI Head Office to make the NBSSI strategic plan around September 2017, a guidance document on how to develop the strategy was presented as supporting input. This includes the NBSSI budgeting (including the NBSSI budget for KAIZEN preparation and training), and also covers planning of NBSSI new initiatives, such as incubation, women entrepreneurship development schemes, setting up the KAIZEN unit, and staff assignments in Head Office. The management system development, such as Quality Assurance and ICT usage, was also discussed with the Director and Deputy Executive Director.
 - In 2018, NBSSI Head Office capacity development was focused on preparations to manage its plan development, whereby it is able to manage the KAIZEN national expansion by itself in the post-Project period.
 - 1) The discussion on the organization of the KAIZEN department and sourcing the funds for KAIZEN implementation was undertaken as an information exchange. The National Expansion Plan (draft), which was discussed in JCC, was presented, and the organizational structure and staff assignment was also discussed in this connection. The National Expansion Plan was prepared by the KAIZEN Department, which includes the structural matters. The development of the BRC Conversion plan from the current BACs was also supported by the Project Team.
 - 2) Various concept papers to secure the NBSSI sources of funding for SME Development were drafted in discussion with the Executive Director, such as SME Fund, KAIZEN Institution setting up.

For the development of the National Expansion plan, some inputs were made around the beginning of 2018 in tune with the successful progress of the Project. This coincided with the appointment of the person in charge of the KAIZEN Unit who will manage the National Expansion. The plan development concluded in September 2018, and the plan itself was presented to the last Joint Coordinating Committee. The review of the previous national expansion was made so as to shorten the duration of the national expansion.

3.3 Output 2

In this activity basic KAIZEN skills were introduced to the pilot BACs in three target regions by trainer BAC Heads in the Ashanti Region, who have been trained in the Previous Project through OJT and the practice of KAIZEN. The basic KAIZEN training programme consisted of the following components. Firstly, theory and knowledge was acquired through lecture, practical skills in Enterprise Diagnosis and KAIZEN methods were obtained through actual implementation in a manner of group OJT and then the follow-up was introduced on a quarterly basis to confirm continuity of KAIZEN and measure KAIZEN impact. Furthermore, BAC Heads implemented Enterprise Diagnosis and KAIZEN independently with their client MSEs to confirm if they are able to conduct KAIZEN consultation continuously after the Project.

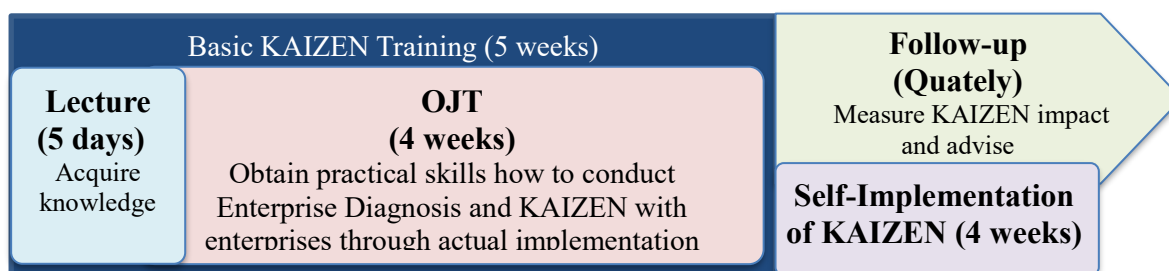


Figure 3-3 Basic KAIZEN Training Programme

The activities related to basic KAIZEN training were conducted with the following flow.

- 1) Preparation for basic KAIZEN training (set up the technical standards of KAIZEN, selection of pilot BAC Heads, OJT MSMEs and trainer BAC Heads, review of materials and preliminary training)
- 2) Basic KAIZEN training (lecture, OJT and follow-up)
- 3) Self-implementation of KAIZEN
- 4) KAIZEN with 100 Businesses
- 5) KAIZEN Forum
- 6) Evaluation
- 7) Training in Japan
- 8) Finalisation of reference material
- 9) Training of trainer

The basic KAIZEN training and implementation have been managed by the Regional Office in the three regions; the dispatch of trainers and management support has been provided by the Ashanti Regional Office, and the backstop for all these activities is the JICA Project Team. The actual implementation of basic KAIZEN is outlined below.

Table 3-19 Actual Implementation of Basic KAIZEN Training

Activity	C/P	Role of Project Team	Implementation Period		
			Northern	BA	Central
2-1 Set up the technical standards of pilot BACs	Ashanti TU/AU	Jointly set up with C/P	Jan. to Feb. 2016	-	-
2-2 Set up the assessment methods and indicators for KAIZEN impact	Ashanti TU	Jointly set up with C/P	May to Jul. 2016	Mar. 2017	Dec. 2017

Activity	C/P	Role of Project Team	Implementation Period		
			Northern	BA	Central
2-3 Select the BACs and MSMEs for OJT	Regional Office, TU	Jointly select with C/P	Feb. 2016	Feb. to Mar. 2017	Aug. to Dec. 2017
2-4 Implement training	Regional Office, Trainer BAC and Pilot BAC	Support the Regional Office in training management, and advise the Regional Office and trainer	May to Jul. 2016	May to Jun. 2017	Jan. to Feb. 2018
Training of Trainer	Selected pilot BAC Heads	BAC/Pilot BAC during training	Oct. to Dec. 2018		
2-5 BAC Heads implement KAIZEN	Regional Office, Trainer BAC and Pilot BAC	Advise C/Ps who have the initiative to implement	Jul. to Sep. 2016 KAIZEN with 100 Businesses: 1 st batch: Oct. 2017 to Jun. 2018 2 nd batch: Aug. to Oct. 2018	Jul. to Sep. 2017 KAIZEN with 100 Businesses: 1 st batch: Mar. to Aug. 2018 2 nd batch: Jul. to Dec. 2018	Feb. to May 2018
2-6 Follow-up	Regional Office and Pilot BAC	Supervise Trainer BAC and Pilot BAC at the first follow-up session, and then advise and monitor	OJT: 1) Nov. 2016 2) Feb. 2017 3) Oct. 2017 4) Oct. 2018 Self: 1) Dec. 2016 2) May 2017 3) Nov. 2017	OJT: 1) Sep. 2017 2) Jan. 2018 3) May 2018 4) Oct. 2018 Self: 1) Jan. 2018 2) Jul. to Aug. 2018	OJT: 1) May 2018 2) Oct. 2018 Self: 1) Nov. 2018
2-7 Collect KAIZEN cases	Regional Office	Jointly organize KAIZEN cases	Sep. to Nov. 2016	Sep. to Dec. 2017	May to Aug. 2018
2-8 Implement KAIZEN Forum	Regional Office	Support C/Ps who have the initiative to conduct Forum	Feb. 2017	Feb. 2018	Jul., Aug. 2018

(1) Preparation for Basic KAIZEN

Set up KAIZEN technical standards

In this task, the technical standards of basic KAIZEN were established, and the formats, assessment methods and evaluation schedule were also considered and proposed with the Ashanti TU, and then they were finalized with PMU. The technical standards for basic KAIZEN were determined together with advanced KAIZEN when they were set up in Output 3, and KAIZEN menus for both basic and advanced were also clarified at the same time. The KAIZEN technical standards will be detailed in Output 3.

Set up assessment methods and indicators for KAIZEN

The manual of methods for both KAIZEN impact indicators and their calculation were reviewed through training on both basic KAIZEN and advanced KAIZEN, and the follow-up sheet was prepared to apply them to both basic and advanced KAIZEN training.

Considering opinions from NBSSI and the facts that product name, unit and period were not described and calculations were incorrect when BAC heads prepared the follow-up sheets by

themselves, the follow-up sheet format was revised to compare the newly obtained data with baseline data and data obtained at the previous follow-up session in terms of the Achievement Index (Change of the performance) in the follow-up sheet.

Given the situation, in which almost no information in the category of reduction of production costs was described in the follow-up sheet, it was decided that this category would be named as production cost, by prioritizing obtaining information on production cost, and the follow-up sheet was revised according to the below.

Table 3-20 KAIZEN Impact Indicators

Category	KAIZEN methodologies
Productivity	Increase of machine availability ratio through Preventative Maintenance (PM). Workers' familiarization with the new process through Quality Control (QC) circle and training etc.
Sales Volume	Start of business with new customers, QC circle, competitive price of the product by reduction of production cost, etc.
Production cost (monthly)	Measuring the change of the monthly based production cost by comparing with the periods in question. Factors for reduction of production cost are deemed to be 5S, QC circle, factory/machine layout change, etc.
Quality (Defect Rate)	QC circle, training of workers by introduction of skill map, etc.
Inventory level	Decrease of unsold products (defective and returned products), adequate inventory level management
Reduction of production lead time	Reduction in transportation distance due to factory/machine layout change, reduction in time to get necessary tools by introducing Seiton board (5S), shortening of standard time by Time study
Decrease of employee turnover ratio	Improvement of working environment by OSHEM and 5S, employees' morale raised by KAIZEN activities, etc.

Note: Through conducting QC circle activities, the problems/challenges will be identified, then, KAIZEN ideas will be developed by applying QC tools such as the Check Sheet and Cause and Effect Diagram, resulting in achieving productivity improvement, sales volume increase and reduction of defects.

The follow-up sheet format to reflect the above change was finalized. Meanwhile, it was pointed out that some of the follow-up sheets were not described completely, such as lacking the analyses on factors in change. The training to cope with this point was undertaken during the follow-up session in October 2018, though there were still challenges in preparing the follow-up sheets due to incorrect information at the OJT MSMEs, and further improvement efforts are needed.

Selection of pilot BAC Heads

The candidate pilot BACs selected by Regional Office were evaluated based on the results of the baseline survey and selection criteria established in the Previous Project, and pilot BAC Heads were determined through an interview with them. The selection criteria are stated below:

- Knowledge/experience of KAIZEN
- Consultation skills
- ICT skills
- Participation in JICA Knowledge Co-creation Program or other overseas training funded by donors
- Commitment
- Collaboration with academic institutes
- Collaboration with stakeholders in the district

The pilot BAC Heads in each region are listed in Table 2-4. Due to the absence of Project Officers in the BA and Central Regions, the Accountants, who are also playing the role of Project Officer in these regions, took part in the basic KAIZEN training.

Selection of OJT MSMEs

The selection criteria are as follows:

1. Company assessment
 - 1) Active client of BAC
 - 2) Registered with General Department
 - 3) Adequate number of employees (total of both fully-employed and part-time)
 - 4) Proportion of female employees in the organization (Gender balance)
 - 5) Willingness to implement KAIZEN
 - 6) Category in NBSSI evaluation system (Growth stage)
 - 7) Availability of accounting information (Book keeping etc.)
 - 8) Communication ability in English
 - 9) Willingness to share information
 - 10) Active in operation
2. Application of basic KAIZEN menu
 - 1) 5S
 - 2) 7 Wastes Elimination
 - 3) Factory layout change
 - 4) Reduction of defects
 - 5) Inventory control
 - 6) Code of conduct
 - 7) Organization chart
 - 8) Line balancing
 - 9) Skill map
 - 10) Work standard
 - a) Expectation of KAIZEN achievement
 - b) Product manufactured by MSMEs is one of the Ghana-made products selected for support
 - c) Contribution to the development of local industry
 - d) Easy access to the organization (in the vicinity of Regional capital, considering effectiveness of transport)
 - e) Product having export potential or being import substitute

Out of the above selection criteria, criterion b), i.e. 'Product manufactured by the OJT enterprises is one of the Ghana-made products selected for support' was originally allocated 10 points out of a 100 full points. However, the allocation of 10 points for this criterion decisively influenced the selection results regarding the industry, leading to the fact that more textile/garment making companies had more advantage than other industries in the selection process. Therefore, in order to avoid such a situation, the point allocation for each selection criterion was reviewed by the Japanese Experts and a revised format was approved by NBSSI Head Office. The below are the selected OJT MSMEs in each region.

Table 3-21 OJT MSMEs in Northern Region

No.	Name of MSME	No. of Employee	Industry
1	Yumzaa Women Association	126	Shea butter processing
2	Lowlandi Rice Processing	23	Rice mill
3	Shekinah Glory Bakeries	16	Bakery
4	Kumbatachua Enterprise	9	Sachet water package printing
5	Eli Balicon Limited	13	Soy bean milk processing
6	Hazbuk Company	18	Furniture making

Table 3-22 OJT MSMEs in BA Region

No.	Name of MSME	No. of Employee	Industry	Market	Capital	Location
1	Mckenzie Sports Wear	41	Sewing (Uniform/ Sportswear)	Domestic	Ghanaian	Sunyani
2	Yedent Agro Group of Companies	42	Food processing	Domestic and expo	Ghanaian	Sunyani
3	Kwasi Gyan (Jomo) Company Limited	44	Furniture	Domestic	Ghanaian	Techiman
4	Kasraf Enterprise	14	Soap making	Domestic	Ghanaian	Techiman
5	Aspet-A Company Limited	20	Drinking water processing	Domestic	Ghanaian	Techiman
6	Ghana Permaculture Institute	32	Moringa soap, Moringa oil processing	Ghana and export (Europe)	Ghanaian	Techiman

Table 3-23 OJT MSMEs in Central Region

No.	Name of MSME	No. of Employee	Industry	Market	Capital	Location
1	UCC Enterprise Limited	27	Drinking water production	Domestic	Ghanaian	Cape Coast
2	Ewuradzi Kasa Bakery Center	32	Bakery	Domestic	Ghanaian	Cape Coast
3	Bensworth Construction	12	Brick manufacturing	Domestic	Ghanaian	Cape Coast
4	Central Oil Mill Limited	20	Palm oil manufacturing	Domestic and export	Ghanaian	Case Coast
5	U2 Company Limited	147	Edible salt manufacturing	Domestic	Ghanaian	Winneba
6	Ekem Art Pottery Limited	32	Pottery manufacturing	Domestic	Ghanaian	Winneba

From the selection process of the OJT MSMEs in the BA Region, a follow-up visit to the candidate MSMEs was introduced whereby Regional Managers in both the Ashanti Region and the target Region were to reconfirm their management situation and readiness for KAIZEN OJT. The follow-up visit included both interviews with the top management, and research based on a check sheet. A follow-up visit report was created by the Regional Managers and shared with the Project Team.

Selection of trainer BAC Heads

Eleven (11) trainers have been brought through in the Previous Project, but trainers were evaluated by PMU and the Project Team in line with the following criteria and the evaluation of the advanced KAIZEN training:

- Understanding of Enterprise Diagnosis and KAIZEN methods
- Understanding of assessment methods for KAIZEN impact
- Skills on planning and monitoring
- Consultation skills
- Identification of KAIZEN menu
- Guidance skills
- Management skills
- ICT skills
- Commitment

Upon request by the NBSSI a Northern pilot BAC Head was selected as one of the trainer BAC Heads in the basic KAIZEN training in the Central Region. Therefore, 17 BAC Heads in the Ashanti Region and 1 BAC Head in the Northern Region were finally dispatched as trainer BAC Heads for basic KAIZEN training. The trainer BAC Heads are listed below.

Table 3-24 List of Trainer BAC Heads

No.	Name	BAC	Region in charge
1	Patience Asamoah Aidoo	Agona	Northern
2	Dari Kipo	Akomadan	Northern
3	Eric Oti Nyarko	Ejisu	Northern
4	Nana Sam-Himbson	Foase	Northern
5	Priscilla Kwakye Fosu	Konongo	Northern
6	Ibrahim Thedre	Kumawu	Northern
7	Aikins Agyepong	Asokore Mampong	BA
8	Michael O. Golightly	Kumasi	BA
9	Alexander Nyame	Manmpong	BA
10	Maahi Mohammed	Mampong	BA
11	Agyenim Boateng Kwame	Mankranso	BA
12	Thomas Opoku	Tepa	BA
13	Marina Serwaah Kusi	Kodie	Central
14	David Kwabena Poku Oduro	Fomena	Central
15	Thomas Fofie	Nsuta	Central
16	Benjamin Kwasi Marfo	Nynahin	Central
17	Kelvin Ofori Atta	Obuasi	Central
18	Kwasi Boateng	Bekwai	Not dispatched
19	Theodore Bayeldeng	Offinso	Not dispatched
-	Henricatta Zaato	Sagnarigu, Northern	Central

Preparation for Reference Material

The implementation manuals and training materials developed in the Previous Project were reviewed and upgraded by the Ashanti TU and trainer BAC Heads, with reflection on the technical standards for pilot BAC Heads and assessment methods of KAIZEN impact.

The refresher training for trainer BAC Heads was conducted in Kumasi, and the lecturer for each part was determined. The programme is shown below.

Table 3-25 Agenda for Refresher Training

Time	Contents	Persons in charge
09:15-	Orientation	Project Team
09:30-	Lecture Contents on Basic KAIZEN	Project Team
10:10-	Coffee Break	
10:25-	Review of questionnaire/check sheet for Enterprise Diagnosis and KAIZEN	Project Team
11:25-	Allocation of Lecture and Preparation	Ashanti TU
11:40-	Review of materials	Trainer BAC Heads
13:00-	Lunch	
14:00-	OJT Grouping and Evaluation Methods	Project Team
14:15-	Introduction on OJT MSMEs	Project Team
15:00-	Tips for Trainers	Ashanti TU
15:30-	Planning and Preparation for OJT	Trainer BAC Heads

6 trainer BAC Heads dispatched to each region undertook pre-visit of OJT MSMEs to identify applicable KAIZEN methods, and made OJT plans.

Preliminary Training

Under the instruction of PMU and Ashanti Regional Office, TU/AU of each Regional Office prepared for the training based on the implementation manual, such as the arrangement of the venue, vehicles and training assistance, and follow-up of the selected OJT MSMEs. The preliminary training for pilot BAC Heads and Regional Office was conducted under the following schedule.

- Northern: 29 March to 1 April 2016 (4 days)
- BA: 29 to 31 March 2017 (3 days)
- Central: 18 to 20 December 2017 (3 days)

The programme is shown below.

Table 3-26 Agenda for Preliminary Training

Contents	Lecture
Orientation	Project Team
Consultation Rules	Mr. Samuel Asiedu/Mr. Manu Bashir
PC Exercise (MS Word)	Mr. Maahi Mohammed (Mamponteng BAC Head)
PC Exercise (MS Word: Organogram, Process Flow Chart, Layout)	Mr. Maahi Mohammed (Mamponteng BAC Head)
PC Exercise (Photo management, Report writing)	Mr. Maahi Mohammed (Mamponteng BAC Head)
PC Exercise (MS Excel)	Mr. Ibrahim Thedre (Kumawu BAC Head)
PC Exercise (MS Excel: Radar Chart, Skill Map)	Mr. Ibrahim Thedre (Kumawu BAC Head)
PC Exercise (MS Power Point)	Mr. Kipo Dari (Akomadan BAC Head)
Examination	Ashanti TU
Evaluation	Project Team

The training was evaluated highly by participants, with comments that it was useful for report making, in terms of improvement of quality and reduction of production time. The participants' skills in each component were assessed before and after the training, and the examination of MS Word, Excel, Power Point and photo management was conducted. The results are presented in the following table.

Table 3-27 Results of Evaluation on Skills

Region/ Contents		Word	Photo Management	Excel	Power Point	Consultation Rule	Average
Northern	Before	3.1	1.8	2.4	2.8	2.4	2.48
	After	4.0	3.6	3.7	3.9	4.2	3.9
BA	Before	2.6	1.9	2.4	2.6	2.9	2.5
	After	4.4	4.4	4.4	4.4	4.1	4.3
Central	Before	2.4	2.3	2.0	2.3	2.3	2.3
	After	4.1	4.0	3.9	4.1	3.9	4.0

(5-point scale)

(2) Basic KAIZEN Training

The basic KAIZEN training implemented in the Northern, BA and Central Regions is outlined as follows.

Table 3-28 Outline of Basic KAIZEN Training

Period	Northern: 30 May to 2 July 2016 (5 weeks) BA: 22 May to 23 June 2017 (5 weeks) Central: 15 January to 17 February 2018 (5 weeks)	
Objective	<ul style="list-style-type: none"> To strengthen the capacity of pilot BACs on their KAIZEN provision through the application of basic KAIZEN methods. To foster Good Practices which show that OJT enterprises can enhance quality/productivity and utilize them for KAIZEN PR activities, to induce demand for KAIZEN from enterprises, and make donors acknowledge the impact of KAIZEN. To plan the regional expansion of KAIZEN methods to the remaining BACs in their region. 	
Role	PMU	Training management
	Ashanti Regional Office	Support of training management and dispatch of Trainer BAC Heads
	Japanese Experts	Backstop for training management and Trainer BAC Heads

The programme for basic KAIZEN training is stated below.

Table 3-29 Programme on Basic KAIZEN

Item	Style	Period	Location	Target
Lecture and case study by visiting enterprises	Group training	1 week	Kumasi, Ashanti	All BAC Heads in the target regions, Project Officer, Regional Manager (RM)
Enterprise Diagnosis	OJT	1 week	Tamale,	Pilot BAC Heads, Project Officer, RM of target regions 2 trainers and 3 to 4 pilot BAC Heads/Project Officer/RM comprise one group.
KAIZEN Implementation	OJT	3 weeks	Sunyani/ Techiman,	
Experience sharing and evaluation on technical standard	Group training	2 days	Cape Coast/ Winneba	

Lecture

The lecture was conducted for each Region's basic KAIZEN training in Kumasi, the Ashanti Region, under the following schedule.

Target Region	Period
Northern	30 May to 3 June 2016 (5 days)
BA	22, 23, 24 and 26 May 2017 (4 days)
Central	15 to 18 January 2018 (4 days)

The lecture details were the same for each region, but the sequence of subjects was changed. Originally, the Enterprise Diagnosis was first followed by KAIZEN. However, it was found it was better learning KAIZEN methodologies first, as it made trainees more easily understand what kind of data should be collected from the enterprises to analyse. After discussion with NBSSI, the KAIZEN lecture was done first followed by Enterprise Diagnosis from the Central Region. The schedule of the lectures is as set out below.

Table 3-30 Agenda on Basic KAIZEN Lecture

Subject	Lecturer		
	Northern	BA	Central
1) Enterprise Diagnosis	Patience Aidoo	Michael O. Golightly	Marina Kusi
2) SWOT	Ibrahim Tchedre	Aikins Agyepong	Henrieta Zaato
3) 7 Wastes Identification	Priscilla Kwakye-Fosu	Thomas Opoku	Henrieta Zaato
4) KAIZEN (concept, process)	Priscilla Kwakye-Fosu	Michael O. Golightly	David Oduro
5) 5S	Kipo Dari	Alexander Nyame	David Oduro
6) Visualization (Skill map, Code of Conduct, Organization Chart)	Patience Aidoo	Kwame Agyenim Boateng	Thomas Fofie
7) Accounting (Record Keeping, Basic Accounting)	Kipo Dari	Aikins Agyepong	Kelvin Ofori-Atta
8) Occupational Safety, Health and Environment Management (OSHEM)	Priscilla Kwakye-Fosu	Michael O. Golightly	Marina Kusi
9) Industrial Engineering (IE)	Nana Sam-Himbson	Kwame Agyenim Boateng/ Thomas Opoku	Thomas Fofie
10) KAIZEN (Inventory Control, Work Standard, Video analysis, Line Balancing, Activation Index, ECRS)	Kipo Dari/ Eric Oti Nyarko	Thomas Opoku/ Maahi Mohammed	Kelvin Ofori-Atta/Marina Kusi/ Marfo Benjamin/ Henrieta Zaato
11) Quality Control (QC)	Ibrahim Tchedre	Alexander Nyame	Thomas Fofie
12) Recommendation Development	Nana Sam-Himbson	Alexander Nyame	Marfo Benjamin

Japanese Expert's Comments on the lecture

<Northern Region>

Some of the pilot BAC Heads in the Northern Region have received lectures for enterprise accounting, quality control, and safety management through other training opportunities, so that their understanding of those subjects was relatively high. Concerning their understanding of IE, 5S and basic KAIZEN methods, which were all new to them, it took time for them to comprehend everything in context, but they grasped the concepts through detailed explanations from trainer BAC Heads as well as exercises.

<BA Region>

5S and OSHEM were found it relatively easy to provide a lecture for trainer BAC Heads and it was equally well understood by pilot BAC Heads. However, for IE, given some difficulty in understanding, a capable trainer BAC Head was assigned, and a group exercise was also introduced during the lectures to help the trainees understand properly.

<Central Region>

Similar to the BA Region, the exercise which was developed by trainer BAC Heads was conducted to enhance and help understanding in the areas of line balancing, time study and ECRS. Due to the insufficient explanation by the trainer BAC Heads on how to conduct the exercises of line balancing and time study, the exercises could not be fully exploited. However, it was evaluated highly that the trainer BAC Heads could come up with such exercises by themselves; trainer BAC Heads also prepared exams for their lecturing parts in order to gauge how well the trainees understood the lectures provided. Given the time allocated for the exams, they are required to be simple, such as True/False and selection of adequate words.

OJT

Pilot BAC Heads were divided into three (3) groups and each group carried out Enterprise Diagnosis and KAIZEN implementation at two (2) MSMEs under the guidance of two (2) trainer BAC Heads. Below is the list of group members at each region.

Table 3-31 List of Grouping

Region	Trainee	Location
Northern	12 members (10 pilot BAC Heads, Project Officer, Regional Manager)	Tamale
BA	12 members (8 pilot BAC Heads, Accountant, Regional Manager, Ashanti Regional Manager, Lecturer of UCC)	Sunyani/ Techiman
Central	12 members (7 pilot BAC Heads, non-pilot BAC Head, Accountant, Regional Manager, UCC MBA student, Researcher of Leiden University, Netherland)	Cape Coast/ Winneba

Table 3-32 Grouping of Basic KAIZEN OJT in Northern Region

No	JICA Team	Trainer BAC Head		Pilot BAC Head		MSME
		Name	BAC	Name	BAC	
1	Yoshida	Nana Sam-Himbson	Foase	Haruna Mohammed	Tolon	- El Balicon, - Lowlandi
		Priscilla Kwakye	Konongo	Mohammed Bukari	Tamale	
		Fosu		Tienah Mohammed Emmanuel	Mion	
				Rashidatu B. Alhasan	Buipe	
2	Tamada	Eric Oti Nyarko	Ejisu	Ahmed Salman	Sawla	- Hazbuk, - Yumzaa
		Ibrahim Tchedre	Kumawu	Suragdeen Iddrisu	Saboba	
				Mathew Azoya	Gambaga	
				Ahmed Abdul-Razak	Project Officer	
3	Tajima	Patience Asamoah	Agona	Alidu Ewura	Damongo	- Shekinah Bakery, - Kumbatachua
		Aidoo		Adam Mohammed Gadaf	Kumbungu	
		Dari Kipo	Akomadan	Henrietta Zaato	Sagnarigu	
				Eric Affram	RM	

Table 3-33 Grouping of Basic KAIZEN OJT in BA Region

No.	JICA Team	Trainer BAC Head		Pilot BAC Head		MSMEs
		Name	BAC	Name	BAC	
1	Yoshida	Aikins Agyepong	Asokore Mampong	Daniel Sena Tsorme	Dorma	- Mckenzie Sports Wear - Yedent <Sunyani>
		Alexander Nyame	Mampong	Vanessa Asomea Takyi	Duayaw Nkwanta	
				Acheampong Abayie Manu Bashir	Kenyasi Ashanti RM	
2	Tajima	Thomas Opoku	Tepa	Nuhu Dimah Salifu	Jema	- KASRAF Enterprise - Kwasi Gyan Company <Techiman>
		Agyenim Boateng	Mankraso	Amil Ibrahim	Wenchi	
				Oppong Isaac Anthony Akolbire	Atebubu BA RM	
3	Tamada	Mohammed Maahi	Mampong	Mavis Yaa Owusu	Berekum	- Aspet A Company Ltd - Ghana Permaculture Institute <Techiman>
		Michael O. Golightly	Kumasi	Frederick Apraku Amoateng	Nsawkaw	
				Abdul Rahaman Talhat Phaniel Wunu	Accountant UCC	

Table 3-34 Grouping of Basic KAIZEN OJT in Central Region

No.	JICA Team	Trainer BAC Head		Pilot BAC Head		MSMEs
		Name	BAC	Name	BAC	
1	Yoshida	Thomas Fofie	Nsuta	Patrick Asafo Agyei	Breman Asikuma	- UCC Enterpriser - Ewuradze Kasa <Cape Coast>
		Henrietta Zaato	Sagnarigu	Mattias Sukah	Accountant	
				Francis Dokua Maxwell Quainoo	Cape Coast Cape Coast University	
2	Tajima	Kelvin Ofori-Atta	Obuasi	Linda Amoaning	Winneba	- Bensworth Construction - Central Oil Mills <Cape Coast>
		Benjamin Marfo	Nynahin	Atta Boakye	Assin South	
				Nathan Arkaah Veronica Essel	Gomoa East Elmina	
3	Tamada	Marina Kusi	Kodie	Emmanuel Deteah	Twifo Praso	- Ekem Art Pottery - U2 Company <Winneba>
		David Kwabena Poku Oduro	Fomena	Henrietta Addai-Poku	Agona West	
				Albert Amofa Alice Kubo	Regional Manager Leiden University	

Enterprise Diagnosis

The pilot BAC Heads interviewed the OJT enterprise management and related section managers to fill out the Enterprise Diagnosis report form. Possible KAIZEN menus were also developed and indicated in the report. The Enterprise Diagnosis report was presented to management by pilot BAC Heads and KAIZEN menus were implemented through management approval. It was the first time for pilot BAC Heads to create this report, however, it was completed in a satisfactory manner thanks to the enthusiastic participation and appropriate support from trainer BAC Heads.

KAIZEN Implementation

Each group visited two MSMEs efficiently to research and collect data before KAIZEN, and they implemented KAIZEN based on their research.

- As for 5S activities, 5S lectures conducted by pilot BAC Heads to OJT MSMEs were a preface to boosting the enterprise-wide participation in 5S activities. The employees participated in these 5S activities: “Sorting”, “Setting-in-order” and “Shining”. It was observed that pilot BAC Heads could lead and coordinate these activities very well.
- For QC activities, the enterprise management showed strong interest, especially in the Fishbone Diagram, while many questions and ideas were raised by management and employees to solve the quality issues that they were facing. A problem-solving approach with the Fishbone Diagram which starts from cause analysis and leads to solutions by themselves could be a handy tool for MSMEs in Ghana to tackle quality issues.
- Through interviews with management, it was found that most of the enterprises did not complete financial statements by themselves, and in addition they did not control cash and credit sales appropriately. Pilot BAC Heads proposed cash book and credit sales record books, created in line with the business flow of products and cash for the enterprises. The cash book and the credit sales record books were highly appreciated by management.
- The BAC Heads created mission and vision statements with the enterprises, to be used for the common understanding of enterprise values from the perspective of management. The statements consisted of simple and clear wording together with pictures and illustrations, so that the employees could understand it easily. Pilot BAC Heads demonstrated their ability to complete this task properly.
- Only two and half weeks were allotted for KAIZEN implementation; transportation carts and jigs fabricated by outsourced suppliers were finished and delivered in the last couple of days before the final date of KAIZEN implementation, so it was difficult for BAC Heads to measure KAIZEN impact in that very short period of time. Also, there were some KAIZEN menus not implemented due to the budget limitations of the enterprises, and some KAIZEN menus remaining that would be implemented at the enterprises’ discretion. These outstanding KAIZEN menus and measurement of the impact were confirmed during follow-up visits to the OJT MSMEs under the supervision of trainer BAC Heads.
- The details of KAIZEN activities were compiled in the KAIZEN reports and presented to the respective OJT MSMEs in the fifth week, and also shared with other groups at the experience sharing session.

Japanese Expert’s Comments on OJT

<Northern Region>

The common impression of the Japanese Experts over the OJT in the Northern Region was that it was successfully done through obtaining a specific outcome brought about by the active participation of pilot BAC Heads, with the appropriate provision of support by trainer BAC Heads. The OJT period was in the middle of the fasting period for Muslims and most of the pilot BAC Heads and staff members in the Northern Region were Muslims, however they worked early in the morning in order to go to the bakery enterprise and executed 5S activities such as “Sorting”, “Setting-in-order”, and “Shining” during the hot daytime, or they went to the outsourced suppliers to check up on the progress of the transportation carts and jigs. Their sincere participation in the OJT deserves special mention.

The Northern pilot BAC Heads have acquired sufficient capabilities to implement KAIZEN activities as KAIZEN consultants in consideration of 5S, QC training, KAIZEN proposal and implementation they had executed during OJT, however it is necessary to strengthen further their

capabilities to be KAIZEN consultants in ICT skills for creation of reports and presentation materials, interview skills to have a proper grasp of the internal and external environment of enterprises, and KAIZEN idea generation and its implementation capabilities. Those skills and capabilities shall be fulfilled through follow-up visits and self-implementation of KAIZEN with support from trainer BAC Heads.

For six trainer BAC Heads in the Ashanti Region, the Japanese Experts acknowledged that they have sufficient capabilities as KAIZEN trainers. The two trainer BAC Heads took care of one group and provided appropriate guidance to the trainee BAC Heads regarding training, reporting and KAIZEN implementation at the OJT MSMEs, having the overall direction of the implementation and time schedule in mind mutually. As for target setting, planning of time management, KAIZEN implementation capabilities, KAIZEN impact measurement, evaluation of the trainee BAC Heads, the trainer BAC Heads have demonstrated capabilities as a trainer.

<BA Region>

The following measures were adopted to develop the BAC Heads' KAIZEN capability.

- Step 1: The Japanese Experts develop KAIZEN ideas based on challenges and waste observed at the factory
- Step 2: For more difficult KAIZEN menus, further explanations using pictures, videos, Power Point presentation material and other related materials are provided to BAC Heads to help them to understand
- Step 3: Let pilot BAC Heads devise KAIZEN menus by themselves based on challenges and waste at OJT enterprises
- Step 4: The trainer BAC Heads develop KAIZEN ideas in addition to the ideas that the pilot BAC Heads developed
- Step 5: The Japanese Experts develop KAIZEN ideas if the KAIZEN ideas developed by the pilot BAC Heads and the trainer BAC Heads need refinement

Some pilot BAC Heads were very receptive and capable of developing KAIZEN ideas like the Japanese Experts after observing the actual operation or video-recorded operation. It is obvious that appropriate guidance can foster their ability to find waste during operations and develop countermeasures for this.

<Central Region>

The KAIZEN activities were successfully implemented under the OJT MSME management's understanding of the concepts of KAIZEN, and their cooperation during the OJT session. The OJT MSMEs agreed to partially share the cost for the notice board and the development of jig etc. Meanwhile, the following measures were adopted to develop the BAC Heads' KAIZEN capability.

- Step 1: After each factory visit, the trainer BAC Heads let the BAC Heads express their opinions on any KAIZEN points they identified, as to challenges or waste, the factory was facing.
- Step 2: The BAC Heads were given the opportunity to make KAIZEN proposals to the trainer BAC Heads by viewing photos and videos.
- Step 3: Thereafter, the trainer BAC Heads shared their views with the BAC Heads.
- Step 4: In case the KAIZEN proposals the trainer BAC Heads created were not of a sufficient standard, or practical, then the Japanese experts suggested KAIZEN ideas which had the potential to bring higher KAIZEN impacts to the OJT MSMEs.
- Step 5: The KAIZEN proposals the BAC Heads originally created, which were then rectified by both the trainer BAC Heads and the Japanese experts, were presented to the OJT MSMEs.

- Step 6: If the OJT MSMEs agreed to such proposals, KAIZEN activities were implemented immediately. If not, they were modified by accommodating the opinions or views from the OJT MSMEs, and then implemented.

The Basic KAIZEN training this time was mainly focused on raising the level, whereby the BAC Heads would be able to primarily implement Basic KAIZEN methodologies by themselves; this objective was achieved.

The following is the basic KAIZEN menu which was conducted in each region. The detailed items are to be referred to in Appendix 5.

Table 3-35 Applied KAIZEN Menu during Basic KAIZEN OJT

Region	Number of Applied KAIZEN items (out of 39 items)
Northern	22
BA	23
Central	21

Evaluation

The questionnaire survey to OJT MSMEs was conducted and the average score of all thirty-six MSMEs in target regions is presented below.

Table 3-36 Assessment Results on KAIZEN by OJT MSMEs

Enterprise Diagnosis	KAIZEN	Recommendation, Instruction	Willingness to continue KAIZEN	Willingness to receive KAIZEN instruction from BAC
4.83	4.73	4.57	4.67	4.43

(5-point scale)

The trainer BAC Heads were assessed by the participants and the Japanese Experts on their lecture. As to OJT, they were assessed by pilot BAC Heads in each region, and the Regional Managers and the Japanese Experts, in the 5 grade system, and feedback sessions were conducted.

The below are the evaluation results of 18 trainer BAC Heads for their lecture and training skills, as evaluated by the Japanese Experts.

Table 3-37 Assessment Results on BAC Heads in Lecture Skills

Presentation	Facilitation	Material	Contents	Time Management	Understanding	Ave.
4.16	4.09	3.73	3.74	3.95	4.10	3.96

(5-point scale)

Table 3-38 Assessment Results on BAC Heads in Trainer Skills

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave.
4.7	4.5	4.1	4.2	4.5	4.1	4.1	4.2	4.4	4.3	4.1	4.4	4.3	4.5	4.2	4.7	4.0	4.4	4.6	4.1	4.3

(5-point scale)

Components

1 Knowledge of Enterprise Diagnosis and KAIZEN	2 KAIZEN ideas	3 Knowledge of Enterprise Diagnosis and KAIZEN
4 Ability to assess KAIZEN impact	5 Explanation of steps and tools/materials	6 Guidance to set goals, target and schedule
7 Guidance to prepare necessary tools/ materials	8 Guidance to discuss/ confirm plan with MSME	9 Skills to obtain MSME's commitment
10 Time management (Time allocation)	11 Time management (organize/complete activities)	12 Punctuality
13 Countermeasures against challenges	14 Answer questions	15 Skills to encourage to participation in steps
16 Attitude	17 Skills of monitoring	18 Skills of monitoring
19 Team work	20 Overall performance	

The final evaluation of the pilot BAC Heads was made after self-implementation of KAIZEN and is described in Evaluation.

Follow-up

The follow-up sessions were conducted on a quarterly basis after the basic KAIZEN OJT. BAC Heads carried out following activities:

- 1) confirm whether the implemented KAIZEN activities were being continued and new KAIZEN activities were being implemented
- 2) measure the KAIZEN impacts and analyse the factors for change
- 3) advise OJT MSMEs in line with their growth and change

The following table is schedule of follow-up in the target regions.

Table 3-39 Schedule of Follow-up of OJT MSMEs

Region	First	Second	Third	Fourth
Northern	November 2016	February 2017	October 2017	October 2018
BA	September 2017	January 2018	May 2018	October 2018
Central	May 2018	October 2018		

The first follow-up session in each region was conducted by the BAC Heads under the supervision of both Japanese Experts and the trainer BAC Heads, and the remaining follow-up sessions were done only by pilot BAC Heads, in principle. The Japanese Experts accompanied the final follow-up sessions in the Northern, BA and Central Regions on 8 and 9 October 2018. The summary of each follow-up is referred to in Appendix 6.

<Northern Region>

It was confirmed that all the OJT MSMEs except one enterprise (which halted the operation) showed improvement in both sales volume and productivity.

Table 3-40 Results of Fourth Follow-up with OJT MSMEs in Northern

Enterprise	Industry	Major KAIZEN impact compared with 3rd follow-up in Oct. 2017	Major factor for the KAIZEN impact
Shekinah Glory Bakeries	Bakery	Sales volume: 639% increased	1) Expansion of sales space 2) Expansion of production facility
Kumbatachua Enterprise	Sachet water plastic bag making	Sales volume: 363% increased	Active marketing activities including visits to the customers, etc.
El Balicon Limited	Soy bean processing	Follow-up could not be done due to stoppage of the operation	
Lowlandi Rice Processing Centre	Rice milling, packaging	Productivity: 15.2% increased	Defect rate decreased by buying quality paddy rice.
Hazbuk Company Limited	Furniture	Productivity: 50% increased	Workers' skill level increase
Yumzaa Women Association	Shea butter	Sales volume: 31% increased	Increased production according to the demand increase and active marketing activities.

<BA Region>

It was confirmed that all the OJT MSMEs except one enterprise (for which the production facility was being moved to the different location) showed improvement in either sales volume or productivity.

Table 3-41 Results of Fourth Follow-up of OJT MSMEs in BA

Enterprise	Industry	Major KAIZEN impact compared with 3rd follow-up in May 2018	Major factor for the KAIZEN impact
Mckenzie Sports Wear	Sportswear making	Productivity: 11,088% increased	Increase of orders due to website development
		Sales volume: 561% increased	Packaging improvement (Enterprise logo and contact address printed on the packages)
Yedent Agro Group of Companies	Soya bean processing Cereal production	Sales volume: 95.2% increased	Increase of orders due to active marketing activities
Kwasi Gyan (Jomo) Co. Ltd	Furniture	Productivity: 28.5% increased	Decrease of machine downtime due to introduction of machine maintenance check system
		Sales volume: 27.6% increased	Active marketing activities and starting business with new customers
Kasraf Enterprise	Soap making	The follow-up could not be done due to the transition of production facility to new location.	
Aspet A. Company Limited	Water processing	Productivity: 271% increased Sales volume: 55.9% increased	Decrease of machine downtime due to introduction of machine maintenance check system. Increase of sales due to increase of productivity.
	Moringa processing	Productivity: 324% increased	Periodical machine maintenance check system

Enterprise	Industry	Major KAIZEN impact compared with 3rd follow-up in May 2018	Major factor for the KAIZEN impact
Ghana Permaculture Institute		Sales volume: 567.9% increased	Orders from Germany

<Central Region>

The below is the result of the second follow-up session which was conducted in October 2018, where it was confirmed that either quality or productivity was improved at all MSMEs.

Table 3-42 Results of Second Follow-up of OJT MSMEs in Central

No.	Enterprise	Industry	Major KAIZEN impact to compare with 1st follow-up in May 2018	Major factor for KAIZEN impact	KAIZEN menu
1	UCC Enterprise Limited	Drinking water	Reduction of defect Sachet water: 46% Bottle water: 24%	Quality inspection	Quality inspection
2	Ewuradzi Kasa Bakery Center	Bakery	Reduction of inventory: 25%	Seasonal factor	Continuation of 5S
3	Bensworth Construction	Brick making	Increase of production: 86.7%	Marketing activity. Elimination of waste in production process	Improvement of production facility
4	Central Oil Mill Limited	Palm Oil making	Defect rate was reduced to 0% from 3%.	KAIZEN in production process. Follow work standard	Provision of safe wear
5	U2 Company Limited	Edible salt processing	Production lead time reduced by 42%	Increase of production line and transport equipment	Strengthening of production facility (2 units of conveyors newly installed)
6	Ekem Art Pottery Limited	Pottery	Increased production of crucible: 8%	Time reduced for raw material transport	Continuation of 5S

Output 2 Indicator 2-2

More than 70 % of MSMEs that accept OJT show the improvement on the basis of quality/productivity indicators.

Achieved

It was confirmed that all OJT MSMEs in the Northern, BA and Central Regions could improve quality or productivity indicators.

Analysis of Financial Impact of KAIZEN

To demonstrate the impact of KAIZEN on the profit of OJT MSMEs, in addition to the seven achievement indicators which were collated in the follow-up sessions, the quantitative data related to profit has been collected and analysed. Financial statements were collected from OJT MSMEs which have such data which can be disclosed to the Project, and from OJT MSMEs which do not have proper financial statements the data was provided through MS Excel format developed by the Project Team. The results of analysis are attached in Appendix 7.

There could be seen a rise of both gross profit rate and net profit rate in the most MSMEs, whereas those rates declined after KAIZEN implementation in some MSMEs. Since the profit ratio is affected by the external environment, such as seasonal factors, it is required for both cases in

increase and decrease of profit to collect qualitative data and interview the management of MSMEs for further detailed analysis on causal relations of KAIZEN impact to profit.

Systematize KAIZEN cases

KAIZEN cases were systematized (“Good Practice Collection”) for the purpose of being referred to when public relations are being conducted to disseminate KAIZEN to other enterprises, and for when BAC Heads conduct diagnosis of the enterprises and introduce KAIZEN to them. Considering the purpose above, the cases which had a positive impact, and had the potential to be applied to other enterprises and resolve the issues in a unique way, are listed in it. So that NBSSI and BAC Heads can conveniently use it when they undertake publicity matters and consider which KAIZEN menus should be introduced, quantitative effects and pictures are shown. In addition to that, the cases were systematized by enterprise and sector because the issues and introduced KAIZEN menus of the same sector are similar to each other.



1 Food Processing		
1.1 Shekinah Glory Bakeries		
Enterprise Profile		
Number of workers ^o	Location ^o	Major Products ^o
19 (As of Oct. 2018) ^o	Northern Region ^o	Brown bread, Dinner roll, Special Bread, Butter Bread ^o
Person in charge		
1. Aida Ewura, Damago BAC ^o	2. Adam Mohammed Gidari, Kumbugu BAC ^o	3. Henrietta Zato, Sogwaga BAC ^o
4. Kipo Dari, Akomadan BAC ^o	5. Patience Asamoah Aduo, Agona BAC ^o	6. Eric Anthony Affram, Regional Manager, Northern Region ^o
Good Practices		
1. Inventory Management ^o		
Challenge ^o	Interventions ^o	Achievement ^o
• Old and new raw materials are mixed up and could not identify which raw materials should be used in first. ^o	• Labeled “NEW STOCK” and “OLD STOCK” tag and introduced the FIFO inventory method. ^o	• Enabled enterprise to ensure that old stocks are used before new stock to enhance quality of the products. ^o
		

Figure 3-4 Sample of Good Practice

The figure above is an example from the “Good Practice Collection”. In addition to the cases, an outline of the enterprises and name and affiliation of BAC heads who were in charge of each enterprise during OJT training are listed, in order to enable readers to contact BAC Heads. The “Good Practice Collection” is attached in Appendix 8.

(3) Self-Implementation of Enterprise Diagnosis and KAIZEN

The guidelines for the self-implementation of Enterprise Diagnosis and KAIZEN by pilot BAC Heads were developed and the implementation schedule was agreed upon with the C/Ps as shown below.

Table 3-43 Flow of Self-Implementation of KAIZEN

	Activities		Timeframe
1	Pre-Selection of Enterprises	Pilot BAC Heads select candidate enterprises based on the criteria and fill in the profile sheet and score sheet	1 month prior to basic KAIZEN training
2	Selection of Enterprises	Pilot BAC Heads fill in the score sheet and select enterprises with trainer BAC Heads and the Japanese Experts	During OJT session of basic KAIZEN training
3	Enterprise Diagnosis	Pilot BAC Heads conduct the Enterprise Diagnosis and implement KAIZEN, while trainer BAC Heads provide technical advice and visit enterprises at least once	5 days within the first month after basic KAIZEN training
4	KAIZEN Implementation		10 days within the first month after Enterprise Diagnosis
5	Follow-up	Pilot BAC Heads visit the enterprises which facilitated KAIZEN by themselves, make sure that the enterprises still continue their KAIZEN activities on their own, and measure KAIZEN impact.	1 day in quarter after KAIZEN implementation

The self-implementation of KAIZEN was conducted under the following schedule.

Table 3-44 Schedule of Self-Implementation of KAIZEN

	Activities	Northern Region	BA Region	Central Region
1	Pre-Selection of Enterprises	April to May 2016	April to May 2017	October 2017 to January 2018
2	Selection of Enterprises	June to July 2016	June 2017	January to February 2018
3	Enterprise Diagnosis	5 days in July 2016	5 days from July to August 2017	5 days from February to March 2018
4	KAIZEN Implementation	10 days from August to early September 2016	10 days from July to September 2017	10 days from March to May 2018
5	Follow-up	1) December 2016 2) May 2017 3) November 2017	1) January 2018 2) July to August 2018	November 2018

The below is the list of the enterprises undertaking self-implementation in each region.

Table 3-45 Selected Enterprises for Self-Implementation of KAIZEN in Northern Region

Name	BAC	Name of Enterprise	Industry	Trainer	JICA Team
Tienah Mohammed Emmanuel	Mion	Mion Fashion Enterprise	Garment	Priscilla Kwakye Fosu	Yoshida
Mohammed Bukari	Tamale	Yunuskam Ventures	Furniture		
Haruna Mohammed	Tolon	Papa Carpentry Shop Lucy's Smart Ladies Fashion	Furniture Garment		
Rashidatu B. Alhasan	Buipe	Rod and Staff limited	Bakery	Eric Oti Nyarko	Tamada
Mathew Azoya	Gambaga	Sweet Mother Enterprise	Garment		
Ahmed Salman	Sawla	Alhassan Issahaku Enterprise	Aluminium pan		
Ahmed Abdul-Razak	Project Officer	Kasha Aluminium	Bakery	Ibrahim Tchedre	Tajima
Suragdeen Iddrisu	Saboba	Joanna Bakeries	Shea butter	Dari Kipo	
Henrietta Zaato	Sagnarigu	Pagsung	Shea butter		
Adam Mohammed Gadaf	Kumbungu	Mbanaayili Tung Teeya Maltiti A. Enterprise	Black soap Bakery	Patience Asamoah Aidoo	
Alidu Ewura	Damongo	Abrayor Ventures	Garment		

Table 3-46 Selected Enterprises for Self-Implementation of KAIZEN in BA Region

Name	BAC	Name of Enterprise	Industry	Trainer	JICA Team
Daniel Sena Tsoorme	Dormaa Central	DK Ampofo Farms Co. Ltd.	Poultry feed	Aikins Agyepong	Yoshida
Vanessa Afia Asoamea-Takyi	Duayaw Nkwanta	E GAPS Ghana Ltd.	Soy bean oil	Alexander Nyame	

Name	BAC	Name of Enterprise	Industry	Trainer	JICA Team
Acheampong Abayie	Kenyasi	Adom Royal Ice Ltd.	Water		
Nuhu Dimah Salifu	Jema	Mirikisi Auto Mechanics and Spare Parts Enterprise.	Car servicing	Thomas Opoku	Tajima
Amil Ibrahim	Wenchi	GENTLE JUNIOR VENTURES	Apparel		
Isaac Oppong	Atebubu	Nyame Tease Bakery	Bakery	Kwame Agyenim Boateng	
Mavis Yaa Owusu	Berekum	Royal House Bakery	Bakery	Maahi Mohammed	Tamada
Abdul Rahaman Talhat	BA Accountant	EKA FOOD PROCESSING COMPANY LIMITED	Pepper and powder ginger		
Frederick Apraku Amoateng	Nsawkaw	BAWA Fashions	Apparel	Michael Golightly	

Table 3-47 Selected Enterprises for Self-Implementation of KAIZEN in Central Region

Name	BAC	Name of Enterprise	Industry	Trainer	JICA Team
Francisca Dokua	Cape Coast Metro	Setup Industries Limited	Yoghurt	Thomas Fofie	Yoshida
Mathias Sukah	Central Accountant	Gaw Enterprise Limited	Soft drink		
Patrick Asafo Agyei	Asikuma Odobin Brakwa	Sankwad Enterprise Limited	Water	Henrietta Zaato	
Boakye Atta Kwasi	Assin South	Dannes Anointed	Cassava processing	Kelvin Ofori-Atta	Tajima
Veronica Essel	Komenda Edina Eguafo	Tex Farms	Chicken farming		
Linda Oduro	Effutu	Grace love Creation	Garment	Benjamin Marfo	Tamada
Nathan Arkaah	Gomoa East	Agrico Cassava Processing	Cassava processing		
Henrietta Addai-Poku	Agona West	Otoo's Furniture Works	Furniture	Marina Kusi	Tamada
Emmanuel Deteah	Twifo Praso	Amansie Oil Mills	Palm oil	David Kwabena Poku Oduro	Tajima

Enterprise Diagnosis

The Enterprise Diagnosis was conducted by pilot BAC Heads with support from trainer BAC Heads. Trainer BAC Heads visited the enterprises with pilot BAC Heads to monitor and advise upon the activities of pilot BAC Heads, and to confirm the quality of Enterprise Diagnosis reports.

In the BA and the Central Regions, peer-review workshops were held in Sunyani and Cape Coast, for improving the quality of Enterprise Diagnosis and sharing cases with pilot BAC Heads, Regional Managers, trainer BAC Heads, and Ashanti Regional Manager.

KAIZEN Implementation

Following on from Enterprise Diagnosis, KAIZEN was conducted by pilot BAC Heads. Trainer BAC Heads visited the enterprises at least once, confirmed the implementation capabilities of pilot BAC Heads, checked the details of the KAIZEN report, and provided advice appropriately. It was confirmed from KAIZEN reports that all the enterprises showed improvement of both quality and productivity quantitatively.

Follow-up

The follow-up sessions for the enterprises undertaking self-implementation of KAIZEN were carried out by pilot BAC Heads in each region.

<Northern Region>

The follow-up sessions for the enterprises undertaking self-implementation of Enterprise Diagnosis and KAIZEN were conducted three times. Due to the resignation of Tolon BAC Head and the demise of Sawla BAC Head, only 9 BAC Heads carried out further follow-ups after the third follow-up session. The result of the final follow-up is as follows.

Table 3-48 Results of Third Follow-up of Self-Implementation MSEs in Northern

Name of Enterprise	Industry	BAC Head	Major KAIZEN impacts	Major factors for KAIZEN impacts
Sweet Mother Enterprise	Garment	Mathew Azoya (Gambaga BAC)	Sales volume: 175% increased	Higher demand due to quality improvement
			Defects reduced to 7 pcs. From 17 pcs.	Monthly quality improvement training
Pagsung Association	Shea butter	Henrietta Zaato (Sagnarigu BAC)	Productivity increased by 320%	Higher motivation of the employees
			Defects reduced to 3.1% from 40%	Introduction of water meter for weighing caustic soda
Abranyor Bakeries	Bakery	Alidu Ewura (Damongo BAC)	Sales volume increased by 161%	Sales of new product and quality improvement
Yunuskam Ventures	Furniture	Bukari Mohammed (Tamale BAC)	No KAIZEN impacts figuratively observed	
Joanna Bakeries	Bakery	Suragdeen Iddrisu (Saboba BAC)	Defects reduced to 2.5% from 3%	5S activity and appropriate inventory control
Kasha Aluminium	Cooking Utensil	Ahmed Abdul-Razak (Project Officer)	Productivity increased by 127%	Usage of inexpensive raw materials and improvement of product quality standard
Maltiti A. Enterprise	Soap	Adam Mohammed Gadaf (Kumbungu BAC)	Productivity of black soap increased by 113%	Improvement of work efficiency and 3S (Seiri, Seiton, Seiso)
Mbanaayili Tung Teeya Co-Operative Shea Butter Extraction and Marketing Society Limited	Shea butter		Defects reduced to 25 kg from 50 kg	Quality improvement by periodic QC circle activities

Some enterprises achieved quantitative KAIZEN impacts.

<BA Region>

The follow-up sessions for the enterprises undertaking self-implementation of Enterprise Diagnosis and KAIZEN were conducted twice by each pilot BAC Head/Central accountant. The quantitative KAIZEN impacts of the second follow-up are described as follows.

Table 3-49 Results of Second Follow-up of Self-Implementation MSEs in BA

Name of Enterprise	Industry	BAC Head	Major KAIZEN impacts	Major factors for KAIZEN impacts
Fausban Enterprise	Bakery	Daniel Sena Tsorme (Dormaa BAC)	Productivity: increased by 20% Sales volume: increased by 26%	Enough space for fermentation process due to expansion of production facility Sale volume increase due to increase of productivity
E-Gabs Ghana Limited	Soy bean oil	Vanessa Afia Asomea-Takyi (Duayaw Nkwanta BAC)	Productivity: decreased by 52%	Scarcity of raw materials (Soy bean) and price hike
Royal Ice Filtered Water	Sachet water	Kwasi Abayie Acheampong (Kenyasi BAC)	Productivity: increased by 16.7%	More production space available due to layout change
Royal House Bakery	Bakery	Mavis Yaa Owusu (Berekum BAC)	Follow-up could not be done due to resignation of the BAC Head in charge	
Eka Food Processing Company Limited	Pepper, ginger processing	Abdul Rahaman Talhat (BA Accountant)	Sales volume: increased by 451%	Active marketing activities
Bawa Fashions	Garment	Frederick Apraku Amoateng (Nsawkaw BAC)	Productivity: increased by 25% Sales volume: increased by 12.5%	Higher employee morale through KAIZEN and improvement of their skill level.
Nyame Tease Bakery	Bakery	Opong Isaac (Atebubu BAC)	Productivity of butter bread: (produced quantity per head) increased by 40.9%	Reduction of transport distance due to layout change and creation of new door. Reduction of searching time for tools due to Seiton board. Production in line with quality standard
Mirikisi Auto Mechanic and Parts	Vehicle parts and servicing	Nuhu Salifu Dimah (Jema BAC)	Sales volume increased by 104%	Higher customer trust of the enterprise due to KAIZEN and no. of vehicles for servicing increased
Gentle Junior Ventures	Uniform making	Amil Ibrahim (Wenchi BAC)	Productivity increased by 25%	Production progressed in line with production and delivery control boards

As a result, all the enterprises except one enterprise (for which the follow-up could not be done) showed KAIZEN impacts, and it proved that pilot BAC Heads in the BA Region were capable of implementing KAIZEN by themselves.

<Central Region>

The first follow-up was conducted in November 2018. The below mentioned are KAIZEN impacts described in the follow-up sheets. Although some cases of decrease of productivity of palm oil and water processing due to seasonal factors were observed, all remaining enterprises showed improvement of both productivity and sales volume.

Table 3-50 Results of Follow-up of Self-Implementation MSEs in Central

Name of Enterprise	Industry	BAC Head	Major KAIZEN impacts	Major factors for KAIZEN impacts
Setup Industries Limited	Yoghurt	Francisca Dokua (Cape Coast BAC)	Both productivity and sales volume increased by 50%	Active marketing, quality and packaging improvement
Gaw Enterprise Limited	Soft drink	Mathias Sukah (Central Accountant)	Not available due to no baseline data	Reparse of transport vehicle and production facility improvement for transport in the factory
Sankwada Enterprise Limited	Water	Patrick Asafo Agyei (Asikuma BAC)	Productivity by decreased by 3% Sales volume increased by 6%	Reduction of production due to rainy season. Sales volume increased due to unit price hike
Dannes Anointed	Cassava processing	Boakye Atta Kwasi (Kyekyewere BAC)	Productivity increased by 49% Sales volume increased by 49%	Waste reduction due to QC Circle activities Improvement of target achievement consciousness due to introduction of production control board
Tex Farms	Chicken farming	Veronica Essel (Elmina BAC)	Productivity: Eggs: increased by 22.7% Chicken meat: increased by 25% Sales volume: increased by 22.7%	New recruitment of two workers New introduction of containers for eggs
Grace Love Creation	Garment	Linda Oduro (Winneba BAC)	Productivity: increased by 2,256% Sales volume: increased by 1,904%	Supply contract for school uniforms was awarded to the company. Productivity increased by elimination of wastes
Agrico Cassava Processing	Cassava processing	Nathan Arkaah (Afransi BAC)	Productivity: increased by 16.7% Sales volume: increased by 31.2%	Stronger consciousness for target achievement
Otoo's Furniture Works	Furniture	Henrietta Addai-Poku (Swedru BAC)	Productivity increased by 20%	5S in the factory
Amansie Oil Mills	Palm oil	Emmanuel Deteah (Twifo Praso BAC)	Productivity decreased by 53.4%	Lack of raw materials due to seasonal factors. Continuation of 5S and QC circle

(4) KAIZEN with 100 Businesses

The self-implementation of KAIZEN in the Northern and BA Regions was supported by the Project due to the Contract Amendment in August 2017. A total of 48 MSEs, 23 MSEs in the Northern Region and 25 MSEs in the BA Region, were introduced to KAIZEN. This is detailed in Task 3.

Output 2 Indicator 2-3

Pilot BACs implement Enterprise Diagnosis and KAIZEN activities to more than 40 MSMEs by themselves.

Achieved

A total of 83 MSEs were introduced to Enterprise Diagnosis and KAIZEN in the three target regions.

The reasons that the number of implemented MSEs went significantly beyond the target are apart from self-implementation of KAIZEN after OJT, which was originally planned in the Project, support of implementation of KAIZEN was added by JICA and KAIZEN implementation was funded by REP.

(5) KAIZEN Forum

Based on the plan for KAIZEN fora for all Regional Office TU members, KAIZEN fora were held in the target regions with stakeholders in the district, candidate enterprises of KAIZEN provision, and media, such as TV, newspaper, radio and internet media, to induce KAIZEN demand and promote collaboration. The schedule and results of the questionnaire from KAIZEN fora in each region are stated below.

Table 3-51 Results of Questionnaire from KAIZEN Fora in Northern Region

No.	Location	Date	Participants	Recognition of KAIZEN before fora	Understanding KAIZEN	Interest in KAIZEN	Commit resources to KAIZEN
1	Mion	23 Feb. 2017	32	7%	85%	100%	100%
2	Kumbungu	23 Feb. 2017	25	8%	90%	100%	100%
3	Buipe	23 Feb. 2017	35	0%	88%	100%	100%
4	Damongo	8 Mar. 2017	30	14%	88%	96%	96%
5	Tamale	14 Mar. 2017	64	37%	74%	95%	85%
6	Gambaga	16 Mar. 2017	35	13%	88%	100%	97%
7	Saboba	22 Mar. 2017	24	4%	77%	79%	88%
8	Sawla	18 Apr. 2017	30	29%	92%	100%	96%
9	Tolon	18 Apr. 2017	30	15%	88%	100%	96%
10	Sagnarigu	20 Apr. 2017	36	17%	83%	97%	87%
Total/Average			341	14%	85%	97%	95%

Table 3-52 Results of Questionnaire from KAIZEN Fora in BA Region

No.	Location	Date	Participants	Recognition of KAIZEN before fora	Understanding KAIZEN	Interest in KAIZEN	Commit resources to KAIZEN
1	Sunyani	1 Feb. 2018	98	9%	90%	93%	86%
2	Berekum	2 Feb. 2018	50	12%	87%	100%	100%
3	Kenyasi	6 Feb. 2018	50	14%	90%	95%	92%
4	Atebubu	8 Feb. 2018	61	18%	88%	100%	100%
5	Techiman	14 Feb. 2018	100	0%	94%	99%	96%
6	Jema	15 Feb. 2018	50	4%	55%	98%	98%
7	Wenchi	16 Feb. 2018	50	13.5%	90%	94%	92%
Total/Average			459	10%	85%	97%	95%

Table 3-53 Results of Questionnaire from KAIZEN Fora in Central Region

No.	Location	Date	Participants	Recognition of KAIZEN before fora	Understanding KAIZEN	Interest in KAIZEN	Commit resources to KAIZEN
1	Cape Coast	26 Jul. 2018	150	26%	79%	83%	77%
2	Swedru	3 Aug. 2018	65	-	-	-	-
3	Winneba	6 Aug. 2018	65	-	-	-	-
4	Afransi	7 Aug. 2018	65	14%	82%	95%	92%
5	Twifo Praso	8 Aug. 2018	65	10%	94%	100%	100%
6	Elmina	9 Aug. 2018	65	-	-	-	-
7	Kyekyewere	10 Aug. 2018	65	-	-	-	-
8	Asikuma	15 Aug. 2018	69	0%	90%	100%	100%
Total/Average			609	13%	86%	95%	92%

(6) Evaluation

Based on the technical standard, pilot BAC Heads, the Project Officer and Accountant conducted self-evaluation before and after the training, and trainer BAC Heads and the JICA Project Team evaluated pilot BAC Heads. The Project Team and trainer BAC Heads gave pilot BAC Heads, the Project Officer and Accountants feedback on their capacity, and necessary competencies to be improved and strengthened with the results of the examination score. Since some of pilot BAC Heads participated in advanced KAIZEN training, the score after advanced KAIZEN training is reflected in the final results of assessment stated in the table below.

Table 3-54 Assessment Results on Basic KAIZEN Technical Standard

	Northern	BA	Central
Before Training (Self-evaluation)	0.35	0.62	0.37
After OJT	3.41	3.18	2.98
After Self-implementation of KAIZEN	3.60	3.62	3.32
Final	3.71	3.74	3.48

Note: • Only the score before Training is self-evaluation by pilot BAC Heads, and the other scores are based on evaluation by the Japanese Experts.
• While the Project Officer and Accountants participated in the basic KAIZEN training, the score was calculated as an average for pilot BAC Heads only.

Output 2 Indicator 2-1

The assessment results of capacity of pilot BACs on their Enterprise Diagnosis and KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation).

Achieved

The capacities were enhanced to an average of 3.64.

At the outset of the Project: the score of self-evaluation of pilot BAC Heads in the Northern Region was 0.35 out of 5, that is 7 % (=0.35/5)

At the end of the Project: the average score of target three regions is 3.64 out of 5, that is 72% (=3.64/5), a 65 % improvement

(7) Training in Japan

To further enhance the learning effects of Enterprise Diagnosis and KAIZEN of pilot BAC Heads in the three target regions, training in Japan was undertaken.

	First	Second	Third
Participants	10 pilot BAC Heads in the Northern Region	8 pilot BAC Heads in the BA Region, 2 BAC Heads in the Ashanti Region and 4 representatives from KAIZEN Champion MSMEs.	7 pilot BAC Heads in the Central Region and Ashanti Regional Manager
Period	26 September to 7 October 2016	16 to 27 October 2017	27 August to 7 September 2018
Name of Course	Process for KAIZEN instruction and training of KAIZEN trainers		
Objective	To enhance the capabilities of pilot BAC Heads to provide KAIZEN by studying SME promotion programs provided by government-related organizations in Japan, and KAIZEN case studies of SMEs in Japan		

(8) Update of Reference Materials

Format

Enterprise Diagnosis and KAIZEN report: had been revised before OJT, based on comments from C/P.

Follow-up sheet: designed to be applied to both basic and advanced KAIZEN implementation. Sheet was revised to facilitate collecting base-line data before implementation of KAIZEN and obtaining data during follow-up, for the purpose of comparison. Given the situation, in which almost no information in the category of reduction of production cost was described in the follow-up sheet, it was decided that this category should be named as production cost.

Lecture Materials

The lecture materials on basic KAIZEN were modified by Ashanti BAC Heads under supervision of the Japanese Experts from September to October 2018. For the purpose of standardisation and localisation of materials the actual cases in Ghana were incorporated. Exercise for ECRS and Line Balancing using beads bracelets and Lego blocks were introduced to deepen the understanding level of difficult subjects.



(9) Training of Trainers

In order to achieve the Overall Goal of “Enterprise Diagnosis and KAIZEN methods are introduced in all regions, and also MSMEs that have practiced KAIZEN activities recommended by NBSSI show improvements in their quality and productivity”, it was acknowledged that pilot BAC Heads in the Northern, the BA and the Central Regions, in addition to the Ashanti BAC Heads, are required to develop their skills as trainers so that they will be able to train the BAC Heads of the remaining regions such as Upper East (UE), Upper West (UW), Volta, Western, Eastern and Greater Accra (GA) in KAIZEN. Therefore, training of trainer to pilot BAC Heads was added to develop skills in both lecturing and OJT implementation by conducting lectures and OJT. The BAC Heads of the remaining regions took part in the lecture, and both Japanese Experts and the participants of the training evaluated trainer skills. The Ashanti BAC Heads also conducted the lecture in order to finalize the lecture materials.

Lecture

The lecture comprised; 1) Refresher training (1 day), 2) Basic KAIZEN lecture (4 days), 3) MS Office training (2 days) with the below details.

Training	Location	Period	Trainee
1) Refresher Training	Tamale,	1) 15 October 2018	All BAC Heads, Regional
2) Lecture on Basic KAIZEN	Northern	2) 16 to 19 October 2018	Managers (RMs) and Project
3) MS Office Training		3) 20 to 21 October 2018	Officers in the UE and UW

Training	Location	Period	Trainee
1) Lecture on Basic KAIZEN 2) MS Office Training	Koforidua, Eastern	1) 15 to 18 October 2018 2) 19 to 20 October 2018	All BAC Heads, RMs and Project Officers in the Eastern, Volta Regions and 2 BAC Heads in the GA Region
1) Refresher Training 2) Lecture on Basic KAIZEN 3) MS Office Training	Takoradi, Western	1) 22 October 2018 2) 23 to 26 October 2018 3) 27 to 28 October 2018	All BAC Heads, RM and Project Officer in the Western Region

The Regional Managers selected the lecturers out of the pilot BAC Heads.

Table 3-55 List of Selected Pilot BAC Heads

Location	Lecture	
	Region	Name (BAC)
Tamale	Northern	1. Henrietta Zaato (Sagnarigu BAC)
		2. Bukari Mohammed (Tamale BAC)
	BA	3. Daniel Sena Tsorme (Dormaa BAC) 4. Vanessa Afia Asomea-Takyi (Duayaw Nkwanta BAC)
	Ashanti	5. Kipo Dari (Akomadan BAC) Supervisor
Koforidua	Ashanti	1. Mohammed Maahi (Mamponteng BAC)
		2. Kelvin Ofori-Atta (Obuasi BAC)
		3. Marina Kusi (Kodie BAC)
		4. Thomas Opoku (Tepa BAC)
Takoradi	BA	1. Isaac Oppong (Atebubu BAC)
		2. Nuhu Salifu Dimah (Bechem BAC)
	Central	3. Emmanuel Deteah (Twifo Praso)
		4. Linda Oduro-Amoaning (Winneba BAC)
	Ashanti	5. Nana Sam-Himbson (Foase BAC) Supervisor

1) Refresher Training

In order to confirm the details of lecture contents, practise exercises, management of lecturing, task allocation of trainers, the refresher training was conducted by selected BAC Heads in the Northern, BA and Central Regions. Especially, the exercise of both Line Balancing and ECRS was practiced in detail to make sure that there would not be any confusion.

2) Lecture on Basic KAIZEN

The basic KAIZEN lecture comprised 3 days for lectures and 1 day for visiting OJT enterprises. The following is the agenda for the lecture on basic KAIZEN. The examination was held for the trainees at the end of the lecture.

Table 3-56 Agenda for Trainer of Training (Lecture on Basic KAIZEN)

Day	Time	Content	Lecturer		
			Tamale	Koforidua	Takoradi
1	09:15-	1) KAIZEN (Concept, Procedure)	Henrietta Zaato	Marina Kusi	Emmanuel Deteah
	09:45-	2) Identification of 7 wastes	Bukari Mohammed	Kelvin Ofori-Atta	Linda Oduro-Amoaning
	10:30-	Coffee Break			
	10:45-	3) Accounting and Record keeping	Daniel Sena Tsorme	Mohammed Maahi	Nuhu Salifu Dimah
	12:00-	4) 5S	Bukari Mohammed	Mohammed Maahi	Linda Oduro-Amoaning
	13:00-	Lunch			

Day	Time	Content	Lecturer		
			Tamale	Koforidua	Takoradi
	14:00-	5) Visualization	Vanessa Afia Asoomea- Takyi	Marina Kusi	Emmanuel Deteah
	14:30-	6) Analysis and IE 1 Time Study	Daniel Sena Tsorme	Mohammed Maahi	Nuhu Salifu Dimah
	15:30	Coffee Break			
	15:45-	6) Analysis and IE 1 Time Study	Daniel Sena Tsorme	Mohammed Maahi	Nuhu Salifu Dimah
2	08:00-	Recap			
	08:15-	6) Analysis and IE 2 Video Analysis	Daniel Sena Tsorme	Mohammed Maahi	Emmanuel Deteah
	09:00-	6) Analysis and IE 3 Motion Study	Henrietta Zaato	Thomas Opoku	Nuhu Salifu Dimah
	09:30-	6) Analysis and IE 4 Process Flow Chart	Henrietta Zaato	Thomas Opoku	Nuhu Salifu Dimah
	10:00-	Coffee Break			
	10:15-	6) Analysis and IE 5 Spaghetti Diagram	Vanessa Afia Asoomea- Takyi	Thomas Opoku	Nuhu Salifu Dimah
	10:45-	7) KAIZEN 1 Layout change	Vanessa Afia Asoomea- Takyi	Mohammed Maahi	Emmanuel Deteah
	11:15-	7) KAIZEN 2 Inventory Management	Vanessa Afia Asoomea- Takyi	Kelvin Ofori-Atta	Isaac Oppong
	12:15-	7) KAIZEN 3 Activation Index	Bukari Mohammed	Kelvin Ofori-Atta	Emmanuel Deteah
	12:45-	7) KAIZEN 4 ECRS	Vanessa Afia Asoomea- Takyi	Thomas Opoku	Linda Oduro-Amoaning
	13:00-	Lunch			
	14:00-	7) KAIZEN4 ECRS exercise	Vanessa Afia Asoomea- Takyi	Thomas Opoku	Linda Oduro-Amoaning
	15:30-	Coffee Break			
	15:45-	7) KAIZEN 5 Line Balancing	Daniel Sena Tsorme	Marina Kusi	Linda Oduro-Amoaning
	16:15-	7) KAIZEN 6 Work Standard	Henrietta Zaato	Kelvin Ofori-Atta	Isaac Oppong
3	08:00-	Recap	Participants		
	08:15-	8) OSHEM	Bukari Mohammed	Marina Kusi	Emmanuel Deteah
	08:45-	9) Quality Control	Vanessa Afia Asoomea- Takyi	Kelvin Ofori-Atta	Isaac Oppong
	09:45-	Coffee Break			
	10:00-	7) KAIZEN 5 Line Balancing exercise	Daniel Sena Tsorme	Marina Kusi	Linda Oduro-Amoaning
	11:45-	10) Assessment of KAIZEN impact	Daniel Sena Tsorme	Marina Kusi	Isaac Oppong
	12:30-	11) Corporate Diagnosis	Henrietta Zaato	Mohammed Maahi	Linda Oduro-Amoaning
	13:30-	Lunch			
	14:30-	12) SWOT Analysis	Bukari Mohammed	Mohammed Maahi	Isaac Oppong
	15:00-	Coffee break	Assistants		
	15:15-	Examination			

Day	Time	Content	Lecturer		
			Tamale	Koforidua	Takoradi
4	08:00	Examination			
	09:30-	Presentation of good practice	Henrietta Zaato/ Bukari Mohammed	Kelvin Ofori- Atta	Linda Oduro- Amoaning Emmanuel Deteah
	10:00-	Departure			
	11:30-	Visit to the OJT enterprise			
	16:00	Return			

3) MS Office Training

The MS Office training was conducted for trainees to obtain sufficient skills required for Enterprise Diagnosis, KAIZEN and reporting.

Table 3-57 Agenda for Trainer of Training (MS Office Training)

Day	Time	Subject
1	08:30-	Recap
	08:45-	BDS Consultation
	09:30-	Enterprise and KAIZEN Report
	10:15-	Coffee Break
	10:30-	PC Exercise (MS Word : Organogram, Layout, Process Flow Chart, Picture Management)
	13:00-	Lunch
	14:00-	PC Exercise (MS Word: Report Editing)
	15:45-	Coffee Break
	16:00-	PC Exercise (MS Word: Report Editing)
2	08:30-	Recap
	08:45-	PC Exercise (MS Excel: Basics)
	10:15-	Coffee Break
	10:30-	PC Exercise (MS Excel: Graphs)
	12:00-	PC Exercise (MS Power Point)
	13:00	Lunch
	14:00-	PC Exercise (MS Power Point)

4) Evaluation

The 5-grade evaluation was made of the trainer BAC Heads by both the participants and the Japanese Experts in accordance with the evaluation sheet. The below sets out the evaluation results.

Table 3-58 Assessment Results of Pilot BAC Heads' Skills of Lecture

Region	Evaluator	Presentation	Facilitation	Material	Contents	Time Management	Understanding	Ave
Target Region	NBSSI	4.47	4.49	4.56	4.57	4.40	4.48	4.50
	Expert	4.19	4.21	4.13	4.19	4.46	4.40	4.26
Ashanti	NBSSI	4.58	4.48	4.52	4.56	4.44	4.60	4.53
	Expert	4.88	4.67	4.50	4.58	4.33	4.71	4.61

(5-point scale)

As a result, the scores of the Ashanti BAC Heads are higher than the BAC Heads of target regions, but all the scores are greater than 4, which proves that the BAC Heads of the target regions have acquired enough skills to implement the lectures. The exercises have progressed well without much confusion, due to the practice of the exercise at the refresher training, although there is still

some room for improvement. The participants enjoyed the exercise, which was very effective and highly evaluated, and came up with various KAIZEN proposals.

OJT

OJT in the GA Region was undertaken for the purpose of developing the capabilities of OJT instruction/supervision for the pilot BAC Heads of the target regions (Northern, BA and Central). The BAC Head of Ashanti Region supervised this programme overall and provided appropriate advice.

Table 3-59 Outline of OJT in GA Region

Method	1) Five BAC Heads, who participated in the third advanced KAIZEN training in 2017, conduct Enterprise Diagnosis and KAIZEN implementation at one enterprise by themselves in their district. Trainer BAC Heads monitor and advise to their responsible GA BAC Heads respectively. 2) Group OJT is carried out for the BAC Heads of Dodowa and Abokobi, who were transferred to the GA Region in 2018, under one trainer BAC Head.
Objectives	<ul style="list-style-type: none"> • To strengthen the capacity of pilot BAC Heads on KAIZEN trainer skills • To improve the capacity of GA BAC Heads on Enterprise Diagnosis and KAIZEN instruction • To foster Good Practices which show that enterprises can enhance quality/productivity and utilize for KAIZEN PR activities, to induce demand for KAIZEN from enterprises and make development partners acknowledge the KAIZEN impact
Period	From 5 November to 6 December 2018
Location	1) Self-implementation: Accra, Ashaiman, Adentan, Ada and Amasaman 2) OJT: Abokobi
Participants	1) 5 BAC Heads (Ashaiman, Adentan, Ada and Amasaman) 2) 2 BAC Heads (Abokobi and Dodowa)
Trainer	1) 2 Central BAC Heads 2) 1 BA BAC Head Supervisor: 1 Ashanti BAC Heads

Table 3-60 Implementation Schedule of Basic KAIZEN

Activity		25 Oct. - 2 Nov.	5-11 Nov.	12-18 Nov.	19-25 Nov.	26 Nov. - 2 Dec.	3- 6 Dec.
1	Selection of MSMEs	←→					
2	Enterprise Diagnosis		←→	→			
3	KAIZEN Implementation			←→		→	
4	Presentation on KAIZEN impact						←→
5	Evaluation Meeting						↔

Table 3-61 Grouping of OJT in GA Region

Advisor	Method	Trainer		Trainee		Enterprise
		Name	BAC	Name	BAC	
Tamada/ Kipo Dari (Akomadan BAC)	Self	Emmanuel Deteah	Twifo Praso	Akwasi Afriyie	Accra	Wadata Company Limited
				Philomena Norman	Adentan	Maame's Fashion
				Juliana Adubofour	Amasaman	Tiwajo industries Ltd.
		Nathan Arkaah	Gomoa East	Jemimah Arthur	Ada	Bakery & Confectionary
				Alidu Mohammed Amin	Ashaiman	Acqua Pack Company
	OJT	Daniel Sena Tsorme	Dormaa	Vida A. McCarthy	Abokobi	Selassie Farms & Groceries
Adelaide Korri				Dodowa		

1) Selection of MSMEs

The BAC Heads of the GA Region pre-selected candidate MSMEs in each district in line with the selection criteria and submitted the evaluation results to the Regional Managers of the GA and Ashanti Regions, and the Project Team. The trainer BAC Heads paid their visits to the MSMEs for final selection together with the BAC Heads and the Project Officer of the GA Region.

2) Enterprise Diagnosis

Enterprise Diagnosis was conducted from 5 to 11 November 2018 by five BAC Heads of the GA Region, and also by two BAC Heads under OJT. The trainer BAC Heads in charge confirmed the details of Enterprise Diagnosis and the BAC Head of the Ashanti Region supervised these activities overall.

3) KAIZEN Implementation

Following on from the Enterprise Diagnosis, the BAC Heads of the GA Region implemented KAIZEN and OJT based KAIZEN from 12 November to 2 December 2018. During KAIZEN implementation, the BAC Heads of the Central and BA Regions provided appropriate advice to the BAC Heads of the GA Region concerning KAIZEN details and confirmed their KAIZEN capabilities under the overall supervision of the BAC Head of the Ashanti Region, and presentation of the KAIZEN report was made from 4 to 6 December 2018. The menu of KAIZEN is described below.

Table 3-62 Major KAIZEN Menu in GA Region

BAC Head/BAC	Enterprise	Major KAIZEN menu
Juliana Bemah Adubofour (Amasaman BAC)	Tiwajo Industries (Soap, Skin cream)	<ul style="list-style-type: none"> • 5S (Training, Implementation, Setting up committee) • QC Circle (Training, Setting up committee) • Installation of work bench, Repair of metal rack • Visualization (Vision, Mission, Organization chart, Code of Conduct, Skill map), Production/Delivery Control Board)
Akwasi Afriyie (Accra BAC)	Wadata Company Limited (sewing of uniform)	<ul style="list-style-type: none"> • 5S (Training, Implementation, Setting up committee) • Layout change • QC Circle (Training, Setting committee) • Visualization (Vision, Mission, Organization chart, Skill map, Code of Conduct, Production/Delivery Control Boards) • Improvement of accounting and financial management • Inventory control

BAC Head/BAC	Enterprise	Major KAIZEN menu
Philomena Norman (Adentan BAC)	Maame Fashion (Ladies wear)	<ul style="list-style-type: none"> • Fixed assets register • Skill map • 5S (Training, Implementation, Setting up committee) • QC Circle (Training, QC Circle organization chart, Work standard) • Visualization (Vision, Mission, Organisation chart, Code of Conduct, Production Control Board) • Improvement of production facility (layout optimization) • Machine maintenance check sheet
Jemimah Arthur (Ada BAC)	Dzignbordi's Bakery (Bakery)	<ul style="list-style-type: none"> • 5S (Training, Implementation, Setting up committee) • Improvement of accounting • Setting fence, Installation of cage for gas cylinder storage • QC Circle (Fishbone analysis, HACCP (Hazard Analysis and Critical Control Point) training, Setting up QC committee, Work standard) • Setting water tank for hand-washing • Visualization (Vision, Mission, Process Flow chart, Organisation chart, Code of Conduct, Production/Delivery Control Board) • Skill map
Alidu Mohammed Amin (Ashaiman BAC)	Oomra Company Limited (Water processing)	<ul style="list-style-type: none"> • 5S (Training, Implementation, Setting up committee) • QC Circle (Training, Setting up committee) • Improvement of accounting • Visualization (Vision, Mission, Code of Conduct, Organisation chart, Production/Delivery Control Board, Line marking) • Fixed assets register • Machine maintenance check sheet
Vida A. McCarthy (Abokobi BAC) Adelaide Korri (Dodowa BAC)	Selasie Farms and Groceries (Cereal and food processing)	<ul style="list-style-type: none"> • 5S (Training, Implementation, Setting up committee) • Improvement of accounting (Quarterly based raw material buying budget, Fixed assets register) • Visualization (Vision, Mission, Organisation chart, Code of Conduct, Production Control Board) • Skill map • QC (Training, Setting up committee, Work standard) • Introduction of Customer Feedback • Inventory control (FIFO) • Layout change • Improvement of transport vehicle

These are standard basic KAIZEN methodologies which are not new in particular, but very fresh for the enterprises. One of their comments was that they wanted to implement these KAIZEN methodologies in the past but did not have the chance to do it. KAIZEN implementation for both self-implementation and OJT provided momentum for KAIZEN and therefore, they were very pleased with the KAIZEN results.

Although KAIZEN impact will be measured and analysed quantitatively by the BAC Heads in the future, it is strongly expected that they would demonstrate very positive impacts for productivity through elimination of waste, through the setting of Seiton Board and the improvement of production facility.

4) Evaluation

- KAIZEN skills of BAC Heads in the GA Region

Trainer BAC Heads, with Ashanti BAC Head as supervisor, and GA Regional Manager evaluated BAC Heads of the GA Region for KAIZEN technical standard. The evaluation results were

finalized by both the Japanese Experts and Ashanti BAC Head. The revised technical evaluation sheet was used for the evaluation with a view to the National Expansion of KAIZEN.

Table 3-63 Assessment Results on KAIZEN Skills of BAC Heads in GA Region

		Basic KAIZEN	Basic/Advanced KAIZEN
Before Training (Self-evaluation)		1.84	1.72
After	Self-evaluation	3.28	3.45
	Trainer	3.14	3.36
	Supervisor	3.06	3.40

Since five BAC Heads have participated in the third advanced KAIZEN training, they could achieve the score of 3.5 plus, which means that they will be able to implement basic KAIZEN by themselves.

- Trainer skills of pilot BAC Heads in the BA and the Central Regions
BAC Heads of the GA Region, GA Regional Manager and the Ashanti BAC Head evaluated the trainer skills of pilot BAC Heads in the BA and the Central Regions, and the evaluation result was finalized by both the Japanese experts and Ashanti BAC Head. The results are stated in the following tables.

Table 3-64 Assessment Results on Trainer Skills of Trainer BAC Heads in BA and Central Regions

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave
4.8	4.8	4.8	4.4	4.3	4.9	4.3	4.4	4.3	4.4	4.3	4.8	4.3	4.2	4.6	5.0	4.6	4.6	5.0	4.8	4.6

(5-point scale)

Contents

1 Knowledge of Enterprise Diagnosis and KAIZEN	2 KAIZEN ideas	3 Knowledge of Enterprise Diagnosis and KAIZEN
4 Ability to assess KAIZEN impact	5 Explanation of steps and tools/materials	6 Guidance to set goals, target and schedule
7 Guidance to prepare necessary tools/materials	8 Guidance to discuss/confirm plan with MSME	9 Skills to obtain MSME's commitment
10 Time management (Time allocation)	11 Time management (organize/complete activities)	12 Punctuality
13 Countermeasures against challenges	14 Answer questions	15 Skills to encourage participation in steps
16 Attitude	17 Skills of monitoring	18 Skills of monitoring on reporting
19 Team work	20 Overall performance	

Given the evaluation by BAC Heads of the GA Region being high, it is considered that BAC Heads of the BA and Central Regions would be able to implement basic KAIZEN OJT as trainers. However, it was found that guidance on KAIZEN impact measurement was not sufficient, since follow-up in the three months after KAIZEN completion could not be conducted and experience of KAIZEN by BAC Heads in the Central Region was limited. Training on KAIZEN impact measurement is needed.

3.4 Output 3

The training for advanced KAIZEN was organized for the BAC Heads in the Ashanti Region, and the enterprises for OJT covered not only micro and small but also medium to large size companies in order to demonstrate the efficacy of KAIZEN. The advanced KAIZEN training programme consisted following components.

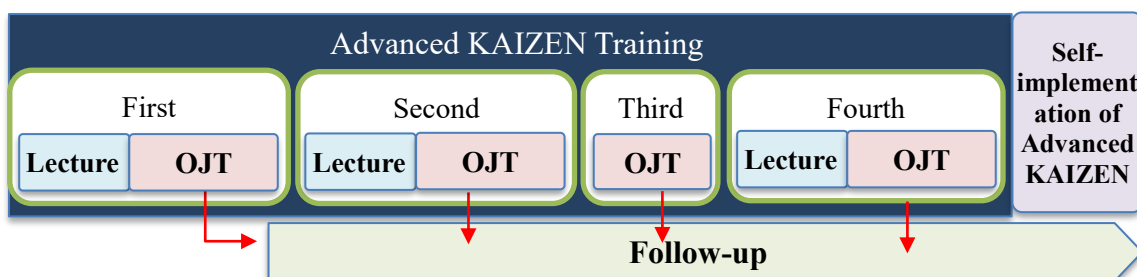


Figure 3-5 Advanced KAIZEN Training Programme

Firstly, advanced KAIZEN method and case studies were introduced through lecture for two to five days, BAC Heads practiced Enterprise Diagnosis and advanced KAIZEN methods through OJT to obtain practical implementation skills, and then the follow-up was undertaken on a quarterly basis to confirm continuity of KAIZEN and measure KAIZEN impact of OJT MSMEs. After four-times advanced KAIZEN trainings were conducted (the third advanced KAIZEN training had only OJT), and BAC Heads formed groups and implemented Enterprise Diagnosis and advanced KAIZEN by themselves.

The advanced KAIZEN training was conducted with the following flow.

- (1) Preparation for advanced KAIZEN training
Needs assessment on advanced KAIZEN, setting up the technical standards for advanced KAIZEN, setting up the assessment methods and indicators for advanced KAIZEN impact, selection of OJT MSMEs
- (2) Advanced KAIZEN training
Lecture, OJT and follow-up
- (3) Evaluation
- (4) Self-implementation of advanced KAIZEN
- (5) KAIZEN with 100 Businesses
- (6) KAIZEN Forum
- (7) Collection of KAIZEN Good Practice
- (8) Finalization of Reference Material

(1) Preparation for Advanced KAIZEN Training

Needs Assessment

A needs assessment was implemented from October to December 2015 to set up the technical standards for advanced KAIZEN and to identify the target levels for enterprises. As the needs of enterprises were assessed, a baseline survey was also conducted to identify applicable KAIZEN methods necessary to make effective impact in consideration of the situation in Ghana. Following is a summary of the needs assessment for advanced KAIZEN.

Table 3-65 Advanced KAIZEN Needs Assessment

Period	Quarter from October to December, 2015		
Target	NBSSI Ashanti Regional Office MSMEs and large-scale enterprises		
Methodology	NBSSI Ashanti Regional Office: questionnaire and interview MSMEs and large-scale enterprises: questionnaire and interview		
Survey Items	Target	Contents	Tool
	NBSSI Ashanti Regional Office	- Capabilities to be enhanced through the Project - KAIZEN methods to be acquired through advanced KAIZEN OJT	Questionnaire
	MSMEs and large-scale enterprises	- Basic information and current business situation - Understanding of KAIZEN and interest in accepting OJT activity - Issues and needs for KAIZEN to be realized by management - Acceptance of cost-sharing	Questionnaire

The technical standard was drafted by developing a tentative analytical method and short- and mid-term KAIZEN menus to be implemented in basic and advanced KAIZEN provision activities, while taking the knowledge learned from the previous Project into consideration. Once drafted, the technical standard was utilized for the needs assessment, then finalized. The results of the needs assessment are summarized in the following table.

Table 3-66 Summary of Advanced KAIZEN Needs Assessment

Target	Items	Result
NBSSI Ashanti Regional Office	Expectations to advanced KAIZEN	<ul style="list-style-type: none"> • Enhance problem-solving capabilities for continuous KAIZEN activity • Pokayoke KAIZEN to reduce defects • Karakuri KAIZEN to reduce heavy workloads • Preventive maintenance to reduce machine downtime • Working capital planning and management for continuous operation
Enterprises	KAIZEN needs	<ul style="list-style-type: none"> • Pokayoke KAIZEN, QC circle and seven QC tools to reduce defects • Preventive maintenance to reduce machine downtime • Inventory management to ensure appropriate control of raw materials
	Understanding of KAIZEN	All the visited enterprises understood that KAIZEN activities such as 5S, continuous improvement, the bottom-up approach and teamwork would improve them and make them more productive.
	Acceptance of cost-sharing	All the visited enterprises are considering investment, provided that it seems worthwhile. The investment proposal shall be submitted alongside a cost-benefit analysis.
	Possibility of collaboration with Japanese enterprises.	Meetings were held with TOYOTA Ghana limited headquartered in Accra and Ajinomoto Group Worldwide in Ghana. The site visit of the TOYOTA Ghana Kumasi branch was carried out in November 2015 to learn about cases of advanced KAIZEN, KAIZEN education to employees and their KAIZEN system. Ajinomoto was requested by the Project Team to consider cooperation when basic KAIZEN training is conducted in BA region. These activities will spawn further opportunities for collaboration.

Set up of technical standards

The technical standards are set up based on the results of the needs assessment mentioned above. The following are examples of technical standards for basic and advanced KAIZEN.

Table 3-67 Comparing Basic and Advanced KAIZEN

Item	Basic KAIZEN	Advanced KAIZEN
Significance	Understanding of the KAIZEN philosophy and its significance	Understanding of the KAIZEN philosophy and its significance
Purpose	Provision of KAIZEN menus with basic, rapid-acting and short-term options	Provision of KAIZEN menus with basic, rapid-acting and mid- and long-term options
Target Enterprises	Micro, small- and medium-sized enterprises	Small- and medium-sized enterprises
Method	Proposal of Enterprise Diagnosis and KAIZEN reports	Enterprise Diagnosis, Industrial Engineering (IE) and investment analysis
Cost-sharing	Either a no-costs-charged arrangement or a cost-sharing arrangement between the Project and enterprise	Cost-sharing between the Project and enterprise
Role	Establishment of KAIZEN Assistance with preparations for the KAIZEN plan to be submitted to financial institutions	Assistance with plans for management improvement towards a growing enterprise Assistance with proposal development to elicit potential and apply proposals to financial institutions
Expected capabilities	Capability to provide 5S and basic KAIZEN menus	Capability to provide advanced KAIZEN menus
Evaluation of technical standards	Examination of knowledge on KAIZEN, Self-evaluation by BAC Heads, The Regional Office, PMU and the Japanese Experts evaluate the skills and sufficiency of the processes through KAIZEN OJT and self-implementation of KAIZEN.	

The indicators that are to specify attainment levels are set out in the following 5-point scale:

1. Understand the process or related methods to a point.
2. Explain the process or related methods.
3. Explain fully and implement related methods/process with support.
4. Appropriately implement related methods/process without support.
5. Train the other BACs appropriately.

The following technical standard was developed based on the above comparisons between basic and advanced KAIZEN. The target of the indicators in PDM is 3.5, which can be achieved if BAC Heads can implement KAIZEN methods so that 22 advanced KAIZEN methods indicated by bold and underlined and implementable during OJT and self-implementation in the Project activities are used to assess PDM indicators.

Table 3-68 Technical Standards on KAIZEN

Category	Basic	Advanced
I. Philosophy and Concept	5S, Enterprise Diagnosis, seven Waste and KAIZEN	Enterprise-wide Application, KAIZEN Cost-Benefit, Enterprise-wide Impacts, Supply Chain Management, Financial Management, KAIZEN Master Plan

Category	Basic	Advanced
II. Planning and Scheduling of Enterprise Diagnosis and KAIZEN Activities	1. Selection of the Enterprise 2. Scheduling 3. Report Development	
III. Enterprise Diagnosis	1. Five Major Field Diagnoses (Radar chart) 2. SWOT Analysis 3. Problem and Recommendation Identification 4. 5S checklist 5. Muda (Waste) checklist	Addition to Basic 6. <u>Detailed Production Diagnosis</u>
IV. Skills and Knowledge/ Methodology/ Tools	1. 5S Implementation 2. Seven Waste Identification	
	3. Survey and Data Collection (IE) 1) Time Study 2) Motion Analysis 3) Process Flow Chart 4) Layout and Spaghetti Analysis	3. Survey and data collection (IE) 5) <u>Operational Analysis</u> 6) Supply Chain Analysis 7) Bottleneck Analysis 8) <u>Equipment Efficiency (Machine Down Time)</u> 9) Man-machine chart 10) <u>Preventive Maintenance</u> 11) Total Preventive Maintenance
	4. Organizational Development 1) QC Committee 2) 5S Committee	4. Organizational development 3) <u>QC circle</u> 4) <u>7 QC tools</u>
	5. KAIZEN Menu development (at least 5) 1) Video Analysis 2) Layout Change (Minor) 3) Inventory Control 4) Line-Balancing (Minor) 5) Work-in-Process (Minor) 6) Work Standard 7) Allocation of Motion Economy 8) Activation Index 9) ECRS (Minor) 10) Safety	5. KAIZEN Menu development (at least 5) 11) <u>Video Analysis</u> 12) <u>Bottleneck Elimination</u> 13) <u>KAIZEN Master Plan</u> 14) Streamlining 15) Supply Chain Management 16) Pull Production 17) <u>Inventory Control (Major and FIFO)</u> 18) <u>Preventive Maintenance</u> 19) Mode of Production (Cell Production) 20) <u>Design and Fabrication of Jig/Fixture</u> 21) <u>Set-up Time Reduction</u> 22) Layout Change (Major) 23) Karakuri KAIZEN 24) Line-Balancing (Major) 25) <u>Standard Number of Works-in-Process</u> 26) <u>Pokayoke (Fail Proof)</u> 27) ECRS (Major) 28) TQM
	6. Visualization 1) Skill map 2) Code of Conduct 3) Organization Chart	6. Visualization 4) <u>Delivery Control Board</u> 5) <u>Production Control Board</u> 6) Shipping Control Board

Category	Basic	Advanced
	7. Financial Management Related 1) Record Keeping 2) Basic Accounting	7. Financial Management Related 3) Breakeven Point Analysis 4) Inventory Days 5) Cost-Benefit Analysis 6) Working Capital Planning and Management
		8. Company-wide Information-sharing System
V. Conduct effective communication, interview, facilitate, convince, obtain commitment from enterprises		
VI. Develop reports and presentation materials		
VII. Present the Results of Enterprise Diagnosis and KAIZEN Activities based on the Reports		
VIII. Facilitate Enterprises to Implement Additional Recommendations in the KAIZEN Report		
IX. Assess KAIZEN impact, analyze causes of change, and make further Recommendation		
X. Develop and Share the Good Practices		

Set up of advanced KAIZEN impact indicator and assessment

The assessment methods and indicators for measuring the advanced KAIZEN impact, the manual for the methods of both KAIZEN impact indicators and their calculation was unified after the onset of the Project.

The following points were considered in the process:

- a) The following were the primary Key Goal Indicators determined from indicators in terms of cost, quality and lead time: improvement of the production quantity per operator, reduction of the defect rate, reduction of works-in-process and reduction of total inventory.
- b) The methods and indexes are to be selected for application to micro, small- and medium-sized enterprises, even those unique to Ghana. Employees of these enterprises can also understand the preconditions for further bottom-up activities.

The following are advanced KAIZEN impact indicators:

Table 3-69 Indicators on Advanced KAIZEN Impact

Item and classification	Indicators	Reference	
		Related Waste (Muda)	KAIZEN method
The KGIs applied in Ghana	KGIs (Key Goal Indicators): 1) Improvement of the production quantity per operator (productivity) 2) Reduction of the defect rate 3) Reduction of works-in-process 4) Reduction of total inventory		
Cost	Improvement of the effective utilization of raw materials to increase production volume	Processing	Preventive Maintenance (PM)
	Improvement of the operator utilization ratio		Man-Machine Chart
	Improvement of the machine utilization ratio		PM
	Reduction of mechanical repair costs		PM
	Effective usage of workforce and reduction of redundancy		
	Reduction and effective use of inventory space		
	Reduction of works-in-process	Overproduction	

Item and classification	Indicators	Reference	
		Related Waste (Muda)	KAIZEN method
	Reduction of unnecessary transportation of workers in the factory	Transportation	
	Reduction of costs related to physical distribution (reduction of warehouses)		
	Decrease in the turnover rate		
	Decrease in material shortages		Min. and Max. inventory level
Quality	Reduction of the defect rate	Defects	QC Circle
	Decline of the reject rate by customers		QC Circle
	Decline of the number of customer claims		QC Circle
Lead time	Reduction of cycle times	Waiting	ECRS
	Reduction of transportation distances by reducing distances between processes/machines	Transportation	
	Reduction of total inventory	Inventory	
	Reduction of standard time	Motion	IE
	Reduction of late delivery		Production Control Board
	Reduction of time required to obtain necessary tools by making Seiton Boards and so on. Reduction of late delivery		5S

After scrutinizing the results of follow-up in accordance with the above items and classifications, details of ‘Production Leadtime’, ‘Production cost’ and other statistical data are often difficult to secure from the enterprises. The way to apply assessment methods and indicators was therefore reconsidered for both basic and advanced KAIZEN training. The details of the assessment methods and indicators were described in Task 2. When the specific numerical value (e.g. work-in-process, defect rate etc.) is expected to improve, data needs to be collected before and after KAIZEN implementation.

- A follow-up visit to the enterprise was made to confirm the KAIZEN impact data, which came out after the KAIZEN implementation. Three follow-up visits were made after OJT at quarterly intervals.

A follow-up sheet was developed to record the data and circumstances at the visits and the Japanese Experts gave instructions on how to calculate data and complete the sheet. The follow-up sheets were revised to apply to both basic and advanced KAIZEN training as assessment methods and the indicators were reconsidered. Follow-up activities are described in (2) advanced KAIZEN training.

Selection of OJT MSMEs

OJT MSMEs were selected by the Japanese Experts and NBSSI Ashanti and Greater Accra Regional Managers in accordance with the selection criteria shown below, then finalised by PMU approvals. Utilizing available networks such as NBSSI, Association of Ghana Industry (AGI) and member enterprises of Free Zone Authority in the Greater Accra Region, a sewing trainer working for MOTI and individual networks of Greater Accra BAC Heads and the Japanese Experts, candidate enterprises were chosen and added to the long list for contact and visits.

Some of the candidate enterprises stopped their operation due to a shortage of raw materials or decrease in demand, which hindered efforts to continue OJT activities. To accommodate this issue, supplemental visits to the enterprises by Ashanti TU were conducted and the readiness for OJT acceptance was confirmed. OJT enterprises were changed from other candidates once difficulties

in acceptance had been observed at the enterprises. The selection criteria are shown in the following table.

Table 3-70 Selection Criteria for Advanced KAIZEN OJT MSME

No.	Item	Description
1.	Applicable advanced KAIZEN methods	A broad range of advanced KAIZEN methods are applied at a factory so that the BAC Heads can acquire the skills and knowledge necessary to provide advanced KAIZEN.
2.	Benchmark	An enterprise that can serve as a model enterprise is to be selected for collateral application to the same industrial sector.
3.	Local economic development	An enterprise that produces promising local products or those related to the main staple industries of the Region is to be selected with local economic development in mind.
4.	Willingness and commitment by management	The management of OJT enterprises demonstrates a strong willingness to implement and cooperate with advanced KAIZEN implementation.
5.	Geographical location	The premises of OJT enterprises are located in Kumasi or its suburbs, with transport access to the NBSSI Ashanti Regional Office in Kumasi within forty-five (45) minutes.

There were criteria for GoG recommendable products in the OJT MSME Selection Score Sheet for the advanced KAIZEN programme and its allocated score was 10 out of 100 total points. The score was relatively high compared to the others, which is why similar industries were selected. The Japanese Experts revised the point allocation in the criteria for GoG recommendable products and reduced its score from 10 to 5 points, whereupon the remaining points were delivered to Gender Balance and Willingness to implement KAIZEN. The revised OJT MSME Selection Score Sheet for the advanced KAIZEN programme was approved by PMU in January 2017.

It was originally planned to conduct advanced KAIZEN OJT in the Ashanti Region. As the selection procedures were implemented, however, clear difficulties in determining appropriate candidate OJT MSMEs there emerged. Based on these findings, the Greater Accra Region was added to a region to conduct OJTs when the contract was amended and the first and second OJT sessions were conducted in the Ashanti Region and the third and fourth in the Greater Accra Region.

(2) Advanced KAIZEN Training

Trainings were conducted mainly implementation of KAIZEN at the selected enterprises by BAC Heads, and the Japanese Experts taught the technique of KAIZEN. BAC Heads were divided into three groups and one Japanese Expert oversaw one group, and each group provided KAIZEN implementation to two enterprises.

The trainings consisted of lecture including exercises and comprehension tests, creation of enterprise diagnosis which summarize enterprise profiles and identify applicable KAIZEN menus, creation of KAIZEN reports which describes implementation of KAIZEN menus and its impacts, implementation of KAIZEN at OJT enterprises, sharing the result and learnings of the training among the participants, and feedback of evaluation to BAC Heads. The summary of the trainings is shown below.

Period	First training	From 25 January to 18 March 2018 (Lecture: 1 week, OJT: 7 weeks)
	Second training	From 30 January 25 March 2017 (Lecture: 3 days OJT: 7 weeks)
	Third training	From 4 July to 15 September 2017 - 4 July to 4 August 2017 (5 weeks) - 21 August to 31 August 2017 (2 weeks) - 12 September to 15 September (1 week)
	Fourth training	From 14 May to 11 July 2018 (Lecture: 2 days, OJT: 8 weeks)
Participants	First training	Total 22: 21 BAC Heads and 1 Project Officer in the Ashanti Region
	Second training	Total 24: 20 BAC Heads in the Ashanti Region and 4 BAC Heads in the Northern Region
	Third training	Total 12: 12 BAC Heads in the Ashanti Region
	Fourth training	Total 24: 18 BAC Heads in the Ashanti Region, 3 BAC Heads in the BA Region and 3 BAC Head in the Central Region
Place	First and second training: Ashanti Region Third and fourth training: Greater Accra Region	
Objectives	<ul style="list-style-type: none"> To strengthen the capacity of BAC trainers on their KAIZEN provision through the application of advanced KAIZEN methods. To produce Good Practices which show that OJT enterprises can enhance quality/productivity and utilize them for KAIZEN PR activities to induce demand for KAIZEN from enterprises, and make donors acknowledge the KAIZEN impact. 	

1) First Advanced KAIZEN Training

The programme was conducted following programme.

Table 3-71 Schedule of First Advanced KAIZEN Training

Activities	Schedule by week							
	1 st wk 25 Jan.-	2 nd wk 1 Feb.-	3 rd wk 8 Feb.-	4 th wk 15 Feb.-	5 th wk 22 Feb.-	6 th wk 29 Feb.-	7 th wk 7 Mar.-	8 th wk 14 Mar.-
	1 Lecture	↔						
2 Enterprise Diagnosis		↔						
3 KAIZEN Implementation			↔					
4 KAIZEN Implementation by enterprise						↔		
5 Follow up							↔	
6 Presentation /Briefing Session								↔
7 Evaluation Meeting								↔

Lecture

The training materials were prepared from October 2015 to January 2016. Twenty-one lecture contents on advanced KAIZEN were determined for overall understanding on KAIZEN menus and IE methods, and texts, checklists and exercises were developed utilizing available video materials. The Japanese Experts delivered lectures from 25 to 29 January 2016. The contents and lecture are detailed in the following table.

Table 3-72 Lecture Agenda of First Advanced KAIZEN Training

Day	Time	Lecture Subject	Lecturer
25	09:00-	Orientation	Yokoyama
Jan.	09:30-	1) Line Balancing, Bottleneck	Tajima
	10:45-	2) Standard Number of Work in Process	Tajima
	11:15-	3) Streamlining	Tajima
	11:30-	4) Design and fabrication of jig/fixture	Tajima
	12:00-	5) Delivery/ Production /Shipping Control Board	Tajima
	12:15-	6) Spaghetti chart	Tajima

Day	Time	Lecture Subject	Lecturer
	13:30-	7) Man-Machine Chart and Activation Index	Tajima
	15:45-	8) Setup Time Reduction	Yoshida
	16:30-	Examination	
26	08:30-	9) QC	Tajima
Jan.	14:00-	9) QC	Tajima
	14:30-	10) TQM	Tamada
	15:15-	11) Process Analysis	Tamada
	16:15-	Examination	
27	08:30-	12) Mode of Production and Cell Production	Tamada
Jan.	09:15-	13) Supply Chain Management	Tamada
	10:30-	14) Inventory Management (FIFO)	Tamada
	11:15-	15) ECRS	Tamada
	13:00-	16) Motion Study/Economy	Tamada
	14:00-	17) Preventive Maintenance and Total Preventive Maintenance	Yoshida
	16:30-	Examination	
28	09:00-	18) Managerial Accounting and Finance	Yoshida
Jan.	11:30-	19) Karakuri KAIZEN	Tajima
	14:00-	20) Pull Production System	Tajima
	14:45-	21) TOYOTA Production System and Pokayoke	Tamada
	16:00-	Examination	
29	08:30-	22) KAIZEN master plan	Tamada
Jan.	10:00-	23) Enterprise Diagnosis/ KAIZEN Report	Tamada
	11:30-	Briefing of Examination	Tamada/Tajima
	14:00-	OJT Orientation	Yokoyama

Japanese Experts' comments on the lecture

The overall comprehension among the BAC Heads appears to be relatively high, judging from the quality of their questions and their past experience from training in industrial engineering or finance and accounting. Some trainees took considerable time to understand the advanced KAIZEN menus, but they eventually gained a thorough understanding with in-depth explanations from the Japanese Experts.

OJT

The enterprises that accepted OJT for advanced KAIZEN implementation were selected from the long list with collaborative input from NBSSI and PMU, and the final selection of six (6) OJT enterprises was decided in December 2015. The following are selected enterprises for the first advanced KAIZEN training.

Table 3-73 MSMEs for First Advanced KAIZEN OJT

No.	Enterprise	No. of Employees	Main Products	Market	Capital	Location
1	C.K.B Industry	24	Metal roofing sheets and nails	Domestic & neighboring countries	Ghana	Ejisu
2	A.A. Agyei Enterprise	33	Leather sandals	Domestic	Ghana	Ejisu
3	Salom Pharmacy Limited	82	Pharmaceuticals	Domestic	Ghana	Asokore Manpong
4	Vicalex Brick & Tile Company Limited	24	Brick and tile	Domestic	Ghana	Nkawie
5	Kumi & Company Limited	110	Wood processing	Domestic	Ghana	Kaase
6	Jeomaxx Company	63	Metal roofing sheets	Domestic	Ghana	Ahensan Kokoben

Twenty-own BAC Heads and a Project Officer were divided into three groups and one Japanese Expert who was in charge of each group and taught the technique of advanced KAIZEN to BAC Heads through the implementation of KAIZEN. The grouping is shown below.

Table 3-74 Grouping of First Advanced KAIZEN OJT

G	JICA Team	Pilot BAC Heads		Remaining BAC Heads		Enterprises
		Name	BAC	Name	BAC	
1	Tamada	Nana Sam-Himbson	Foase	Dari Kipo	Akomadan	- C.K.B Industry - Vicalex Brick and Tile Company Limited
		Aikins Agyepong	Asokore Mampong	Benjamin Kwasi Marfo	Nynahin	
		Priscilla Kwakye Fosu	Konongo	Antiri Irenaeus Ahwireng	Jacubu	
		Kwasi Boateng	Bekwai			
2	Yoshida	Thomas Opoku	Tepa	Ibrahim Tchedre	Kumawu	- Salom Pharmacy Limited - Kumi and Company Limited
		Kelvin Ofori Atta	Obuasi	Alexander Nyame	Bosome Freho	
		Patience Asamoah Aidoo	Agona	Agyenim Boateng Kwame	Mankranso	
		Michael O. Golightly	Kumasi			
3	Tajima	Maahi Mohammed	Mamponteng	Marina Serwaah Kusi	Kodie	- Joemaxx Co. - AA Agyei Enterprise
		Thomas Fofie	Nsuta	Theodore Bayeldeng	Offinso	
		Eric Oti Nyarko	Ejisu	David Kwabena Poku Oduro	Fomena	
		Samuel Asiedu	Project Officer	Kwasi Owusu	Effiduase	

Enterprise Diagnosis

The Enterprise Diagnosis Report was developed in line with the format, partly based on interviews with enterprise management and employees in related departments. The Enterprise Diagnosis Report was presented to the management and proposed KAIZEN menus were approved for implementation.

KAIZEN Implementation

Each group had two enterprises for KAIZEN provision. The groups studied the current situations, collected data, and implemented KAIZEN menus efficiently during their visits to the enterprises. There were no major problems or inconveniences observed, though some enterprises were unable to receive the groups due to their production schedules. The impacts of some KAIZEN could be evaluated just after implementation, while others could be observed after the passage of time. Some KAIZEN menus could not be implemented due to limitations in time or budget and were left to the discretion of the enterprises.

A KAIZEN report was developed and presented to the OJT MSMEs in the eighth week of the schedule. The report was then shared in the experience sharing session.

2) Second Advanced KAIZEN Training

The second advanced KAIZEN training was conducted from 4 July to 15 September 2017 with selected twenty Ashanti BAC Heads and four Northern pilot BAC Heads. The overall programme and schedule are shown below.

Table 3-75 Schedule of Second Advanced KAIZEN Training

Activity		Schedule (by week)							
		30 Jan.	6 Feb.	13 Feb.	20 Feb.	27 Feb.	6 Mar.	13 Mar.	20 Mar.
1	Lecture	↔							
2	Enterprise Diagnosis	←	→						
3	KAIZEN Implementation		←					→	
4	Presentation on the KAIZEN Impact Study Tour								↔
5	Evaluation								↔

Lecture

Lectures for business framework, corporate accounting, production control and line balancing, and inventory management were prepared to BAC Heads so that they will be able to implement more practical and effective KAIZEN implementation. Practical exercises were introduced as well as lectures for both Line Balancing and Inventory Management to utilize the experiences involved in actual KAIZEN provision. Following is the summary for the lectures and exercises provided by the Japanese Experts during the second advanced KAIZEN training.

Table 3-76 Lecture Contents on Second Advanced KAIZEN Training

Lectures and Exercises	Key contents
Business Framework	Current analysis and strategic planning by 3C, SWOT, Positioning Maps, etc. Exercise of SWOT analysis with case study.
Corporate Accounting	Financial Analysis, Budgeting, Simple Income Statements, etc.
Production Control and Line Balance	Line balancing by lot, one by one, and cell productions. Line balance exercise with envelope and small object.
Inventory Management	Inventory management using purchase orders, sales slips, inventory records, FIFO and taking physical inventory.

The practical exercises were very effective for BAC Heads who lacked work experience at commercial enterprises or production sites since there was some positive feedback, e.g. they understood that Lot Production was the least effective form of production, or they understand how to fill out Purchase Orders or conduct physical inventory checks. Most of the OJT groups conducted Financial Analysis during the Enterprise Diagnosis and Inventory Management was one of their KAIZEN recommendations.

OJT

For the second advanced KAIZEN training, the OJT MSMEs were selected by July 2016, whereupon supplemental visits were made by the Ashanti Regional Manager periodically to ensure their production and interest in/acceptance of the OJT programme. The manager visited the enterprises just before the training and reported that two MSMEs could not accept them due to a low commitment to OJT participation and misunderstanding of the activities for which machinery and equipment were provided from the Project. On this occasion, The Ashanti Regional Manager and the Japanese Experts reselected in January 2017. The selected advanced KAIZEN OJT MSMEs are shown in the following table.

Table 3-77 MSMEs for Second Advanced KAIZEN OJT

No.	Enterprise	No. of Employees	Main Products	Market	Capital	Location
1	Francis Aluminium Limited	41	Aluminum Utensils	Domestic & neighboring countries	Ghana	Tafo
2	Aspee Pharmaceutical Company Limited	60	Drug	Domestic	Ghana	Ejisu
3	Uni Jay Fashion	150	School Uniforms	Domestic	Ghana	Ahinsan Bonsuom
4	Vito A1 Bakery	110	Bread	Domestic	Ghana	Asokore Manpong
5	Royal Form	75	Bed Mattress	Domestic	Ghana	Asokore Manpong
6	Gyamfua Ababio Investment Co., Ltd.	30	Aluminum Roof Sheets/ Utensils	Domestic	Ghana	Adum

OJT was conducted by three groups which had eight (8) BAC Heads and one (1) Japanese Expert, and each group implemented enterprise diagnosis and KAIZEN with two MSMEs.

Table 3-78 Grouping of Second Advanced KAIZEN OJT

	Japanese Expert	Name	BAC	Name	BAC	MSMEs
1	Tajima	Priscilla Kwakye Fosu	Konongo	Alexander Nyame	Bosome Freho	- Gyamfua Ababio Investment - Vito A1 Bakery
		Nana Sam-Himbson	Foase	Kwasi Boateng	Bekwai	
		Agyenim Boateng	Mankranso	Michael O. Golightly	Kumasi	
		Ibrahim Tchedre	Kumawu	Abdul Razak Ahmed	Project Officer, Northern Region	
2	Yoshida	Marina Serwaah Kusi	Kodie	Aikins Agyepong	Asokore Mampong	- Francis Aluminium - Royal Form
		Dari Kipo	Akomadan	David Kwabena Poku Oduro	Fomena	
		Eric Oti Nyarko	Ejisu	Kwasi Owusu	Effiduase	
		Benjamin Kwasi Marfo	Nyannahin	Salman Ahmed	Sawla, Northern Region	
3	Tamada	Patience Asamoah Aidoo	Agona	Thomas Fofie	Nsuta	- Aspee - Uni Jay Fashion
		Thomas Opoku	Tepa	Theodore Bayeldeng	Offinso	
		Kelvin Ofori Atta	Obuasi	Henrietta Zaato	Sagnarigu, Northern Region	
		Maahi Mohammed	Mamponteng	Haruna Mohammed	Tolon, Northern Region	

Names in bold: Group Leaders

The checklist formats in the Enterprise Diagnosis Report were revised to make them simpler and more practical templates for developing KAIZEN proposals for implementation in the provision section of OJT. The following is a revision of the format changes in the report for advanced KAIZEN OJT activities.

No.	Number of questions in the previous Enterprise Diagnosis Report	Number of questions	Number of questions in the revised Enterprise Diagnosis Report	Number of questions
1	Management	10	Management	5
2	Production	10	Marketing and Sales	5
3	Marketing and Sales	10	Human Resources	5
4	Personnel Affairs	10	Finance and Accounting	5
5	Financial	10	Production	5
6	Quality	10	Quality	5
7	Cost	10	Raw Material	5
8	Process	10	Inventory	5
9	Technology	10		
10	Machine and Equipment	10		
11	Material, Purchase and Sub-contracting	10		
12	Inventory	10		
13	Production Base	10		
	Total number of questions	130	Total number of questions	40

Comment on OJT

Notable progress for BAC Heads included enhancing their waste-finding ability and current situation analysis. Other remarks included paving the way to develop more KAIZEN ideas than before and devising KAIZEN ideas through brainstorming, which created a good atmosphere and helped encourage all members to participate in training.

Meanwhile, it was observed they had abandoned their KAIZEN ideas too quickly once they found them difficult to implement. BAC Heads still needed support to develop alternatives or other options to implement their KAIZEN ideas and the Japanese Experts had to focus on an approach involving more intense instruction at OJT MSMEs premises to develop alternatives or options for their KAIZEN ideas.

3) Third Advanced KAIZEN Training

The third advanced KAIZEN training was conducted from 4 July to 15 September 2017 with the selected twelve Ashanti BAC Heads, with support by six BAC Heads, Project Officer and Regional Manager of the Greater Accra Region. Four Ashanti BAC Heads and two to three GA BAC Heads, Project officer and Regional Manager as support form a group and a total of three groups conducted OJT. The lecture on advanced KAIZEN was not delivered in the third advanced KAIZEN training, however the lecture and exercise on basic KAIZEN were given to participants from the NBSSI Greater Accra from 12 to 14 June 2017 in Accra.

Table 3-79 Schedule on Third Advanced KAIZEN Training

Activities	Schedule by week											
	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8	WK 9	WK 10	WK 11	WK 12
1 Enterprise Diagnosis	←→											
2 KAIZEN Implementation		←→										
3 Implementation by BAC Heads						←→				←→		
4 Implementation by MSMEs								←→				
5 Confirmation by Japanese Experts												↔
6 Briefing Session/Evaluation												↔

Major training activities by month.

In August 2017

1. Enterprise Diagnosis for one (1) week (Japanese Experts instructed at site)
2. KAIZEN implementation for four (4) weeks (Japanese Experts instructed at site)
3. KAIZEN implementation by OJT MSMEs for a total of three (3) weeks
4. KAIZEN implementation with BAC Heads for two (2) weeks (Japanese Experts remotely advise)

In September 2017

5. Confirmation of KAIZEN implementation and Presentation of KAIZEN impact for three (3) days
6. Experience Sharing among BAC Heads and evaluation for one day

The selection of the OJT MSMEs was performed twice, namely from 27 to 30 March 2017 and again from 10 to 18 April 2017 based on a long list comprising forty enterprises. Six candidate OJT MSMEs and two standby enterprises were selected via the above procedures, whereupon the third round of advanced KAIZEN training got underway, but Type Company Limited, one of the OJT MSMEs, refused to accept the training due to their operational workload. It emerged that the other standby enterprises were either not ready or awaiting time-consuming approval by the Board and finally Sleek Garments Exports Limited was selected based on a recommendation of related organizations. The following is a final list of OJT MSMEs.

Table 3-80 MSMEs for Third Advanced KAIZEN OJT

No.	Enterprise	No. of Employees	Main Products	Market	Capital	Location
1	Mass Industries, Limited.	310	Biscuit	Domestic and sister company in Burkina Faso	Foreign	Tema
2	Prosdo Aluminium Company Limited	19	Aluminum Utensils	Domestic & neighboring countries	Ghana	Tema
3	Solutions Oasis Company Limited	20	Soap	Domestic and overseas	Ghana	Adentan
4	Praise Export Services Limited	110	Palm Oil	Domestic and overseas	Ghana	Amasaman
5	Bulluk GH Limited (Nallem)	231	High ranked apparel	Domestic	Ghana	Accra
6	Sleek Garments Export Limited	36	School Uniforms	Domestic and overseas	Ghana	Adabraka

The grouping of BAC Heads and enterprises is shown in the following table.

Table 3-81 Grouping of Third Advanced KAIZEN OJT

G	Japanese Expert	Ashanti		Greater Accra		MSMEs
		Name	BAC	Name	BAC	
1	Yoshida	Maahi Mohammed	Mamponteng	Jemima Arthur	Ada	- MASS Industries Limited - Prosdo Aluminium Co. Ltd.
		Thomas Opoku	Tepa	Anthea Ohene	Tema	
		Nana Sam-Himbson	Foase			
		Thomas Fofie	Nsuta			

G	Japanese Expert	Ashanti		Greater Accra		MSMEs
		Name	BAC	Name	BAC	
2	Tajima	Kipo Dari	Akomadan	Philomena Norman	Adentan	- Solution Oasis - PRAISE Export Services Limited
		Kelvin Ofori-Atta	Obuasi	Juliana Aduboffour	Amasaman	
		Patience Asamoah Aidoo	Agona	Akwasi Afriyie	Project Officer	
		Aikins Agyepong	Asokore Mapong			
3	Tamada	Marina Kusi	Kodie	Emma Odame Antwi	Weija	- Nallem - Sleek Garments Export Limited
		Kwame Agyenim Boateng	Mankraso	Alidu Mahammed Amin	Ashaiman	
		Ibrahim Tchedre	Kumawu	Philomena Dsane	Regional Manager	
		Eric Oti Nyarko	Ejisu			

* Names in **bold**: Group Leaders

4) Fourth Advanced KAIZEN Training

The 24 participants for the fourth advanced KAIZEN training were considered for selection, consisting of 18 Ashanti BAC Heads and 3 pilot BAC Heads in the BA and the Central Region respectively, who obtained a high evaluation on technical standards in Enterprise Diagnosis and KAIZEN during basic KAIZEN training and self-implementation. The following table shows the overall programme of the training.

Table 3-82 Schedule of Fourth Advanced KAIZEN Training

Activity	Schedule (by week)									
	14 May-	21 May-	28 May-	4 Jun.-	11 Jun.	18 Jun.-	25 Jun.-	2 Jul.-	9 Jul.-	
1 Lecture	↔									
2 Enterprise Diagnosis	←→									
3 KAIZEN Implementation		←							→	
4 Presentation on the KAIZEN Impact / Study Tour										↔
5 Evaluation/Feedback										↔

Lecture

Lectures were conducted for two days prior to the OJT. Lectures on costing were newly provided for BAC Heads together with other important lectures to brush up and strengthen their knowledge. Japanese Experts provided the lectures and a summary of the lecture is listed below.

Table 3-83 Lecture Contents on Fourth Advanced KAIZEN Training

Subject	Contents
Costing	Lecture on variations in costs and relevant exercises
Case study on Pull Production and Jigs	1. Explanation of pull production that manufactures a certain quantity which is consumed in the post process 2. Explanation of the function of Jigs and the introduction of examples which were created in KAIZEN activities in Ghana
Formats of Revenue, profit and working capital management	Explanation of revenue, profit and working capital management using examples of financial statements and business data
Follow-up Sheet	Reconfirmation of statistical data calculation methods

Subject	Contents
Time Study (Lecture and Exercises)	Explanation of Time Study and exercises on ballpoint pen assembly
Case Study (Set-up Time Reduction and Preventive Maintenance)	Explanation of set-up time reduction and preventive maintenance, and the introduction of examples which were provided during KAIZEN activities in Ghana

OJT

Completion of the OJT MSME selection for the fourth advanced KAIZEN training in the Greater Accra Region was achieved in February 2018 by NBSSI and the Japanese Experts. Since this was the final advanced KAIZEN OJT, the implementation groups handled two or three enterprises instead of just two, as was the case for past OJTs so that BAC Heads could acquire as many KAIZEN menus as possible during this OJT.

OJT MSMEs were asked to sign a consent form to avoid any sudden discontinuation of OJT programmes halfway through. However, Ernimich Ltd. discontinued the OJT midway through the activity. This enterprise also proved reluctant to take photos and videos and provide financial information. Hence, OJT was completed for seven enterprises except Ernimich Ltd. The OJT MSMEs are shown in the following table.

Table 3-84 MSMEs for Fourth Advanced KAIZEN OJT

No.	Name	No. of employees	Product	Location	Market	Capital
1	CAD Manufacturing	80	Garments and accessories	North Industrial Area	Ghana, U.S.A.	Ghanaian
2	Everpure Ghana Ltd.	95	Drinkable Water	Tema	Ghana	Ghanaian
3	Yahans International	120	Metal doors and gates	Adjiringanor Road	Ghana	Ghanaian
4	Domod Aluminium Company Ltd.	150	Aluminum utensils and roofing material	Ring Road West	Ghana	Ghanaian
5	J & J Plastics Ltd.	95	Metal chairs and desks	Amasaman	Ghana	Ghanaian
6	Bomarts Farms Ltd.	250	Food processing (Dried fruits)	Nsawan, Amasaman	Europe	Ghanaian
7	Bulluck Ghana Ltd.	180	Garments and accessories	North Industrial Area	Ghana, Europe	Ghanaian
8	Ernimich Ltd.	180	Food processing (Local foods)	Amasaman	Europe, North America	Ghanaian

A total of twenty-four participants in OJT training, consisting of eighteen Ashanti BAC Heads, three BAC Heads from the BA Region and three BAC Heads from the Central Region, were divided into three groups, and each group took care of two or three OJT MSMEs. The groupings are shown in the following table.

Table 3-85 Grouping of Fourth Advanced KAIZEN OJT

G	Japanese Expert	Ashanti		BA/Central		MSME
		Name	BAC	Name	BAC	
1	Yoshida	Kipo Dari	Akomadan	David Kwabena Poku Oduro	Fomena	1.CAD Manufacturing 2.Everpure Ghana Ltd.
		Patience Asamoah Aidoo	Agona	Michael O. Golightly	Kumasi	
		Kwame Agyenim Boateng	Mankraso	Nuhu Salifu Dimah	Jema	
		Kelvin Ofori-Atta	Obuasi	Emmanuel Deteah	Twifo Praso	
2	Tajima	Marina Kusi	Kodie	Benjamin Kwasi Marfo	Nyinahin	1.Yehans International 2.Domod Aluminium Company Ltd.
		Ibrahim Tchedre	Kumawu	Theodore Bayeldeng	Offinso	
		Thomas Fofie	Nsuta	Daniel Sena Tsorme	Dormaa	
		Thomas Opoku	Tepa	Patrick Asafo Agyei	Asikuma	
3	Tamada	Maahi Mohammed	Mamponteng	Kwasi Boateng	Bekwai	1.J&J Plastics Ltd. 2.Bomarts Farms Ltd. 3.Bulluk
		Eric Oti Nyarko	Ejisu	Alexander Nyame	Mampong	
		Nana Sam-Himbson	Foase	Vanessa Afia Somea-Takyi	Tano North	
		Aikins Agyepong	Asokore M	Linda Oduro Amoaning	Winneba	

* Names in **bold**: Group Leaders

Japanese Experts' Comment

The lectures provided prior to the OJT were included in KAIZEN provisions during OJT. For example, baseline data such as revenue, profit, productivity and defect rates were collected and calculated appropriately; layout changes and process changes were suggested based on a time study; machine maintenance procedures were developed from hearings of actual maintenance activities at the enterprise; and skill development plans were created with the operations manager of the enterprise based on a Skill Map.

Applied KAIZEN Methods

The number of KAIZEN methods which were applied in each advanced KAIZEN training are below.

Advanced KAIZEN Training	First	Second	Third	Fourth
Number of Applied KAIZEN Methods	22	23	23	17

The status of application of each KAIZEN Method is stated below.

Table 3-86 Applied KAIZEN Methods in Advanced KAIZEN OJT

Highly applicable methods to MSMEs	Implementation
1. Operational Analysis	Implemented in the 1 st Training
2. Preventive Maintenance	Implemented in the 1 st Training
3. Video Analysis	Implemented in the 1 st Training
4. KAIZEN Master Plan	Implemented in the 1 st Training
5. Deliver Control Board	Implemented in the 1 st Training
6. Shipping Control Board	Implemented in the 1 st Training
7. Pokayoke	Implemented in 1 enterprise
8. ECRS	Implemented by the 2 nd Training
9. QC Circle	Implemented by the 2 nd Training
10. 7QC tools	Implemented by the 2 nd Training
11. Design and Fabrication of Jig/Fixture	Implemented by the 2 nd Training
12. Company Wide Information Share System	Implemented in the 1 st Training

Highly applicable methods to medium-sized enterprises, but low applicability to MSEs	Implementation
13. 8 Field Diagnosis	Implemented in the 1 st Training
14. Inventory Control (Major and FIFO)	Implemented in the 1 st Training
15. Inventory Days	Implemented by the 2 nd Training
16. Working Capital Planning and Management	Implemented by the 2 nd Training
17. Line Balancing	Implemented by the 3 rd Training
Moderately applicable methods to MSMEs	Implementation
18. Bottleneck Analysis	Implemented by the 2 nd Training
19. Bottleneck Elimination	Implemented by the 2 nd Training
20. Set up Time Reduction	Implemented in 1 enterprise
21. Production Control Board	Implemented by the 2 nd Training
22. Karakuri KAIZEN	Suggested by not implemented
23. Streamlining	Implemented in 1 enterprise
Moderately or just applicable methods to medium-sized enterprises	Implementation
24. Equipment Efficiency	Not implemented
25. Breakeven Point Analysis	Implemented by the 2 nd Training
26. Cost Benefit Analysis	Implemented by the 2 nd Training
27. Standard Number of Work in Process	Implemented by the 3 rd Training
28. Mode of Production (Cell Production)	Not implemented
29. Layout Change (Major)	Implemented by the 2 nd Training
30. TQM	Implemented by the 4 th Training
31. Supply Chain Analysis	Implemented in 1 enterprise
32. Supply Chain Management	Suggested but not implemented
33. Pull Production	Suggested but not implemented
34. Man-machine Chart	Not implemented
35. Total Preventive Maintenance	Not implemented

Note: Implemented is defined as the said KAIZEN method being implemented with more than two enterprises.

Despite great efforts to implement the KAIZEN methods which had not been applied or not been proposed, most of these KAIZEN methods could not be introduced, as they were not suitable to solve OJT MSMEs' issues. Details of the KAIZEN methods applied by enterprises are shown in Appendix 5.

Follow-up

Follow-up visits to OJT MSMEs were conducted to capture the KAIZEN impacts after KAIZEN provision on a quarterly basis. The follow-up was brought to effect in line with the follow-up sheet comprises: 1) confirming the continuation of implemented KAIZEN or newly initiated KAIZEN by enterprises, 2) measuring KAIZEN impact and analyzing the causes and effects, 3) providing recommendations for further business development to the enterprises. BAC Heads created follow-up sheets with data, narrative explanations and pictures, then gave feedback to the enterprise managements based on the report. The schedule for the follow-up is shown in the following table.

Table 3-87 Schedule of Follow-up for Advanced KAIZEN OJT MSMEs

OJT	First	Second	Third	Fourth
First OJT	May 2016	August 2016	November 2016	October 2018
Second OJT	June 2017	September 2017	January 2018	October 2018
Third OJT	January 2018	June 2018	October 2018	
Fourth OJT	October 2018			

The confirmed KAIZEN impact at the OJT MSMEs during the follow-up in October 2018 was shown in the following tables. The KAIZEN impact was shown in comparison with the data available before OJT implementation.

Table 3-88 Results on Fourth Follow-up for First Advanced KAIZEN OJT MSMEs

No.	OJT	Industry	Major KAIZEN Impact	Factor
1	C.K.B Industry	Metal roofing sheets and nails	Productivity was increased by 32%	Reduction of machine downtime
2	A.A. Agyei Enterprise	Leather sandals	Productivity was increased by 68%	Introduction of newly designed jigs
3	Salom Pharmacy Limited	Pharmaceuticals	The defect rate was reduced by 88%	QC Circle Activities
4	Vicalex Brick & Tile Company Limited	Brick and tile	Data were not available	
5	Kumi & Company Limited	Wood processing	Productivity was increased by 198%	New transportation equipment and introduction of production control board
6	Jeomaxx Company	Metal roofing sheets	Data were not available	

The follow-up could not be implemented at Vito A1 Bakery, the second advanced KAIZEN OJT MSME, as they closed the factory in the Ashanti Region and established a new factory in Accra and workers and equipment were transferred. Likewise, the data on Gyamfua Ababio Investment Co., Ltd could not be obtained, as they have not operated due to construction of a new factory.

Apart from these OJT MSMEs, it was confirmed that 5S activities were still being implemented and the overall conditions were being maintained at the OJT MSMEs and factories. Some OJT MSMEs provided KAIZEN menus by themselves proposed by BAC Heads at the end of the OJT programme and the OJT MSMEs even implemented KAIZEN which they themselves had developed.

Despite some OJT MSMEs having decreased sales and productivity due to the off-season, most of them have improved the indicators of KAIZEN impact.

Table 3-89 Results on Fourth Follow-up for Second Advanced KAIZEN OJT MSMEs

No	OJT	Industry	Major KAIZEN Impact	Factor
1	Gyamfua Ababio Investment Co., Ltd.	Aluminum Roof Sheets and Utensils	No data were available due to a relocation of the factory	
2	Vito A1 Bakery	Bread	No data were available due to a relocation of the factory to Accra	
3	Francis Aluminium Limited	Aluminum Utensils	Sales were increased by 86.1% Lead-time was reduced by 50%	Reputation and promotion by distributors contributed sales Adherence to production schedule and inventory management
4	Royal Form	Bed Mattress	Productivity was increased by 31%	Increase in efficiency by layout change and
5	Aspee Pharmaceutical Company Limited	Drug	Sales were reduced by 30%	
6	Uni Jay Fashion	School Uniforms	Sales were increased by 135%	Expansion of customers

The third follow-up visits at the third advanced KAIZEN training, and the first follow-up visit at the fourth advanced KAIZEN trainings in the Greater Accra Region was conducted in October 2018.

Table 3-90 Results on Third Follow-up for Third Advanced KAIZEN OJT MSMEs

No.	MSMEs	Industry	Major KAIZEN Impact	Factor
1	Mass Industries, Limited.	Biscuits	Production lead time was reduced by 20%	Increase in transportation efficiency by layout change
2	Prosdo Aluminium Company Limited	Aluminum Utensil	Productivity of pod was decreased by 55%	Resignation of skilled worker
3	Solutions Oasis Company Limited	Soap	Productivity of tablet soap was increased by 187% Defect rate was decreased by 10 points Inventory was reduced by 58%	Demand appreciation in Taiwan market Introduction of newly designed jigs and new machinery Layout change
4	Praise Export Services Limited	Palm Oil	Inventory was reduced by 72% Production lead time was reduced by 29%	Increase awareness to inventory level Increase in production line efficiency
5	Bulluk GH Limited (Nallem)	High Ranked Apparel	Productivity of tablet soap was increased by 100% Sales were increased by 46%	Introduction of new storage lack and increase in transportation efficiency
6	Sleek Garments Export Limited	School Uniforms	Productivity of protective uniform was increased by 410%	Increase in production efficiency by introducing a production control board

Table 3-91 Results on First Follow-up for Fourth Advanced KAIZEN OJT MSMEs

No.	OJT	Industry	Major KAIZEN Impact	Factor
1	CAD Manufacturing	Garments and accessories	Productivity was increased by 233% Sales were increased by 76%	Increase in production line efficiency Introduction of production lead time
2	Everpure Ghana Ltd.	Drinkable Water	Productivity of bottled water was increased by 32% The defect rate of sachet water was decreased by 2.3 points	Reduction of machine down time Regular QC Circle activities
3	Yahans International	Metal doors and gates	Productivity was increased by 25% The defect rate was decreased by 25%	Increase in transportation efficiency by introducing a trolley
4	Domod Aluminium Company Ltd.	Aluminum utensils and roofing material	Production lead time was reduced by 40%	Increase in transportation efficiency by introducing a trolley
5	J & J Plastics Ltd.	Metal chairs and desks	Productivity was increased by 78%	Increase in transportation efficiency by introducing a trolley
6	Bomarts Farms Ltd.	Food processing (Dried fruits)	No data were available	

Bomarts Farms Limited could not accept the visit due to the inconveniences to the enterprise, and the data on KAIZEN impact indicators at a few MSMEs could not be improved due to renovation of the factory, scarcity of raw materials and seasonal factors, such as reduction in demand in the rainy season, nevertheless most of the MSMEs were able to enhance the figures on KAIZEN impact indicators.

Output 3 Indicator 3-2

More than 70% of enterprises that accepted OJT and practiced advanced KAIZEN activities recommended by BAC trainers show the improvement on the basis of quality/productivity indicators.

Achieved

83% of the first and fourth advanced KAIZEN OJT MSMEs, 100% of the second and third advanced KAIZEN OJT MSMEs showed improvement on the basis of quality/ productivity indicators; this was confirmed during OJT or at the follow-up.

An average of 92% of MSMEs showed improvement.

(3) Evaluation

The JICA Project Team evaluated the KAIZEN technical standard of 19 trainer BAC Heads. A summary of the results and indicators is shown below.

Table 3-92 Evaluation Results on KAIZEN Technical Standards

Score by Japanese Experts	Average score on 75 technical standards including basic and advanced	Average score on technical standard on advanced KAIZEN only	Average score on technical standard on 22 items of advanced KAIZEN
Before First Training	2.41	1.46	1.49
After First Training	3.42	2.89	3.19
After Second Training	3.68	3.21	3.56
After Third Training	3.81	3.32	3.68
After Fourth Training	4.01	3.56	3.91

It could be recognised that Ashanti trainer BAC Heads are able to implement most of the 22 advanced KAIZEN methods by themselves. As each BAC Head has specialities in these fields, it would be effective that a team shall be formed to collect expertise from each field when implementing advanced KAIZEN to medium-sized enterprises.

Output 3 Indicator 3-1

The assessment results of BAC trainers on their advanced KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation).

Achieved

The average score of the capacity of BAC trainers for 22 items of advanced KAIZEN assessed in the fourth advanced KAIZEN training was 3.9.

(4) Self-Implementation of Advanced KAIZEN

The guidelines for the self-implementation of Enterprise Diagnosis and KAIZEN by pilot BAC Heads were developed and the implementation schedule was agreed upon with the C/P as shown below.

Table 3-93 Steps for Self-Implementation of Advanced KAIZEN

	Activities		Time frame
1	Pre-Selection of Enterprises	Ashanti BAC Heads select candidate enterprises based on the criteria and fill the profile and score sheets.	By the end of June 2018
2	Selection of Enterprises and Grouping	Ashanti BAC Heads fill the score sheet, then select and group the enterprises with Japanese Experts.	In July 2018

	Activities		Time frame
3	Enterprise Diagnosis	Ashanti BAC Heads conduct the Enterprise Diagnosis and implement KAIZEN, while trainer	In the first half of August 2018
4	KAIZEN Implementation	BAC Heads provide technical advice and visit enterprises at least once.	From the latter half of August to September 2018
5	Follow-up	Ashanti BAC Heads visit the enterprises which facilitated KAIZEN by themselves, ensure the enterprises continue their KAIZEN activities on their own and measure KAIZEN impact.	In October 2018

Selection of MSMEs

The selection process was conducted by the Japanese Experts and TU members in the Ashanti Region, who visited and evaluated the enterprises. This visit/evaluation for one enterprise in the GA Region was carried out in May 2018 while nine enterprises in the Ashanti Region were visited in July 2018. The selected enterprises are shown in the following table.

Table 3-94 List of MSMEs of Self-Implementation of Advanced KAIZEN

No.	Name	No. of Employees	Product	Location	Market	Capital
1	Nkulenu Co. Ltd	80	Processed foods (palm oil, kenkey)	Madina (Accra)	Ghana, EU	Ghanaian
2	Accents & Arts	30	Gates and garden decorative	Kaneshie, (Accra)	Ghana	Ghanaian
3	Ruler Distillers	15	Distilled alcohol drink	Ampabame No. 2	Ghana	Ghanaian
4	McJak Style Enterprise	12	Garments for male and female	Kumasi	Ghana	Ghanaian
5	Spring & Bolt	31	Bolts & nuts and leaf springs	Asokwa	Ghana	Ghanaian
6	Benark Water	50	Drinkable water and its container	Asokore Mampong	Ghana	Ghanaian
7	Taabea	57	Herbal Drink	Kuntanase	Ghana	Ghanaian

Ashanti BAC Heads are providing Enterprise Diagnosis and KAIZEN Provisions as shown in the table below. 2 BAC Heads from Amasaman BAC and Adentan BAC participating in activities in Accra provide continuous support to enterprises while Ashanti BAC Heads were away from there.

Table 3-95 Grouping of Self-Implementation of Advanced KAIZEN

Grp	MSME	Location	Japanese Expert	Name	BAC
1	Nkulenu Co. Ltd. & Accents and Arts Co. Ltd.	Accra	Tamada	Ibrahim Tchedre	Kumawu
				Dari Kipo	Akomadan
				Patience Asamoah Aidoo	Agona
				Micheal Golightly	Kumasi
2	Ruler Co. Ltd.	Ampabame No 2	Tamada	Mohammed Maahi	Mamponteng
				Kelvin Ofori-Atta	Obuasi
				Theodore Bayeldeng	Offinso
3	Springs & Bolts	Asokwa	Yoshida	Nana Sam-Himbsen	Foase
				Kwame Agyenim Boateng	Mankraso
				Benjamin Marfo	Nynahin
				Kwasi Boateng	Bekwai
4	Benark Water	Asokore Mampong	Yoshida	Aikins Agyapong	Asokore Mampong
				Marina Kusi	Kodie
				Kwasi Owusu	Effiduase

Grp	MSME	Location	Japanese Expert	Name	BAC
5	McJaks	Kumasi	Tajima	Thomas Opoku	Tepa
				Alexander Nyame	Mampong
				David Kwabena Poku Oduro	Fomena
6	Taabea	Kuntenase	Tajima	Eric Oti Nyarko	Ejisu
				Thomas Fofie	Nsuta
				Priscilla Kwakye-Fosu	Konongo

Each group developed Enterprise Diagnoses and KAIZEN Reports, on which the Japanese Experts then gave feedback. The Japanese Experts visited the enterprises to confirm advanced KAIZEN provisions based on the reports in October 2018.

(5) KAIZEN with 100 Businesses

The self-implementation of KAIZEN to approximately 100 MSMEs in the Ashanti, Northern and BA Regions was supported by the Project due to the contract amendment in August 2017. Each BAC provided their client enterprise in their district with KAIZEN, and application of advanced KAIZEN was encouraged to the Ashanti BAC Heads. The procedure is stated below:

- BAC Heads submit proposal of KAIZEN implementation to Regional Managers.
- Regional Managers develop an overall plan based on the submitted proposals and submit the plan to PMU.
- BAC Heads implement with BAC staff members; 1. Enterprise Diagnosis, 2. KAIZEN instruction, and 3. Follow-up.
- Regional Managers monitor the progress, control the budget, collect reports and report periodically to the PMU. Regional Managers visit enterprises for monitoring once during the implementation period.
- The Project Team supports the Regional Manager to manage implementation, confirm progress and collect reports and receipts. Meetings are held with the PMU based on the progress and results.

Table 3-96 Flow of KAIZEN with 100 Businesses

Activity	Implementator	Period	Deliverables
Enterprise Diagnosis	BAC	Approximately 5 days	Enterprise Diagnosis Report
KAIZEN Implementation	BAC	Approximately 10 days	KAIZEN Report
Follow-up	BAC	1 day for three month after KAIZEN implementation	Follow-up sheet Good Practice sheet
Monitoring	Regional Manager	1 day each BAC	

The implementation schedule is stated below.

Table 3-97 Schedule of KAIZEN with 100 Businesses

Region.	Batch	Period	Implementator	MSME	Total
Ashanti Region	1	October to December 2017	20 BACs ¹	1 each	20
	2	February to May 2018	19 BACs ²	1-2 each	35
				Sub-total	55
Northern Region	1	October 2017 to June 2018	10 BACs	1-2 each	15
	UDS ³	May to July 2018	3 BACs	1 each	3
	2	August to October 2018	5 BACs	1 each	5
			Sub-total	23	

Region.	Batch	Period	Implementator	MSME	Total	
BA Region	1	February to May 2018	9 BACs	2 each	16	
	2	July to November 2018	7 BACs	1-2 each	8	
					Sub-total	24
					Total	102

1: Konongo BAC Head did not implement KAIZEN due to maternity leave.

2: Based on the discussion with the Ashanti Regional Manager, Jacobu and Effiduase BACs were not supported due to low commitment.

3: KAIZEN implementation was made as part of industrial attachment to UDS students.

<Ashanti Region>

55 MSMEs which KAIZEN was introduced to are listed below.

Table 3-98 List of MSMEs for Self-Implementation of KAIZEN in Ashanti Region

No.	BAC	BAC Head	MSMEs	Industry
1	Agona	Patience Asamoah Aidoo	Yesu Dea Bakery	Bakery
2			Agona S.K Farms	Egg Production
3			SKWARB Company	Egg Production
4	Akomadan	Dari Kipo	Blossom Fashion Company	Garment
5			Captain De 50 50 Ventures	Sachet Water Production
6			Yapo Palm Oil Enterprise	Oil Palm Production and Processing
7	Asokore Mampong	Aikins Agyepong	Rukaya Enterprise	Groundnut paste
8			Benak Company Ltd.	Sachet Water
9			Joe-Sach Bakery	Bakery
10	Bekwai	Kwasi Boateng	Alpha Bakery Enterprise	Bakery
11			Osado Savyion Sawmill	Sawmill
12	Effiduase	Kwasi Owusu	Amponsah Farm Foods Enterprise	Cassava processing
13	Ejisu	Eric Oti Nyarko	Dominion Manufacturing Company Ltd	Soap production
14			Antwi Metal Works	Metal door and window production
15			Hitech Restoration and Construction Services	Furniture production
16	Foase	Nana Sam-Himbson	Matico Bakery	Bakery
17			Israel Shoes	Shoes production
18			Enye Mahooden Fashion Design	Garment
19	Fomena	David Kwabena Poku Oduro	K. Frimpong-Manso Furniture & Carpentry Works	Wood processing
20			City Welding and Trading Enterprise	Welding
21			Christar Dressmaking and Designs	Garment
22	Jacobu		Ayabena Company Limited	Sachet Water
23	Kodie	Marina Serwaah Kusi	Johyah Farms & Agro Processing Company	Sachet Water
24			G.B.1 Company Limited	Roofing sheet production
25	Konongo	Priscilla Kwakye-Fosu	Felicio Oilpalm Processing Centre	Palm oil
26	Kumasi	Michael O. Golightly	Astex Fashion Studio & Skill Training School	Garment
27			Akaal Dekor	Garment
28			Bansah Wood Technology	Wood processing
29	Kumawu	Ibrahim Tchadre	DeGateway Oil Mills Company Limited	Palm oil
30			Emmawus Fashion Centre	Garment
31			Agyeiwaa Fashion and Wedding Decor	Garment

No.	BAC	BAC Head	MSMEs	Industry
32	Mampong	Alexander Nyame	Asikon Product Enterprise	Soap production
33			Agyenak Drinking Water	Sachet Water
34			Golden Axe Fashion Centre	Garment
35	Mamponteng	Mohammed Maahi	Patricia Obeng Farms & Trading Enterprise	Pautry
36			B.S. Opoku Enterprise	Cereal Processing
37			SethMay Creation and Training Centre	Fashion and Décor
38	Mankraso	Agyenim Boateng Kwame	Ntiamoah Palm Oil Processing Ltd	Palm oil
39			Excellent Woodworks Ventures	Wood processing
40	Nsuta	Thomas Fofie	Brefkwat Enterprise	Wood processing
41			Rockland Farm	Egg Production
42			Aqua Berteng Mineral Water	Sachet Water
43	Nyinahin	Benjamin Kwasi Marfo	Broniman & Friends Foundation	Garment
44			Dorcas African Kitchen	Restaurant
45			Hudu Woodworks	Wood processing
46	Obuasi	Kelvin Ofori-Atta	Na-Ya-Duf Soyamix & Trading Enterprise	Cerial production
47			Home Sweet Soya Mix and Trading	Soya processing
48			Jod Kannakye Company	Sachet Water
49			Mawulolo Domenya Enterprise	Palm oil
50	Offinso	Theodore Bayeldeng	Peco Drinking Water	Sachet Water
51			Nana Baah's Bakery	Bakery
52			Afotom Palm Oil Factory	Palm oil
53	Tepa	Thomas Opoku	Emmaranatha Unique Fashion	Garment
54			A.A Kamp Ventures	Sachet water, toothpick production
55			Lawsama	Garment

Compared with cases in the Northern and BA Regions, Enterprise Diagnosis and KAIZEN were implemented as scheduled and each report was submitted on time, which verified the effect of advanced KAIZEN training. On the other hand, it was found that new client MSEs should be identified, since some of BAC Heads could not find appropriate MSEs for KAIZEN in the manufacturing sector, moreover the quality of reports, numbers of implemented KAIZEN methods, content of implemented KAIZEN methods, and measurement of the impact of KAIZEN varied depending on the BAC.

Output 3 Indicator 3-3

BAC trainers implement Enterprise Diagnosis and KAIZEN activities to more than 25 MSMEs by themselves.

Achieved

BACs in the Ashanti Region implemented Enterprise Diagnosis and KAIZEN activities with 62 MSMEs. The reasons that the number of implemented MSE went significantly beyond the target are that apart from self-implementation of KAIZEN after OJT, which was originally planned in the Project, support of implementation of KAIZEN was added by JICA.

Location	2016	2017	2018		Total
			Group Implementation	KAIZEN with 100 Businesses	
Ashanti	0	20	5	35	60
GA	0	0	2	0	2
Total	0	20	7	35	62

<Northern Region>

23 MSMEs which KAIZEN was introduced to are listed below.

Table 3-99 List of MSMEs for Self-Implementation of KAIZEN in Northern Region

No.	BAC	BAC Head	MSMEs	Industry
1	Buipe	Rashidatu B. Alhasan	Limam Fashion and Design Center	Garment
2	Damongo	Alidu Ewura	Two Brothers Furniture Works	Wood products
3			Alice Wanye Fashion Shop	Garment
4			Abranyor Empowerment Centre	Garment
5	Gambaga	Mathew Azoya	BISVEL FILTED WATER	Sachet Water
6			Wunam Enterprise	Hair Dressing
7	Kumbungu	Adam Mohammed Gadaf	Zugu Sheanut Processing Centre	Shea butter, Organic butter
8			A.A Timber Furniture House	Wood Products
9	Mion	Tienah Mohammed Emmanuel	Nakoha Jebila Enterprise	Bakery& Confectionary
10	Saboba	Suragdeen Iddrisu	Rocktick Ice Filtered Drinking Water	Sachet Water
11			Al Mustaph's Surelere Mechanical Engineering Training Centre	Welding
12	Sagnarigu	Henrietta Zaato	Salbelia Limited	Sachet Water
13			Blessed Hope Fashion Enterprise	Garment
14			Wunintira Paddy Rice Processing Enterprise (UDS)	Rice Processing
15			Mama's Fashion	Garment
16			Tibomyem Shea Butter Processing Centre (OJT)	Shea butter Production
17	Tamale	Mohammed Bukari	Gees Fresh Point Company	Guinea Fowl
18			Zet. D. Enterprise	Garment
19			Pure Home Water (UDS)	Sachet Water
20			I.B DESIGNING ENTERPRISE	Garment
21	Project Officer	Ahmed Abdul-Razak	Mohammed Fashion	Garment
22			Sasco Mighty Enterprise (UDS)	Sachet Water
23			Obaa Yaa Bakery	Bakery

(UDS): KAIZEN was implemented as Industrial Attachment to UDS students

(OJT): KAIZEN was implemented as OJT to Tolon BAC Head

KAIZEN would have initially been implemented with two MSEs in 2017, however there were delays in completion, such as Buipe BAC Head and Project Officer implemented KAIZEN with one MSE each, and all reports were submitted in June 2018. The second batch of KAIZEN with 100 business in the Northern Region started from August 2018, however the support to Buipe and Gambaga BAC Heads was withdrawn due to low commitment and the number of MSEs implemented KAIZEN varied depending on BAC Heads. Sagnarigu BAC Head provided OJT to Tolon BAC Head by using the budget allocated to her BAC.

<BA Region>

18 MSMEs which KAIZEN was introduced to are listed below.

Table 3-100 List of MSMEs for Self-Implementation of KAIZEN in BA Region

No.	BAC	BAC Head	MSMEs	Industry
1	Atebubu	Isaac Oppong	DAC Happy Life Drinking Water	Sachet water production
2			Owusu Didi Enterprise	Retail of frozen foods
3			Jane Bakery (OJT to Yeji)	Bakery
4	Dormaa	Daniel Sena Tsorme	Yeboagin Enterprise	Welding
5			Adama Engineering Enterprise	Welding
6			Awurade Na Aye Bakery (OJT to Dorobo)	Bakery

No.	BAC	BAC Head	MSMEs	Industry
7	Duayaw	Vanessa Afia Asomea Takyi	Osbon Most High Enterprises	Sachet water production
8	Nkwanta		O. A Ben Enterprise	Sachet water production
9			Ruth Quality Fashion & Trading	Garment
10			Abu Mechanic Enterprise (OJT to Goaso)	Car repairing workshop
11	Jema (Bechem)	Nuhu Salifu Dimah	Asuma Leather Works	Shoe production
12			Asuogya Agro Processing Centre	Cassava Processing
13			Gyeabour Oil Mills	Palm oil processing
14	Kenyasi	Kwasi Abayie Acheampong	Obiri Carpentry Shop	Furniture production
15			The blues fashion & design	Garment
16	Nsawkaw	Frederick Apraku Amoateng	Nsawkaw Wesleyan Company Limited	Cassava, mushroom, moringa processing
17			Koo Banda Drinking water	Sachet water production
18			Ophecelia Fashion (OJT to Jema)	Garment
19	Wenchi	Amil Ibrahim	Amya Agro Plus	Cassava Processing
20			Vidash Decoration and Beauty Saloon	Décor
21			Big Joe Fashion (OJT to Kintampo)	Garment
22	Accountant	Abdul Rahaman Talhat	Pentecost Fire Special Bread and Trading Enterprises	Bakery
23			Cheer Ice Mineral Water	Sachet water production
24			AY INNOVATIONS (OJT to Sunyani)	Leather sandal production

It was scheduled that eight pilot BAC Heads and one accountant were to implement KAIZEN with two MSEs respectively from February to May 2018, however Berekum BAC Head did not implement due to leave and resignation, and Kenyasi BAC Head could implement KAIZEN with one MSE only. It was confirmed that even there was a variance of report quality, BA pilot BACs could complete submission of KAIZEN reports, basic KAIZEN could be well implemented and some of the BACs were able to apply advanced KAIZEN methods.

The part of Regional Expansion of KAIZEN in the Workflow, OJT for non-pilot BAC Heads started from August 2018. One pilot BAC Head taught Enterprise Diagnosis and KAIZEN implementation to one non-pilot BAC Head, with one MSE in the non-pilot BAC district. At the same time, Bechem BAC Head and Duayaw Nkwanta BAC Head implemented KAIZEN with one MSE each in their districts. The grouping of OJT is stated in the following table.

Table 3-101 Grouping of OJT to Non-pilot BAC Heads

No.	Non-pilot BAC	Pilot BAC (Trainer)
1	Sunyani East	Accountant
2	Goaso	Duayaw Nkwanta
3	Yeji	Atebubu
4	Kintampo	Wenchi
5	Drobo	Dormaa
6	Jema	Tain
7	Self-Implementation	Bechem
8	Self-Implementation	Duayaw Nkwanta

Pilot BAC Heads evaluated non-pilot BAC Heads' technical standards of KAIZEN and non-pilot BAC Heads assessed pilot BAC Heads' trainer skills, and eventually the BA Regional Manager finalized the evaluation. There was a difference in commitment level depending on non-pilot BAC Heads, since some still showed negative reactions towards not being selected as pilot BAC Heads.

(6) KAIZEN Forum

KAIZEN fora to make public the results of advanced KAIZEN were conducted twice.

Ashanti region

The Forum was conducted on 5 July 2016 in Kumasi with the attendance of Ms. Achiaw, AGI Ashanti, Mr. Makino, Chief Representative of JICA Ghana (as of 2016) and others.

Table 3-102 Outline of KAIZEN Forum at Ashanti Region

Date	5 July, 2016
Venue	Conference Hall, Royal Lamerta Hote, Kumasi, Ashanti
Objectives	<ul style="list-style-type: none"> • Disseminate KAIZEN good practices • Create demand for KAIZEN from MSMEs • Promote collaboration with other parties
Participants	120 participants (Governmental Organizations, Metropolitan, Municipal and District Assembly (MMDA), MSMEs, KAIZEN MSMEs candidate OJT MSMEs for the following advanced KAIZEN training, TOYOTA Ghana, academic institutions, media)

Professor Sonobe, Vice President of GRIPS, introduced a section of a study he conducted at Suame Magazine, Ghana, and highlighted the impact of KAIZEN in Asian countries and the adoption of KAIZEN as one of the strategies for industrial development. It was recommended that GoG present a clear policy encouraging all MSMEs to adopt KAIZEN. Also, in the KAIZEN Talk Show, managers of the advanced OJT enterprises and BAC heads who were in charge of the OJT explained an outline of KAIZEN, KAIZEN menus which were conducted at the enterprises, and the effects on them.

Greater Accra Region

On 28 September 2018, the forum was conducted in Accra with the attendance of Mr. Lindsay, Deputy Minister of MOTI in charge of Industry, Mr. Himeno, Japanese Ambassador to Ghana and Mr. Hoshi, Chief Representative of JICA Ghana and others.

Table 3-103 Outline of KAIZEN Forum at Greater Accra Region

Date	28 September 2018
Location	Accra, the Greater Accra Region
Objectives	<ul style="list-style-type: none"> • To share the Project achievements • To induce demand for KAIZEN from MSMEs and stakeholders • To promote collaboration with development partners and ministries
Participants	150 participants; Ministries, Development Partners, MSMEs, KAIZEN OJT MSMEs, Japanese Companies, Academic Institutions, Media

During the forum, the KAIZEN Logo was launched by Mrs. Kosi Yankey, Executive Director of NBSSI and a Panel Discussion with managers who introduced KAIZEN to their enterprises was conducted. Further, presentation of the research detailing the effect of KAIZEN on the performance of enterprises in Ghana's manufacturing industry was conducted by Dr. Ankomah, Research Fellow at the Institute of Statistical, Social and Economic Research (ISSER), University of Ghana, and the NBSSI National KAIZEN Expansion Strategy and Implementation Plan was conducted by Mr. Bashir, NBSSI Ashanti Regional Manager.

Results of the questionnaire for the KAIZEN Forum indicates that the objectives, such as the dissemination of KAIZEN, how to create demand for KAIZEN, could be achieved, and the

interest in introduction of KAIZEN and collaboration were confirmed. In addition to this, the Forum was a good opportunity to promote KAIZEN to not only the enterprises but also Development Partners such as BUSAC (Business Sector Advocacy Challenge) Fund and SDF (Skill Development Fund) for future collaboration.

The report on the KAIZEN Fora is attached in Appendix 9.

(7) Collection of KAIZEN Good Practice in OJT MSMEs

The following criteria of Good Practice were determined with PMU in February 2016.

- Quality/productivity improvement (assessed by the indicators of KAIZEN impact)
- Positive impact on the enterprises (morale raised among employees, sustainability of KAIZEN implementation, job creation etc.)
- Unique or innovative ideas
- Application of multiple advanced KAIZEN methodologies
- Applicability to the other enterprises

The KAIZEN Good Practice sheets were developed by BAC Heads and submitted to the Regional Office at the end of the training or when they conducted follow-up activities. The sheets show not only pictures and quantitative effects such as "Productivity" and "Defects rate" but also the cases which the enterprises implemented by themselves. The know-how elements and the good practices were shared during advanced KAIZEN training and presented in the Workflow Progress Workshop, to provide learning opportunities. An example of the "Good Practice collection" is shown in Task 2.

(8) Finalization of Reference Materials

<Lecture Materials>

The Power Point documents used in the lecture of advanced KAIZEN were updated by the Project Team in October 2018 by reviewing the format, inserting actual KAIZEN cases in Ghana, and localising descriptions for easy understanding.

<KAIZEN Technical Standards>

The technical standards of KAIZEN were reviewed in September and October 2018. Through experience in OJT, the KAIZEN methods were classified based on applicability to MSMEs in Ghana, such as basic KAIZEN methods applicable to micro to small enterprises and advanced KAIZEN are used for small to medium companies, and they were finalized reflecting comments from Regional Managers.

For KAIZEN National Expansion, the evaluation guidelines were developed to minimise the evaluation variance on KAIZEN technical standards. The reviewed technical standards on KAIZEN and guidelines are attached in Appendices 10 and 11.

3.5 Task 4

(1) Deliverables

Reports

The reports were developed and submitted according to the following table.

Table 3-104 List of Reports

Name of Report	No.	Submission Month	Target Period
Project Plan	-	October 2015	Whole Project Period
Work Plan (W/P)	1	October 2015	Whole Project Period
	2	September 2016	September 2016 to August 2017
	3	September 2017	September 2017 to December 2018
Project Progress Report	1	March 2016	September 2015 to March 2016
	2	September 2016	April to August 2016
	3	February 2017	September 2016 to January 2017
	4	September 2017	February to August 2017
	5	March 2018	September 2017 to February 2018
	6	September 2018	March to August 2018
Project Completion Report	-	January 2019	October 2015 to December 2019

Deliverables for Technical Cooperation

The following materials were developed with C/Ps during the Project.

- a) Workflow of three target Regional Offices for capacity development of BACs
As stated in Task 1, the revision of materials and the addition of necessary guidelines and format were made, and they were finalized at the Workflow workshop in October 2018.
- b) Training modules on Enterprise Diagnosis and KAIZEN implementation including the technical standard, assessment methods and indicators
Lecture materials, report format on Enterprise Diagnosis and KAIZEN, and KAIZEN impact assessment methods and indicators were finalised with those for advanced KAIZEN. The technical standard on basic KAIZEN was modified together with advanced KAIZEN, and guidelines for assessment on KAIZEN technical standards were also developed.
- c) Training materials and manuals for advanced KAIZEN including the technical standard, assessment methods, and indicators on the advanced KAIZEN
Development of lecture materials, report format on Enterprise Diagnosis and KAIZEN, the guidelines on assessment methods of advanced KAIZEN impact were finalized.
- d) Manuals, texts, training materials related the seminar, workshop and OJT
These are part of the reference materials for the Workflow, but especially the guidelines on training management and event management were updated.

(2) Meeting

Meeting with JICA Head Office

The meeting was held before or after the field trip to report on plans or the results of field assignments and discuss challenges and countermeasures.

Meeting in Ghana

1) Regular reporting to JICA Ghana Office

Reports and discussions on the plan and the results of assignments were conducted every time each Expert visited Ghana.

2) JCC Meeting

The outlines of the JCC meetings held every six months are shown below. The JCC meetings were combined with a press briefing to publicise the progress and achievements of the Project.

No.	Date	Main Agenda	Remarks
1	27 October 2015	The briefing regarding the Project and KAIZEN training were undertaken. <Matters raised in the JCC> <ul style="list-style-type: none"> • Collaboration with the other institutes and programs should be promoted. • A mechanism should be put in place to measure the graduation process of MSEs from small to medium enterprises • Public relations activities should be undertaken on a regular and continuous basis to create demand for KAIZEN • Pilot MSEs should be benchmarked • All BAC Heads in the target regions should be invited to lectures on basic KAIZEN 	Press briefing was conducted
2	21 March 2016	The progress of the Project, the results sharing with training were explained. The target of PDM indicators were confirmed. <Matters raised in the JCC> PR activities should be enhanced.	Press briefing was conducted
3	27 September 2016	The progress of the Project, the results sharing with training were explained. <Matters raised in the JCC> NBSSI PR strategy should be further elaborated, and networking with other institutions enhanced.	Press briefing was conducted
4	7 March 2017	The progress of the Project, the results sharing with training were explained. <Matters raised in the JCC> It was suggested again that NBSSI PR strategy should be further elaborated	KAIZEN Champion Awards Ceremony was held
5	27 September 2017	The progress of the Project, the results sharing with training were explained. <Matters raised in the JCC> It was suggested again that PR materials should have quantitative results, networking with the other institutions and KAIZEN promotions in BRCs in conversion.	Press briefing was conducted
6	28 February 2018	The progress of the Project, the results sharing with training were explained. <Matters raised in the JCC> It was suggested that actual partnering with specific institutions (like MOFA and ASSI) and PR materials should have quantitative results.	
7	4 October 2018	The presentation on activities towards the termination of the Project and the National Expansion plan, as well as recommendations by the JICA Mission for NBSSI were made. <Matters raised in the JCC> Minutes of the Meeting on the recommendations to achieve the Overall Goal were made in the JCC, and also acceleration of authorisation of SME policy and innovation platform development were suggested by the JICA Mission.	

It is noted that the KAIZEN Awards Ceremony to which media was invited was scheduled to be held after the sixth JCC Meeting, but it was cancelled. The KAIZEN Forum to which media was invited was held in Accra just before the seventh JCC meeting to share the achievements of the Project.

Minutes of the seventh JCC Meeting are attached in Appendix 12.

3) Meeting with the other programs/donors/concerned organizations

<Academic Institutions>

As detailed in the stakeholder coordination shown in Output 1, the collaboration with the academic institutions was progressed.

<Other Institutions>

Networking with the other programs was undertaken by the NBSSI, and the Project Team provided KAIZEN introduction, possible networking, and also some interest inducements activities. The main aim was to get a source of funding for KAIZEN dissemination, and other NBSSI activities and those activities were coordinated with the ED and Project manager, and progress was shared with a kind of status control sheet. It is noted that active involvement of the source of funding was made by the new ED while in 2016, the approach to the Free Zone Authority (FZA) under MOTI was proposed by the NBSSI itself.

The major Project Team activities are shown below.

- In early 2016, the possible collaboration between the Project and other institutions was made together with arrangement EDAIF, which had been envisaged as a possible source of funding. In addition, a new project of Ghana Agricultural Sector Investment Programme (GASIP) was approached for the possible usage of KAIZEN.
- The Project Team with the JICA Ghana Office had an interview regarding the possible additional funding arrangement with REP for NBSSI in November 2017.
- In February and June 2018, the Project Team had interviews with the Ghana Export Promotion Authority (GEPA) under MOTI and Agribusiness Directorate and Women Entrepreneur Directorate in Ministry of Food and Agriculture (MOFA) for MOU development progress with NBSSI.
- In February and June 2018, similarly, the Project Team visited Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), SDF, and Rural Development Fund (RDF) for partnering with NBSSI for KAIZEN dissemination. BUSAC was also visited to check on possible additional funds for KAIZEN dissemination to NBSSI as BUSAC was supportive of the Women Summit (4 and 5 of June 2018) organized by NBSSI.
- In late 2018, the progress of the MOU development between two MOFA directorates and NBSSI was further checked. It was also confirmed that GIZ made MOU with NBSSI for entrepreneurship development, and Association of Small Scale Industries (ASSI) presented the proposal of additional KAIZEN training to BUSAC. However, the Project Team did not visit to the secretariats of new initiatives by the Ministry of Local Government (MOLG) and new youth employment enhancement schemes by MOTI.

REP

The Memorandum of Cooperation (MOC) between REP, NBSSI and the Project, with the aim of securing funds for continuous KAIZEN provision to MSMEs by NBSSI, was concluded, and the funds for KAIZEN implementation were released to some of the BACs in 2018. Each BAC submitted the annual work plan to REP; however, the clear announcement of KAIZEN implementation could not be made from NBSSI Head Office to BACs due to the delay in conclusion of the MOU between NBSSI and REP. The Project Team requested Regional Managers to instruct BACs to include the budget for KAIZEN implementation in the annual plan to REP, however some BACs did not include the budget.

The system was changed from an annual plan for 2019 to the budget of BAC being sent to the Regional Manager first for their approval, and then the approved budget is submitted to REP. It was confirmed that all BACs including pilot and non-pilot incorporated KAIZEN into their budget for 2019. It is noted that it takes time for REP to approve and release the funds, but REP stated that they will take countermeasures for a smooth disbursement.

The BRC conversion and additional funding arrangements by International Fund for Agriculture Development (IFAD) and extension of REP up to 2022 under MOTI's instructions were also confirmed as at the end of the Project. It is also known that the BDS Component of REP management is planned to be handed over to NBSSI in the year 2019.

ASSI

KAIZEN seminars were held in the Upper West, BA, Eastern, GA and Northern Regions by ASSI funded by BUSAC Fund and supported by the BAC Head, and 150 ASSI members who participated in the seminars could deepen their understanding of KAIZEN. KAIZEN seminars will be conducted in the remaining five regions, and NBSSI will practice KAIZEN to the ASSI member MES who are willing to introduce KAIZEN.

<Collaboration with Japanese Companies>

TOYOTA Ghana

The site visit of TOYOTA Ghana Kumasi branch was carried out in November 2015 to learn the cases of advanced KAIZEN, KAIZEN education to the employees and their KAIZEN system. The interview was conducted in December 2017 with TOYOTA Ghana to learn their education and implementation system of KAIZEN.

The workshop study tour to TOYOTA Ghana Headquarters in Accra was organised with the Ashanti BAC Heads to study KAIZEN cases and the advanced reservation system in October 2018.

AJINOMOTO

Yedent Agro Group of Companies Limited, which is the designated enterprise of AJINOMOTO, was selected as an OJT enterprise in basic KAIZEN training in the BA Region.

<Collaboration with other JICA Projects>

KAIZEN Knowledge Sharing Seminar

- 1) Mr. Dawarnoba Baeka, Chief Director of MOTI, Mr. Lukman Abdul-Rahim, Executive Director of NBSSI and Dr. Ryoichi Ozawa, Chief Advisor of the Project participated in the seminar in Ethiopia from 22 to 25 March 2016.
- 2) Mr. Dawarnoba Baeka, Mr. Saeed Owusu-Brobbe, Deputy Executive Director of NBSSI, Mr. Manu Bashir, NBSSI Ashanti Regional Manager and Dr. Ryoichi Ozawa participated in the KAIZEN knowledge sharing seminar in Kenya from 26 to 28 April 2017 organised by JICA.
- 3) Ms. Kosi Yankey, Executive Director of NBSSI, Mr. Bashir Manu, NBSSI Ashanti Regional Manager, Ms. Linda Kankoh, Nallem Clothing, OJT MSME, Dr. Charles Ackah and Mr. Richmond Atta Ankomah, the researcher from University of Ghana, and Dr. Ryoichi Ozawa participated in the Africa KAIZEN Annual Conference in Durban, South Africa from 2 to 4 July 2018.

Third Country Training in Ghana for JICA Project on Quality and Productivity Improvement in Cameroon

The arrangements for the meeting with NBSSI, EDAIF and REP, site visits and accommodation, as well as the development of the materials, were supported by the Project Team for the said project from 15 to 19 February 2016.

Study on Standardizing KAIZEN Approaches in Africa

The field survey in Ghana from 5 to 8 June 2017 was supported and the comments on handbooks were provided by the Project Team.

4-5 Joint Monitoring

In addition to the monitoring set out in Task 0-2, results, progress and achievements against the project verifiable indicators were summarized for the Joint Monitoring Mission, and support to the confirmation of the PCR that was developed from July to September 2018, input to the mission as with the recommendations to NBSSI and further actions in the Project period by NBSSI, were provided by the Project Team. The mission came to Ghana in the end of September 2018.

4. Lessons Learned during Project

The Project has been completed in accordance with the plan. In all the reports the challenges identified through the Project activities and countermeasures were shared, and these measures were reflected in the activities which followed. With these experiences, the lessons learned during the Project are presented.

4.1 Output 1

(1) Head Office

The activities for the capacity development of the NBSSI Head Office were focused on;

- 1) Capacity to set out working environments in which the regional offices and BACs can work towards KAIZEN implementations,
- 2) The realization of the capacity for the post-Project KAIZEN National Expansion in relation to the Project Overall Goal, hence its structural development or redevelopment, and also interorganizational relations setup (inclusive of funding donor relations and local stakeholder relations).

The Project Team has taken up a focal point approach to the specific persons like the Executive Director and the person in charge of the KAIZEN Unit, and had intensive communications with them.

It can be reasonably stated that the NBSSI Head Office will take the lead to finalize the National Expansion Plan and achieve the Overall Goal, and its expected achievements.

In retrospect, it can be stated that while there are several factors which were not realized, including NBSSI's own funding arrangement for KAIZEN dissemination, and the replenishment of retired staff members, there are certain benevolent factors and environments that have occurred during the Project. Those are illustrated as follows:

- 1) The appointment of the new Executive Director of NBSSI has changed the way the NBSSI Head Office is managed; the Executive Director has initiated the source of funding activities and activated the interorganizational relations. In addition, a relatively top down management style, an active source of funding and geared up approach to the redevelopment of the NBSSI to an Enterprise Development Authority (EDA) are noticeable.
- 2) MOTI supervising body has taken up a program/ project-based approach for achieving benefits to beneficiaries rather than the policy led approach in the past, with the inauguration of the new Government. The new initiative of One District and One Factory (1D1F) for local industrial development, the conversion of the BACs to Business Resource Centres (BRCs) in the framework for REP, and recently the programs to respond to youth unemployment were introduced. These will add to the roles of NBSSI.
- 3) The identification of the donor funding agencies and governmental organizations are made by the NBSSI and hence the partnership arrangements for NBSSI could enable NBSSI to widen the funding opportunities for KAIZEN training and implementation, adding to the existing REP. Those are RDF, SDF and BUSAC funds.

- 4) The focal point in the NBSSI for KAIZEN related activities was realized with the establishment of the KAIZEN Unit or KAIZEN Department in the NBSSI.
- 5) The accumulation of the good practices of KAIZEN in the Project will lead to KAIZEN branding, more in the future, with the production of PR materials and also increases exposure to the media, to which Project Team has made significant input. Moreover, an increased number of clear presentations of KAIZEN cases that were collected has made impacts more easily shown in the materials.

It is understood that these factors and environmental changes have created solid momentum for Project and post-Project National Expansion. For capacity development, it is also understood that the Project has realized the attitudinal or mindset change of the NBSSI Head Office for the KAIZEN Project, especially for those who are not convinced to work for the Project, and also for those who have changed to accept the input from the Project Team. With this change, the NBSSI has been actively involved in the source of funding outside the existing available funds to which the Project Team also provided support at the beginning of the Project. The NBSSI has positively responded to the input from the Project Team, like various concept notes and planning materials, and also made a good follow-up on their initiatives and approaches to the donor agencies.

In the post-Project, it is expected that NBSSI Head Office will lead the KAIZEN National Expansion with a detailed execution plan, which is agreed upon by the NBSSI; however, the monitoring on the following points of concern is expected to be made by the JICA Ghana Office.

- 1) The PMU is still understaffed, and organizational /management capacity to properly manage the young staff members is not well developed.
- 2) The Networking with the academic institutions is undertaken, however the funding arrangements by both NBSSI and the academic sector have not been well realized.
- 3) While cost sharing in KAIZEN between MSMEs and the Project has been made, however, the fee-paying companies for KAIZEN have not been realized with a lack of clear agreements for KAIZEN consultations.

(2) Coordination with Other Programmes

NBSSI activities such as other training to NBSSI, and BDS to client, were sponsored by the other institutions, not by GoG. NBSSI Head Office has assigned the officers in charge of each project, and the KAIZEN Project implementation schedule was always discussed with NBSSI PMU beforehand.

However, the overall management of all projects could not be achieved due to a lack of human resources, and Regional Managers sometimes did not know the plans and activities of each BAC, which meant it took more time to harmonize schedules among projects, and required the Project to change the schedule of activities.

For countermeasures the BAC management sheet which illustrates the plan, and actual implemented activities, was introduced to Regional Offices based on discussions at the Regional Managers Meeting. NBSSI has officially introduced weekly reports to Regional Offices, and it will be extended to BACs, which is expected to realise better planning and management of activities.

4.2 Output 2

(1) Data Management by MSEs

It was found that MSEs do not collect, record and manage the data in many cases. The training on data collection and management of various data including accounting was conducted. However, it is still noted that there is difficulty for the BAC Heads to collect all data required for their KAIZEN impact assessment. These data which are usually required for the enterprise to make a business plan are not recorded and managed appropriately. The BAC Heads are expected to convince the enterprise management of the importance of the management data on sales volume, production cost, defect rate, inventory, lead time, etc.

(2) Technical Evaluation

The technical evaluation was undertaken by the trainer BAC Heads of the Ashanti Region and it was found that the evaluation was at a high level in general, and not done appropriately in IE, and it therefore varied widely depending the trainer BAC Heads.

After the completion of advanced KAIZEN training in October 2018, the workshop was held to elaborate the KAIZEN technical evaluation criteria to the Regional Managers of the Ashanti, Northern, BA and Central Regions. Coping with the question of how the evaluation is to be appropriately made after the completion of the Project, consideration is needed that the KAIZEN technical evaluation system is to be instituted and the programme for training and developing evaluators is to be incorporated from the beginning of the Project.

4.3 Output 3

(1) Addition of Greater Accra Region

During OJT in the Ashanti Region, some challenges emerged as follows:

- 1) At some OJT MSMEs, KAIZEN menus provided during the OJT period were quite limited due to low production activities,
- 2) Securing the number of OJT MSMEs was very difficult from the choice during the long list,
- 3) Some KAIZEN menus were impossible to implement into the production situation in the selected OJT MSMEs in the Ashanti Region.

The change in location of advanced KAIZEN training sessions to the Greater Accra Region was planned and approved to address the above challenges.

Advanced KAIZEN training in the Greater Accra Region were meaningful for BAC Heads who could experience KAIZEN provisions to large scale companies employing more than 200 staff, foreign capital-based and food export businesses like biscuit and palm oil manufacturers which would not otherwise be possible in the Ashanti Region. Advanced KAIZEN training in the Greater Accra Region also boosted the low-cost PR such as famous enterprises in the nation participating in advanced KAIZEN OJT and the KAIZEN forum in the region.

(2) Challenges in Introduction of KAIZEN to Medium to Large Companies

The following challenges emerged:

- 1) KAIZEN is not urgently necessary for large-scale and foreign-based companies, since these companies have already experienced improvement of productivity or enhanced quality through programme similar to KAIZEN by their headquarters or their contracted consultants,

- 2) Large-scale companies have strong regulations on information leakage and are subject to constraints on the disclosure of financial information and photo and video shooting in factories, which hinder OJT,
- 3) Large-scale companies cannot make quick decisions, which prevents BAC Heads from responding swiftly, given that Board approval is required, or initial contact with the Human Resources Department is required before contacting the factory manager and supervisors,

Countermeasures

- 1) Even though a letter of consent, including a non-disclosure policy eligible to OJT, was issued from C/P to the enterprises, some companies discontinued OJT partway through or remain reluctant to disclose business information or photo/video shootings. It would be better for further activities if a non-disclosure agreement should be made after explaining information disclosure and obtaining consensus for the same.
- 2) In the case that it takes a long time to obtain approval from management to implement KAIZEN activities, multiple KAIZEN methods should be simultaneously suggested to reduce loss of time.
- 3) After recognizing the benefit of KAIZEN, the management was more cooperative and open to disclose the data, which resulted in smooth implementation of KAIZEN; an orientation session involving the CEO and management at large-scale companies is required at the beginning of OJT that detail the outline of the training.
- 4) If companies hire external consultants, KAIZEN concepts should be comprehensively explained to these consultants as well, and a cooperative relationship should be developed to avoid competition.
- 5) The timing of KAIZEN implementation should be well examined and agreed upon with the companies. The peak season would be preferable to implement KAIZEN, since the actual operation and challenges can be observed and analysed, however, some of companies cannot spend enough time to implement KAIZEN during these periods. Uni Jay Fashion and McKenzie Sports Wear are both garment and their peak season is before schools start peak season as they produce school uniform. The KAIZEN OJT was implemented just before peak season, and KAIZEN could contribute improvement of productivity. Common ground should be found; just before peak season or at the beginning of peak season would be recommend. OJT is required to be implemented at once and the timing could not be changed depending on the MSMEs, but the period of implementation of KAIZEN should be well discussed with MSMEs to ensure they allow enough time to conduct KAIZEN.
- 6) The large company is not the target of NBSSI and EDA as of now, but the formulation of KAIZEN dissemination to large scale companies in the industrial development policies should be further discussed.

4.4 Common

(1) Time Allocation to Report Making and KAIZEN Implementation

Since MS Office training had been conducted prior to the basic KAIZEN training, as preliminary training, BAC Heads could develop the Enterprise Diagnosis report and KAIZEN report under the supervision of the trainer BAC Heads. It was, however, observed that some pilot BAC Heads

spent a lot of time in report making and still require further improvement of computer skills in drawing layout and process flow chart, which is necessary to recommend KAIZEN activities.

To induce commitment from management of medium to large scale companies, enhancement of the understanding level of KAIZEN is one of the factors for successful implementation of KAIZEN, as it was reported by BAC Heads cooperation by management was much improved after they realised the benefits of KAIZEN during implementation.

In the case of self-implementation of advanced KAIZEN in the GA Region, only recommendation of KAIZEN activities was documented and discussed with the management at Enterprise Diagnosis stage, and both the Enterprise Diagnosis report and KAIZEN report were finalized at once after completion of KAIZEN activities, to allocate time for making the Enterprise Diagnosis report. The comments were given that even the contents of Enterprise Diagnosis were better, since further understanding of the company was achieved and deep analysis was reflected in the report.

Considering the above situation, it is recommended that computer training be carried out continuously for BAC Heads prior to basic KAIZEN training, as preliminary training, and such training also be positioned as being a capacity development item for BAC Heads. Furthermore, it should be considered to change the style depending on the MSME, such as reports on Enterprise Diagnosis might be developed together with KAIZEN reports to minimize the time for report production, and allow more time to KAIZEN activities.

(2) Follow-up Session

The basic KAIZEN training, consisting of one-week for Enterprise Diagnosis, and 2.5 weeks for KAIZEN implementation, was completed. At the end of the training period, the KAIZEN impact, such as time reduction for finding/taking necessary tools in the factory, was acknowledged by way of introduction of both 5S and SEITON board, however the other KAIZEN impacts, i.e. improvement of productivity and quality by partly changing factory layout, instalment of jig, etc. could not be observed at the end of the training period. It is suggested that follow-up sessions to measure KAIZEN impact and confirm continuity of KAIZEN should be incorporated in the original project design.

(3) Lecture on Assessment of KAIZEN Impact

It was often noted that the follow-up sheet lacked information on the figure basis, analysis of causes for change, and further recommendations to MSMEs. The lectures or workshops for KAIZEN impact assessment were carried out, however the reasons can be analysed as follows:

- The assessment methods were varied depending on cases, so simple methods could not be applied, but the adjustment and application of different assessment methods could not be made by most BAC Heads.
- There were cases that BAC Heads could not identify the target to measure the impact which could be achieved due to the introduction of KAIZEN.
- Some of BAC Heads have difficulty in measuring and calculating.
- Some of BAC Heads' lack of experience and capacity to make further recommendations according to MSMEs' change.

The training for assessment of KAIZEN impact should be incorporated into the lecture and OJT.

For countermeasures, the revision of the follow-up sheet, lecture for KAIZEN impact assessment, in which many actual cases of OJT MSMEs were included, were introduced in basic KAIZEN training and the follow-up session. Originally only BAC Heads conducted follow-ups, from the

second follow-up, but the Japanese Experts accompanied them to instruct them how to measure KAIZEN impact, analyse the factors of improvement or challenges, and provide further recommendation to MSMEs.

It is recommended that the KAIZEN impact assessment should be included in the subjects of basic KAIZEN.

(4) Third Party Assessment

Third party assessment of the effectiveness and the actual impact on MSMEs of KAIZEN, which has been initiated by the JICA Research Center, have been made and the results were shared in the seminars, which was a good way of providing the evidence. It also resulted in a good promotion to MSMEs and partnering institutions. It is suggested that this kind of research is also included in similar projects.

(5) Collaboration with Academic Institutions

As a part of stakeholder coordination, approaches to academic institutions in each region were supported by the Project, but these procedures need much time to realise with the academia. The involvement of the academic institutions is recommended, to include the project design to expand the awareness of the usefulness of KAIZEN to a wider audience, including young entrepreneurs apart from the enterprises.

(6) Selection of Target Areas

It is required for BACs and BRCs to become self-sustaining institutions, through income generation. To secure the budget for autonomous BRCs, establishment of a fee system is critical, while it could not be expected micro and small enterprise pay an appropriate consultation fee to BDS. Approaches to medium to large scale companies which are able to pay are required, but the Greater Accra and Western Regions which have such companies were not targeted in the Project. It is suggested if the project needs institutionisation of a fee system, the areas where a certain number of medium to large scale companies are located should be strategically selected.

(7) Training of Trainers

To achieve the Overall Goal of the Project; “Enterprise Diagnosis and KAIZEN methods are introduced in all regions, and also MSMEs that have practiced KAIZEN activities recommended by NBSSI show improvements in their quality and productivity”, the trained BAC Heads from four target regions, namely the Northern, BA, Central and Ashanti Regions, are required to train basic KAIZEN to BACs in the remaining regions. However, TOT to pilot BAC Heads in the Northern, BA and Central Regions was not included in the original plan. The TOT on lecturing and OJT were added due to the contract amendment, and the capable BAC Heads will be dispatched to lecture on difficult subjects, and the plan for improvement of lecture skills was included in the Workflow action plan. The opportunities to experience lecturing, OJT and evaluation on technical standards should be provided to trainers, which enables them to conduct high quality training to the remaining BAC Heads in the National Expansion.

Appendices

Appendix 1

Report on Base-line Survey

**Summary Report on Base-line Survey
for
NBSSI/JICA National KAIZEN Project**

February 2016

JICA Project Team

1. Outline of the Baseline Survey

At the outset of the Project, the Baseline survey was conducted with the purpose of collecting all the information, as before situation, for the detailed design of the Project activities and its order (especially the sequence of the regions that undergo training), and setting out the targets in the Project Design Matrix (PDM) indicators. This survey was thus conducted to confirm the implementation structure and the situation of NBSSI Head Office (NBSSI HO) as well as the situation and the readiness of the target regions. It is noted that the end line survey over July to August 2018 is to be conducted to assess the Project achievements and identify issues for the national expansion in the post Project.

Duration	October to December 2015	
Organizations Surveyed		Survey Methods
NBSSI	HO, Regional Offices and BACs in the target regions; Northern, Brong Ahafo and Central Region	<ul style="list-style-type: none"> • The secondary and existing documents were collected. • Various questionnaires and inquiry notes on the survey items were circulated. • Interviews and meetings with the concerned parties were conducted.
MSEs	OJT candidate enterprises in the target three regions; Northern, Brong Ahafo and Central Region	<ul style="list-style-type: none"> • Questionnaires on the survey items were filled by BACs through the interview.
Partner organizations	MOTI, REP, EDAIF, donors , other JICA Project and academic institutions	<ul style="list-style-type: none"> • Project documents were collected. • Interviews and meetings with the concerned parties were conducted with questionnaires.

2. Summary of the Findings

2.1 NBSSI

(1) Head Office

Competency related to the office environment, the management, the relationship and collaboration activities with the other programs/donors and the situation of securing the budget were surveyed. The summary of each component is described below.

Component	Results of analysis
Office Environment	Necessary facilities are in place. However, the unstable supply of electricity poses a challenge.
HRD	Incentive and information sharing system have not been introduced. Needs Assessment is conducted however; the results do not reflect in the training plan/budget.
PR	PR activities are relied on the events. However, the strategy has not been developed. Web site is under construction.
Donor relations	Directors are assigned to manage each project. However, overall coordination is in the hands of the Executive Director. On-going projects are funded by AfDB, EU, EDAIF, REP and JICA.
Budget	The disbursement by GoG is not adequate and it is therefore necessary to seek funding from other sources.
Administration	Office is well managed. However, 5S is recommended to secure more effective layout. Equipment is well registered, however maintenance and control of equipment system needs improvement.
Monitoring	NBSSI has a monitoring system in place. However, there is inadequate funding from GOG to carry out monitoring activities. NBSSI relies on donors support to monitor activities.

The organizational chart of NBSSI is attached as Appendix 1.

(2) PMU

PMU comprises nine (9) members and the structure of the PMU is as described on the chart below:

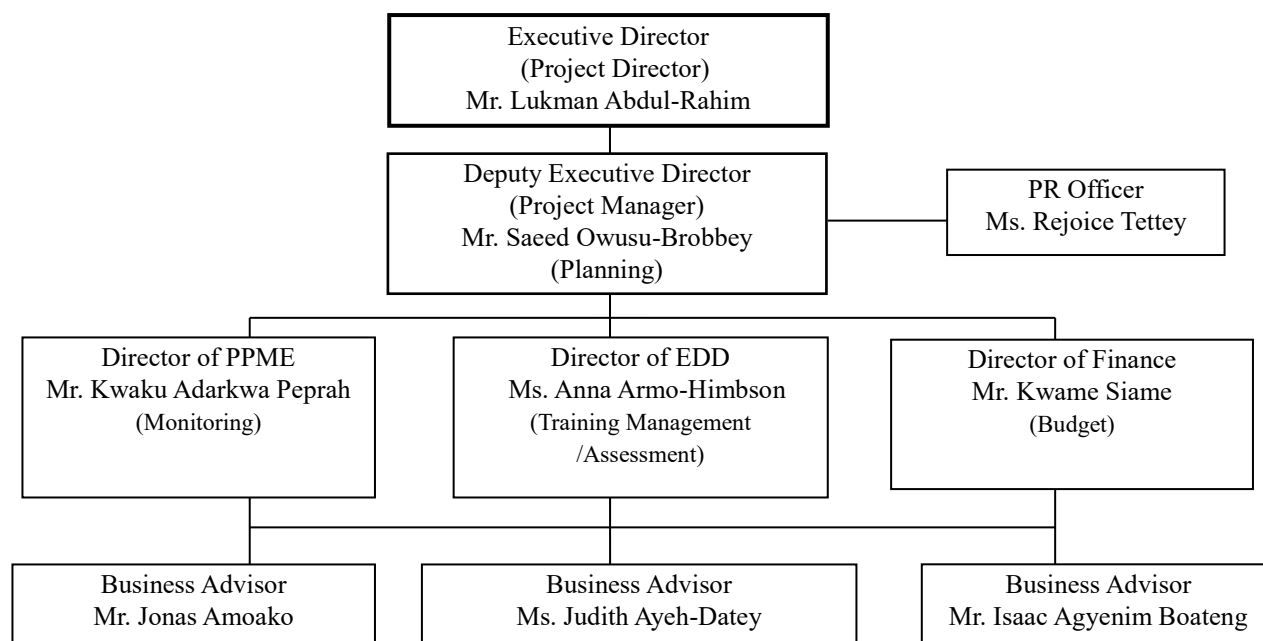


Figure 1 Structure of PMU

The job description and expertise of each member is stated in the Appendix 2. Based on the job description and expertise of members, they were assigned responsibilities for various tasks within the Project as shown in Table 1.

Table 1-Task Allocation of PMU Members

Output	Tasks	Responsible person	
Monitoring	Regular Project Monitoring 1) Workflow, 2) Basic KAIZEN, 3)Advanced KAIZEN	Mr. Kwaku Adarkwa Peprah (Kwaku)	Mr. Jonas Amoako (Jonas)
Output 1 (Workflow)	1.PMU Workflow Management (Development and Implementation)	Mr. Saeed Owusu-Brobbeey (Saeed)	Jonas
	2. PR Material Development	Saeed	Ms. Rejoice Tetty (Rejoice)
	3.Regional Office Workflow Development	Saeed	Jonas
	4.Workflow Training Coordination	Ms. Anna Armo-Himbson (Anna)	Mr. Isaac Agyenim Boateng (Isaac)
	5.Workflow Progress/Review Meeting Coordination	Kwaku	Jonas
	6.National Expansion Planning	Saeed	Jonas
Output 2 (Basic KAIZEN)	1. Training Program Operation		
	1) Overall Program Development	Saeed	Judith
	2) Training Coordination	Ms. Habiba Sumani (Habiba)	Judith
	3) Technical Standard/Impact Assessment	Habiba	Judith

Output	Tasks	Responsible person	
	4) Self-implementation of KAIZEN	Habiba	Judith
	5) Good Practice Collection and Sharing	Habiba	Judith
	2. Kaizen Forum and Media Exposure	Habiba	Rejoice
Output 3 (Advanced KAIZEN)	1. Training Program Operation		
	1) Overall Program Development	Saeed	
	2) Training Coordination	Anna	Isaac
	3) Technical Standard/Impact Assessment	Anna	Isaac
	4) Self-implementation of KAIZEN	Anna	Isaac
	5) Good Practice Collection and sharing	Anna	Isaac
	2. Kaizen Forum and Media Exposure	Saeed	Rejoice
Project Management	1. Administration (Meeting Arrangement, Minutes, Logistics, File Management)	Saeed	Judith/Isaac
	2. Office/Equipment Management	Saeed	Judith/Isaac

(3) Target Regional Offices

The Northern, Brong Ahafo, Central Regional Office were surveyed with the questionnaires. The list of Technical Unit/Administration Unit members and the list of BAC of each region are attached as Appendix 3. The basic information of each Regional Office is summarized below.

Table 2 - Basic Information on Regional Offices

Components	Northern	Brong Ahafo	Central
Office Environment	Office Space is available to accommodate training. Personal USB modem is used for internet and connection is poor.	Personal USB modem is used for internet. The vehicle of RO is old and maintenance is needed.	Personal USB modem is used for internet. Electricity is not stable and there is no generator.
Structure and staff members	The staff members are well assigned to Regional Office, and TU and AU are well organized.	The Project Officer is not assigned, so Accountant works as Project Officer.	The Regional Manager is taking sick leave (as of Jan. 2016). The implementation structure is weak as compared with (comparing the other regions).
BAC	22 BACs and 19 BAC Heads	18 BACs and 15 BAC Heads	17 BACs and 14 BAC Heads
Workflow???	The Regional Office itself does not plan capacity development of BAC and PR. The coordination with stakeholders, information sharing) and management of equipments are not well structured.	Same as Northern Region. The deadline of submission is well managed as compared with other regions.	Same as Northern Region. Written documents are not prepared, but the process of each activity is well presented.
Main industries/ Strengths	Agriculture (sheanuts, yam, cotton), fishery, agro processing (sheabutter, dry mango), smock weaving	Agriculture (cashew nuts, mango), agro processing, mining, forestry, wood work, clay products, partly farming	Agriculture (pineapple, citrus) agro processing (juice), fishery, tourism New business paradigms

Components	Northern	Brong Ahafo	Central
	Electricity is relatively stable.	There is a big market in Techiman. Good access to the Cote D'Ivoire	more favourable to MSMEs. Strong private sector advocacy groups
Development partners	REP, EDAIF, RING Project, MASLOC, NGOs (CAMFED, SNV, Technoserve, World Vision)	REP, EDAIF, SDF, NGOs (World Vision, AGREDS ADRA)	REP, EDAIF, CEDECOM
Challenges	<ul style="list-style-type: none"> • Low working capital • Low managerial skills • Low entrepreneurial skills • Low or no access to quality BDS • Lack of requisite technical skills • Unwillingness to adopt new effective technologies due to social issues 	<ul style="list-style-type: none"> • High cost of loans • Irregular power supply • Insufficient skilled labour • Insufficient storage facilities • Poor road networks • Difficulties and high cost of business registration 	<ul style="list-style-type: none"> • Limited access to both financial and technical support • Limited market information. • Limited managerial skills

The competency related to Workflow of each Regional Office was surveyed with the self-evaluation which was conducted by Technical Unit and Administration Unit members of each region in the Workflow Introduction Workshop organized in November 2015. The assessment of the competency is summarized as below.

Table 3 - Assessment of Capacity on Workflow

P: Plan, I: Implementation

Score 1: Poor/NA, 2: Fair/partly NA 3: Good, 4: Very Good, 5: Advanced/Innovative

No.	Components	Northern		BA		Central		Ashanti	
		P	I	P	I	P	I	P	I
1	1-1. Competency Assessment/Needs Assessment	1.8	1.3	2.0	2.0	2.5	1.6	2.8	2.0
	1-2. Management Development	1.5	1.5	1.3	1.3	2.3	1.6	2.3	2.0
	1-3. KAIZEN Training Management	1.3	1.0	0.8	0.8	1.3	0.8	2.8	2.4
	1-4. Skill Development Scheme	1.3	1.0	0.8	0.8	1.5	1.0	2.5	2.0
	1-5. Trainer Development	1.3	1.0	1.0	1.0	1.5	1.0	2.5	1.8
	1-6. Staff Training	1.8	1.8	2.0	1.8	2.0	1.0	2.5	1.8
2	2-1. KAIZEN Action Plan (Self-Implementation of KAIZEN)	1.0	1.0	0.8	0.8	1.5	0.8	3.0	2.0
	2-2. KAIZEN Regional Expansion	1.5	1.3	0.8	0.8	1.8	1.0	2.5	1.8
3	PR	2.0	1.8	1.5	1.5	2.3	1.2	3.0	2.2
4	4-1. Stakeholder Coordination	2.0	1.5	2.0	1.5	2.5	1.8	2.8	2.4
	4-2. Working Group Meeting	2.0	1.5	1.8	1.5	2.0	1.0	2.3	2.0
5	Incentive Scheme	1.8	1.5	1.5	1.3	2.3	1.4	2.0	1.4
6	Budgeting/Disbursement	2.8	2.3	2.0	2.0	3.0	2.2	2.0	1.2
7	Monitoring of Workflow	1.0	1.0	0.0	0.0	2.5	1.2	2.0	1.8
	Monitoring of BAC	1.8	1.8	1.0	1.0	2.8	1.8	2.3	2.0
8	Annual Review Meeting	1.8	1.3	2.0	1.5	2.5	1.4	2.5	1.8
9	9-1. Knowledge Management	2.3	2.0	2.5	2.0	2.3	1.6	2.0	1.2
	9-2. Archive Management (File/Data Management)	2.5	2.5	2.3	2.0	2.5	2.0	2.3	1.6
10	Office/Equipment Management	3.0	2.8	2.3	2.0	2.8	1.8	2.5	1.8
	Average	1.8	1.6	1.5	1.3	2.2	1.4	2.4	1.9

(4) Pilot BACs

Pre-selection of the Pilot BAC Heads in each region was carried out by Regional Managers, and questionnaire to the Pilot BAC Heads was submitted. The interview with the Pilot BAC Heads was conducted by Project Team, and two (2) more BAC Heads were invited to provide a basis for comparison with the Pilot BAC Heads selected by Regional Managers. The detailed information collected from questionnaire and interview is attached as Appendix 4, and the results of the capacity assessment of the Pilot BAC Heads are stated in the Appendix 5. The results of the survey on the Pilot BAC Heads are summarized in Table 4 below.

Table 4 - Summary of Results of Survey on Pilot BAC Heads

Components	Northern	Brong Ahafo	Central
No of Pilot BAC Heads	10 BAC Heads out of 19 BAC Heads	8 BAC Heads out of 15 BAC Heads	7 BAC Heads out of 13 BAC Heads
Training experience	3 BAC Heads participated in JICA knowledge co-creation training in Japan	More than half of Pilot BAC Heads participated in JICA knowledge co-creation training in Japan, Malaysia or Egypt.	2 BAC Heads participated in JICA knowledge co-creation training in Japan
Knowledge of KAIZEN (4 point scale)	KAIZEN knowledge: 2.0 KAIZEN provision experience :1.9	KAIZEN knowledge: 2.5 KAIZEN provision experience : 2.0	KAIZEN knowledge: 2.3 KAIZEN provision experience : 2.1
ICT skills (4 point scale)	Average score is 3.1	Average score is 2.8	Average score is 2.4
Office Equipment	All pilot BACs are equipped with desktop computers and printers. Photocopiers are also available except at East Mamprusi and Tamale BACs.	All pilot BACs are equipped with desktop computers, printers except at Wenchi BAC. Photocopiers are also available at 3 BACs.	All pilot BACs are equipped with desktop computers and printers. Photocopiers are also available except at the Cape-Coast BAC.
Vehicle	Sagnarigu and Mion BAC have motorbikes, and the other BACs have vehicles.	Vehicles are available in all BACs except at Kintampo South BAC.	Vehicles are available in all BACs except at the Cape-Coast BA.
No of clients	Approx. 240 active clients on average.	Approx. 240 active clients on average.	Approx. 120 active clients on average.

2.2 MSEs

Questionnaire sheet was filled by Technical Unit of each region through the interview with MSEs.

Table 5 Summary of Candidate OJT MSEs in Northern Region

No.	Enterprise name	Industry	Full time Workers	Part time Workers	Export	Business Plan	BDS by NBSSI	Willingness to KAIZEN
1	Ewurade Ent.	Bakery	12	14	No	Yes	No	Yes
2	Kwajus Ent.	Car wash	4	0	No	No	No	Yes
3	Bobobo Ent.	Soya milk Shea products	11	20	No	No	Marketing	Yes
4	Ko Sung Ent.	Sachet water Bottle water	10	2	No	Yes	Start-ups/ Management	Yes
5	M A Awako Ent.	Furniture	3	15	No	No	Marketing	Yes
6	Martha's Bakery	Bread	30	0	No	No	No	Yes
7	Goodman & Sons Co. Ltd.	Metal products Office equipment	6	2	Yes (Burkin afaso)	Yes	Management training Opportunities identification	Yes

No.	Enterprise name	Industry	Full time Workers	Part time Workers	Export	Business Plan	BDS by NBSSI	Willingness to KAIZEN
8	Issiddi Ent.	Sachet water	7	3	No	No	No	Yes
9	Yumzaa Women's Association	Sheabutter	7	70	No	Yes	Advisory, Market linkage	Yes
10	Shekinab Glory Bakeries	Bread	14	0	No	No	No	Yes

Table 6 Summary of Candidate OJT MSEs in Brong Ahafo Region

No	Enterprise name	Industry	Full time Workers	Part time Workers	Export	Business Plan	BDS by NBSSI	Willingness to KAIZEN
1	Asuama Leather Works	Leather work	4	6	No	No	Credit Management/ Quality Finishing	Yes
2	Awosent Limited	Garment (Sportswear/ uniform)	20	6	No	Yes	Trade Fair	Yes
3	E – GARS Ghana Limited	Soya bean processing	11	5	No	No	Advisory and counseling services	Yes
4	Ghana Pemaiculture Institute	Moringa product	28	5	No	No	Business Management Training	Yes
5	KASAF Enterprise	Soap making	6	10	No	No	Business Management Training	Yes
6	Kwasi Gyan Company	Dual Desk Production	30	15	No	No	Business Management Training	Yes
7	Mckenzie Sports Wear	Garment (School uniforms, jerseys)	42	0	No	Yes	No	Yes
8	Obiri Carpentry Shop	Wood work	6	4	Yes (Togo)	Yes	Management training, OSHEM, Credit management	Yes
9	St. Baasa Company Limited	Gari, Banku Mix and Palm Nut Cream	30	20	Yes (Europe)	Yes	Record Keeping	Yes
10	AMYA AGRO PLUS	Gari	3	44	Yes (Bukina Faso)	Yes	Business counseling	Yes
11	Aspet A Company Limited	sachet water	202	12	No	Yes	No	Yes
12	DASCO	Gari	19	4	No	No	Business Management Training	Yes
13	Delia productions	Cashew processing	111	0	No	Yes	Management training, business counselling	Yes

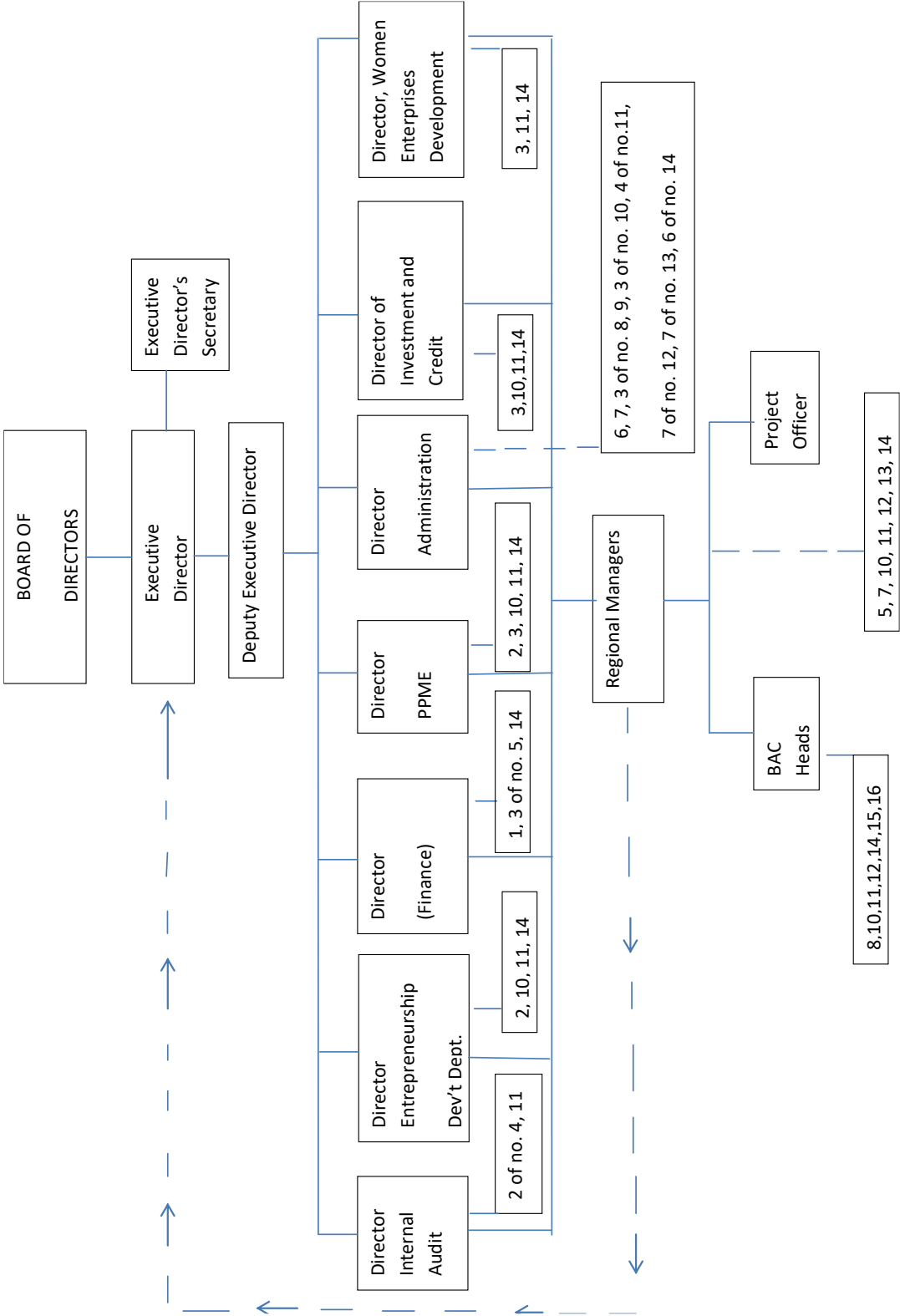
2.3 Partner Organizations

Interview with the partner organizations was conducted by Project Team to obtain information on the private sector development and seek further collaboration with NBSSI. The summary of results is shown in Table 6.

Table 7 Summary of Interview with Partner Organization

Organization	Private Sector Development/ Relation with NBSSI
EDAIF	The integrated proposal including National Expansion of KAIZEN was not approved. The proposal of only KAIZEN and the documents on KAIZEN impact were submitted. The selection criteria are sustainability and export-oriented factor.
REP	Mid-term review was conducted from October to November 2015. Introduction of BDS fee scheme is considered. BDO and CDO training was requested.
GRATIS	Collaboration with NBSSI through RTF

Organization	Private Sector Development/ Relation with NBSSI
MOTI	PSDS II would be cancelled and the detailed design survey of PSDS III was planned, but PSDS II will be extended and redesigned. The SME policy is going to be developed and REP, GRATIS and NBSSI are invited.
EU	TRAQUE is complete. Project of Ghana's Employment and Social Protection Sectors will be started. The approach is being shifted to the private sector involvement.
AfDB	Apart from REP, MSME finance service is also provided.
IFAD	Apart from REP, support through GASIP and NRGF
WB	Support through GCAP and GCIC. The research on PSDSII is planned.
GIZ	PSED Phase 2, GSDI, insurance service is implemented.
USAID	GCAP, AVANCED and FinGAP is implemented mainly in Northern Ghana.
DANIDA	Supporting to the PSDS-II is not continued. SPSD III is being designed and operational in 2016, in which BUSAC is a major component.
DFID	ENGINE
JICA Strengthening the Capacity of the Agribusiness Support Division to Facilitate Private Sector Investment	The development of agricultural investment guideline was supported. ABU would have the function as a hub to provide the information related to agribusiness. The information on enterprises is now updating for business matching and policy formulation. MOFA mainly focuses on these main products: Fruits (mango, pineapple, etc.), vegetable and poultry, and rice is targeted by JICA.
JICA GIPC Policy Advisor for Investment Promotion	The roles and visions of GIPC will be clarified and the issues will be identified based on the analysis of the information. The task force is structured with officers from each division to collect information required. GIPC has offices in Takoradi, Tamale and Kumasi. If the companies require the training, NBSSI can provide/facilitate it.
Tamale Polytechnic	Positive to participation in WG. Collaboration with NBSSI in Entrepreneurship Program.
Sunyani Polytechnic	The program supported by EDAIF and COTVET is on-going. Collaboration with NBSSI in entrepreneurship program, new technology application, research on MSMEs.
University of Cape Coast	Willing to participate in WG. Collaboration with NBSSI in Incubator program.
Kumasi Polytechnic	The program supported by MESTY and COTVET is on-going. KAIZEN is well understood as demonstrated by Principal in his capacity as the Chairperson of KAIZEN Forum in Phase 1. The new technology, such as energy, can be introduced to clients.



Organizational Chart of NBSSI Head Office

Key to supporting staff

No.	Staff Designation
1	Assistant Director
2	Business Advisor
3	Project Officer
4	Audit Officer
5	Accountant
6	Public Relations Officer
7	Administrative Officer
8	Administrative Assistant
9	Technical Officer
10	Secretary
11	Driver
12	Cleaner
13	Security
14	National Service Personnel
15	Business Development Officer
16	Community Development Officer

Appendix 2

Job Description of PMU members

Name	Position	Job Description/Expertise
Mr. Lukman Abdul-Rahim	Executive Director	<ul style="list-style-type: none"> Responsible for the day to day administration of the Board. Provides overall direction and guidance on the activities and programmes of the Board
Mr. Saeed Owusu-Brobbe	Deputy Executive Director	<ul style="list-style-type: none"> Responsible for the operations on the Board. Supervises activities of Heads of Departments and Regional Managers Assists the Executive Director in the performance of his duties
Mrs. Anna Armo-Himbson	Director, EDD	<ul style="list-style-type: none"> Develop policies, structures and capabilities for the delivery of non-financial services of the Board Monitor, review and advice on the framework for the provision of technical, managerial and entrepreneurial assistance to micro and small scale enterprises
Mr. Kwaku Adarkwa Peprah	Director, PPME	<ul style="list-style-type: none"> Monitoring of 170 BACs and 10 Regional Secretariats Preparation of quarterly and annual reports Building and managing data on clients Assisting researchers and consultants with information on NBSSI and MSME development
Mr. Kwame Siame	Director, Finance	<ul style="list-style-type: none"> Initiate plans for the formulation and implementation of financial policies and procedures. Ensures that all financial transactions of the Board are properly executed and accounted for in accordance with laid down regulations
Mr. Jonas Amoako	Business Advisor	<ul style="list-style-type: none"> Compilation of statistical reports on the Boards activities and impacts Preparation of quarterly and annual reports Compilation and analysis of data on MSEs Preparation of Annual Work plans Assist the Director in monitoring of BACs and Regional Secretariats Preparation of Proposals and Business Plans
Mr. Isaac Agyenim Boateng	Business Advisor	<ul style="list-style-type: none"> Prepare progress reports on all activities in the department Assist the Head of Department to monitor activities in the Districts Assist the Head of Department to coordinate project Assist the Head of Department in the preparation of proposal for sourcing funds
Ms. Judith Ayeche-Datey	Asst. Business Advisor	<ul style="list-style-type: none"> Prepare reports on the activities of the department Coordinate all office meetings and prepare minutes Provide support and coordination for capacity building activities Assist with the preparation of proposal for sourcing funds for activities Handle all issues related to clients registration and update database on a regular basis
Ms. Rejoice Tettey	PRO	<ul style="list-style-type: none"> Marketing products of clients at Trade Fairs Coordinating the publication of PR Materials such as fliers newsletters etc. Educating potential MSEs on the activities of NBSSI Liassing with media to promote NBSSI activities Assisting in organizing and managing events

List of Technical Unit/Administration Unit Members

Northern	Name	Title
TU	1.Eric Affram	Regional Manager
	2.Ahmed Abdul-Razak	Project Officer
	3.Alidu Ewura	Damongo BAC Head (Senior Business Advisor)
	4.Haruna Mohammed	Tolon BAC Head (Business Advisor)
	5.Salman Ahmed	Sawla BAC Head (Business Advisor)
	6.Henrietta Zaato	Sagnarig (Business Advisor)
	7.Bukari Mohammed	Tamale BAC Head (Senior Business Advisor)
AU	1.Eric Affram	Regional Manager
	2.Abdallah Yussif	Accountant
	3.Duriyu Abdulai	Secretary
Brong Aahafo	Name	Title
TU	1. Akolbire A. Anthony	Regional Manager
	2. Opong Isaac	Atebubu BAC Head (Business Advisor)
	3. Amil Ibrahim	Wenchi BAC Head (Business Advisor)
	4. Daniel Sena Tsorme	Dormaa BAC Head (Business Advisor)
	5. Frederick Apraku Amoateng	Nsawkwaw BAC Head (Business Advisor)
AU	1. Akolbire A. Anthony	Regional Manager
	2. Abdul Rahaman Talhat	Accounts Officer
	3. Ibrahim Amil	Wenchi BAC Head (Business Advisor)
	4. Mabel Ninson	Secretary
Central	Name	Title
TU	1. Albert Boachie-Amofa	Regional Manager
	2. Collins Kwamikorkor	Senior Project Officer
	3. Kwadwo Boadi Mensah	Winneba BAC Head (Assistant Business Advisor)
	4. Emmanuel Deteah	Twifo Praso BAC Head (Business Advisor)
	5. Francisca Dokua	Cape Coast BAC Head (Assistant Business Advisor)
	6. Veronica Essel	Elmina BAC Head (Senior Business Advisor)
AU	1. Albert Boachie-Amofa	Regional Manager
	2. Collins Kwamikorkor	Senior Project Officer
	3. Mathias Sukah	Assistant Account Officer
	4. Henrietta Bainson	Secretary
Ashanti	Name	Title
TU	1. Samuel Asiedu	Senior Project Officer
	2. Nana-Sam Himbson	Foase BAC Head (Senior Business Advisor)
	3. Tchedre Ibrahim	Kumawu BAC Head (Business Advisor)
	4. Maahi Mohammed	Mampong BAC Head (Assistant Business Advisor)
	5. Marina Kusi	Kodie BAC Head (Business Advisor)
	6. Michael Golightly	Kumasi BAC Head (Senior Business Advisor)
AU	1. Evelyn Nyim	Secretary
	2. Mercy Manu	Accountant

Northern Region BAC List

No.	BAC	Name of BAC Head
1	Tamale	Mr. Bukari Mohammed
2	Sagnarigu	Ms. Henrietta Zattoo
3	Kumbungu	Mr. Adam Mohammed Gadaf
4	Tolon	Mr. Haruna Mohammed
5	North Gonja	Mr. Amin Abudl-Basid
6	Bole	Mr. Adams Sina
7	Sawla – Tuna – Kalba	Mr. Ahmed Salman
8	West Gonja	Mr. Alidu Ewura
9	Central Gonja	Ms. Rashidatu B. Al-Hassan
10	Chereponi	Mr. Abdulai Abukari Fuseini
11	Saboba	Mr. Suragdeen Iddrisu
12	Gushegu	Ms. Brigit Niena Sheni
13	Karaga	Mr. Osman Adam Issah
14	East Mamprusi	Mr. Mathew Azoya
15	West Mamprusi	Mr. Haruna Issifu Fuseini
16	Yendi	Mr. Wasilatu Seidu
17	Mion	Mr. Emmanuel Tienah Mohammed
18	Savelugu – Nanton	Mr. Muniru Abdul-Rahman
19	Zabzugu	Mr. Shafique Mohammed Abubakar
20	East Gonja	-
21	Bunkpurugu – Yunyoo	-
22	Tatale – Sanguli	-

Brong Ahafo Region BAC List

No.	BAC	Name of BAC Head
1	Sunyani East	Ms. Lydia Annan
2	Tano North	Ms. Vanessa Asomea Takyi
3	Tano South	Mr. Abdul Mutalib Zakaria
4	Asutifi North	Mr. Acheampong Abayie
5	Asunafo North	Mr. Stephenson Thomas Afreh
6	Berekum	Mavis Yaa Owusu
7	Jaman South	Ms. Victoria Awortwi Daniels
8	Dormaa Municipal	Mr. Daniel Sena Tsorme
9	Wenchi Municipal	Mr. Ibrahim Amil
10	Tain	Mr. Frederick Apraku Amoateng
11	Pru	Mr. Abubakar Imoro Saddique
12	Techiman Municipal	Mr. Abraham Kanbontaa
13	Kintampo South	Mr. Nuhu Dimah Salifu
14	Nkoranza Municipal	Ms. Ophelia Amponsah Tabi
15	Atebubu Amantin	Mr. Oppong Isaac
16	Sene West	-
17	Banda	-
18	Kintampo Municipal	-

Central Region BAC List

No	BAC	Name of BAC Head
1	Assin North Municipal (Assin Foso)	Ms. Emelia Eyeson
2	Assin south (kyekyewere)	Mr. Kwasi Atta Boakye Jnr.
3	Gomoa West (Afransi)	Mr. Nathan Arkaah
4	Cape Coast Metro.	Ms. Francisca Dokua
5	Effutu Municipal (Winneba)	Mr. Kwadwo Boadi Mensah
6	KEEA Municipal (Elmina)	Ms. Veronica Essel
7	Agona west (Swedru)	Ms. Henrietta Addai-Poku
8	Agona East (Nsaba)	Mr. Henry Osei-kwaku
9	Awutu Breku	Ms. Nora Fleistcher Djoleto
10	Mfansiman Municipal (Saltpond)	Ms. Vida Anyan
11	Twifu Atti Morkwa (Twifu Praso)	Mr. Emmanuel Deteah
12	Ekumfi (Esarkyir)	Mr. Rexford Ofosuhene
13	Asikuma Odobin Brakwa (Asikuma)	Mr. Patrick Asafo Agyei
14	Upper Denkyira East (Dunkwa-on-Offin)	-
15	Gomoa East (Apam)	-
16	Ajumako Enyan Essiam (Ajumako)	-
17	Abura Aseibu Kwamankese (Abura Dunkwa)	-

Basic Information on Pilot BACs in Northern Region

No	Name	BAC	Year become BAC Head (birth yr)	Academic Background	Office Equipment	MSE in District					No of BDS Provider	Other donor (ex REP, EDAIF)	Sub comm- ittee	Relation with academic
						Active client	Growth	Med/ Large	Association	Main industry				
1	Alidu Ewura	West Gonja	2004 (1973)	CEMBA	AC, printer, photocopier	420	15	3	13	NA	10	World Vision	Active	Trainer Association
2	Haruna Mohammed	Tolon	2007 (1982)	BA in Commerce	AC, printer, photocopier	189	2	2	13 Shea, smock	Shea butter, mango, dawada, cotton	5	Ring Project Bank	Active	
3	Ahmed Salman	Sawla	2010 (1984)	BA Integrated Deve	Printer, photocopier	157	10	5	3 Honey, shea, cathew	Shea nut, cashew	2	NA	Active	Tumu Christian institute, vocational Training Centre
4	Suragdeen Iddrisu	Saboba	2010 (1985)	Dip Env and resource MGT BSC of Tourism MGT	AC, printer, photocopier	112	55	0	4 Soap making	Service, soya processing, soap making	9	World Vision	Active	Technical school
5	Tienah Emmanuel Mohammed	Mion	2013 (1972)	MSc SCM, BSc Admin.	Printer, camera, photocopier	NA	NA	0	5 Shea butter	Shea butter	0	NA	So so	NA
6	Adam Mohammed Gadaf	Kumbungu	2007 (1982)	BSC Mgt	AC, printer, photocopier	313	29	NA	32 Shea butter, rice process, 4edsmock	Shea nut Processing Rice Processing	9	Bank	Not established	NA
7	Mathew Azoya	East Mamprusi	2011 (1976)	BA Mgt, Dip in Marketing	Printer, camera	120	20	4	15	Sachet water, bakery, mercantile	3	Bank	Active	NA
8	Henrietta Zaato	Sagnarigu	2007 (1982)	BA Business Admin, Marketing	Printer, photocopier					Shea nuts, palm oil, ground nuts, smock weaving			Active	NA
9	Bukari Mohammed	Tamale Metro	2007 (1970)	BA Psychology	AC, printer	300	60	25	40 Shea butter, leather products	Shea nuts, rice, soya, metal fabrication, smock weaving	10	NA	Active	NA
10	Rashidatu B.Alhasan	Buipe/ Central Gonja	2007 (1980)	MA in Intl Business	Printer, photocopier, AC, scanner	274	20	5	10 Shea nuts picking	Shea butter, rice milling, groundnut oil extraction	7	Ring Project (NGO)	Active	NVTI registration

Basic Information on Pilot BACs in Brong Ahafo Region

No	Name	BAC	Year become BAC Head (birth yr)	Academic Background	BAC Equipment	MSE in District					No of BDS Provider	Other donor (ex REP, EDAIF)	Sub committee	Relation with academic
						Active client	Growth	Med/ Large	Association	Main industry				
1	Daniel Sena Tsorme	Dormaa	2010 (1979)	Business Admin, marketing option	AC, printer	166	6	3	7 Poultry, garage, trade	Poultry, gari , bakery , brick and tiles, vegetable & pepper processing Soap making	10	USAID, SDF	active	NA
2	Oppong Isaac	Atebubu	2004 (1967)	BED in Business Education and MGT	AC, printer,	138	50	25	18	Gari, cassava flour production, fabrication & repairs, carpenter, beekeeping	5	World Vision	active	NA
3	Amil Ibrahim	Wenchi	2011 (1985)	BSc. Planning, Deve. planning (economic)	AC, photocopier	184	46	15	16	Cashew processing Industry (Delia Productions	9	SODIA “Action it”	active	NA
4	Mavis Yaa Owusu	Berekum	2003 (1976)	BA Social Sciences	AC, printer, giz vehicle	175	NA	12	12 Hairdresser , disabled, women	Traditional craft, wood work	12	AGREDS, ADRA	active	NA
5	Nuhu Salifu Dimah	Jema-Kintampo South	2005 (1976)	BA Rural and Community Deve Mechanical eng. K Poly	Printer, photocopier	372	271	5	11 Gari	Cassava processing, welding& fabrication,	9	World Vision	not active	Secondary school
6	Frederick Apraku Amoateng	Nsawkaw/Tain	2005 (1974)	BA philosophy and political science	AC, printer,	201	160	2	6 Hairdresser	Forestry service, gari, sachet water	6	NA	active	Wenchi University for agric
7	Acheampong Kwasi Abayie	Kenyasi/Asutifi North	2004 (1964)	MBA – Strategic mgt & consulting, BA- Economics & Law	Printer, photocopier	230	NA	50	20 Carpenter, soap making, gari	Traditional Craft, fabrication & repairs, cassava processing, palm oil	12	NA	active	NA
8	Vanessa Asomea Takyi	Tano North	2010 (1984)	MSc. Innovation MGT and Entrepreneurs hip	Meeting room, printer, photocopier	329	50	102	18	Beekeeping, Mushroom, cassava processing, welding, auto mechanics, carpentry and batik tie and dye, soap production	14	PUM Netherlands	NA	NA

Basic Information on Pilot BACs in Central Region

	Name	BAC	Year become BAC Head (birth yr)	Academic Background	BAC Equipment	MSE in District					No of BDS Provider
						Active client	Growth	Med/ Large	Association	Main industry	
1	Kwadwo Boadi Mensah	Winneba	2008 (1979)	MA Global deve & entrepreneurship, public admin, BSC planning	AC, printer, photocopier	58	15	0	11 Fish processing, cassava processing, garage, wood work, dressmaking, hairdressing	Fish processing, cassava processing, retail trade	8
2	Emmanuel Deteah	Twifo Praso	2008 (1983)	BA Political Science, philosophy	Printer, photocopier	228	NA	4	8	palm oil, soap, gari, alcohol, bamboo, timber, service	7
3	Veronica Essel	Keea	2002 (1976)	BA Sociology & psychology, MA human resource deve.	AC, printer, color printer, photocopier	58	27	12	5 Palm oil, cassava, garage, fashion, hospitality	Fishing, salt mining, cassava, tourism	8
4	Francisca Dokua	Cape Coast	2010 (1983)	BA African studies	AC	57	7	11	7 Hairdresser, dressmaker, leather works, cassava, fruit juice,	fishing	4
5	Emelia Eyeson	Assin North/Fosu	2008 (1982)	MBA entrepreneurship, BED social science	AC, printer, photocopier	200	4	3	8 Palm oil, citrus, cassava	Palm oil, citrus, soap making, cassava processing, leather works, bamboo processing	15
6	Henry Kwaku Osei	Agona East	2004 (1974)	BA Economics & law	Printer, photocopier	123	4	3	NA	Palm oil, cassava processing	Not yet
7	Bokaye Aatta Kwasi JNR	Kyewere/ Assin South	2010 (1976)	BSC Agriculture	Printer, AC, photocopier (not functioning)	107	5	5	6 Soap making, cassava processing, palm oil	Palm oil, cassava processing	9

Appendix 5 Evaluation on BAC Heads

1	Computer Skill (4th grade)	4	JICA Overseas Training	7	Wi-fi or Modem
2	Knowledge of KAIZEN (4th grade)	5	Other Training	8	Vehicle
3	Experience of KAIZEN Provision (4th grade)	6	Commitment (4th grade)		

4 :Yes=3, No=1
5 :Yes=2, No=1
7 :Wi-fi=3, Modem =2, NA=1
8 :Pickup=3, Motorbike=2,NA=1

Northern Region BAC Head Capacity Assessment

Evaluation of BAC by Regional Manager

	Name	BAC	1	2	3	4	5	6	7	8	Ave	NBSSI Score	Project Team
1	Alidu Ewura	West Gonja	3	2	2	3	1	3	2	3	2.38	78.00	4.1
2	Haruna Mohammed	Tolon	4	2	2	1	2	4	2	3	2.50	85.47	4.5
3	Ahmed Salman	Sawla	3	2	2	3	2	4	2	3	2.63	81.87	4.2
4	Suragdeen Iddrisu	Saboba	3	2	2	1	1	3	2	3	2.13	69.07	4.2
5	Tienah Emmanuel Mohammed	Mion	3	2	2	1	1	3	2	2	2.00	65.00	3.4
6	Adam Mohammed Gadaf	Kumbungu	3	2	2	1	1	3	2	3	2.13	75.73	3.5
7	Mathew Azoya	East Mamprusi	3	2	2	3	1	4	2	3	2.50	78.00	4.3
8	Henrietta Zaato	Sagnarigu	3	2	2	1	1	3	2	2	2.00	55.33	3.2
9	Bukari Mohammed	Tamale Metro	3	2	2	1	1	2	2	3	2.00	67.33	3.5
10	Rashidatu B.Alhasan	Buipe/Central Gonja	3	2	1	1	2	2	2	3	2.00	65.00	3.9
11	Muniru Abdul-Rahman	Savelugu/Nanton	2	1	1	1	1	2	2	3	1.63	50.00	2.9
12	Wasilatu Seidu	Yendi	2	1	1	3	2	2	2	2	1.88	55.33	NA
13	Amin Abdul-Basid	North Gonja	3	1	1	1	1	3	2	2	1.75	New	
14	Adams Sina	Bole	3	1	1	1	1	2	2	3	1.75	New	
15	NIL	East Gonja	2	1	1	1	1	2	2	3	1.63	NA	
16	Abdulai Abukari Fuseini	Chereponi	2	1	1	1	1	2	2	3	1.63	New	
17	Brigit Niena Shenii	Gushiegu	2	1	1	1	1	3	2	2	1.63	New	
18	Osman Adam Issah	Karaga	2	1	1	1	1	1	2	3	1.50	New	
19	NIL	Bunkpurugu Yunyoo	2	1	1	1	1	1	2	2	1.38	NA	
20	Haruna Issifu	West Mamprusi	2	1	1	1	1	1	2	3	1.50	57.43	
21	NIL	Tatale Sanguli	3	1	1	1	1	3	2	2	1.75	NA	
22	Shafique Mohammed Abubakar	Zabzugu	2	1	1	1	1	2	2	3	1.63	New	

Brong Ahafo Region BAC Head Capacity Assessment

Evaluation of BAC by Regional Manager

	Name	BAC	1	2	3	4	5	6	7	8	Ave	NBSSI Score	Project Team
1	Daniel Sena Tsorme	Dormaa Municipal	3	2	2	1	1	4	2	3	2.25	75.80	4.3
2	Opong Isaac	Atebubu	3	3	2	3	1	4	2	3	2.63	70.40	3.7
3	Amil Ibrahim	Wenchi	3	3	2	3	1	4	2	3	2.63	66.20	4.0
4	Mavis Yaa Owusu	Berekum	2	3	2	3	1	2	2	3	2.25	81.00	4.2
5	Nuhu Salifu Dimah	Jema-Kintampo South	3	2	2	1	1	3	2	1	1.88	80.60	3.9
5	Frederick Apraku Amoateng	Nsawkaw/Tain	3	2	2	1	1	4	2	3	2.25	65.40	3.6
7	Vanessa Asoamea Takyi	Tano North	3	3	2	3	1	4	2	3	2.625	84.80	NA
8	Acheampong Kwasi Abayie	Kenyasi/Asutifi North	2	2	2	3	1	3	2	3	2.25	73.40	3.7
9	Imoru Abubakar-Saddique	Pru-Yeji	2	2	2	3	1	3	2	3	2.25	73.40	3.6
10	Zakaria Abdul-Mutalib	Bechem/Tano South	3	3	2	3	1	4	2	3	2.63	62.20	3.6
11	Kanbontaa Abraham*	Techiman	3	2	2	3	1	2	2	1	2.00		3.9
12	Lydia Annan	Sunyani East	2	3	2	3	1	2	1	3	2.125		
13	Stephenson Thomas Afreh	Asunafo North	2	2	2	3	1	2	2	3	2.125		
14	Victoria Awortwi Daniels	Jaman South	1	2	2	3	1	3	2	3	2.125		
15	NIL	Banda	1	1	1	1	1	2	2	3	1.5	NA	
16	NIL	Kintampo Municipal	1	1	1	1	1	1	2	3	1.375	NA	
17	Ophelia Amponsah Tabi	Nkoranza Municipal	1	1	1	1	1	2	2	3	1.5		
18	NIL	Sene West	1	1	1	1	1	2	2	3	1.5	NA	

* Not selected as he was transferred from Ashanti and already received basic KAIZEN training in phase 1

Central Region BAC Head Capacity Assessment

Evaluation of BAC by Regional Manager

	Name	BAC	1	2	3	4	5	6	7	8	Ave	Project Team
1	Kwadwo Boadi Mensah	Winneba	4	3	2	1	2	4	2	3	2.63	4.3
2	Emmanuel Deteah	Twifo Praso	3	3	3	1	2	4	2	3	2.63	4.1
3	Veronica Essel	Keea	2	2	2	3	1	3	2	3	2.25	4.5
4	Francisca Dokua	Cape Coast	2	2	2	1	1	3	2	1	1.75	4.0
5	Emelia Eyeson	Assin North/Fosu	3	2	2	3	2	3	2	3	2.50	4.0
6	Henry Kwaku Osei	Agona East	2	2	2	1	1	3	2	3	2.00	4.0
7	Bokaye Aatta Kwasi JNR	Kyewere/Assin South	0	2	2	1	2	3	2	3	1.88	4.0
8	HENRIETTA ADDAI-POKU	Agona West	3	2	2	1	1	2	2	3	2.00	3.9
9	VIDA ENYAN	Mfantseman Municipal	3	2	2	1	1	3	2	3	2.125	NA
10	NIL	Gomoa West	2	1	1	1	1	3	2	3	1.75	
11	NIL	Gomoa East	2	1	1	1	1	3	2	3	1.75	
12	ARCAAH NATHAN	Awutu Bereku	3	2	2	1	2	3	2	3	2.25	
13	NIL	Ekumfi	2	1	1	1	1	2	2	1	1.375	
14	NIL	Ajumako	2	1	1	1	1	3	2	3	1.75	
15	NIL	Asikuma	2	1	1	1	1	3	2	3	1.75	

Appendix 2
Report on End-line Survey

**Report on End-line Survey
for
NBSSI/JICA National KAIZEN Project**

December 2018

JICA Project Team

1. Outline of the End-line Survey

The End-line survey on the National Board for Small Scale Industries (NBSSI) /Japan International Cooperation Agency (JICA) National KAIZEN Project was conducted for the purpose of measuring the impact of KAIZEN, and collecting the necessary data and information for future plans for the sustainable provision of KAIZEN related to Business Development Services provided by NBSSI. The survey is outlined below.

Table 1-1 Survey Outline

Duration	July to November 2018
Organizations surveyed	<p><NBSSI> NBSSI Head Office, Business Advisory Centres (BACs) in the target four regions; Ashanti, Northern, Brong Ahafo and Central Regions and the Regional Office in all ten regions</p> <p><MSMEs> On the Job Training (OJT) enterprises in the target regions; Northern, Brong Ahafo, Central, Ashanti and Greater Accra Potential client (medium-sized companies) in the Greater Accra, Ashanti, Western, Easter, Northern, Central and Brong Ahafo Regions</p> <p><Partner organizations> Related Ministries, REP, donors (World Bank, EU, AfDB, IFAD, USAID, DANIDA, and so on), other JICA Project, academic institutions</p>
Survey Methods	Questionnaire, Interview, Outsourcing of Research Consultants hired by Project Team

2. Summary of the Findings

2.1 NBSSI

2.1.1 Head Office

The office environment, the PR activities, the relationship and collaboration activities with the development partners were surveyed. The summary of each component is below.

Table 2-1 Basic Information on Head Office

Component	Results of analysis
Office Environment	Necessary facilities/equipment are in place. However, the unstable supply of electricity poses a challenge and some of the equipment and vehicles need maintenance, but repair costs are not disbursed.
Administration	<ul style="list-style-type: none"> Office is well managed. However, 5S is recommended to secure more effective layout. Filing system of hard copy is located centrally at Head Office, by the Records Unit and Departmental, Regional and BAC levels, and minutes on letters to indicate where items should be filed. Filing system of soft data is done individually and there are no guidelines on how to keep them.
HRD	Honorarium Policy and Institute Awards Scheme have been developed and Long Service Awards have been reactivated.
PR	The PR plan was made, but is mainly dependent on resources from development partners. Change: Web site has been renewed.
Development partner relations	Executive Director, Deputy Executive Director and Heads of Department are in charge of development partner coordination.
Budget	Budget ceilings are sometimes changed during the process and approved funds are mostly not received from MOF. Therefore it is necessary to seek funding from other sources.
Monitoring	NBSSI Head Office conduct monitoring on a quarterly basis, however there is inadequate funding from GOG to carry out monitoring, which forces NBSSI to rely on development partners' support.

2.1.2 Regional Offices

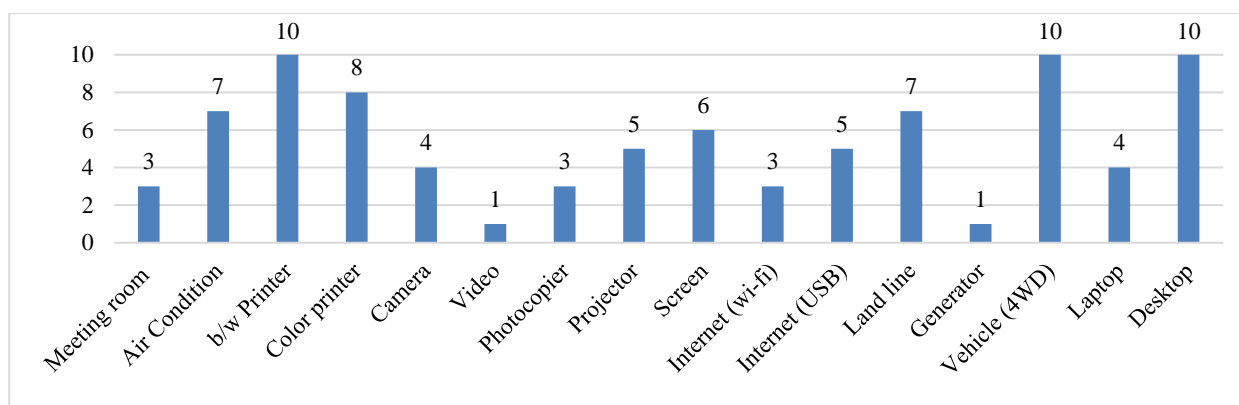
All NBSSI Regional Offices administered a questionnaire to survey the current situation and analysis of change. The results are summarized below.

(1) Facilities

Table 2-2 Basic Information on Regional Offices

Components	Target Regions (Northern, BA, Central and Ashanti)	Non-target Region
Office Environment/ Facilities	<p>Internet is still connected by USB modem.</p> <p>Change: Procurement of equipment/facilities</p> <p>Northern (NR) and Brong Ahafo (BA) Regional Offices have been equipped with air conditioners and meeting tables/chairs for basic KAIZEN training. Digital camera, laptop, projectors and screen have been procured for Northern, BA, Central (CR) Regional Offices.</p> <p>Landline is connected in Northern Region only. A vehicle for BA is still not functioning, so the BAC vehicles or personal cars are used for monitoring. This should be fixed.</p>	<p>The Greater Accra (GA) Regional Office was used as venue for advanced KAIZEN training, so air conditioners and meeting tables/chairs for the training were procured.</p> <p>The other office environment is similar to the target regions, however projectors, screens and laptops are not equipped.</p>
Structure and staff members	<p>NR and BA: The staff members are appropriately assigned.</p> <p>CR: The Project Officer is not assigned, so the Accountant works as Project Officer.</p> <p>AS: The Project Officer is not assigned.</p>	<p>The staff members are appropriately assigned.</p>
Workflow	<p>Change: The Regional Offices did not plan Workflow components, especially training, PR, incentive, collaboration with stakeholders, office management, but after intervention by the Project, all of the Workflow components have been planned.</p> <p>• Plan and Budget for KAIZEN</p> <p>Implementation of KAIZEN BDS and OJT to non-pilot BAC Heads were included in the Workflow action plan and the budget was applied. Securing funds for implementation remains a challenge.</p>	
Development Partners	<p>Common:</p> <p>Rural Development Programme (REP)</p> <p>Export Development and Agricultural Investment Fund (EDAIF)*</p> <p>BA</p> <p>SDF, NGOs (World Vision, AGREDS ADRA)</p> <p>Central</p> <p>CEDECOM</p> <p>NR</p> <p>RING Project, MASLOC, NGOs (CAMFED, SNV, Technoserve, World Vision)</p>	
Stakeholder (RECOMEP members)	<p>Member institutions are common.</p> <p>RECOMEP members:</p> <ul style="list-style-type: none"> • Regional Coordinating Council (RCC) • Economic Planning • Ministry of Trade and Industry (MOTI) • Ministry of Food and Agriculture (MOFA) • Ministry of Women and Children Affairs • GRATIS Foundation • ARB Apex Bank Ltd • Association of Small Industries (ASSI) <p>Unique members of RECOMEP are:</p> <p>BA: Sunyani Technical University,</p> <p>GA: AGI,</p> <p>Central: CEDECOM</p>	<ul style="list-style-type: none"> • Association of Ghana Industries (AGI) • Ghana Standards Authority (GSA) • Ghana Food and Drugs Authority • Ghana Export Promotion Authority (GEPA) • Ghana Revenue Authority

Table 2-3 Facility/Equipment at 10 Regional Offices



Note: Landline telephones are equipped in seven Regional Offices, however only one at the Northern Regional Office are connected.

(2) BACs

The number of districts, BACs, BAC Heads and Business Resource Centres (BRCs) in each region are listed below. Not all of the districts have BACs and not all BACs have BAC Heads. BACs that do not have designated BAC Heads have Business Development Officers (BDOs) from the Metropolitan, Municipal and District Assembly as to supervise activities. Some BAC Heads also oversee 2 or more BACs. BACs which will be converted to BRC will be officially started operation in 2019, the number of BACs is based on the information as of 2018.

Table 2-4 List of BACs (as of 2018)

Region	AS	BA	CR	NR	GA	ER	UE	UW	VR	WR	Total
No. of Districts	30	27	20	26	16	26	13	11	25	22	216
No. of BACs	28	19	17	22	9	16	13	11	20	22	177
No. of BAC Heads	24(25)	15(15)	13(14)	15 (19)	6	11	7	9	12	12	124
KAIZEN Trained BAC Heads	21	7	8	5	6	0	1	0	1	0	49
No. of BACs which will be converted to BRCs	6	5	4	3	2	3	3	3	4	3	36

Note:

AS: Ashanti, BA: Brong Ahafo, CR: Central, NR: Northern, GA: Greater Accra, ER: Eastern, UE: Upper East, UW: Upper West, VR: Volta, WR: Western

() shows the number of BAC Head in 2015

(3) Regional Economy

Table 2-5 Analysis of Regional Economy and Features

Region	Staple Industry		Strength		Challenge	
	2015	2018	2015	2018	2015	2018
BA	<ul style="list-style-type: none"> • Mining, • Agriculture (cashew, mango) • Agro processing, • Forestry, wood work • Clay products 	Mining, Cocoa Cashew	<ul style="list-style-type: none"> • big market in Techiman. • Good access to the Cote D'Ivoire • Availability of raw materials 	No Change	<ul style="list-style-type: none"> • Insufficient storage facilities • Poor road networks • Irregular power supply 	Inflow of cheap foreign goods
CR	Agriculture (pineapple, citrus) agro processing (juice), fishery, tourism	No information	New business paradigms more favourable to MSMEs. Strong private sector advocacy groups	No information	<ul style="list-style-type: none"> • Limited access to both financial and technical support. • Limited market information. • Limited managerial skills. 	No information
NR	Agriculture (shea nuts, yam, cotton), fishery, agro processing (shea butter, dry mango), smock weaving	Agriculture (shea, millet, cowpea, soya, yam) Agro-processing, Services Manufacturing	Electricity is relatively stable.	<ul style="list-style-type: none"> • Gov. and non-gov. intervention • Large and young workforce • Availability of BACs in 22 out of the 26 districts • Availability of the raw materials • low competition • Availability of foreign market (shea butter) 	<ul style="list-style-type: none"> • Low or no access to quality BDS • Unwillingness to adopt new effective technologies due to social issues 	<ul style="list-style-type: none"> • Low or no access to business information • Unwillingness to adopt new effective technologies due to social issues • Drought • High costs and bureaucracies in certificates from regulatory bodies
AS	<ul style="list-style-type: none"> • Mining 30% • Service 30% • Agribusiness 15% • Manufacturing 5% 		<ul style="list-style-type: none"> • Availability of NBSSI/BAC/ KAIZEN • High demand for local products • A vibrant export sector • Political stability • A growing entrepreneurial spirit among the youth • nearness to source of raw materials 		<ul style="list-style-type: none"> • Collusion among parallel MSME related institutions • Limited access to market intelligence • A polarized society affecting businesses • Slack regulatory institutions • Influx of cheap goods • No or lack of cluster of businesses • Weak business associations • Politicization of businesses • Poor infrastructure 	
GA	<ul style="list-style-type: none"> • Agro Processing (50%) • Fashion, Jewelry & Textiles (25%) • Soap & Detergents (25%) 		<ul style="list-style-type: none"> • Listing on Ghana Alternative Market (GAX) • UMB PPP Incubator Centre and innovative business ideas, entrepreneurial characteristics • mobilize equity capital (Family & Friends contribution) easily. 		<ul style="list-style-type: none"> • Financial constraints. • Inadequate logistics. 	

Region	Staple Industry	Strength	Challenge
ER		<ul style="list-style-type: none"> • Unsaturated market. • Cheap labour • Individuals' awareness of the need to patronize made in Ghana products • Access to raw materials • Learn from leading competitors 	<ul style="list-style-type: none"> • Inadequate access to skilled labour • Material adverse changes in demand and supply conditions of all kinds of products/ services (global) • interruption or unavailability of energy supply
UW	<p>Agriculture (groundnuts, millet, cowpea and sorghum, soya, shea nuts, cotton) and animal production (52%)</p> <p>Garment weaving (8%) (smock)</p> <p>Agro-processing (7%)</p>	<ul style="list-style-type: none"> • Proximity to big markets: Babile market • Proximity to constant water source: Black Volta & dams • Availability of valleys that can be developed into irrigation enclaves • Availability of tourist potentials that can be developed • Large deposits of clay in the eastern corridor • Storing vegetables and fruits • Availability of BDS providers • Commitment to learning new skills • Hard working • There is a road network linking almost all communities • Availability of cheap labour 	<ul style="list-style-type: none"> • Prevalence of robbery • Foreigners are taking over the retail sector. • Cheaper and better packaged foreign goods in the market. • Some communities are not accessible by road during rainy season. • Low literacy • Low financial outlay • Low managerial and technical know-how
VR	<ul style="list-style-type: none"> • Agriculture (coco nut)/fishing/hunting, • Service (wholesale, retail trade, dressmaking: 15.2%) • Manufacturing (10.9%) • Forest products processing (herbal medicine/drug) 	<ul style="list-style-type: none"> • Many competitive credit delivery institutions • Availability of large product internal and external markets, e.g. AGOA • Availability of a large educated and skilled unemployed youth for engagement by MSMEs • Committed and skillful entrepreneurs and managers • Ability to produce high-quality products • Ability to produce customized product • Keeping of proper records and credit-worthiness 	<ul style="list-style-type: none"> • Inability to meet requirements of export markets • Use of obsolete equipment and machinery, among others • Leading high cost of production • Low level of technical skills • Low payment of salaries and wages leading to staff/worker attrition.
WR	<ul style="list-style-type: none"> • Agriculture, including forestry and fishing (42%) • Wholesale and retail; repair of motor vehicles and motorcycles (18.7%) • manufacturing (10.7%) 	<ul style="list-style-type: none"> • Larger unserved market • Possible merger and collaboration • Greater share of the economy (informal sector) • Ease of entry • Relative cheaper production and marketing cost • Mostly unregistered and unregulated • Minimum initial cost • Flexibility in decision-making • Personalized product offerings and packaging • Owners' control and personal involvement 	<ul style="list-style-type: none"> • The growth of artificial intelligence and automation of production • Unbridled trade liberation • Internet marketing • Competition • lack of accessibility to credit facility • Inadequate attention to research and development

(4) Gender

The challenges related to gender are summarized below.

Cultural barriers

- Other forms of discrimination
- Many social norms do not favour women (women should give more attention to family and home responsibilities rather than venturing into high rewarding ventures)
- Unfavourable land tenure practices (women do not inherit land and therefore find it difficult to present land as collateral for credit)
- Lack of Access to market
- Poor access to land and other productive resources
- Customs and tradition make women subordinate to their husbands including decision making
- Limited time to operate their businesses, to develop skills to be credible entrepreneurs due to household burdens
- High rate of teenage pregnancy
- Limited employment opportunity
- Lack of support networks for women
- Inadequate access to credit for both start up and working capital
- Lack of assets to guarantee for loans

Lack of skills

- Low level of Financial Management Skills
- Inadequate technical and managerial skills
-
- Low entrepreneurial skills
- Lack of self-confidence: will power, and strong mental outlook
- Low education

The possible support related to gender issues is listed below.

Overall challenges

- Devise social and women focused interventions to support women
- Not less 60% of NBSSI programmes are given to women
- Make sure women are fairly represented in all programmes
- Collaborating with relevant institutions such as Department of Gender to train women to advocate for modernization of customs that work against progress of women

Skill

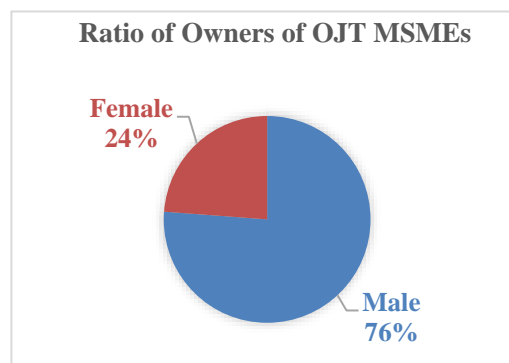
- Lobby management to allow females to participate in overseas training courses in relevant fields
- Skills improvement training for women entrepreneurs, and facilitating women's participation in fairs and exhibition
- Build capacities of women's Cooperatives to provide group-based services to their members
- Train and strengthen women to add value to their products, financial literacy and continuous improvement in production
- Build capacities of women to develop entrepreneurial skills
- Education to foster self-confidence
- Planning and implementing capacity for women entrepreneurs

Finance/land acquisition

- Advocate to improve women's access to land and other productive resources
- Support women to access grants and loans as capital for business start-up and/or expansion
- Collaborate with other BDS providers to provide medium-term loans to women
- Establishment of loan scheme for women entrepreneurs
- Putting in place a financial support policy that will favour women
- NBSSI to collaborate with the district assembly and reps to provide appropriate funds to women

Support from Project

- Although analysis and activities specialized in gender were not originally planned in the Project, the women entrepreneur support programme, i.e. Ghana Women Entrepreneurship Summit, by NBSSI was assisted and additional points were given to enterprises which ratio of female employees was high in the selection of OJT enterprises.
- 10 OJT MSMEs were owned by female out of 42 OJT MSMEs, and some of OJT MSMEs' main promoters of KAIZEN were female. The distinguished achievement by female was found in the Northern and GA Regions and garment industry, such as Shekinah Glory Bakeries, KAIZEN Champion MSMEs in the Northern Region in 2016.



Apart from the above, no particular impact on gender issues was reported from Regional Offices and BACs through the Project.

(5) Workflow

The competency related to Workflow of each Regional Office was surveyed through self-evaluation, which was conducted by the Technical Unit and Administration Unit members of each region in the Workflow Workshop. The assessment of the competency is summarized below.

Table 2-6 Assessment of Capacity on Workflow

No.	Components	NR		BA		CR		AS	
		Base	End	Base	End	Base	End	Base	End
1	1-1. Competency Assessment/Needs Assessment	1.3	4.0	2.0	4.0	1.6	4.0	2.0	4.7
	1-2. Management Development	1.5	4.2	1.3	4.2	1.6	4.0	2.0	4.3
	1-3. KAIZEN Training Management	1.0	4.5	0.8	4.2	0.8	4.3	2.4	4.3
	1-4. Skill Development Scheme	1.0	3.7	0.8	4.0	1.0	3.7	2.0	4.3
	1-5. Trainer Development	1.0	4.0	1.0	3.7	1.0	3.7	1.8	4.3
	1-6. Staff Training	1.8	3.3	1.8	3.0	1.0	3.7	1.8	4.3
2	2-1. KAIZEN Action Plan (Self-Implementation of KAIZEN)	1.0	4.5	0.8	4.5	0.8	4.3	2.0	5.0
	2-2. KAIZEN Regional Expansion	1.3	3.7	0.8	4.5	1.0	3.7	1.8	4.0
3	PR	1.8	4.0	1.5	4.0	1.2	3.7	2.2	3.7
4	4-1. Stakeholder Coordination	1.5	4.7	1.5	5.0	1.8	3.7	2.4	4.0
	4-2. Working Group Meeting	1.5	4.5	1.5	4.3	1.0	4.0	2.0	4.0
5	Incentive Scheme	1.5	3.5	1.3	3.2	1.4	3.0	1.4	3.3
6	Budgeting/Disbursement	2.3	4.0	2.0	4.0	2.2	4.0	1.2	4.0
7	Monitoring of Workflow	1.0	4.5	0.0	4.5	1.2	4.0	1.8	4.0
	Monitoring of BAC	1.8	3.8	1.0	4.3	1.8	4.0	2.0	4.0
8	Annual Review Meeting	1.3	3.3	1.5	3.0	1.4	3.3	1.8	4.0
9	9-1. Knowledge Management	2.0	3.5	2.0	4.0	1.6	3.3	1.2	3.7
	9-2. Archive Management (File/Data Management)	2.5	4.3	2.0	4.0	2.0	4.0	1.6	3.7
10	Office/Equipment Management	2.8	4.0	2.0	4.0	1.8	4.0	1.8	4.3
	Average	1.6	4.0	1.3	4.0	1.4	3.8	1.9	4.1

Note; Score 1: Poor/Not implemented, 2: Fair/partly implemented 3: Good, 4: Very Good, 5: Advanced/Innovative
Base: November 2015, End: November 2018

Analysis

The Regional Office in the target regions did not implement or partly implement most of the Workflow components at the time of the base-line survey. The Project conducted PR, KAIZEN awards, a part of the incentives, and not only activities related to KAIZEN, with Regional Offices so that they could experience and improve practical skills, which resulted in the enhancement of evaluation of capacities on Workflow.

All Regional Offices cited non-reliable funds as a challenge to implement Workflow, whereas the budget for Workflow components has not been fully reflected in the Regional Office annual plan in some regions.

2.1.3 BACs

(1) Pilot BACs in Target Regions

The profile sheet filled out by pilot BAC Heads, and the information sheet made by Regional Managers, are summarized below.

Table 2-7 Summary of Results of Survey on Pilot BAC Heads

Components	Northern		Brong Ahafo	Central
No of BAC Heads	Base: 10 pilot BAC Heads out of 19 BAC Heads End: 5 pilot BAC Heads remain (-5) 15 BAC Heads in the region		Base: 8 pilot BAC Heads out of 15 BAC Heads End: 7 pilot BAC Heads remain (-1) 15 BAC Heads in the region	Base 7 pilot BAC Heads out of 13 BAC Heads End: No change
Academic Background of BAC Heads ¹	Bachelor: 12 BAC Heads (52%), Diploma: 4 BAC Heads (17%), Master: 7 BAC Heads (31%) Most of BAC Heads majored in business or management and entering was not found.			No information
Overseas training experience	All pilot BAC Heads participated in training in Japan. Saboba (Northern) BAC Head attended Knowledge Co-Creation Program in Malaysia and Bechem (BA) BAC Head joined this in Japan.			
Knowledge of KAIZEN ² (4 point scale)	Base	2.0 (50%)	2.5 (62.5%)	2.3 (57.5%)
	End	3.2 (80%)	3.6 (90%)	3.4 (85%)
	Improvement	30% increase	27.5 % increase	27.5 % increase
ICT skills ³ (4 point scale)	Base	2.4 (60%)	2.4 (60%)	2.4 (60%)
	End	3.4 (85%)	3.8 (95%)	3.0 (75%)
	Improvement	25% increase	35% increase	15% increase
Office Equipment	All pilot BACs are equipped with desktop/laptop computers, camera and printers. Projectors are strongly requested for presentations on KAIZEN.			
Vehicle (change from base-line)	Sagnarigu and Mion BAC have motorbikes, and the other BACs have vehicles.		Vehicles are available in all BACs except at Kintampo South BAC.	Vehicles are available in all BACs except at the Cape-Coast BAC.
No of active MSMEs on average	Base	Approx. 240	Approx. 240	Approx. 120
	End	Approx. 730 (Damongo and Tamale have many active clients.)	Approx. 334	No information
Average No of growth-oriented MSMEs	261 MSMEs		144 MSMEs	No information
Average No of medium to large companies	21 companies		15 companies	No information
Plan and Budget for KAIZEN	Not only pilot but also non-pilot BAC Heads and BAC Heads in the remaining regions applied the budget for KAIZEN implementation to REP.			

Note: 1. 23 BAC Heads from the Northern and the BA Regions answered

2. Regional Managers assessed BAC Heads' knowledge of KAIZEN.

3. Regional Managers assessed BAC Heads' ICT skills below. The Central Region did not submit the completed score sheet of basic skills, therefore the score on the information sheet was used.

Evaluation on Business Skills

The comparison of business skills evaluation of pilot BAC Heads by Regional Managers (5 point-scale), between the base-line and end-line surveys, is stated in the table below. The evaluation sheet could not be collected from the Central Region, therefore the results of the Northern and BA Regions are used. In the Northern Region, 10 pilot BAC Heads were assessed, but the 5 remaining pilot BAC Heads out of 10 were evaluated. The detailed results are attached in Appendix.

Basic Skill

Region	Base-line	End-line	Improvement
Northern	2.7 (54%)	4.2 (84%)	30% increase
BA	3.1 (62%)	4.2 (84%)	22% increase

Evaluation Items:

- | | |
|---|--|
| 1 Logical thinking | 2 Concentration and focus making |
| 3 Presentation to get across what is conveyed | 4 Cognizant and power of understanding and observation |
| 5 Team working and team building | 6 Problem identification and solution development |
| 7 Communication Skills (coaching) | 8 Project Management |
| 9 ICT literacy and usage | 10 Office management and administration |

In addition to skills on KAIZEN, the business skills of BAC Heads have also been improved during the Project period. In the Northern Region, presentation, team building/teamwork and computer skills have largely been enhanced, and logical thinking, problem identification and solution development were improved, which show KAIZEN training contributes to the overall skills on BDS facilitation.

Professional Skills

Region	Base-line	End-line	Improvement
Northern	2.7 (54%)	4.3 (86%)	32% increase
BA	2.8 (56%)	4.2 (84%)	28% increase

Evaluation Items:

- | | |
|---|---|
| 1 District economic development plan | 2 Corporate Diagnosis and KAIZEN |
| 3 Marketing Improvement | 4 Business Plan formulation |
| 5 Association formation and strengthening | 6 BDS facilitation and the utilization of BDS providers |
| 7 Business management training operations | 8 Mentoring of new and junior BAC Heads and BDOs |

Analysis

Apart from KAIZEN, skills in marketing and business management training operations were improved, but still the score on business plan formulation is not high. As skills in business plan formulation are critical for loan facilitation, this training is recommended to NBSSI.

(2) BACs in Remaining Regions

The profile sheet and evaluation on business skills were administered by BAC Heads.

Table 2-8 Summary of Results of Survey on BACs in Remaining Regions

Components	GA	Eastern	Western	UE	UW	Volta
Valid response	8	12	16	6	10	9
Office Equipment	Most of BACs are equipped with desktop computer and printers. Photocopiers were provided to REP BACs, but not GoG BACs. Access to internet relies on USB modems.					
Vehicle	Most of BACs have vehicles. BACs which do not have vehicles: GA: Abokobi, Ashaiman, WR: Takoradi, Amenfi East, Bia East, Agona Nkwanta, Bodi, Akontombra UE: Telensi, UW: Wa and Wa West, Volta: Ho					
No. of growth-oriented MSMEs	64	71	67	38	119	38
No. of medium to large companies	29	19	29	3	6	3
Basic skills (low score skills)	Project management, Problem identification, solution development	Project management, ICT, Presentation, Teamwork, Office management	Project management	Not submitted	Project management, Communication (coaching)	Logical thinking

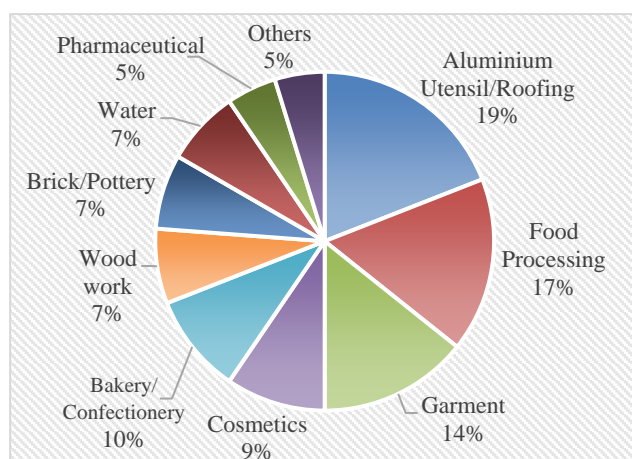
Components	GA	Eastern	Western	UE	UW	Volta
Professional skills (low score skills)	Marketing Improvement, Business Plan formulation	Marketing Improvement, Business Plan formulation, District economic development plan formulation	Marketing Improvement, Business Plan formulation	Not submitted	Marketing Improvement, District economic development plan formulation	Business Plan formulation

Analysis

- Laptop computers are not provided to BACs, but laptops should be provided as they can be used during blackouts, and for presentations at seminars and enterprises.
- The GA, Eastern and Western Regions have medium-large scale companies, therefore they should be prioritized for KAIZEN training.
- Regarding basic skills, further training should be provided in project management.
- Concerning professional skills, further training for marketing and business plan formulation should be planned.

2.2 MSEs

2.2.1 Industry-wise Analysis on KAIZEN



The chart shows the ratio of OJT MSMEs' industries. The most-selected industry is aluminium utensils and roofing companies, 8 MSMEs, the second is food processing, 7 companies consisting of rice, soya, palm, salt, cereal, mango and so on, and 6 garment industry follow.

Profit base

The KAIZEN impact on OJT MSMEs according to industries is discussed. From the results of the OJT in the Project, the garment industry could achieve the most successful results. The wood work industry followed this,

and the cosmetics industry including soap making were third.

Applied Methods

Methods applied to OJT MSMEs are analyzed according to industries. 5S and 7 waste identification were implemented at all OJT MSMEs, and the skill map, code of conduct and organizational chart were introduced to most MSMEs.

Garments

MSMEs		Applied KAIZEN Methods
BA	Mckenzie Sports Wear	<ul style="list-style-type: none"> • QC • Inventory control • Safety management • Work standard • Layout change • ECRS • Jig/Fixture • Production control board • Working capital management
Ashanti	<ul style="list-style-type: none"> • A.A. Agyei Enterprise • Uni Jay Fashion 	
GA	<ul style="list-style-type: none"> • Bulluk GH Limited (Nallem) • Sleek Garments Export Limited, • KAD Manufacturing Limited 	

Findings

The average number of applied KAIZEN methods was 29 methods, which is one of the highest. It is found that KAIZEN impact could be seen in the garment industry, and it is suitable for OJT since many KAIZEN methods can be applied.

In most of the companies, the layout can be changed as equipment and machines (sewing machine, cutting table etc.) are not fixed.
The garment enterprise, which produces school uniforms, are collecting accounts receivable from schools, therefore working capital management was applied to most OJT companies.

Wood work

MSMEs		Applied KAIZEN Methods	
BA	<ul style="list-style-type: none"> • Hasbuk Company • Kwasi Gyan (Jomo) Company Limited 	<ul style="list-style-type: none"> • 5S • Preventive maintenance • QC 	<ul style="list-style-type: none"> • ECRS • Safety • Visualization
Ashanti	Kumi & Company Limited		
Finding Although the number of applied KAIZEN methods was on average 22 methods, which was less than the other industries (on average 26 methods), the indicators on productivity, sales and lead time were improved more than most of the industries. It was found that factory floor and storage at most of the wood work enterprises are not well organized or clean, so basic KAIZEN methods, especially 5S, i.e. sorting, setting in order and sweeping, contribute to productivity, quality and image. The impression and evaluation of enterprises by customers were positively changed, which induced more order.			

Cosmetics

MSMEs		Applied KAIZEN Methods	
Northern	Yumzaa Women Association	<ul style="list-style-type: none"> • Layout change • Inventory control • Work standard 	<ul style="list-style-type: none"> • Safety • Preventive maintenance • Jig/fixture
BA	<ul style="list-style-type: none"> • Kasraf Enterprise • Ghana Permaculture Institute 		
GA	Solutions Oasis Company Limited		
Finding The average number of applied KAIZEN methods was 29 methods which is one of the highest, therefore it is suitable for OJT. Likewise, the layout could be changed and several types of jig were developed, which could contribute to productivity.			

2.2.2 Major Changes in OJT MSMEs

The final follow-up of the OJT MSMEs undertaken in October 2018 found the changes after OJT. 3 MSMEs stopped operation; namely Eli Balicon Limited (Northern), Kasraf Enterprise (BA), A1 Bakery (Ashanti). The challenges, intervention and KAIZEN impacts are summarized in Appendix, but the awards winners are listed in the following table. The management of all award-winning companies showed appreciation to NBSSI, as KAIZEN contributed to their improvement of companies and branding.

Table 2-9 Awards Winner OJT MSMEs

Name of MSMEs	Awards
Yumzaa Women Association (Northern)	Winner of Vodafone SMEGS AWARD (Micro Industrial Award Category)
McKenzie Clothing (BA)	AGI Awards in Garments, Textiles and Leather (2017)
Uni Jay (Ashanti)	Fashion Company of the Year for Ashanti Region (2018) Overall Fashion Company of the Year (2018) Chamber Business of the Year (2018) Women Empowerment Icon Award in the USA (2017)
Nallem Clothing (Greater Accra)	Ghana Customer Choice Brand of the Year (2018)

2.2.3 Results on Questionnaire

The Questionnaire survey was conducted with OJT MSMEs and self-implementation of advanced KAIZEN MSMEs. A total of 33 MSMEs provided valid responses and the breakdown is stated in the following table.

Table 2-10 Breakdown of Valid Responses

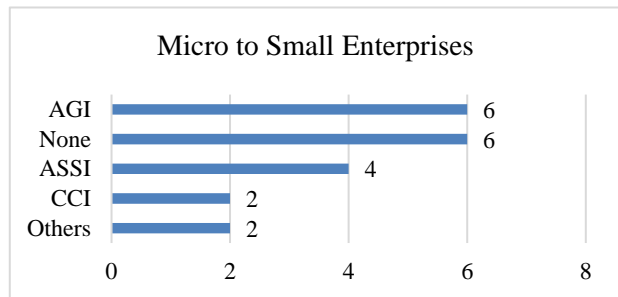
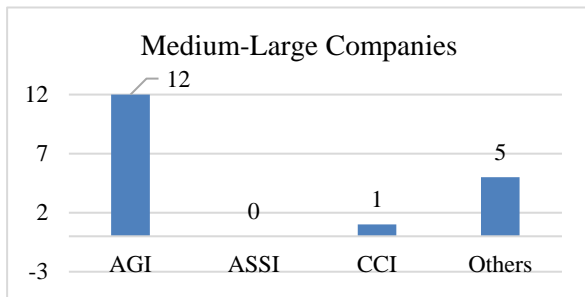
Region	Medium-Large scale companies	Micro-Small scale enterprises	Total
Ashanti	9	1	10
GA	5	2	7
Northern	0	5	5
BA	2	3	5
Central	1	5	6
Total	17	16	33

The results of each topic are summarized below.

(1) Association

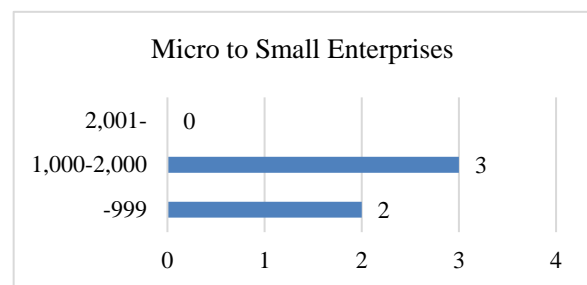
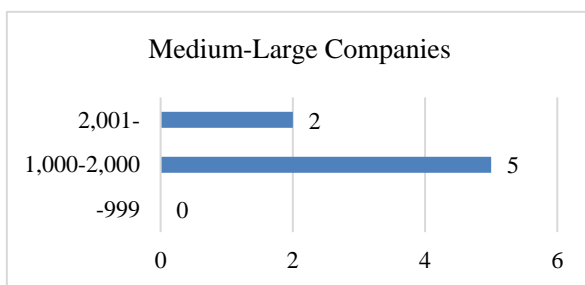
The vast majority of medium to large companies were found to be members of the Association of Ghana Industries (AGI), with very few of them being members of other associations. On the other hand, less than half of the micro to small industries were members of AGI but were members of the Association of Small Scale Industries (ASSI).

Offering BDS to MSMEs could be more effectively done by working closely with AGI for the medium to large, and ASSI for the micro to small enterprises.



(2) Payment Amount for Consultation

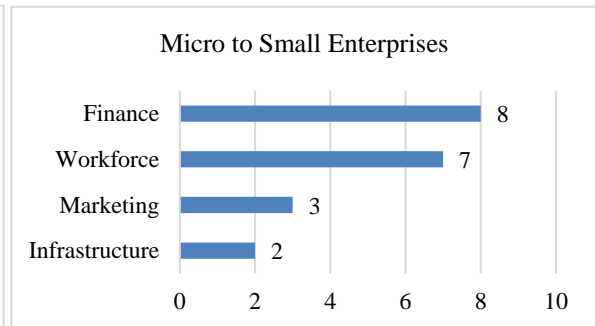
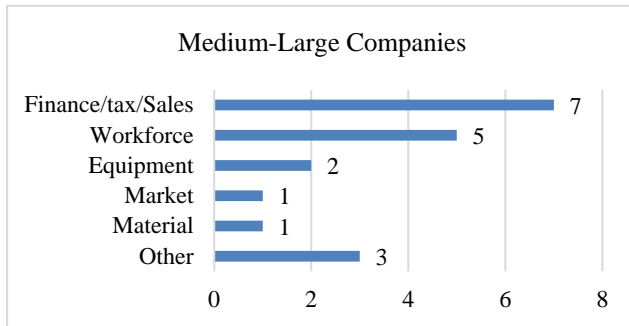
21 MSMEs demonstrated that they were able to pay for the service, and 12 MSMEs provided the information how much they could pay. It was found from the questionnaire conducted that the medium-large companies were willing to pay between GHS 1,000 to GHS 2,000, with a very few willing to between the GHS 1,000 to GHS 2,000 with a very few willing to pay GHS 2,000 or more. However, with micro-small enterprises, whereas many were willing to pay between GHS 1,000 to GHS 2,000, also a considerable number were willing to pay below GHS 1,000.



The budget for self-implementation of Enterprise Diagnosis, KAIZEN and one-time follow up with one MSME was GHS 1,400. All MSMEs bore costs for KAIZEN though, basic KAIZEN package (Enterprise Diagnosis, KAIZEN and one-time follow-up) could be done within GHS 1,400.

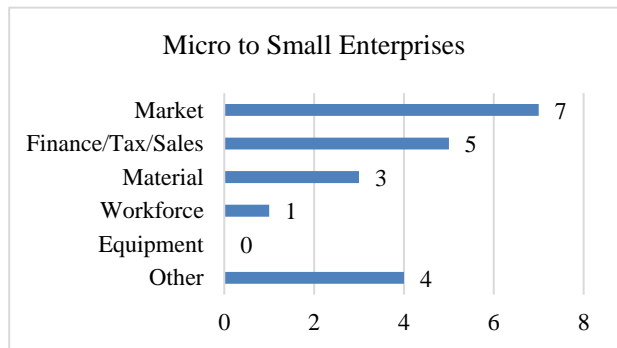
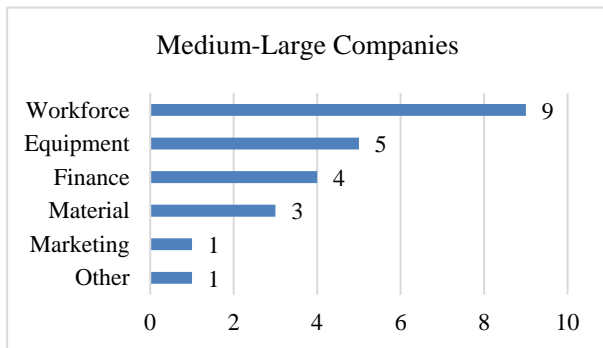
(3) Challenges

The major challenge confronting both medium-large and micro-small enterprises are the tax rates/low sales which in turn affects their finances, and inadequate capacities and ethics of the workforce. Micro-small enterprises had marketing and access to market followed.



(4) Needs

The medium-large companies demonstrated three major needs; inadequate skilled workforce, followed by modern/new equipment conforming to current industry standards, and financial assistance mostly to expand operations. Micro-small enterprises showed a need for marketing, financial assistance and support for materials.

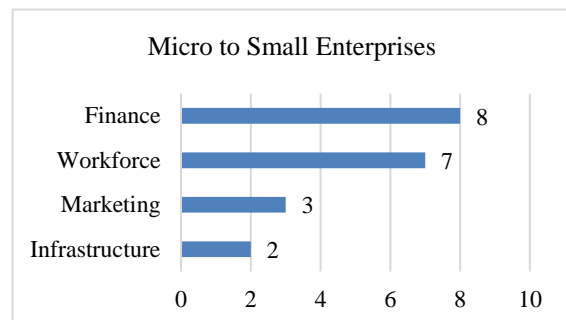
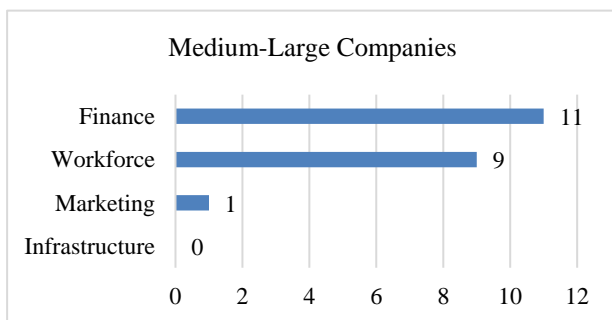


NBSSI could take advantage of this situation to address the most important need of the medium-large companies by offering skilled training consultancy for the workers of these enterprises, depending on the kind of industry, and in addition provide a linkage between companies that import and install automated machines at a cheaper cost to these enterprises.

NBSSI could also take a look at the needs of the micro-small enterprises by advising on marketing for the expansion of sales.

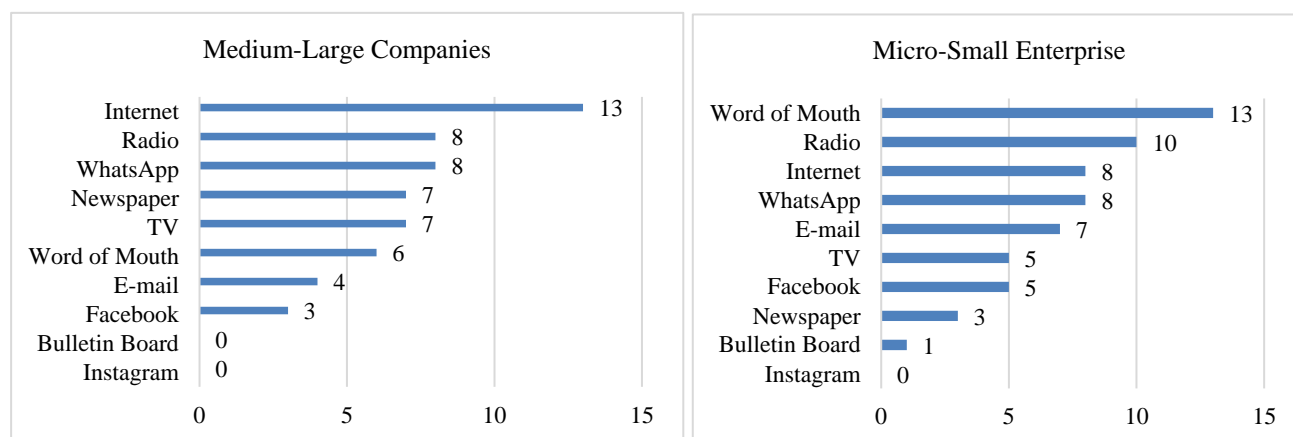
(5) Support

It was evident from the data analysis that the majority of both medium-large and micro-small enterprises indicated that finance was the most pressing support required, and also enhancement of the capacities of their employees.



(6) Information Source

For the medium-large companies, it was realized that most of them sourced their information from the internet. This was followed by radio and use of WhatsApp. With the micro-small enterprises, they sourced information by “Word of Mouth/Referral”, followed by radio, internet and WhatsApp.



2.3 Partner Organisations

Interviews with the partner organisations were conducted by the Project Team, to obtain information on private sector development and the possibility on further collaboration with NBSSI. The summary of results is shown below.

Table 2-11 Summary of Interview with Partner Organisations

Organization	Private Sector Development/ Relation with NBSSI
Export Trade, Agricultural and Industrial Development Fund (EDAIF)	EDAIF has been repealed and integrated into the Ghana Export-Import (EXIM) Bank under MOF. NBSSI continues collaborating with EDAIF about loans to MSEs, but the funding for KAIZEN training could not be realized.
REP	The Memorandum of Cooperation (MOC) between REP, NBSSI and the Project, with the aim of securing funds for continuous KAIZEN provision to MSMEs by NBSSI was concluded, and it was confirmed that REP would fund KAIZEN activities to NBSSI in 2019.
GRATIS	Collaboration with NBSSI through RTF (No change).
MOTI	The reviewed SME policy draft was given back to the consultant to work on the comments and changes, and it was submitted to the Cabinet. SME policy is a pre-condition for approval of the Enterprise Development Authority (EDA).
EU	The EU strategy is to maximize their trade and investments by increasing Direct Foreign Investments (DFIs) in Ghana, and is considering supporting the private enterprises directly without any intermediaries such as government agencies or private organizations in the next 5-10 years. EU will shift to high potential medium to large companies for support. The current projects being carried out are; 1. Ghana Employment Support Programme (GESP), 2. West African Competitive Programme (WACP)-Ghana Component, 3. Capacity Building for the Economic Partnership Agreement
IFAD	IFAD’s current projects with GASIP, REP and NBSSI end in 2021 with a total budget of USD 45 million (USD 35 million IFAD loan + USD 10 million IFAD grant). The first phase started in 2015 to 2018. The second phase is expected to end in 2021. However, additional funding of over USD 40 million has been secured particularly to support the 30 Business Resource Centres (BRCs) of NBSSI under MOTI.
UNDP	As Ghana is categorized as a middle-income country, the budget has been drastically reduced and UNDP is currently working to help achieve the Sustainable Development Goals (SDGs). The current project of UNDP is in sustainable development and environmental protection with a focus on renewable energy and the transfer of its technology, such as the platform which seeks to bring together other development partners, researchers, investors etc. with a strong communication component advocating to the private sector to go into the use of renewable energy which is much more environmental-friendly.

Organization	Private Sector Development/ Relation with NBSSI
Rural Development Fund Ghana (RDF)	Currently reviewing KAIZEN impact and how to utilize NBSSI BACs as KAIZEN Consultants for technical assistance. MOU has been finalized with NBSSI for incubation training and development in rural districts.
SDF	MOU is currently being finalized for NBSSI to offer KAIZEN training to successful applicants of the current phase, with particular emphasis on small and micro enterprises.
Business Sector Advocacy Challenge (BUSAC) Fund	BUSAC has existing cooperation and partnership with NBSSI and funded the recent Ghana Women Entrepreneurial Summit, study tour to Denmark for benchmarking activities as part of their restructuring into an Enterprise Development Authority (EDA), and provided computer training to BACs, and provision of funds for training modules for 176 enterprises out of the 400 screened applications. NBSSI submitted a proposal for KAIZEN training to BUSAC and it is under review.
GIZ	MOU between GIZ and NBSSI which targets scope is around 8,000 people or more including migrants and potential micro and small enterprises. There will be; one (1) week entrepreneurship training comprising of “business idea generation; three (3) days and financial literacy, two (2) days at designated centres in the rural areas of the Brong Ahafo, Ashanti and Greater Accra Regions whilst British Council will train the target groups in the cities. The entire training will take up to six (6) months after which the selected 240 entrepreneurs can have access to funds (not cash), a well-developed business plan, and assistance to enter the market.
DFID	DFID is supporting; 1) High level technical support on sectoral policies, 2) Expert response to government policies on private sector development, 3) Retainable Finance, 4) Elements of micro support to investment corporations and companies or organizations who co-finance investments in Ghana. DFID is working on a consultation portal (platform) to amalgamate holistically Ghana’s plethora of business laws, which are scattered, on MSME development, such as Gap Analysis (Ministries & Government Agencies) Policy, Automobile Policy, and Industrial (Special Economic Zones) Policy.

Appendices

Evaluation on Skills of BAC Heads in target regions

Evaluation on Skills of BAC Heads in the Northern Region

	Name	BAC		1	2	3	4	5	6	7	8	9	10	11	12	13	Ave (1-8)	
1	Alidu Ewura	West Gonja	Base	3	2	2	3	1	3	2	3							2.4
			End	3	3	3	3	2	3	2	3	4.5	5	4	5	5		
2	Suragdeen Iddrisu	Saboba	Base	3	2	2	1	1	3	2	3							2.1
			End	3	3	3	3	2	3	2	3	4.5	4	4	4	4		
3	Mathew Azoya	East Mamprusi	Base	3	2	2	3	1	4	2	3							2.5
			End	3	3	3	3	1	3	2	3		5	4	3	3		
4	Henrietta Zaato	Sagnarigu	Base	3	2	2	1	1	3	2	2							2.0
			End	3	4	4	3	1	4	2	3	4	4	4	4	5		
5	Bukari Mohammed	Tamale Metro	Base	3	2	2	1	1	2	2	3							2.0
			End	3	3	4	3	1	3	2	3	4.5	5	4	5	4		
6	Adams Sina	Bole	Base	3	1	1	1	1	2	2	3							1.8
			End	3	2	1	1	1	4	2	3	0	4	3	3	3		
7	Amin Abdul-Basid	North Gonja	Base	3	1	1	1	1	3	2	2							1.8
		Daboya	End	3	2	1	1	1	4	2	2		5	4	4	4		
8	Osman Issah Adam	Tolon (new)	End	3	3	1	1	1	1	2	3							1.9
9	Abdul-Mutalib Zakaria	Kumbungu (new)	End	3	2	1	1	1	4	2	3	0	5	3	5	4		2.1
10	Brigit Niena Sheni	Gushegu	Base	2	1	1	1	1	3	2	2							1.6
			End	2	1	1	1	1	3	2	3							1.8
11	Osman Adam Issah	Karaga	Base	2	1	1	1	1	1	2	3							1.5
			End	2	1	1	1	1	3	2	3		4	4	4	4		
12	Muniru Abdul-Rahman	Savelugu/Nanton	Base	2	1	1	1	1	2	2	3							1.6
			End	2	1	1	1	1	2	2	3							1.6
13	Wasilatu Seidu	Yendi	Base	2	1	1	3	2	2	2	2							1.9
			End	3	2	1	3	2	3	2	3							
14	Shafique Mohammed Abubakar	Zabzugu	Base	2	1	1	1	1	2	2	3							1.6
			End	2	1	1	1	1	2	2	3		4	4	4	4		
15	NIL	East Gonja	Base	2	1	1	1	1	2	2	3							1.6
16	Abdulai Abukari Fuseini	Chereponi	Base	2	1	1	1	1	2	2	3							1.6
17	NIL	Bunkpurugu Yunyoo	Base	2	1	1	1	1	1	2	2							1.4
18	Haruna Issifu	West Mamprusi	Base	2	1	1	1	1	1	2	3							1.5
19	NIL	Tatale Sanguli	Base	3	1	1	1	1	3	2	2							1.8
	Haruna Mohammed	Tolon	Base	4	2	2	1	2	4	2	3							2.5
	Ahmed Salman	Sawla	Base	3	2	2	3	2	4	2	3							2.6
	Tienah Emmanuel Mohammed	Mion	Base	3	2	2	1	1	3	2	2							2.0
	Adam Mohammed Gadaf	Kumbungu	Base	3	2	2	1	1	3	2	3							2.1
	Rashidatu B.Alhasan	Buipre/Central Gonja	Base	3	2	1	1	2	2	2	3							2.0
Pilot BAC Head			Base	3.0	2.0	2.0	1.8	1.0	3.0	2.0	2.8							2.2
Pilot BAC Head			End	3.0	3.2	3.4	3.0	1.4	3.2	2.0	3.0	4.4	4.6	4.0	4.2	4.2		2.9
Non-pilot BAC Head			Base	2.3	1.0	1.0	1.2	1.1	2.0	2.0	2.6							1.6
Non-pilot BAC Head			End	2.6	1.7	1.0	1.2	1.1	2.9	2.0	2.9	0.0	4.4	3.6	4.0	3.8		1.9

1	Computer Skill (4th grade)	6	Commitment (4th grade)	11	MS Excel
2	Knowledge of KAIZEN (4th grade)	7	Wi-fi or Modem	12	MS PP
3	Experience of KAIZEN Provision (4th grade)	8	Vehicle	13	Photo Management
4	JICA Overseas Training	9	KAIZEN Trainer		
5	Other Training	10	MS Word		

4 :Yes=3, No=1

5 :Yes=2, No=1

7 :Wi-fi=3, Modem =2, NA=1

8 :Pickup=3, Motorbike=2,NA=1

Evaluation on Basic Skills of BAC Heads in the Northern Region

	Name	BAC		1	2	3	4	5	6	7	8	9	10	Ave	
1	Alidu Ewura	West Gonja	Base RM	3	3	3	4	3	3	3	3	2	3	3.0	
			Self	4	4	4	4	5	5	4	5	4	5	4.4	
			End RM	4	4	4	4	4	4	4	4	4	3.5	5	4.1
2	Suragdeen Iddrisu	Saboba	Base RM	3	3	3	3	2	2	2	2	2	2	2.4	
			Self	4	4	5	5	5	4	5	4	4	4	4	4.4
			End RM	4	4	5	4	4	4	5	4	4	3.5	3	4.1
3	Mathew Azoya	East Mamprusi	Base RM	3	3	3	4	3	3	3	3	2	3	3.0	
			Self	4	4	3	4	4	4	4	5	3	5	4.0	
			End RM	4	4	4	4	5	4	4	5	3	5	4.2	
4	Henrietta Zaato	Sagnarigu	Base RM	2	3	2	3	2	2	2	2	2	2	2.2	
			Self	4	3	4	4	5	4	5	4	3	4	4.0	
			End RM	5	5	5	5	5	4	5	4	3.5	4	4.6	
5	Bukari Mohammed	Tamale Metro	Base RM	3	2	3	3	2	2	3	2	2	2	2.4	
			Self	5	4	5	5	4	4	5	4	4	4	4.4	
			End RM	4	4	5	4	4	4	5	4	3.5	3	4.1	
6	Sina Adams	Bole	End Self	3	4	4	4	4	4	4	3	3	3	3.6	
			End RM	3	4	4	4	4	4	4	4	3	3	3.7	
7	Amin Abdul-Basit	Daboya	End Self	5	5	5	5	5	5	5	3	4	4	4.6	
			End RM	4	4	4	4	3	4	4	3	3	3	3.6	
8	Shafique Mohammed Abubakar	Zabzugu	End Self	4	4	4	5	5	4	4	5	4	4	4.3	
			End RM	3	3	3	4	4	3	3	3	3	4	3.3	
9	Osman Issah Adam	Tolon	End Self	5	3	3	5	4	4	5	3	3	4	3.9	
			End RM	4	3	3	4	4	3	4	3	3	3	3.4	
10	Abdul-Mutalib Zakaria	Kumbungu (new)	End Self	5	3	4	5	4	4	5	3	3	4	4.0	
			End RM	4	4	4	4	4	4	4	4	3	4	3.9	
14	Muniru Abdul-Rahman	Savelugu	RM	2	1	2	2	2	2	2	2	2	2	1.9	
	Rashidatu B.Alhasan	Buipe	Base RM	3	2	3	3	2	2	3	3	2	2	2.5	
	Ahmed Salman	Sawla	Base RM	3	4	3	4	3	3	3	3	3	2	3.1	
	Haruna Mohammed	Tolon	Base RM	3	4	4	4	3	3	3	3	4	3	3.4	
	Tienah Emmanuel Mohammed	Mion	Base RM	2	3	2	3	2	2	2	2	2	3	2.3	
	Adam Mohammed Gadaf	Kumbungu	Base RM	3	3	3	4	3	3	3	3	3	2	3.0	
	Average Pilot BAC Head		Base RM	2.7	2.8	2.8	3.4	2.5	2.5	2.6	2.5	2.4	2.4	2.7	
	Average Pilot BAC Head		End RM	4.2	4.2	4.6	4.2	4.4	4.0	4.6	4.2	3.4	4.0	4.2	
	Average Pilot BAC Head		End Self	4.2	3.8	4.2	4.4	4.6	4.2	4.6	4.4	3.6	4.4	4.2	
	Average non-pilot BAC Head		End Self	4.4	3.8	4.0	4.8	4.4	4.2	4.6	3.4	3.4	3.8	4.1	
	Average non-pilot BAC Head		End RM	3.6	3.6	3.6	4.0	3.8	3.6	3.8	3.4	3.0	3.4	3.6	

0	Fundamental competencies as business leader	5	Team working and team building
1	Logical thinking	6	Problem identification and solution development
2	Concentration and focus making	7	Communication Skills (coaching)
3	Presentation to get across what is conveyed	8	Project Management
4	Cognizant and power of understanding and observation	9	ICT literacy and usage
		10	Office management and administration

Professional skill

	Name	BAC		1	2	3	4	5	6	7	8	Ave
1	Alidu Ewura	West Gonja	Base RM	4	1	2	2	4	4	3	3	2.9
			Self	4	5	4	4	5	5	4	4	4.4
			End RM	4	4	4	3	5	5	5	4	4.3
2	Suragdeen Iddrisu	Saboba	Base RM	3	1	2	3	3	3	3	3	2.6
			Self	4	4	4	3	4	5	5	4	4.1
			End RM	4	4	4	3	5	5	4	3	4.0
3	Mathew Azoya	East Mamprusi	Base RM	4	1	3	2	4	4	3	4	3.1
			Self	4	3	4	4	5	4	4	3	3.9
			End RM	4	4	4	3	5	5	5	4	4.3
4	Henrietta Zaato	Sagnarigu	Base RM	3	1	2	2	3	3	3	3	2.5
			Self	3	4	4	3	5	4	5	4	4.0
			End RM	4	5	4	3	5	5	5	5	4.5
5	Bukari Mohammed	Tamale Metro	Base RM	2	1	2	2	4	3	3	4	2.6
			Self	4	5	4	4	5	5	4	5	4.5
			End RM	4	4	4	3	5	5	5	4	4.3
6	Sina Adams	Bole	End Self	3	2	3	4	4	3	4	3	3.3
			End RM	3	2	3	3	3	3	3	3	2.9
7	Amin Abdul-Basit	Daboya	End Self	4	3	4	4	5	5	4	4	4.1
			End RM	4	2	3	3	4	3	3	3	3.1
8	Shafique Mohammed Abubakar	Zabzugu	End Self	4	2	4	4	3	4	4	3	3.5
			End RM	4	2	3	3	4	4	4	3	3.4
9	Osman Issah Adam	Tolon	End Self	2	1	3	3	4	4	4	3	3.0
			End RM	3	3	3	3	4	4	4	3	3.4
10	Abdul-Mutalib Zakaria	Kumbungu (new)	End Self	4	2	4	4	5	4	4	4	3.9
			End RM	4	2	4	4	5	4	4	3	3.8
14	Muniru Abdul-Rahman	Savelugu	RM	1	1	2	1	2	2	2	2	1.6
	Rashidatu B.Alhasan	Buipe	Base RM	3	1	2	2	4	4	3	3	2.8
	Ahmed Salman	Sawla	Base RM	3	1	2	3	4	4	3	4	3.0
	Haruna Mohammed	Tolon	Base RM	3	2	2	3	4	4	3	4	3.1
	Tienah Emmanuel Mohammed	Mion	Base RM	3	1	2	2	2	4	2	3	2.4
	Adam Mohammed Gadaf	Kumbungu	Base RM	4	1	3	3	4	4	3	4	3.3
	Average Pilot BAC Head		Base RM	3.0	1.1	2.2	2.3	3.5	3.5	2.8	3.4	2.7
	Average Pilot BAC Head		End RM	4.0	4.2	4.0	3.0	5.0	5.0	4.8	4.0	4.3
	Average Pilot BAC Head		End Self	3.8	4.2	4.0	3.6	4.8	4.6	4.4	4.0	4.2
	Average non-pilot BAC Head		End Self	3.4	2.0	3.6	3.8	4.2	4.0	4.0	3.4	3.6
	Average non-pilot BAC Head		End RM	3.6	2.2	3.2	3.2	4.0	3.6	3.6	3.0	3.3

1	District economic development plan	5	Association formation and Strengthening
2	Corporate Diagnosis and Kaizen	6	BDS facilitation and the utilization of BDS providers
3	Marketing Improvement making	7	Business management training operations
4	Business Plan Making	8	Mentoring of new and junior BAC Heads and BDO

Evaluation on Skills of BAC Heads in the Brong Ahafo Region

	Name	BAC		1	2	3	4	5	6	7	8	Ave 1-8
1	Daniel Sena Tsorme	Dormaa Municipal	Base	3	2	1	1	1	4	2	3	2.13
			End	4	4	4	3	1	4	2	3	3.13
2	Oppong Isaac	Atebubu	Base	3	3	1	3	1	4	2	3	2.50
			End	3	3	4	3	1	4	2	3	2.88
3	Amil Ibrahim	Wenchi	Base	3	3	1	3	1	4	2	3	2.50
			End	3	4	4	3	1	4	2	3	3.00
4		Berekum	Base	2	3	1	3	1	2	2	3	2.13
			End							2	3	2.50
5	Nuhu Salifu Dimah	Bechem/Tano South	Base	3	2	1	1	1	3	2	1	1.75
			End	4	4	4	3	1	4	2	3	3.13
6	Frederick Apraku Amoateng	Nsawkaw/Tain	Base	3	2	1	1	1	4	2	3	2.13
			End	4	3	4	3	1	4	2	3	3.00
7	Vanessa Asomea Takyi	Tano North	Base	3	3	1	3	1	4	2	3	2.50
			End	4	4	5	3	1	4	2	3	3.25
8	Acheampong Kwasi Abayie	Kenyasi/Asutifi North	Base	2	2	1	3	1	3	2	3	2.13
			End	3	3	3	3	1	3	2	3	2.63
9	Imoru Abubakar-Saddique	Pru-Yeji	Base	2	2	0	3	1	3	2	3	2.00
			End	2	1	0	2	1	3	2	3	1.75
10	Ophelia Amponsah Tabi	Jema	Base	1	1	0	1	1	2	2	3	1.38
			End	2	1	0	1	1	2	2	3	1.50
11	Kanbontaa Abraham*	Techiman	Base	3	2	0	3	1	2	2	1	1.75
			End	2	3	0	3	1	2	2	3	2.00
12	Lydia Annan	Sunyani East	Base	2	3	0	3	1	2	1	3	1.88
			End	2	2	0	3	1	2	2	3	1.88
13	Stephenson Thomas Afreh	Asunafo North	Base	2	2	0	3	1	2	2	3	1.88
			End	2	1	0	3	1	2	2	3	1.75
14	Victoria Awortwi Daniels	Jaman South	Base	1	2	0	3	1	3	2	3	1.88
			End	2	2	0	1	1	3	2	3	1.75
15	John Smith Hammond	Kintampo Municipal	Base	1	1	0	1	1	1	2	3	1.25
			End	2	2	0	1	1	4	2	3	1.88
16	NIL	Banda	Base	1	1	0	1	1	2	2	3	1.38
17	NIL	Sene West	Base	1	1	0	1	1	2	2	3	1.38
Pilot BAC Head			Base	2.8	2.5	1.0	2.3	1.0	3.5	2.0	2.8	2.2
Pilot BAC Head			End	3.6	3.6	4.0	3.0	1.0	3.9	2.0	3.0	2.9
Non-pilot BAC Head			Base	1.6	1.7	0.0	2.1	1.0	2.1	1.9	2.8	1.6
Non-pilot BAC Head			End	2.0	1.7	0.0	2.0	1.0	2.6	2.0	3.0	1.8

1	Computer Skill (4th grade)	6	Commitment (4th grade)
2	Knowledge of KAIZEN (4th grade)	7	Wi-fi or Modem
3	Experience of KAIZEN Provision (4th grade)	8	Vehicle
4	JICA Overseas Training		
5	Other Training		

4 :Yes=3, No=1

5 :Yes=2, No=1

7 :Wi-fi=3, Modem =2, NA=1

8 :Pickup=3, Motorbike=2,NA=1

Evaluation on Basic Skills of BAC Heads in the Brong Ahafo Region

	Name	BAC		1	2	3	4	5	6	7	8	9	10	Ave
1	Daniel Sena Tsorme	Dormaa Municipal	Base RM	3	4	4	3	4	3	4	2	2	4	3.3
			Self	4	4	3	3	4	3	4	3	3	3	3.4
			End RM	4	4	3	4	4	3	4	3	4	4	3.7
2	Oppong Isaac	Atebubu	Base RM	4	3	3	3	4	3	4	3	2	3	3.2
			Self	5	4	4	4	5	4	5	4	4	4	4.3
			End RM	4	4	3	4	5	3	4	3	3	4	3.7
3	Amil Ibrahim	Wenchi	Base RM	3	4	3	4	3	3	3	2	2	1	2.8
			Self	4	4	4	4	4	4	4	3	3	4	3.8
			End RM	3	3	3	3	4	3	4	3	3	4	3.3
4	Nuhu Salifu Dimah	Bechem	Base RM	4	3	4	3	4	3	4	3	3	4	3.5
			Self	5	4	5	5	5	4	5	4	5	4	4.6
			End RM	4	4	4	4	4	4	4	4	4	4	4
5	Frederick Apraku Amoateng	Nsawkaw/Tain	Base RM	3	3	4	3	2	3	4	2	2	4	3
			Self	4	5	4	4	5	5	4	4	4	4	4.3
			End RM	4	3	4	4	5	4	4	3	4	4	3.9
6	Vanessa Asoamea Takyi	Tano North	Base RM	3	3	3	4	3	3	4	2	3	3	3.1
			Self	5	5	5	5	5	5	5	4	4	5	4.8
			End RM	4	4	4	4	4	4	4	3	4	4	3.9
7	Acheampong Kwasi Abayie	Kenyasi	Base RM	3	3	3	3	4	3	3	3	2	3	3
			Self	5	5	4	4	4	5	4	3	4	4	4.2
			End RM	4	3	3	3	4	4	4	3	3	3	3.4
8	Mavis Yaa Owusu	Berekum	Base RM	3	3	2	3	3	2	3	2	2	3	2.6
9	Kanbontaa Abraham	Techiman	Base RM	4	3	4	4	4	3	4	3	3	4	3.6
			Self	3	4	3	3	4	3	3	3	3	4	3.3
			End RM	3	3	3	3	4	3	3	3	3	3	3.1
10	Imoru Abubakar-Saddique	Pru-Yeji	Base RM	4	3	4	4	4	4	4	4	3	4	3.8
		Average	Base RM	3.3	3.3	3.3	3.3	3.4	2.9	3.6	2.4	2.3	3.1	3.1
		Average	End Self	4.4	4.4	4.0	4.0	4.5	4.1	4.3	3.5	3.8	4.0	4.1
		Average (pilot)	End RM	4.6	4.4	4.1	4.1	4.6	4.3	4.4	3.6	3.9	4.0	4.2
		Average (non-pilot)	End RM	3.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.1

0	Fundamental competencies as business leader	5	Team working and team building
1	Logical thinking	6	Problem identification and solution development
2	Concentration and focus making	7	Communication Skills (coaching)
3	Presentation to get across what is conveyed	8	Project Management
4	Cognizant and power of understanding and observation	9	ICT literacy and usage
		10	Office management and administration

Evaluation on Professional Skills of BAC Heads in the Brong Ahafo Region

	Name	BAC		1	2	3	4	5	6	7	8	Ave
1	Daniel Sena Tsoorme	Dormaa Municipal	Base RM	3	1	2	3	4	3	3	4	2.9
			Self	3	4	3	3	3	3	4	3.3	
			End RM	4	5	3	4	4	3	4	3.9	
2	Oppong Isaac	Atebubu	Base RM	3	1	3	3	3	3	3	4	2.9
			Self	4	4	4	4	4	4	5	4.1	
			End RM	4	4	3	3	5	3	4	3.8	
3	Amil Ibrahim	Wenchi	Base RM	3	1	3	2	3	3	3	3	2.6
			Self	4	4	4	3	5	4	4	4.1	
			End RM	4	4	4	3	4	4	4	3.9	
4	Nuhu Salifu Dimah	Bechem	Base RM	3	1	3	3	4	4	3	4	3.1
			Self	4	5	4	3	5	5	5	4.5	
			End RM	4	4	4	3	5	4	5	4.3	
5	Frederick Apraku Amoateng	Nsawkaw/Tain	Base RM	3	1	3	2	3	3	3	3	2.6
			Self	4	4	4	4	5	5	5	4.5	
			End RM	4	4	4	3	4	4	4	3.8	
6	Vanessa Asoamea Takyi	Tano North	Base RM	3	1	3	1	4	3	4	4	2.9
			Self	4	5	4	4	5	5	5	4.6	
			End RM	4	5	4	4	4	4	4	4.1	
7	Acheampong Kwasi Abayie	Kenyasi	Base RM	3	1	3	2	4	3	3	4	2.9
			Self	4	4	4	4	4	4	5	4.1	
			End RM	3	4	3	3	4	3	3	3.3	
8	Mavis Yaa Owusu	Berekum	Base RM	3	2	3	1	3	3	3	2.6	
9	Imoru Abubakar-Saddique	Pru-Yeji	Base Self	3	2	3	3	5	5	5	3.9	
10	Kanbontaa Abraham	Techiman	Base Self	3	4	3	3	4	4	4	4	3.6
			Self	3	4	3	4	5	5	4	4	4.0
			End RM	3	3	3	3	4	4	4	3.5	
Average (pilot)			Base RM	3.0	1.1	2.9	2.1	3.5	3.1	3.1	3.6	2.8
Average			End Self	3.8	4.3	3.8	3.6	4.5	4.4	4.3	4.8	4.2
Average (pilot)			End RM	3.9	4.3	3.9	3.6	4.4	4.3	4.3	4.9	4.2
Average (non-pilot)			End RM	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	3.5

1	District economic development plan	5	Association formation and Strengthening
2	Corporate Diagnosis and Kaizen (See next II for details)	6	BDS facilitation and the utilization of BDS providers
3	Marketing Improvement making	7	Business management training operations
4	Business Plan Making	8	Mentoring of new and junior BAC Heads and BDO

List of Applied KAIZEN Methods,

Basic KAIZEN: 23 Methods, Advanced KAIZEN: 35 Methods
(Adv: Advanced)

Basic	Adv	Components	No. of MSMEs applied to KAIZEN Methods (out of 42)
1		1. 5S Implementation	42
2		2. Seven Waste Identification	42
		3. Survey and Data Collection (IE)	
3		1) Time Study	22
4		2) Motion Analysis	25
5		3) Process Flow Chart	25
6		4) Layout and Spaghetti Analysis	22
	1	5) Operational Analysis	28
	2	6) Supply Chain Analysis	1
	3	7) Bottleneck Analysis	7
	4	8) Equipment Efficiency (Machine Down Time)	0 (Proposed to 2 MSMEs)
	5	9) Man-machine chart	0
	6	10) Preventive Maintenance	19
	7	11) Total Preventive Maintenance	0
		4. Organizational Development	
7		1) QC Committee	32
8		2) 5S Committee	28
	8	3) QC circle	22
	9	4) 7 QC tools	27
		5. KAIZEN Menu development	
9		1) Video Analysis	41
10		2) Layout Change (Minor)	18
11		3) Inventory Control	27
12		4) Line Balancing (Minor)	1
13		5) Work in Process (Minor)	9
14		6) Work Standard	37
15		7) Allocation of Motion Economy	8
16		8) Activation Index	18
17		9) ECRS (Minor)	22
18		10) Safety	35
	10	11) Video Analysis	32
	11	12) Bottleneck Elimination	4
	12	13) KAIZEN Master Plan	39
	13	14) Streamlining	1
	14	15) Supply Chain Management	0 (Proposed to 8 MSMEs)
	15	16) Pull Production	0 (Proposed to 2 MSMEs)
	16	17) Inventory Control (Major and FIFO)	18
	17	18) Preventive Maintenance	18
	18	19) Mode of Production (Cell Production)	0 (Proposed to 3 MSMEs)
	19	20) Design and Fabrication of Jig/Fixture	18
	20	21) Set up Time Reduction	1
	21	22) Layout Change (Major)	6
	22	23) Karakuri KAIZEN	1 (Proposed to 6 MSMEs)
	23	24) Line Balancing (Major)	3
	24	25) Standard Number of Work in Process	3
	25	26) Pokayoke (Fail Proof)	1 (Proposed to 2 MSMEs)
	26	27) ECRS (Major)	5
	27	28) TQM	4
		6. Visualization	
19		1) Skill map	36
20		2) Code of Conduct	41
21		3) Organization Chart	42
	28	4) Delivery Control Board	15
	29	5) Production Control Board	19
	30	6) Shipping Control Board	4

Basic	Adv	Components	No. of MSMEs applied to KAIZEN Methods (out of 42)
		7. Financial Management Related	
22		1) Record Keeping	18
23		2) Basic Accounting	17
	31	3) Breakeven Point Analysis	7
	32	4) Inventory Days	5
	33	5) Cost Benefit Analysis	2
	34	6) Working Capital Planning and Management	16
	35	8. Company Wide Information Share System	41

Applied Technical Standard in OJT Enterprises

Garment	Wood Work	Cosmetics	Brick/Pottery	Food Processing	Aluminum Utensil/ Roofing	Bakery/Confectionery	Water	Pharmaceutical
1 Mckenzie Sports Wear	7 Hasbuk Company	10 Yumzaa Women Association	14 Vialex Brick & Tile	17 El Balicon Limited	24 C.K.B Industry	32 Shekinah Glory Bakeries	36 Aspet-A	39 Salom Pharmacy
2 A.A. Agyei Enterprise	8 Kwasi Gyan	11 Kasraf Enterprise	15 Bensworth Construction	18 Lolandi Rice Processing	25 Jeomaxx Company	33 Ewuradze Kasa	37 UCC Enterprises	40 Aspee Pharmaceutical
3 Uni Jay Fashion	9 Kumi	12 Ghana Permaculture Institute	16 Ekem Art Pottery	19 Yedent Agro Group	26 Francis Aluminium	34 Vito A1 Bakery	38 Everpure Ghana Limited	
4 Bulluk GH Limited		13 Solutions Oasis		20 Central Oil Mill	27 Gyamfua Ababio Investment	35 Mass Industries		Other
5 Sleek Garments				21 U2 Company Limited	28 Prosdio Aluminium			41 Kumbatachua Enterprise
6 KAD Manufacturing				22 Praise Expot Services	29 J&J Plastic Limited			42 Royal Form
				23 Bomarts Farms Limited	30 Yehans International			
					31 Domod Aluminium			

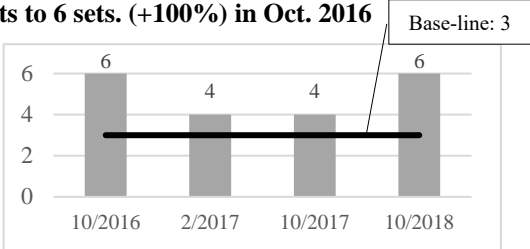
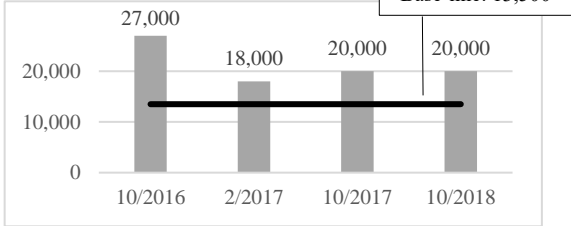
I: Implemented, P: Proposed

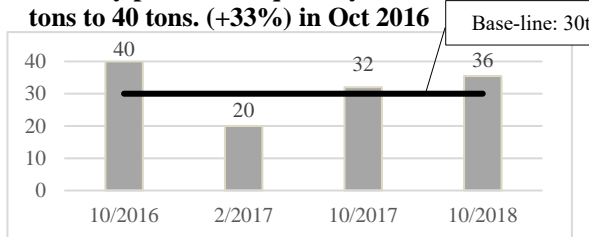
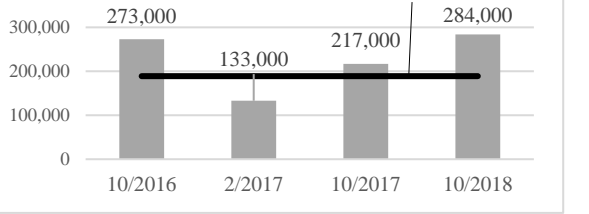
Industry	Garment						Wood Work				Cosmetics				Brick/Pottery				Food Processing						Aluminum Utensil/ Roofing						Bakery/Confectionery					Water			Pharmaceutical			Other										
	1	2	3	4	5	6	total	7	8	9	total	10	11	12	13	total	14	15	16	total	17	18	19	20	21	22	23	total	24	25	26	27	28	29	30	31	total	32	33	34	35	total	36	37	38	total	39	40	total	41	42	
B: Basic, A: Advanced	I	I	I	I	I	I	6	I	I	I	3	I	I	I	I	4	I	I	I	3	I	I	I	I	I	I	I	7	I	I	I	I	I	I	I	I	8	I	I	I	I	4	I	I	I	3	I	I	2	I	I	
1. 5S Implementation	I	I	I	I	I	I	6	I	I	I	3	I	I	I	I	4	I	I	I	3	I	I	I	I	I	I	I	7	I	I	I	I	I	I	I	I	8	I	I	I	I	4	I	I	I	3	I	I	2	I	I	
2. Seven Waste Identification	I	I	I	I	I	I	6	I	I	I	3	I	I	I	I	4	I	I	I	3	I	I	I	I	I	I	I	7	I	I	I	I	I	I	I	I	8	I	I	I	I	4	I	I	I	3	I	I	2	I	I	
3. Survey and Data Collection (IE)																																																				
B 1) Time Study	I	I	I	I			4									2	I	I	I	2	I	I	I	I				3									5	I	I	I		2					I	I	2	I	I	
2) Motion Analysis	I	I	I	I	I		5									1					I	I	I	I	I	I	I	6									3	I	I	I	I	4					I	I	2	I	I	
3) Process Flow Chart	I						4	I				I	I	I		2	I	I	I	3	I	I	I	I	I	I	I	6	I								3	I	I	I	I	1	I	I			I	I	2	I	I	
4) Layout and Spaghetti Analysis	I						3	I				I	I	I		3	I	I	I	3	I	I	I	I	I	I	I	4									2	I	I	I	I	2	I	I			I	I	2	I	I	
A 5) Operational Analysis		I	I	I	I	I	5	I				I	I	I	I	4	I		I	2								3									6	I	I	I	I	2	I	I			I	I	2	I	I	
6) Supply Chain Analysis																1																										1	P				1					
7) Bottleneck Analysis				I	I		2																																													
8) Equipment Efficiency (Machine Down Time)																																																				
9) Man-machine chart																																																				
10) Preventive Maintenance			I	I			3									2	P	P	I	3	I	I		P	P	I		5	I	I	P	I	I	P	I	I	8	P	I			2					I	I	P	I	P	
11) Total Preventive Maintenance																																																				
4. Organizational Development																																																				
B 1) QC Committee	I		I	I	I	I	5	I				I	I	I	I	2	P	I	I	3	I	I	I	I	I	I	I	7	I								6	I	I	I	I	3					I	I	2	I	I	
2) 5S Committee	I		I	I	I	I	5	I				I	I	I	I	4	I	I	I	3	I	I	I	I	I	I	P	7	I								7	I	I	I	I	4	I	I	I	3	I	I	2	I	I	
A 3) QC circle	I		I	I	I	I	5									1	P	I	I	3				I	I	P	I	4	I								6	P	I	I	I	3					I	I	2	I	I	
4) 7QC tools	I		I	I	I	I	4									2				2				I	I	I	I	5														4	I	I	I	I	4	I	I	2	I	I
5. KAIZEN Menu development																																																				
B 1) Video Analysis	I	I	I	I	I	I	6					I	I	I	I	4	I	I	I	3	I	I	I	I	I	I	I	7	I	I	I	I	I	I	I	I	8	I	I	I	I	4					I	I	2	I	I	
2) Layout Change (Minor)	I		I	I	I	I	4	P	I			I	I	I	I	2	I	I	P	2	I	I	I	I	I	I	I	3	P	P							4	I	I	I	I	2					I	I	2	I	P	
3) Inventory Control	I	P	I	I	I	I	6	I				I	I	I	I	4	P	I		2	P	P	P	I	I			5	I								5	I	I	I	I	4	I	I	I	3	I	I	2	I	I	
4) Line Balancing (Minor)																1																																				
5) Work in Process (Minor)	I						2									2																																				
6) Work Standard	I	I	I	I	I	I	5	I	I			I	I	I	I	4	I	I		2	I	I	I	I	I	I	I	6									7	I	I	I	I	4	I	I	I	3	I	I	1	I	I	
7) Allocation of Motion Economy	I	I					3									1												2																								
8) Activation Index	I		I	I	I	I	4									2	I			1	I	P	I	I	P	I		6									4	I	I	I	I	1	I	I	2	I	I					
9) ECRS (Minor)	I	I	I	I	I	I	5	I	I	P		I	I	I	I	3	I	I		3	I	I	I	I	I	P		3									2	I	I	I	I	3	I	I	2	I	I					
10) Safety	I	I	I	I	I	I	5	I	I	P		I	I	I	I	4	I	I	I	3	I	P	I	I	I	I	I	7	I								7	I	I	I	I	4	I	I	2	I	I					
A 11) Video Analysis		I	I	I	I	I	5					I	I	I	I	3	I	I		2								4	I	I	I	I	I	I	I	I	8	I	I	I	I	3					I	I	2	I	I	
12) Bottleneck Elimination																1																																				
13) KAIZEN Master Plan		I	I	I	I	I	5	I	I	I		I	I	I	I	4	I	I	I	3								4	I	I	I	I	I	I	I	I	8	I	I	I	I	4	I	I	I	3	I	I	2	I	I	
14) Streamlining																																																				
15) Supply Chain Management																																																				
16) Pull Production																																																				
17) Inventory Control (Major and FIFO)		P	I	I	I	I	5	I				I	I	I	I	2	I	I		2	P	P	I	I	I	I	I	4																								
18) Preventive Maintenance			I	I	I	I	3	I	I	I		I	I	I	I	3	P	P	I	3	P	P	I	I	I	I	I	5	I	I	P	I	I	P	I	I	8	P	P	I	P	4	I	I	2	P						
19) Mode of Production (Cell Production)																																																				
20) Design and Fabrication of Jig/Fixture		I	I	I	I	I	4	I				I	I	I	I	3	I			1								3																								
21) Set up Time Reduction																																																				
22) Layout Change (Major)		I		P	I	I	3	P				I	I	I	I	2	P	P		2					</																											

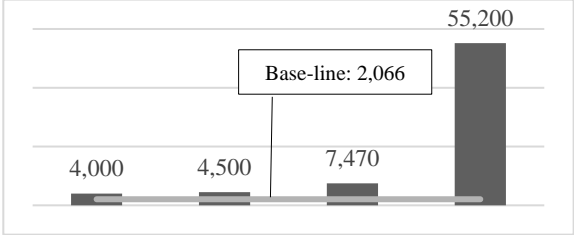
Analysis of Applied KAIZEN Methods and Impact

Northern Region

Challenges	Methods implemented	Major impact												
El Balicon Limited (Soy milk processing) Note: Eli Balicon was closed.														
<ul style="list-style-type: none"> ● It took a lot of time to find appropriate tool when fixing or working on a machine ● Store room was occupied with unnecessary materials ● Storage system was not well organized ● The vision and mission of the company was only known by management and not visualized ● Difficulty in tracking the performance and sales of vendors ● Reported cases of customers claims ● High cost on machine repairs ● Frequent machine down time 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Produce a Seiton Board · Produce a Shoe Rack in the production area ● Visual Management <ul style="list-style-type: none"> · Display · Label section's name for each area and room ● Lay out optimization <ul style="list-style-type: none"> · Place Work In Progress material on a table · Organize wires on the floor ● Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC ● Process improvement <ul style="list-style-type: none"> · Introducing cart/trolley/ to improve transportation ● Production and inventory control improvement <ul style="list-style-type: none"> · Place raw materials on the panels instead of putting them directly on the floor ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on bookkeeping, cash, bank, stock book ● Inventory Management <ul style="list-style-type: none"> · Place raw material on panel · Develop a stock book ● Others <ul style="list-style-type: none"> · Develop Vendors' performance chart · Develop Data base of key customers · Produce a changing room 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 10,800 units to 36,000 units. (+233%) ● Monthly sales increased from 5,000 units to 22,605 units. (+352%) ● Production lead time shortened from 2 days to 1 day. (-50%) ● During the 5S activities a total of 2.13m² of space was used from the space saved after reducing the number of fridges to three to construct changing room. ● A total of 6.25m² of space which was originally used for inventory storage was re-assigned for the construction of a cold room which resulted in the increase in production from 720 liters of soya to 1,440 liters of soya per day. ● At the production room a total of 4.38m² space was added due to the re-alignment of wires and pipes which was causing accidents. The space is now used for other productive activities and enhances free movement of workers. ● The store room arrangement has been improved by the introduction of cupboard to store other raw materials such as sugar, milk and flavours. ● Decline of the number of customer claims. ● Improvement of machine utilization ratio. ● Reduction in mechanical repair cost. ● Effective usage of workforce. 												
Lowlandi Rice Processing Centre (Rice processing)														
Challenges	Methods implemented	Major impact												
<ul style="list-style-type: none"> ● It took a lot of time to find appropriate tool when fixing or working on a machine. ● Store room was occupied with unnecessary materials and system was not well organized. ● The vision and mission of the company was only known by management and not visualized. 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · General cleaning at Milling room, sales room, yard for drying of paddy rice and factory including machines ● Visual Management <ul style="list-style-type: none"> · Display - Label section's name for each area and room ● Process improvement <ul style="list-style-type: none"> · Introduce a Rake to spread par boiled rice ● Financial Management 	<ul style="list-style-type: none"> ● Production quantity increased from 284 bags to 452 bags for 4 months period. (+59%) in Oct 2016. <table border="1"> <caption>Production Quantity Data</caption> <thead> <tr> <th>Period</th> <th>Production Quantity (bags)</th> </tr> </thead> <tbody> <tr> <td>10/2016</td> <td>452</td> </tr> <tr> <td>2/2017</td> <td>250</td> </tr> <tr> <td>10/2017</td> <td>250</td> </tr> <tr> <td>10/2018</td> <td>288</td> </tr> <tr> <td>Base-line</td> <td>284</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Sales increased from 284 bags to 452 bags for 4 months period. (+59%) ● Defects decreased from 9 bags to 0. (-100%) ● Production lead time shortened from 5 days to 0 days. (-100%) 	Period	Production Quantity (bags)	10/2016	452	2/2017	250	10/2017	250	10/2018	288	Base-line	284
Period	Production Quantity (bags)													
10/2016	452													
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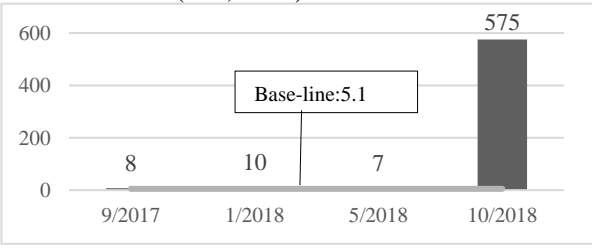
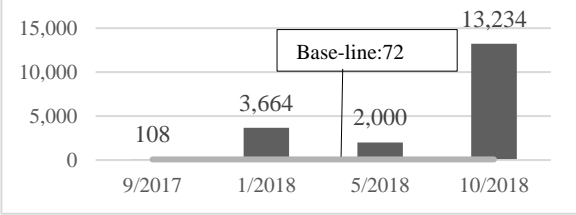
Challenges	Methods implemented	Major impact																				
<ul style="list-style-type: none"> ● Reported cases of customers claims and defective items. ● High cost on machine repairs. ● Frequent machine down time. 	<p>improvement</p> <ul style="list-style-type: none"> · Give a lecture on bookkeeping · Develop a cash, inventory and millings books 	<ul style="list-style-type: none"> ● During the 5S activities a total of 5.28m² was wasted. This space was re-claimed for effective usage by storing finished products at the picking room. ● A total of an additional 101.2m² representing 68.15% was added to the original space of 148.5m² making it a total of 249.75m² for drying of the parboiled rice in the compound due to 5S activities. ● An additional picking space of 8.1m² was also created outside the main picking room to facilitate faster work to meet customers demand. ● The defect rate was reduced from 9 to 4 representing 55.6%. ● Improvement of machine utilization ratio ● Reduction in mechanical repair cost 																				
Hazbuk Company Ltd (Furniture)																						
Challenges	Methods implemented	Major impact																				
<ul style="list-style-type: none"> ● Necessary and unnecessary materials were mixed together at the various sections and searching for tools was very difficult. ● The mission, vision, organizational chat, code of conduct etc. were not known to most of the employees and customers. ● The company was reluctant in records keeping. ● The company inventories were not managed properly and were at high level locking up funds and occupying space. ● There were defects on some final products. ● There were difficulty in cutting different types and shapes of woods accurately with the used of the manual jig. 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · General cleaning at the store room and production area including the equipment · Produce a Seiton Board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Multi-Skill Map - Organisational Chart - Code of conduct - 5S committees - QC Circle - Mission and Vision - Notice Board ● Lay out optimization <ul style="list-style-type: none"> · Assign a newly created space near the production area to sewing section ● Process improvement <ul style="list-style-type: none"> · Produce a Cross-Cutting Jig ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a Stock card and Stock-taking list ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on bookkeeping 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 3 sets to 6 sets. (+100%) in Oct. 2016  <table border="1"> <caption>Monthly production quantity</caption> <thead> <tr> <th>Month</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>10/2016</td> <td>6</td> </tr> <tr> <td>2/2017</td> <td>4</td> </tr> <tr> <td>10/2017</td> <td>4</td> </tr> <tr> <td>10/2018</td> <td>6</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly sales increased from GHS 13,500 to GHS 27,000. (+100%) in Oct 2016.  <table border="1"> <caption>Monthly sales</caption> <thead> <tr> <th>Month</th> <th>Sales (GHS)</th> </tr> </thead> <tbody> <tr> <td>10/2016</td> <td>27,000</td> </tr> <tr> <td>2/2017</td> <td>18,000</td> </tr> <tr> <td>10/2017</td> <td>20,000</td> </tr> <tr> <td>10/2018</td> <td>20,000</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly Raw materials inventory reduced from 20 units to 7 units. (-65%) ● Monthly completed product inventory reduced from 5 unit to 1. (-80%) ● Cutting processing time shortened from 20 minutes to 10 minutes. (-50%) ● Standard time reduced from 7 days to 3 days. (-57%) ● 12m² space created as a result of reducing inventory and it would be used to construct the sewing room. ● Reduced distance between machines by 25% as result of rearrangement of machines. ● Improved customer relationship. ● Boosting of employees morale. ● Improved participation in decision making. ● Improved product quality: The company has kept in place measures such as the construction of the finishing section floor and the sewing section floor to prevent stains on the finished products. Two workers are assigned to inspect and remove all hanging threads on finished goods before delivery or moving to show room. ● Reduction in search time for tools by 75% 	Month	Quantity	10/2016	6	2/2017	4	10/2017	4	10/2018	6	Month	Sales (GHS)	10/2016	27,000	2/2017	18,000	10/2017	20,000	10/2018	20,000
Month	Quantity																					
10/2016	6																					
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10/2017	4																					
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10/2018	20,000																					


Challenges	Methods implemented	Major impact																				
Yumzaa Women Association (Shea butter manufacturing)																						
<ul style="list-style-type: none"> ● At the kneading section, the roasting machines were mixed with necessary and unnecessary materials making it difficult for selection of roasting machine. ● Association was reluctant in keeping business records ● Inventories were not managed properly and were at high level locking up funds and occupying space ● Defects were being detected in the process of production and needs time to correct ● There was difficulty in drying crushed nuts as they were using fertilizer rubbers for drying which was time consuming and small quantities could be dried at a time ● The women were carrying hot oil in pans on their heads from the boiling section to the cooling section and all goods were carried on the head 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · General cleaning at the kneading section, Packaging room, Store room and Production area · Produce a Seiton Board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Organizational Chart - Code of conduct - 5S Committee Chart - QC Circle Chart - Mission and Vision - Notice Board ● Process improvement <ul style="list-style-type: none"> · Construct a drying platform for crushed nuts · Construct a cart to transport raw materials, Work-In-Progress and finished goods easily ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a Introduce Stock card and Stock-taking list ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on bookkeeping <p>New Initiative</p> <ul style="list-style-type: none"> ● Acquisition of organic certificate (Ecocert) ● Acquisition of stainless kneading machine ● Training of the Association Sheanut buyers in procurement of quality nuts. ● Introduction of sign posts ● Fence wall construction completed ● Construction of warehouse completed ● Shed constructed at boiling section. 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 30 tons to 40 tons. (+33%) in Oct 2016  <table border="1"> <caption>Monthly production quantity (tons)</caption> <thead> <tr> <th>Month</th> <th>Production (tons)</th> </tr> </thead> <tbody> <tr> <td>10/2016</td> <td>40</td> </tr> <tr> <td>2/2017</td> <td>20</td> </tr> <tr> <td>10/2017</td> <td>32</td> </tr> <tr> <td>10/2018</td> <td>36</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly sales increased from GHS 189,000 to GHS 28,400. (50%).  <table border="1"> <caption>Monthly sales (GHS)</caption> <thead> <tr> <th>Month</th> <th>Sales (GHS)</th> </tr> </thead> <tbody> <tr> <td>10/2016</td> <td>273,000</td> </tr> <tr> <td>2/2017</td> <td>133,000</td> </tr> <tr> <td>10/2017</td> <td>217,000</td> </tr> <tr> <td>10/2018</td> <td>284,000</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly raw material inventory reduced from 240 units to 40 units. (-83%) ● Monthly completed product inventory reduced to from 100 units to 20 units. (-80%) ● Production cost reduced from GHS 8,175 to GHS 3,165. (-61%, production quantity is unknown.) ● Enrolment 140 of new members for organic shea butter production ● Winner of Vodafone SMEGS AWARD (Micro Industrial Award Category) ● 480m² space created as a result of reducing inventory and now used as kneading area and cooling area ● Improved customer relationship ● Boosting of employees morale ● Improved participation in decision making ● Reduced distance in drying crushed nuts by 61.5% ● Increased in quantity of drying crushed nuts by 300% (from 6 bags to 24bags) ● Reduction of accident at production site ● Improved carriage of raw materials, work in process and finished goods 	Month	Production (tons)	10/2016	40	2/2017	20	10/2017	32	10/2018	36	Month	Sales (GHS)	10/2016	273,000	2/2017	133,000	10/2017	217,000	10/2018	284,000
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Challenges	Methods implemented	Major impact												
Shekinah Glory Bakeries (Bakery)														
<ul style="list-style-type: none"> ● High turn- over rate ● Equipment and tools scattered and it took long time to search tools ● Record high level of burnt bread (defects) ● The process of cooling and transporting finished products by workers on their heads was time consuming. ● Difficulty in meeting sales targets ● Difficulty in identifying and searching for baking pans ● Longer hours in production process 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> • General cleaning to clean the baking pan shelves, machines, ovens, wash room, changing room, cylinder sections, sales room, and the factory compound • Produce a Seiton Board ● Visual Management Improvement ● Display <ul style="list-style-type: none"> • Mission and Vision • Code of conduct • Skill Map • Organization Chart • Work standard ● Product Quality Improvement ● Process improvement <ul style="list-style-type: none"> ➢ Improve Cooling Racks ● Inventory control <ul style="list-style-type: none"> ➢ Introduce FIFO inventory method using labels showing 'New' and 'Old' ● Financial Management improvement <ul style="list-style-type: none"> ➢ Give a lecture on Fixed asset register ● Hygiene and safety improvement <ul style="list-style-type: none"> ➢ Introduce working gear to minimize contamination of foreign materials ➢ Demarcate walk ways and the work areas ➢ Introduce a first aid box ➢ Improve a security gate ● Others ● Develop a Changing room for male employees 	<ul style="list-style-type: none"> ● Sales increased from GHS 2,066 to GHS 55,200. (+2572%, period is unknown.)  <p>The bar chart displays sales growth over four periods. The first bar is labeled 'Base-line: 2,066'. The subsequent bars represent sales of 4,000, 4,500, and 7,470. The final bar shows a significant increase to 55,200.</p> <table border="1"> <thead> <tr> <th>Period</th> <th>Sales (GHS)</th> </tr> </thead> <tbody> <tr> <td>Base-line</td> <td>2,066</td> </tr> <tr> <td>Period 1</td> <td>4,000</td> </tr> <tr> <td>Period 2</td> <td>4,500</td> </tr> <tr> <td>Period 3</td> <td>7,470</td> </tr> <tr> <td>Final Period</td> <td>55,200</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Defects reduced from GHS 102 to GHS 6. (-94%, Production quantity is unknown) ● Production lead time shortened from 6 hours to 0.75 hours (-88%) ● Searching time of baking pans reduced from 300 seconds to 90 seconds. (-70%) ● Daily transport time reduced from 35 minutes to 9 minutes. (-74%) ● Cooling space reduced from 7.2 m² to 1.8 m². (-75%) There have been improvements in space optimization and reduction in transport distance as a result of the introduction of the cooling rack ● Factory space optimized by 5.4m² and transportation distance reduced by 26 minutes ● There have been improvements in security issues, hygienic and safety conditions at the factory. ● The CEO of the company has realized the benefit of KAIZEN and shown strong commitment to KAIZEN. ● All workers have been motivated to implement KAIZEN activities. 	Period	Sales (GHS)	Base-line	2,066	Period 1	4,000	Period 2	4,500	Period 3	7,470	Final Period	55,200
Period	Sales (GHS)													
Base-line	2,066													
Period 1	4,000													
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Period 3	7,470													
Final Period	55,200													
	<p>New Initiative</p> <ul style="list-style-type: none"> ● Send staff on a study tour to another bakery company ● Face lift of the front view has been completed and sales store expanded ● Introduction of new product lines ● Engagement of a full-time Supervisor ● Introduction of plastic pallets to store raw materials ● Purchase of equipment thus Refiner, Bun divider and slicer ● Introduction of a new weighing scale and switch board ● Renovation of the production section ● The company has a building plan to build a two-story building facility to scale up production 													

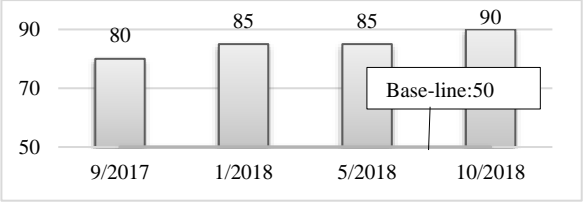
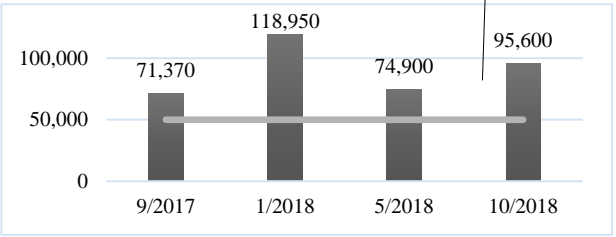
Challenges	Methods implemented	Major impact
Kumbatachua Enterprise Water processing and sachet water rubber pack printing)		
<ul style="list-style-type: none"> ● High defects in raw material supply ● Equipment and tools scattered and it takes longer time to search tools ● High level of defects in production process ● Poor identification and Handling of customer block ● Long hours in production in processes ● Work and walk ways not demarcated ● Lack of knowledge in 5s activities. 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · General cleaning for/at <ul style="list-style-type: none"> - Printing Machines - Factory area - Raw materials (SLF) store room - Finish products (Sachet rubber rolls) store room · Label machines, Office, Products, Materials · Produce a Seiton Board · Arrange Customer block with names of customer ● Visual Management Improvement Display <ul style="list-style-type: none"> - Skill map - Organization chart - Code of conduct - Work standards - Mission and vision - Demarcation of walk ways and the machines areas ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC · Formation of QC committee · Develop a Work standard 	<ul style="list-style-type: none"> ● Weekly defects reduced from 8 to 0. (Production quantity is unknown) ● Production lead time shortened from 6 hours per 6 rolls to 2.5 hours. (-38%) ● Searching time for printing block for each customer reduced from 80 min to 5 minutes. (-94%) ● Searching time of tools reduced from 30 seconds to 5 seconds. (-83%) ● Defect rate reduced to 25% from 4 per 50 rolls before to 1 roll after intervention ● Reduction in time to get necessary tools for operation by 175 seconds ● Defect reduced to 12.5% with 8 rolls recorded before and 1 roll after intervention ● Easy and fast in locating customer's logo for printing from 80mins before to 10mins after interventions ● Production lead time reduced from 6rolls=4hrs to 6rolls=2:30mins (Representing 62.5%) ● Increase safety and free movement around machines ● All workers have been motivated to implement KAIZEN activities. ● The CEO of the company has realized the benefit of KAIZEN and shown strong commitment to KAIZEN.
	<p><u>New Initiative</u></p> <ul style="list-style-type: none"> ● Forklift procured by the enterprise for the transportation of raw materials and also to reduce defects as a result of piercing from sharp objects ● Ceiling fans repaired and new ones procured to provide enough ventilation to the production area for workers 	

Brong Ahafo region

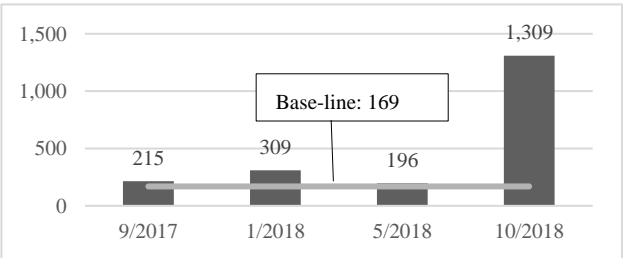
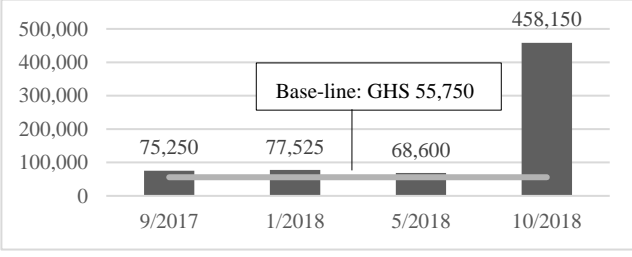
Methods implemented during OJT session	Major impact																				
Mckenzie Sports Wear (Uniform and Sports Wear)																					
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> • Give a lecture • General cleaning at the factory floor including machines • Formation of 5S Committee • Produce a Seiton board • Reorganize the thread stand ● Visual Management Improvement <ul style="list-style-type: none"> • Display <ul style="list-style-type: none"> - Notice Board - Multi Skill Map - Vision and Mission - Organizational Chart - Code of conduct - Work standard • Label the machine ● Lay out optimization <ul style="list-style-type: none"> • Cutting Section • Sewing Section • Separation of walkway from walking area ● Product Quality Improvement <ul style="list-style-type: none"> • Give a lecture on QC including exercise of fish bone diagram • Formation of QC Circle • Develop a Work standard • Introduction of appropriate working gear ● Production and inventory control improvement <ul style="list-style-type: none"> • Develop a Control Board • Develop a Delivery Board • Arrange finished products ● Financial Management improvement <ul style="list-style-type: none"> • Develop an Asset register ● Others <ul style="list-style-type: none"> • Propose introducing a uniform 	<ul style="list-style-type: none"> ● Daily productivity per a worker increased from 5.1 shorts to 575 shorts. (+11,088%)  <table border="1"> <caption>Daily Productivity per Worker</caption> <thead> <tr> <th>Date</th> <th>Productivity (Shorts)</th> </tr> </thead> <tbody> <tr> <td>9/2017</td> <td>8</td> </tr> <tr> <td>1/2018</td> <td>10</td> </tr> <tr> <td>5/2018</td> <td>7</td> </tr> <tr> <td>10/2018</td> <td>575</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly sales increased from 72 shorts to 13,234 shorts. (+18,281%)  <table border="1"> <caption>Monthly Sales</caption> <thead> <tr> <th>Date</th> <th>Sales (Shorts)</th> </tr> </thead> <tbody> <tr> <td>9/2017</td> <td>108</td> </tr> <tr> <td>1/2018</td> <td>3,664</td> </tr> <tr> <td>5/2018</td> <td>2,000</td> </tr> <tr> <td>10/2018</td> <td>13,234</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Production lead time shortened from 0.19 days a shirt to 0.002 days a shirt. (-99%) ● Time required to transport material from cutting section to sewing section reduced from 15 seconds to 5 seconds. (-67%) <p>New Initiative</p> <ol style="list-style-type: none"> 1) The company had a contract to produce 11,000 jerseys for GES and Zylofon Ghana. 2) Branding of packaging material 3) Introduction of order advice / payment vouchers 4) Relabelling of assets. 5) MTN Merchant Notice 6) Although the company has stooped advertising on radio stations, they have reactivated their website (www.mckenziegh.com). 	Date	Productivity (Shorts)	9/2017	8	1/2018	10	5/2018	7	10/2018	575	Date	Sales (Shorts)	9/2017	108	1/2018	3,664	5/2018	2,000	10/2018	13,234
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Yedent Agro Group of Companies (Food processing)																					
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> • General cleaning at the packaging section and Tom Vita / Maisoy forte production areas • Arrange the tools • Produce Seiton Board. • Formation of 5s committee ● Visual Management Improvement <ul style="list-style-type: none"> • Display • Notice Board • Work Standard • Code of Conduct • Skill Map • Mission and Vision • Organizational Structure ● Lay out optimization <ul style="list-style-type: none"> • Demarcate walk ways and working area ● Product Quality Improvement <ul style="list-style-type: none"> • Formation of QC committee. • Give a lecture on QC including exercise of fish bone diagram ● Production and inventory control improvement 	<ul style="list-style-type: none"> ● Daily productivity per a worker increased from 4.0 units to 22 units. (+448%) ● Monthly sale increased from 4,150 units to 12,450 units. (+200%) ● Completed products inventory reduced from 4,980 cartons to 920 cartons. (-82%) ● Production lead time reduced from 2.89 minutes per a carton to 1 minutes per a carton. (-64%) ● Time required to search time for keys reduced from 25 seconds to 2 seconds. (-92%) <ul style="list-style-type: none"> ● The company is in partnership with International Fertilizer Development Corporation (IFDC) and have embarked on some marketing activities. This include training of sales agents in Brong Ahafo, Ashanti, Eastern, Central and Greater Accra Regions. ● ‘Koko and night Tea challenge’ branding a koko and tea joints in Sunyani township for clients to taste their products (Maisofirte and Tom Vita). ● T-shirts, aprons, umbrellas and table mats are distributed 																				

<ul style="list-style-type: none"> • Develop Production Control Board ● Financial Management improvement • Develop an Asset Register 	<p>for free. Try-circles are also given out to sales agents to aid in the distribution of products.</p>  <p style="text-align: center;">New Factory</p>
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Kwasi Gyan (Jomo) Company Limited (Furniture)

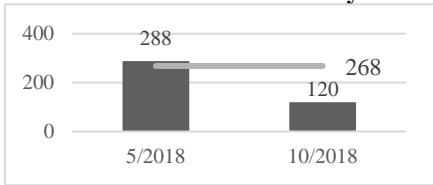
Challenges	Methods implemented	Major impact
<ul style="list-style-type: none"> ● Tools, machines, work benches, the production floor were not properly cleaned and machines and unused parts were found in the production area. ● No routine maintenance of machines ● Walk ways were not present at the showroom. ● Tools were kept under the moulding machine making it difficult to identify and pick appropriate tool easily. ● Machines and benches were not labelled. ● There was no sign post ● There were defects as a result of transportation to final destination 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> • General Cleaning of production section including the machines and show room • Arrange products at showroom • Produce Seiton board ● Visual Management Improvement <ul style="list-style-type: none"> • Display <ul style="list-style-type: none"> - Mission and Vision - Organizational chart - Code of conduct - Skill map Notice board <ul style="list-style-type: none"> • Label the machines and work benches • Erect Sign Post by the road side ● Lay out optimization <ul style="list-style-type: none"> • Demarcate walk ways and working area ● Financial Management improvement <ul style="list-style-type: none"> • Develop an Asset register ● Hygiene and safety improvement <ul style="list-style-type: none"> • Introduce nose masks and hand gloves and safety boots ● Others <ul style="list-style-type: none"> • Develop a preventive Maintenance Schedule for Equipment 	<ul style="list-style-type: none"> ● Weekly productivity per a worker increased from 50 dual desks to 90 dual desks. (+80%)  <ul style="list-style-type: none"> ● Monthly sales increased from GHS 49,960 to GHS 95,600. (+91%) due to radio advertisement, school-to-school marketing, lobbying, radio advertisement, and increase in prices (for example, a unit price for teachers' table and chair from GH¢150 to GH¢170). Sustainability of 5S activities and visualization has enhanced the corporate image and therefore has attracted new customers.  <ul style="list-style-type: none"> ● Completed products inventory reduced from 24 chairs to 5 chairs. (-79%) ● Production lead time reduced from 54 minutes per a dual desk to 34 minutes per a dual desk. (-37%) ● Unnecessary items were removed from the factory floor and the necessary ones well-arranged and cleaned. ● Machine maintenance schedule was developed This has led to reduction in machine breakdowns and improve productivity ● Walkways created has made easy movement of operators and also help to differentiate between walking and working area. ● With the introduction of the seiton board, the time used in searching for a tool has reduced from 40 seconds to 5 seconds. ● Sign post was constructed to improve upon the company's public image and it was constructed and erected ● High employee motivation because of the introduction of skill map, work standards and code of conduct. <p>New Initiative</p> <ul style="list-style-type: none"> ● Workers Incentive Scheme: It serves as a motivational tool for workers to bring in more jobs in order to increase their percentage of 40%

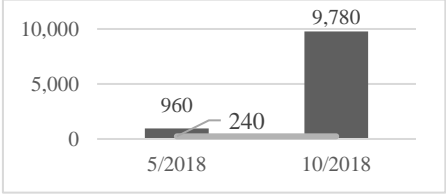
Kasraf Enterprise (Soap manufacturing) (Stop operation in Techiman)																						
Challenges	Methods implemented	Major impact																				
<ul style="list-style-type: none"> ● The enterprise was not well cleaned and unnecessary items were mixed up with work in process and finished products at the production area. The store room was also congested ● No walkways and markings at the production section ● Work in process and finished goods were being transported by hand to the cutting and packing areas respectively. ● Ununiformed stamp due to use of one-headed stamp and too much bending ● Layout was not properly designed and does not allow free flow of production ● Use of buckets with uncomfortable handles ● The enterprise used to store 7 drums of oil. 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · General cleaning at/for the production section, show room and equipment and tools ● Lay out optimization <ul style="list-style-type: none"> · Change the layout to facilitate the continuous production process · Demarcate walk ways and working area ● Process improvement <ul style="list-style-type: none"> · Construct pallets with wheels to store the moulded soap and to aid in the movement of the cake soap in batches to the cutting table. · Improve stamping Jig which can stamp 6 at one time instead of only 1 ● Production and inventory control improvement <ul style="list-style-type: none"> · Arrange and sort packaging materials, work in process and other unwanted materials · Set maximum and minimum height for work In Process to avoid over stretching, remove delays, avoid rework and reduce cost · Develop inventory list 	<ul style="list-style-type: none"> ● Hourly productivity per a worker increased from 3.3 boxes to 3.6 boxes. (+10%) ● Defects rate reduced from 10% to 3%. (-70%) ● Raw material inventory reduced from 7 drums to 1 drum. (-86%) ● Production lead time reduced from 0.08 days per a box to 0.06 days per a box. (-30%) ● Turnover ratio decreased from 30.8% to 15.4% ● Time required to move 5 cakes of soap from moulding section to cutting area reduced from 46 seconds to 30 seconds. (-35%) ● Time required to stamp 3,600 bars of soap reduce from 84 minutes to 48 minutes. (-43%) ● Unnecessary items were removed from the store room and the production section and the necessary ones well-arranged and cleaned. ● Walkways and markings were created to reduce movement time leading to improved productivity. ● Pallets were constructed with wheels to store the moulded soap and to aid in the movement. This improved the quality of product and reduced the time involved in transportation. ● New layout led to reduction in waste of transportation and work in process ● Foam was rapped around the buckets handle to reduce pains and blisters and to ensure workers safety. ● The enterprise adhered to the inventory control level proposed by the KAIZEN team and this has reduced inventory by 57% 																				
Aspet-A Company Limited (Drinkable water processing)																						
Challenges	Methods implemented	Major impact																				
<ul style="list-style-type: none"> ● The company had no Jigs at the bottling section making the workers uncomfortable ● The bottled was capped with the seal, which does not meet the quality standard ● The workers used to carry finished products by hand to the warehouse resulting in time wasting 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · General cleaning at the main bottle production section, the blowing section, the raw material and finished products storage room. · Produce Seiton Board ● Visual Management Improvement ● Production and inventory control improvement <ul style="list-style-type: none"> · Production Control Board · Delivery Control Board · Batch Control Board (FIFO system) 	<ul style="list-style-type: none"> ● Production quantity increased from 5,000 cartons to 39,650 cartons. (+693%, period is unknown) <table border="1"> <caption>Production Quantity (Cartons)</caption> <thead> <tr> <th>Month</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>9/2017</td> <td>10,000</td> </tr> <tr> <td>1/2018</td> <td>4,912</td> </tr> <tr> <td>5/2018</td> <td>10,685</td> </tr> <tr> <td>10/2018</td> <td>39,650</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Sales increased from 75,000 GHS to GHS 249,795 (+233%, period is unknown) <table border="1"> <caption>Sales (GHS)</caption> <thead> <tr> <th>Month</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>9/2017</td> <td>160,000</td> </tr> <tr> <td>1/2018</td> <td>36,732</td> </tr> <tr> <td>5/2018</td> <td>100,273</td> </tr> <tr> <td>10/2018</td> <td>249,795</td> </tr> </tbody> </table>	Month	Quantity	9/2017	10,000	1/2018	4,912	5/2018	10,685	10/2018	39,650	Month	Quantity	9/2017	160,000	1/2018	36,732	5/2018	100,273	10/2018	249,795
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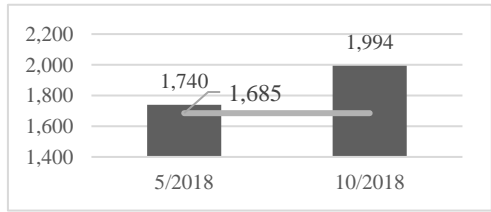
		<ul style="list-style-type: none"> ● Defects rate reduced from 12% to 0.8%. (-93%) ● There is high workers morale ● Avoidance of machine breakdown ● On time delivery to customers ● Keeping adequate inventory level ● Timely implementation of 5S activities ● Purchase of two delivery vans for the bottle water section and a mini-van for the outlets ● Introduction of Alias accounting software at the bottle water section ● New filling machine purchased ● Main entrance to the production is newly created to ease human movement 																				
Ghana Permaculture Institute (Moringa soap and moringa oil manufacturing)																						
Challenges	Methods implemented	Major impact																				
<p>The Institute had no workbenches at the soap section. They used plastic moulds which were spread on the floor to produce the. The workers then had to squirt in pouring the substance into the moulds</p> <p>Workers had no appropriate working gears which could affect workers health and the final product as well</p> <p>Difficulty in identifying suppliers with their products in terms of product quality and defects</p>	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Arrange raw materials and place them on the panels instead of putting them directly on the floor · Produce Seiton Board ● Visual Management Improvement ● Lay out optimization <ul style="list-style-type: none"> · Demarcate walk ways and the work areas · Implement layout change in order not to bring any mud or dirt into the production facility to avoid contamination of them ● Process improvement <ul style="list-style-type: none"> · Introduce of Trolley to carry raw materials instead of carrying them on workers shoulders · Introduce a new cutting equipment with a mould that has eliminated the problem of spillage and improve the finishing and packaging of the final product · Introduce a stamp · Introduce Workbench and Jig to eliminate waste in motion ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce the concept of “activation index” at the moringa oil production section to show how suitably, parts and materials should be arranged and stored 	<ul style="list-style-type: none"> ● Production quantity increased from 169 litres to 1,309 litres. (+675%, period is unknown)  <table border="1"> <caption>Production Quantity (Litres)</caption> <thead> <tr> <th>Month</th> <th>Quantity (Litres)</th> </tr> </thead> <tbody> <tr> <td>9/2017</td> <td>215</td> </tr> <tr> <td>1/2018</td> <td>309</td> </tr> <tr> <td>5/2018</td> <td>196</td> </tr> <tr> <td>10/2018</td> <td>1,309</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Sales increased from GHS 55,770 to GHS 458,150. (+721%, period is unknown)  <table border="1"> <caption>Sales (GHS)</caption> <thead> <tr> <th>Month</th> <th>Sales (GHS)</th> </tr> </thead> <tbody> <tr> <td>9/2017</td> <td>75,250</td> </tr> <tr> <td>1/2018</td> <td>77,525</td> </tr> <tr> <td>5/2018</td> <td>68,600</td> </tr> <tr> <td>10/2018</td> <td>458,150</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Defects rate reduced from 0.18% to 0.16%. (-11%) ● Production lead time per 1 kilos of oil reduced from 12 minutes to 9 minutes. (-25%) ● There has been a massive improvement of the product packaging, which will surely give good impression to new customers, as well as existing ones. ● The Institute markets its products and services through Faith Based Organizations and other institutions. ● It also has a website where every information about the institute is displayed for public consumption and planning to promote its products and services through radio and Television. ● The institute has plans to introduce a mobile health clinic to it workers, farmers/ suppliers and the nearby communities. 	Month	Quantity (Litres)	9/2017	215	1/2018	309	5/2018	196	10/2018	1,309	Month	Sales (GHS)	9/2017	75,250	1/2018	77,525	5/2018	68,600	10/2018	458,150
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	<ul style="list-style-type: none">● Financial Management improvement<ul style="list-style-type: none">· Give a lecture on sales and purchases daybook, stock records for both production and sales divisions· Introduce a software and give lecture on how to use it● Hygiene and safety improvement● Others<ul style="list-style-type: none">· Develop a periodic machine maintenance check sheet	
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Central Region

Challenges	Methods implemented	Major impact						
UCC Enterprise (Drinking water manufacturing)								
<ul style="list-style-type: none"> ● Equipment and tools were scattered and it took long time to search for tools ● There was no demarcations at the production floor. ● Activation index was not adequate. ● Inadequate dustbins at the factory area ● Sections, Machines and tools use for production were not labelled ● The enterprise had no maintenance schedule. 	<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement ● Lay out optimization <ul style="list-style-type: none"> · Demarcate walkways and work areas ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC committee ● Process improvement <ul style="list-style-type: none"> · Introduce work table to eliminate waste in motion ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop Production control board · Introduce pallets to avoid putting finished products directly on the floor ● Others <ul style="list-style-type: none"> · Introduce a dustbin · Develop a machine maintenance schedule 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 2,200 boxes to 3,960 boxes. (+80%) ● Monthly sales increased from 2,160 boxes to 3,090 boxes. (+43%) ● Reduction in search time for tool from 780 seconds to 23 seconds by operator which has reduced production lead time ● The hygiene condition has been improved. ● The finished goods are not placed directly on the floor. ● Improvement of their machine maintenance. <p>Have an interactive session between management and workers to foster the working relationship between management and the staff and also a platform for staff to ask questions bothering on the work</p>						
Ewuradze Kasa Bakery Center (Bakery)								
<ul style="list-style-type: none"> ● Equipment and tools were scattered and it took long time to search for tools ● Open gutters and drains ● Dough were carried on the shoulders of workers which comes in close contact with the body ● Windows were left opened without a net at the production room ● Proper records of sales, Asset register, customers, cash book were not kept ● Sections, machines and tools use for production were not labelled ● There was old clay oven structure in front of the main factory entrance 	<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement ● Lay out optimization <ul style="list-style-type: none"> · Demarcate walkways and work area at the oven section · Demarcate walkways and work area at the storage area ● Product Quality Improvement ● Process improvement <ul style="list-style-type: none"> · Introduce steel pans to transport dough ● Production and inventory control improvement <ul style="list-style-type: none"> · Produce a production control board · Mark maximum level line of inventory on the wall · Introduce pallets to avoid putting the bags directly on the floor ● Hygiene and safety improvement <ul style="list-style-type: none"> · Introduce a net for window to prevent contamination by the insects ● Others <ul style="list-style-type: none"> · Introduce a pressed open dust box · Develop a machine maintenance schedule · Cover gutters and drains · Demolish the old structure 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 268 bags to 288 bags (+7%) in April 2018, but dropped by 120 bags (-55%) in October 2018 due to lean season for bakery.  <table border="1"> <caption>Production Quantity (Bags)</caption> <thead> <tr> <th>Month</th> <th>Production Quantity (Bags)</th> </tr> </thead> <tbody> <tr> <td>5/2018</td> <td>288</td> </tr> <tr> <td>10/2018</td> <td>120</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly sales increased from GHS 84,285 to GHS 91,833 (+9%) in April 2018, but reduced by GHS 28,800 in October 2018 (-66%). ● Reduction in search time for tool from 300 seconds to 10 seconds by operator which has reduced production lead time ● Hygiene and safety conditions of the enterprise and workers has been improved ● Quality and hygiene has been improved ● Flies, rodents and other insects which could contaminate the prepared dough has been solved ● Proper accounting records are being kept for easy decision taken and reference purposes <p>It is has created additional space for the construction of new factory will ensure appropriate lay out that will follow laid down processes in other to prevent waste such as waiting, transportation and motion.</p>	Month	Production Quantity (Bags)	5/2018	288	10/2018	120
Month	Production Quantity (Bags)							
5/2018	288							
10/2018	120							

Challenges	Methods implemented	Major impact
Bensworth Construction (Brick manufacturing)		
<ul style="list-style-type: none"> ● The work place was not tidy. ● Walk ways and work areas were not demarcated. ● Dust on the ground coming out from the machines ● No routine maintenance schedule was visualized although a particular worker does so daily. ● machine tools were not properly arranged. ● Workers knew their respective production targets but it was not visualized to motivate them. ● There were no basic account books for recording business transaction 	<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement ● Sign post by the road side ● Lay out optimization <ul style="list-style-type: none"> · Demarcate of walkways and work area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC · Formation of QC Committee ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a Production Control Board · Develop a Delivery Control Board · Develop a Stock control board ● Financial Management improvement <ul style="list-style-type: none"> · Develop a Fixed Asset Register ● Branding/Marketing improvement <ul style="list-style-type: none"> · Produce a Products catalogue ● Hygiene and safety improvement ● Develop a periodic machine maintenance check sheet ● Fence construction 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 240 pieces to 9,780 pieces. (+3975%)  <p>The bar chart displays production quantity on the y-axis (0 to 10,000) against time on the x-axis (5/2018 and 10/2018). The bar for 5/2018 is labeled with the value 240, and the bar for 10/2018 is labeled with the value 9,780.</p> <ul style="list-style-type: none"> ● Monthly sales increased from GHS 15,000 to GHS 64,500. (+330%) ● Defects rate decreased from 0.05% to 0.03%. (-40%) ● Completed product inventory reduced from 4,000 pieces to 1,500 pieces. (-63%) ● Production lead time shortened from 4 weeks per 10,000 pieces to 2 weeks per 10,000 pieces. (-50%) ● Machine maintenance schedule has led to reduction in machine breakdowns and improve productivity. ● Walkways and markings reduced movement time leading to improved productivity. ● With the introduction of the seiton board, the time used in searching for a tool has reduced from 300 seconds to 33 seconds. ● Created awareness on production, guided how much to produce, and informed the general public. ● The fence constructed is able to hold the prepared raw materials in place and make the place very tidy. It has also improved sanitation situation in the enterprise.
Central Oil Mills (Palm oil manufacturing)		
<ul style="list-style-type: none"> ● There were no demarcation. ● Some trash, oil spill, obsolete equipment were found. ● No routine maintenance schedule was visualized although a particular worker does so daily. ● Enterprise's machine tools were not properly arranged and this result in waste of time in searching. ● Production target was not visualized to motivate them. ● The manager's office lacked 	<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement ● Lay out optimization <ul style="list-style-type: none"> · Demarcate walkways and work area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee ● Production and inventory control improvement <ul style="list-style-type: none"> · Production Control Board · Delivery Control Board ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on Cash analysis book and stock control · Introduce an accounting software ● Hygiene and safety improvement 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 96,205 kg to 114,015 kg. (+19%) in May 2018, but dropped by 30,130 kg in October 2018. ● Sales increased from GHS 17,609 to GHS 83,386 (+374%) in May 2018. ● Defects rate decreased from 5% to 0%. (-100%) ● Daily raw material inventory reduced from 20 tonnes to 10 tonnes. (-50%) ● Daily completed product inventory reduced from 10 tonnes to 5 tonnes. (-50%) ● Machine maintenance schedule has led to reduction in machine breakdowns and walkways and markings were created to reduce movement time leading to improved productivity. ● With the introduction of the seiton board, the time used in searching for a tool has reduced from 40 seconds to 5 seconds ● Created awareness on production, guided how much to produce, and informed the general public. <p>The manager feels comfortable working in this rural community especially during heat periods.</p>

Challenges	Methods implemented	Major impact						
<p>some basic office equipment.</p> <ul style="list-style-type: none"> ● Records on crude palm oil (CPO) and fresh fruit bunch (FFB) were only kept in notebooks. ● There was no records showing production and delivery schedules for the company. 	<ul style="list-style-type: none"> ● Others <ul style="list-style-type: none"> · Develop a periodic machine maintenance check sheet 	<p>Business daily information on CPO and FFB sheets are properly sorted and stored in a steel cabinet. There is also a detailed record on petty cash.</p> <p>During the follow-up visit both productions and delivery target for current month were displayed for workers and visitors to see.</p>						
Ekem Art Pottery (Pottery production)								
<ul style="list-style-type: none"> ● Operator used a tool which perforates 19 holes one after the other and thus takes much production time. ● Most products which were moved to the next production process was being placed on the floor directly which makes lifting or moving to the next process quite tiring. ● Clay powder used for crucibles was kept on the bare floor exposing it to wind and other particles which can affect the quality of the final product. ● There were so many unnecessary items in the store room 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the main factory including the machines and store rooms ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Organizational Chart - Code of Conduct - Mission and Vision - Notice Board ● Lay out optimization <ul style="list-style-type: none"> · Transport the machines to reduce transportation distance and improve productivity ● Process improvement <ul style="list-style-type: none"> · Introduce working table to waste in motion · Introduce Jig which can punch many holes at one time ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce a wooden box for Clay powder to reduce contamination. ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on book keeping procedures, costing, sales and cash flow projections 	<ul style="list-style-type: none"> ● Production quantity increased from 1,685 to 1,994 (+18%) in October 2018.  <table border="1"> <caption>Production Quantity Increase</caption> <thead> <tr> <th>Month</th> <th>Production Quantity</th> </tr> </thead> <tbody> <tr> <td>5/2018</td> <td>1,740</td> </tr> <tr> <td>10/2018</td> <td>1,994</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Sales increased from GHS 8,147 to GHS 11,100. (+36%) 	Month	Production Quantity	5/2018	1,740	10/2018	1,994
Month	Production Quantity							
5/2018	1,740							
10/2018	1,994							
U2 Company Ltd. (Edible salt manufacturing)								
<ul style="list-style-type: none"> ● Tools and parts were kept in sacks. It then took 10 minutes to search for parts and tools. ● The company had a notice board and didn't share management policies with workers ● There was nothing to show 	<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Produce a metal rack for bolts and nuts ● Visual Management Improvement ● Lay out optimization <ul style="list-style-type: none"> · Introduce a board at the production areas to caution workers from walking near the area when production is ongoing · Demarcate working and walking area ● Product Quality Improvement <ul style="list-style-type: none"> · Develop fault detection sheet 	<ul style="list-style-type: none"> ● Completed inventory reduced from 4,980 bags to 1,200 bags. (-76%) ● Production lead time reduced from 60 seconds per a bag to 35 seconds per a bag. (-42%) ● Time required to pack one bag reduced from 64 seconds to 44 seconds. (-31%) ● Time required to searching the parts reduced from 600 seconds to 20 seconds. (-97%) ● 5S activities were undertaken to reduce the searching time by constructing a metal rack. Proper labelling was done and searching time for tools and parts has been reduced to from 10 minutes to 20 seconds. ● A notice board was introduced at the entrance of the main office. Company's mission, vision, 						

Challenges	Methods implemented	Major impact
<p>minimum and maximum inventory levels. This made it difficult to determine the number of inventory at a glance.</p> <ul style="list-style-type: none"> ● Workers used to bend and pick sealed salt for bagging. 	<ul style="list-style-type: none"> ● Process improvement <ul style="list-style-type: none"> · Introduce a sliding packaging box to reduce waste in motion ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop production control sheet · Mark maximum inventory level on the wall · Introduce FIFO inventory method using a batch control board ● Hygiene and safety improvement <ul style="list-style-type: none"> · Organize dangerous wires and keep them away from the factory floor when not in use · Label hazard signs at dangerous area · Introduce a water tank which the workers can wash their hands with running water ● Others <ul style="list-style-type: none"> · Develop a machine maintenance check sheet · Develop a machine operating procedure 	<p>code of conduct and organizational chart to improve dissemination of information to workers in the company.</p> <ul style="list-style-type: none"> ● A line for maximum inventory level has been drawn on the walls. Now management can determine at a glance whether or not the inventory levels are appropriate. ● The team introduced batch control board to management to enable them keep track of batches of products produced and ensure the application of FIFO <p>New Initiative by U2</p> <ul style="list-style-type: none"> ● Workers used to bend and pick sealed salt for bagging. A sliding packaging box (Activation Index 2) was introduced by management to replace an old packaging box (Activation Index 0). A jig with tyres was manufactured to reduce the stress in bending of workers during packaging and movement of bagged salt to the inventory section. ● Two conveyor belts have been placed at the factory to increase production. ● There are plans to also expand the packaging section. ● An additional production line has been created at the packaging section, thereby increasing the number of sachets produced in a day from 390 to 520.

First Advanced KAIZEN OJT (Ashanti Region)

Methods implemented during OJT session	Major impact
C.K.B Industry (Metal roofing manufacturing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the main factory area, storage area and maintenance section · Produce a Seiton Board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Skill map - Organizational Chart - Code of Conduct - Mission and Vision - Work standard ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce a production control board 	<p style="text-align: center;">-</p> <p style="text-align: center;">(Measurement of impact could not be done due to unavailability of data)</p>
AA Agyei Enterprise (Leather sandal manufacturing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Produce a Seiton Board · Produce metal rack for last ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Notice board - Work standard - Code of conduct - Skill map - Mission and vision ● Layout optimization <ul style="list-style-type: none"> · Transport the metal rack to appropriate place to reduce the waste of movement. · Demarcate working and walking area ● Process improvement <ul style="list-style-type: none"> · Introduce a cart to help transportation · Introduce a work bench to reduce waste in motion · Introduce a wooden stand and a plastic container to prevent scattering of the sewed leather · Introduce new Jig which the pressing machine can cut the bona and punch holes on them simultaneously. · Introduce new Jig which the pressing machine can cut the strips and punch the 4 holes on it at the same time instead of pressing and punching separately · Make two operators work at the gluing section with big brushed and containers instead of only one operator with small brush and a container ● Hygiene and safety improvement <ul style="list-style-type: none"> · Introduce nose masks to avoid causing health problem 	<ul style="list-style-type: none"> ● Production quantity increased from 2,800 to 4,500. (+61%, unit is unknown) ● Defects rate reduced from 6% to 1%. (-83%) ● Inventory reduced from 3,500 to 3,000. (-14%, “unit” and “raw material or completed product” are unknown.) ● Production lead time reduced from 7 days to 4 days. (-43%)
Salom Pharmacy Limited (Pharmaceutical)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · Formation of 5S committee · General cleaning at the spare parts room, factory, production section, raw material section. · Produce a Seiton Board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Organizational chart - 5S committee - Skill map - Code of conduct - Vision and Mission · Demarcate walking area and non-walking area 	<ul style="list-style-type: none"> ● Sales increased from 203,115 units to 443,670 units. (+118%, period in unknown.) ● Defects rate reduced from 0.8% to 0.1%. (-88%) ● Production lead time reduced from 2 days to a day. (-50%)

Methods implemented during OJT session	Major impact
<ul style="list-style-type: none"> ● Product Quality Improvement <ul style="list-style-type: none"> · Formation of QC committee · Give a lecture on QC including exercise of fish bone diagram ● Process improvement <ul style="list-style-type: none"> · Reduce 2 workers at the packaging section and assign them to other section by analysing process flow order and reallocating the tasks of each worker. 	
Vicalex Brick and Tile Company Limited (Brick and tile manufacturing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the factory, store room · Update the existing Seiton Board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Skill map - Organizational chart - 5S committee - Work standard - Code of conduct - Vision and Mission ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking are/passage for vehicle ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram ● Process improvement <ul style="list-style-type: none"> · Give a lecture on Total productive maintenance · Implement a time study at brick moulding processing section to calculate productivity per minute in relation to company's targeted production level ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce FIFO inventory method using a batch production system with batch signboard · Develop a production control board ● Financial Management improvement <ul style="list-style-type: none"> · Introduce a n analysis on variance of sales, expenses, profits, etc. · Establish an investment plan based on cost benefit analysis. ● Branding/Marketing improvement <ul style="list-style-type: none"> · Develop a Product catalogue ● Hygiene and safety improvement <ul style="list-style-type: none"> · Give a lecture on Occupational safety and environmental management ● Others <ul style="list-style-type: none"> · Give a lecture on seven wastes · Develop a maintenance check sheet 	<ul style="list-style-type: none"> ● Production quantity increased from 149,943 to 210,852. (+41%, unit and period are unknown) ● Sales increased from 65,125 to 93724. (+44%, unit and period are unknown.) ● Defects rate reduced from 12% to 4%. (-67%) ● Raw material inventory reduced from 22,190 to 16, 890. (-24%, unit is unknown.) ● Turnover ratio increased from 0.03% to 0.02%.
Kumi and Company Limited (Wood processing, furniture)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the factory including the machines ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Organisational Chart - Code of Conduct - Work Standard - Mission and Vision - Notice Board ● Lay out optimization <ul style="list-style-type: none"> · Demarcate walking area and non-walking area ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a production control board · Develop a shipping control board ● Others <ul style="list-style-type: none"> · Develop a machine maintenance check sheet 	<ul style="list-style-type: none"> ● Productivity increased from 20.16 to 47.3. (135%, unit is unknown.) ● Sales increased from 71,349.94 to 1,215,322.34. (+1,603%, unit is unknown.) ● Defects rate reduced from 33% to 24%. (-26%) ● Completed inventory reduced from 768 to 585. (-24%, unit is unknown.) ● Production lead time reduced from 3 month to 1 month. (-67%)

Methods implemented during OJT session	Major impact
<p>Joemaxx Co. (Metal roofing manufacturing)</p> <ul style="list-style-type: none"> <li>● Promotion of 5S <ul style="list-style-type: none"> <li>· Clean the machines <li>· Produce a Seiton board <li>● Visual Management Improvement <ul style="list-style-type: none"> <li>· Display <ul style="list-style-type: none"> <li>- Organizational chart <li>- Code of conduct <li>- Vision and Mission <li>- Notice board <li>- Work standard <li>- Skill map <li>● Production and inventory control improvement <ul style="list-style-type: none"> <li>· Develop a delivery control board <li>· Develop a material Control Board <li>● Others <ul style="list-style-type: none"> <li>· Develop a machine maintenance sheet 	<ul style="list-style-type: none"> <li>● Daily production quantity increased from 2 coils to 3 coils. (+50%) <li>● Production lead time reduced from 14 days to 7 days. (-50%)

Second Advanced KAIZEN OJT

Methods implemented during OJT session	Major impact
Francis Aluminum Limited (Aluminium kitchen ware manufacturing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · Formation of 5S committee · General cleaning at the storage area, shipping section and polishing section ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Organizational chart - Code of conduct - Skill map - Vision and Mission - Work standard ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC circle ● Process improvement <ul style="list-style-type: none"> · Introduce a work bench and stool · Reduce work time by introducing a broader work table and Jig · Reduce work time by replacing normal nut with wing nut ● Production and inventory control improvement <ul style="list-style-type: none"> · Improve existing raw material and finished products' inventory management systems · Introduce a production control system ● Financial Management improvement <ul style="list-style-type: none"> · Introduce working capital planning including cash flow and sales forecast ● Others <ul style="list-style-type: none"> · Develop a machine maintenance sheet 	<ul style="list-style-type: none"> ● Daily productivity per a worker increased from 176 units to 336 units. (+107%) ● Monthly sales increased from GHS 194,720 to GHS 390,047. (+100%) ● Defects rate reduced from 0.9% to 0.3%. (-67%) ● Completed product inventory reduced from 2,352 pieces to 458 pieces. (-81%) ● Production lead time for 1 tonne shortened from 14 days to 8 days. (-67%) ● Production cost per an item reduced from GHS 10.9 to GHS 7.7. (-29%) ● Time required to pick the right handle and fix to the lid reduced from 24 seconds to 17 seconds by Jig for parts. (-29%) ● Time required to tighten the washing machine reduced from 115 seconds to 86 seconds. (-25%)
Aspee Pharmaceutical Company Limited (Pharmaceutical)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · Formation of 5S committee · General cleaning at the production area and the raw material store room · Produce a Seiton board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Skill map - Organisational chart - Mission and vision - Code of conduct - Notice board ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking area ● Process improvement <ul style="list-style-type: none"> · Introduce a trolley to transport raw materials and Work In Process · Carry out zoning of the entire work area to help improve the hygiene condition of the enterprise · Introduce Jigs to resolve too much Work In Process and waste in motion ● Financial Management improvement <ul style="list-style-type: none"> · Introduce a cost and benefit analysis · Introduce sales and cash flow projections 	<ul style="list-style-type: none"> ● Hourly productivity per a worker increased from 0.24 units to 1.9 units. (+956%) ● Monthly sales increased from GHS 314,236 to 358,254. (+14%) ● Defects rate reduced from 0.9% to 0.4%. (-56%)

Methods implemented during OJT session	Major impact
Uni Jay Fashion (Sewing industry making for school uniforms, etc.)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the mass production section, cell production section, the main cutting section and the traditional section · Formation of 5S committee · Produce a Seiton board · Sort sewing threads ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Notice board - Skill map - Organizational Chart - Code of conduct - Work Standard - Mission and Vision ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking area · Re-arrangement of the production flow to eliminate the unnecessary movements and also balance the various lines based on the results of video analysis ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee · Develop a quality control check sheet ● Process improvement <ul style="list-style-type: none"> · Develop a production progress check sheet · Develop a process scheduling sheet for the cutting, sewing/ironing, embroidery, printing, quality inspection and packaging units · Sort and re-arrange the patterns and label them at the cutting section ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce the activation index and introduce pallets in order to avoid directly placing the materials on the floor · Introduce a new shelf for the arrangement of the raw materials and finished products · Develop an inventory check sheet · Develop a delivery control board · Introduce Jigs to reduce waste in motion ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on accounting training · Introduce an asset register · Improve basic accounting books including cash and bank book and debtors and creditors books ● Others <ul style="list-style-type: none"> · Develop a machine maintenance check sheet] · Propose reducing working hours while maintaining productivity or even increase in daily production 	<ul style="list-style-type: none"> ● Hourly productivity per a worker increased from 0.42 units to 0.78 units. (+86%) ● Monthly sales increased from GHS 536, 622 to GHS 1,167,526.75. (+118%) ● Defects rate reduced from 0.11% to 0.02%. (-82%)
Vito A1 Bakery (Bakery)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the raw materials storage section ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Organizational Chart - Code of Conduct - Work Standards - Vision and Mission - 5S committee ● Lay out optimization <ul style="list-style-type: none"> · Shorten the transportation distance of greased pans by creating passage which goes through the shortest route · Optimize the layout to eliminate criss-crossing of people and 	<ul style="list-style-type: none"> ● Raw material inventory period reduced from 14 days to 3 days. (-79%) ● Production lead time reduced from 12 hours to 8 hours. (-33%) ● Transport time reduced from 46 seconds to 31 seconds due to introduction of transport pallet. (-33%)

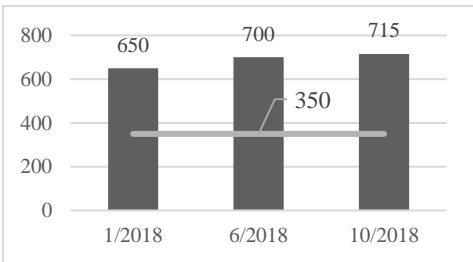
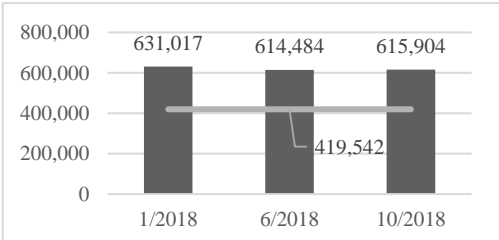
Methods implemented during OJT session	Major impact
<p>materials and reduce the distance of transporting moulded bread from the moulding section to the fermentation section</p> <ul style="list-style-type: none"> ● Process improvement <ul style="list-style-type: none"> · Determine the maximum height for storing pans · Introduce wooden trolley with wheels ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a production control board · Develop a raw materials control board · Introduce FIFO inventory method using labels showing 'New' and 'Old' ● Hygiene and safety improvement <ul style="list-style-type: none"> · Give a lecture on Occupational Safety Health and Environmental Management (OSHEM) ● Others <ul style="list-style-type: none"> · Develop a preventive maintenance schedule 	<ul style="list-style-type: none"> ● Transport time reduced from 60 seconds to 4 seconds due to making direct access available to the bread storage area by removing wire netting. (-93%) ● Transport time for one lot of bread reduced from 17 seconds to 3 seconds due to layout change before fermentation process. (-82%)
Royal Foam (Foam mattress)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · Formation of 5S committee · General cleaning at the foam production section · Produce Seiton board ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Skill Map - 5S committee - QC circle - Mission and Vision - Code of conduct - Work Standards ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee ● Process improvement <ul style="list-style-type: none"> · Introduce a trolley to transport Work In Process instead of transporting them on workers' heads ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce an inventory management system ● Financial Management improvement <ul style="list-style-type: none"> · Develop Projected Cash flow and income statements 	<ul style="list-style-type: none"> ● Quarterly productivity per a worker increased from 1,017.3 units to 1069.3 units. (+5%) ● Sales increased from GHS 56,000 to GHS 102,337. (+83%) ● Defects rate reduced from 5% to 3%. (-40%)
Gyamfua Ababio Investment Co., Ltd. (Roofing and aluminium kitchen ware manufacturing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Give a lecture · General cleaning at the hollow ware section ● Visual Management Improvement <ul style="list-style-type: none"> · Display <ul style="list-style-type: none"> - Work standard - Upgraded skill map - 5S committee - Organizational chart ● Process improvement <ul style="list-style-type: none"> · Introduce work benches to reduce waste in motion · Reduce the number of workers at certain section based on video analysis · Redesign a trolley to transport finished products ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a delivery control board · Introduce the signboard which indicate the standard number of Work In Process ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on following key financial ratio analysis; 	<ul style="list-style-type: none"> ● Transport quantity per lot increased from 2 units to 12 units from 2 units due to introduction of transport trolley. (+500%) ● Reduction of manpower at aluminium cutting section by eliminating waste for waiting from 4 workers to 2 workers. (+50%)

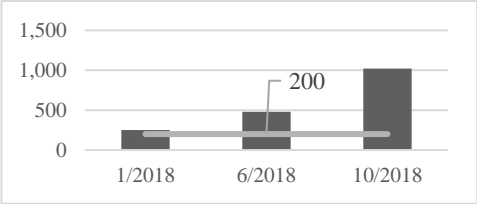
Methods implemented during OJT session	Major impact
<ul style="list-style-type: none"> - Net profit margin - Current Ratio - Debt Equity Ratio - Receivable Turn Over - Inventory Turnover - Payable Turnover · Give a lecture on break-even point analysis ● Hygiene and safety improvement · Give a lecture on Occupational Safety Health and Environmental Management (OSHEM) 	

Third Advanced KAIZEN OJT (Greater Accra region)

Methods implemented	Major impact
Mass Industries, Limited. (Biscuits)	
<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement <ul style="list-style-type: none"> · Display ● Lay out optimization <ul style="list-style-type: none"> · Demarcate storage area of mould · Demarcate working and walking area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee ● Hygiene and safety improvement <ul style="list-style-type: none"> · Carry out zoning to promote hygiene within the factory to avoid cross contamination of products 	<ul style="list-style-type: none"> ● Sales increased from 507 mt to 514.1 mt. (+1%, period is unknown.) <ul style="list-style-type: none"> ● New initiative ● New Factory was constructed.
Prosdo Aluminum Company Limited (Aluminum Utensil)	
<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement <ul style="list-style-type: none"> · Display ● Lay out optimization <ul style="list-style-type: none"> · Optimise the layout in order to reduce waste in transportation ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including how to use fish bone diagram · Formation of QC Committee ● Process improvement <ul style="list-style-type: none"> · Introduce a cleaning box ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce a storage box · Introduce the activation index and introduce pallets in order to avoid directly placing Work In Process on the floor · Develop a delivery control board · Develop a production control board ● Financial Management improvement <ul style="list-style-type: none"> · Introduce basic accounting books including Cashbook, Debtors and Creditors books · Introduce assets register · Introduce an accounting software ● Hygiene and safety improvement 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 12,346 to 14,123. (+14%, unit is unknown.) ● Monthly sales increased from GHS 186,881 to GHS 333,921.8. (+79%) ● Time required for transportation reduced from 27 seconds to 15 seconds. (-44%) ● Significant improvement in their records keeping with the introduction of an accounting software ● Avoidance of machine breakdown as result of constant cleaning and maintenance ● On time delivery to customers ● Improved working environment

Methods implemented	Major impact
Solutions Oasis Company Limited (Soap)	
<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement <ul style="list-style-type: none"> · Erect the sign post by the road side ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking area · Optimize the layout to reduce waste in transportation ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee ● Process improvement <ul style="list-style-type: none"> · ECRS method and reduce the number of workers for the production of Shea /cocoa butter · Introduce a Jig to enable workers to label the bottle with two hands instead of one ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce line balancing to allocate proportionate task to the right number of employees with proportionate time for completion · Develop a production control board · Develop a delivery control board ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on cash, credit management and working capital cycle · Carry out break-even point analysis ● Develop a machine maintenance sheet 	<ul style="list-style-type: none"> ● Monthly productivity per a worker increased from 31 tables soap to 459 tablets soap. (+1,381%) ● Monthly sales increased from GHS 26,740 to GHS 45,900. (+72%) ● Defects rate reduced from 10% to 0%. (-100%) ● WIP inventory reduced from 700 tablet soap to 6 tablet soap. (-99%) ● Production lead time reduced from 8 weeks to 1 week. (-88%) ● Transporting distance reduced from 171 metres to 0 metres. (-100%) ● Reduction of numbers of Workers at the Tablet section from 7 to 5 has increased productivity by 40% ● Cupped WIP reduced from 100 to 10 representing 90% ● Reduction of numbers of Workers at the Tablet section from 7 to 4 has increased productivity by 75% ● The Layout change has reduced transportation distance from 171m to 0m (100%) and also reduced occupied pace from 115.3sqm to 80.2sqm (31%) ● Delivery Control Board Workers are now more conscious of the delivery deadlines. ● Workers are able to report shortage of materials earlier than before. ● Improvement in communication among the production team.
New Initiative	
<ul style="list-style-type: none"> ● Management has erected 2 sign posts giving direction to the company ● Construction of a metal container warehouse ● Visual management improvement ● Construction works at the finished product storage room ● Security check point is also under construction ● The enterprise intends to construct another factory warehouse in the next two years for production. <p>The increase in production is because of high demand for the products from Taiwan, Namibia and Australia.</p>	
Praise Export Services Limited Palm oil)	
<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement <ul style="list-style-type: none"> · Label a shelf ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee ● Process improvement <ul style="list-style-type: none"> · Introduce three types of chairs at the packaging section · Change the process of sorting the palm fruits in order not to put them directly on the floor ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce an improved material storage equipment instead of existing one · Introduce the Multi bin system · Label the floor to enable effective FIFO system · Develop a production/ delivery control board ● Financial Management improvement <ul style="list-style-type: none"> · Carry out break-even point analysis 	<ul style="list-style-type: none"> ● Monthly productivity per a worker increased from 0.4 tonnes to 1.5 tonne. (+275%) in June 2018. ● Monthly sales increased from 3,977,577.34 to 7,497,655.69. (+88%, unit is unknown) ● Defects rate reduced from 1% to 0.26%. (-74%) ● Completed product inventory reduced from 5,573 cartons to 2,075 cartons. (-63%) ● Production lead time reduced from 45 hours per a container to 36 hours per a container. (-20%) ● Monthly production cost reduced from GHS 1,060,834 to 954,915. (-10%, unit cost is unknown.) ● Metal rack was constructed for the company for the storage of raw materials (Gari) to enhance safety and quality of the gari. ● At the powder section, walkways were created to separate working areas from walkways. ● Shelves were labelled and materials set in their appropriate places for easy identification. ● Three types of chairs (high level, middle level and lower level) were provided for the workers to enhance their safety at the work place.

Methods implemented	Major impact																
<ul style="list-style-type: none"> ● Develop a machine maintenance sheet 	<ul style="list-style-type: none"> ● Multi Bin System of inventory management was introduced at the warehouse in order to help the company practice FIFO, also to optimize the factory floor. 																
<p>New Initiatives</p> <ol style="list-style-type: none"> 1) Acquisition of maize silo 2) Introduction gate curtain 3) Acquisition of maize cleaning machine 4) Construction of Solar dryer 5) Acquisition of new fufu dryer 6) Acquisition of filling machine for Tom brown 7) Visual management 8) Tiling and pavement of the factory floor. 9) Plan to construct new premises for the palm cream products (canning section) 																	
<p>Bulluk GH Limited (Nallem) High Ranked Apparel)</p>																	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Sort and re-arrange threads, buttons and zippers · Re-arrange patterns in accordance with categories and institutions · Re-arrange leftover fabrics · Introduce baskets to keep the jumper sizes ● Visual Management Improvement <ul style="list-style-type: none"> · Label the electricity main switches ● Lay out optimization <ul style="list-style-type: none"> · Introduce a metal rack for fabric and place it near the cutting section to reduce waste in transportation ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC · Formation of QC Committee · Update a quality inspection sheet · Update a design customer order sheet · Give a lecture on Total Quality Management · Develop a minute template and problem and countermeasure board · Introduce QC circle planning sheet ● Process improvement <ul style="list-style-type: none"> · Introduce fabric holders to avoid adhesion of dust, stains and dirt · Introduce a shelf and label it for the hooks to be arranged according to their diameters · Introduce loop turners instead of scissors to prevent accidents · Introduce workbench at the buttons section · Develop a sketch and sample sign board to avoid defects and reworks ● Production and inventory control improvement <ul style="list-style-type: none"> · Give a lecture on supply chain management · Introduce pallets in order to avoid directly placing the materials on the floor · Introduce stock cards and tally cards ● Financial Management improvement <ul style="list-style-type: none"> · Introduce monthly Sales and Cash Flow Projections ● Develop a Preventive Maintenance Schedule ● Branding/Marketing improvement <ul style="list-style-type: none"> · Develop shop operation analysis sheet · Develop a customer feedback sheet · Carry out the quantitative analysis of customers' feedback · Develop a procedure of dealing with customers' complaints 	<ul style="list-style-type: none"> ● Daily production quantity increased from 350 pieces to 715 pieces. (+104%)  <table border="1"> <caption>Daily Production Quantity</caption> <thead> <tr> <th>Month</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>1/2018</td> <td>650</td> </tr> <tr> <td>6/2018</td> <td>700</td> </tr> <tr> <td>10/2018</td> <td>715</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Monthly sales increased from 419,542 to 615,000 (+45%, unit is unknown) constantly.  <table border="1"> <caption>Monthly Sales</caption> <thead> <tr> <th>Month</th> <th>Sales</th> </tr> </thead> <tbody> <tr> <td>1/2018</td> <td>631,017</td> </tr> <tr> <td>6/2018</td> <td>614,484</td> </tr> <tr> <td>10/2018</td> <td>615,904</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ● Defects rate reduced from 0.45% to 0.07%. (-85%) ● Production lead time reduced from 10 days to 7 days. (-30%) ● Time required to transport fabrics from the store room to the cutting section reduced from 51 to 11 seconds. (-78%) 	Month	Quantity	1/2018	650	6/2018	700	10/2018	715	Month	Sales	1/2018	631,017	6/2018	614,484	10/2018	615,904
Month	Quantity																
1/2018	650																
6/2018	700																
10/2018	715																
Month	Sales																
1/2018	631,017																
6/2018	614,484																
10/2018	615,904																

Methods implemented		Major impact
Sleek Garments Export Limited (School Uniforms)		
<p>Challenges</p> <ul style="list-style-type: none"> ● Fabrics and other items were not well arranged. ● Finished products were not well arranged ● Tools and other items were not well organized for easy identification and access. ● The company did not have shipping/delivery control boards ● The company keeps inventory but needs an improvement 	<p>KAIZEN</p> <ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Sort and re-arrange threads · Sort and re-arrange patterns and label them ● Visual Management Improvement <ul style="list-style-type: none"> · Display · Update notice board ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC including exercise of fish bone diagram · Formation of QC Committee ● Process improvement <ul style="list-style-type: none"> · Give tags to sewing garments and uniforms ● Production and inventory control improvement <ul style="list-style-type: none"> · Introduce a delivery control board · Introduce pallets in order to avoid directly placing the fabrics on the floor · Introduce stock card and stock taking list ● Financial Management improvement <ul style="list-style-type: none"> · Carry out financial analysis 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 200 to 1,020. (+410%, unit is unknown.)  <p>(Sleek obtained order of security uniform)</p> <ul style="list-style-type: none"> ● Sales increased from 235,000 to 238,327 in June 2018 (+14%), but dropped by 112,674. (-52%, unit is unknown.) ● Defects rate reduced from 12.5% to 7.5%. (-40%) ● Fabrics and other items are sorted out well so that workers can get necessary items very easily. Finished products are sorted out well so that workers can get necessary items very easily. These resulted in reducing the time for searching. ● Shipping control board was constructed for the company to help monitor the shipping progress of products. ● Stock card and stock taking list as an improved inventory management system to take stock of the finished goods.

Fourth Advanced KAIZEN OJT (Greater Accra region)

Methods implemented	Major impact
CAD Manufacturing (Fashion designing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Sort and re-arrange threads, embroidery hooks, raw materials and label shelves · Introduce a rack and sort and re-arrange patterns ● Visual Management Improvement <ul style="list-style-type: none"> · Display ● Lay out optimization <ul style="list-style-type: none"> · Demarcate working and walking area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC and form QC Committee · Develop a defect check sheet, a standard operation procedure · Develop a quality control reporting template ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a production, inventory control board · Count the physical number of stocks to resolve differences between the physical number and data on computer ● Financial Management improvement <ul style="list-style-type: none"> · Give a lecture on working capital cycle and credit policy · Develop a customer information sheet · Develop an accounts receivable control sheet · Develop a excel sheet which can calculate income tax on the company's payroll ● Others <ul style="list-style-type: none"> · Develop a workers training plan · Develop a pre-operation check sheet for the machines · Develop a machines maintenance schedule and check sheet 	<ul style="list-style-type: none"> ● Productivity increased from 150 to 500 (+233%, unit is unknown.) ● Sales increased from GHS 19,653 to GHS 34,603 (+76%, period is unknown) ● Defects rate reduced from 40% to 10%. (-75%) ● Production lead time reduced from 3 weeks to 2 weeks. (-33%)
Everpure Ghana Ltd.	
<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement <ul style="list-style-type: none"> · Display ● Product Quality Improvement <ul style="list-style-type: none"> · Develop a quality control records template ● Process improvement <ul style="list-style-type: none"> · Make a suggestion to introduce a manual forklift and a rolling table at the conveyor belt area ● Production and inventory control improvement <ul style="list-style-type: none"> · Make a suggestion to introduce a multi bin system be put in place at the warehouse to ensure the visibility and efficiency of FIFO ● Others <ul style="list-style-type: none"> · Develop a pre-operation check sheet for the machines · Develop a machines maintenance check sheet 	<ul style="list-style-type: none"> ● Monthly productivity per a worker increased from 155 cartons to 205 cartons. (+32.3%) ● Defects rate reduced from 3% to 0.7%. (-77%) ● Completed product inventory reduced from 2,500 cartons to 2,000 cartons. (-20%)
Yehans International Aluminium glazing)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Re-arrange products in showroom ● Visual Management Improvement <ul style="list-style-type: none"> · Display · Label the sections and machines ● Lay out optimization <ul style="list-style-type: none"> · Demarcate walking area and non-walking area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on QC · Formation of QC Committee · Give a lecture on Total Quality management ● Process improvement <ul style="list-style-type: none"> · Introduce a trolley to reduce waste in motion · Introduce fixing of wheels to transport easily ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a production control board ● Branding/Marketing improvement 	<ul style="list-style-type: none"> ● Monthly production quantity increased from 12 tons to 15 tons. (+25%) ● Monthly sales increased from \$8,400 to \$105,000 (+25%) ● Defect rate reduced from 7% to 4%. (-43%) ● Production lead time reduced from 4 weeks to 3 weeks. (-25%) ● Time required to lift the drilling machine from the floor and drill a hole in a profile or a joint place it back to the

Methods implemented	Major impact
<ul style="list-style-type: none"> · Introduce a customer feedback form · Develop banners ● Hygiene and safety improvement ● Others <ul style="list-style-type: none"> · Make a suggestion to introduce fixing wheels to relocate easily at the showroom · Fill up gullies at the production floor · Develop a preventive maintenance schedule 	<p>floor reduced from 10 seconds to 2 seconds. (-80%)</p>
Domod Aluminium Company Ltd. Cookware and Basins)	
<ul style="list-style-type: none"> ● Promotion of 5S ● Visual Management Improvement ● Layout optimization <ul style="list-style-type: none"> · Demarcate working and walking area · Relocate the press lids closer to handle fixer to reduce waste in transportation · Carry out layout change at the finishing section ● Product Quality Improvement <ul style="list-style-type: none"> · Form QC Committee and give a lecture on Total Quality Management ● Process improvement <ul style="list-style-type: none"> · Introduce trolley to transport finished products · Introduce Jig which can fix the handles at one time instead of two times ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop production, delivery control board ● Hygiene and safety improvement ● Develop a machines maintenance check list 	<ul style="list-style-type: none"> ● Production lead time reduced from 15 minutes to 9 minutes. (-40%, production item is unknown) ● Time required to transport reduced from 72 seconds to 10 seconds. (-86%)
J&J Plastics Ltd. School Furniture)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Introduce a metal stand to arrange bent pipes ● Visual Management Improvement <ul style="list-style-type: none"> · Display · Label the sections ● Product Quality Improvement <ul style="list-style-type: none"> · Develop check lists for raw materials and finished products ● Process improvement <ul style="list-style-type: none"> · Introduce carts to transport cut pipes easily · Introduce a Jig to hold paint can to ease the painting process · Develop standard operating procedures ● Production and inventory control improvement <ul style="list-style-type: none"> · Develop a delivery control board ● Financial Management improvement <ul style="list-style-type: none"> · Develop income Statement and projections ● Branding/Marketing improvement <ul style="list-style-type: none"> · Develop a customer feedback form ● Hygiene and safety improvement 	<ul style="list-style-type: none"> ● Daily Production quantity of Mono desk increased from 70 pieces to 125 pieces. (+79%) ● Monthly sales increased from 490,000 to 875,000. (+79%, unit is unknown) ● The number of pipes which can be transported at once increased from 10 to 120. (+92%)
Bomarts Farms Ltd. Dried fruits and farms)	
<ul style="list-style-type: none"> ● Promotion of 5S <ul style="list-style-type: none"> · Fix nails on the shelves to hold threads ● Visual Management Improvement <ul style="list-style-type: none"> · Label sections · Introduce caution signs ● Lay out optimization <ul style="list-style-type: none"> · Demarcate organic area and convention products area at the final storage area ● Product Quality Improvement <ul style="list-style-type: none"> · Give a lecture on Total Quality Management including Check Sheet, Pareto analysis and Cause and Effective diagram ● Process improvement <ul style="list-style-type: none"> · Make a suggestion to reassign the workers at the spreading section because the number of workers at the section exceed the task 	<p style="text-align: center;">-</p> <p>(Measurement of impact could not be done due to unavailability of data)</p>

Appendix 3
NBSSI Monitoring Report

NATIONAL BOARD FOR SMALL SCALE INDUSTRIES (NBSSI)
MONITORING REPORT ON BASIC KAIZEN TRAINING FOR REGIONAL MANAGERS AND SELECTED PROJECT OFFICERS HEADS OF BUSINESS ADVISORY CENTRES

1.0 INTRODUCTION

A member of the Project Management Unit (PMU), Philomena Dsane undertook a two-day (19th and 20th October, 2018) monitoring of the basic Kaizen training for two Regional Managers, two Project officers, and twenty three Heads of Business Advisory Centres (BACs) from Greater Accra, Volta and Eastern Regions in line with supervisory role of the PMU. The training programme was organised at the conference room of Gift Guest Hotel, Koforidua from 15th to 20th October, 2018 and was funded by JICA.

2.0 OBJECTIVES

The specific objectives of the training programme were to build the capacity of participants on:

- Basic KAIZEN theoretical modules.
- The application of the MS office suit in report writing, presentation and development of documents related to KAIZEN

3.0 METHODOLOGY

Participatory methodologies were adopted during the transfer of skills. Specific methods were lectures, exercises, demonstration and discussions. Four BAC Heads from Ashanti Region (Tepa, Kodie, Mampong and Obuasi) were the main facilitators during the training programme. The PMU member advised participants of the workshop to improve upon their capacity through continuous learning to enable them provide efficient and effective Business Development Services to Micro, Small and Medium Enterprises in their areas of operation.

4.0 COMMENTS AND OBSERVATIONS

The PMU member monitored the computer training session of the programme which took place between 19th and 20th October, 2018. It was observed that the trainees actively participated in all the outlined modules during the sessions. They were also willing to share their skills and knowledge with their colleagues and the facilitators.

5.0 CONCLUSION AND RECOMMENDATION

It can be concluded that the training programme was a success. Participants promised to implement the new computer skills acquired in their reporting and presentation. It is recommended that trainees of this workshop are given practical kaizen training to enable them provide the required kaizen related services to MSMEs at the district level.

NATIONAL BOARD FOR SMALL SCALE INDUSTRIES (NBSSI)
REPORT ON POST MONITORING OF SELF-IMPLEMENTATION ACTIVITIES IN KUMASI

1.0 BACKGROUND

The Executive Director and the Ag. Deputy Executive Director conducted post monitoring activities in Kumasi for beneficiaries of KAIZEN Self-Implementation activities at the Nkawie and Asokore Mampong Districts in the Ashanti Region from 14th to 15th November, 2018.

The Team in the company of the BAC Heads visited the following beneficiaries:

No.	Name of Beneficiary	Name of Enterprise/Company	Type of Business	Location	Remarks
1	James Macourt Jnr	Mc Jakes Klodin	Tailoring/School Uniforms Production	Nkawie	
2	Kweku Otchere Darko	Lofty One Clothing	Tailoring/Garment Production	Nkawie	He started the process and had to stop because of his brother's funeral
3	Barfour Awuah Asibey	Royal Foam	Manufacture of: -Mattresses -Bedsheets and pillow cases -Pillows -Curtains etc	Asokore mampong	
4	Bernard Xiel	Benark Co. Ltd	Production of water satchets	Asokore mampong	

2.0 OBJECTIVES OF THE EXERCISE

The following objectives guided the exercise:

- To apprise themselves the KAIZEN activities implemented at the beneficiary Enterprise /Company
- To ascertain whether the activities were being sustained
- To find out the benefits of the activities to the beneficiaries' businesses

3.0 FINDINGS

3.1 Mc Jakes Klodin

The Beneficiary said he heard about KAIZEN through a friend who had gone through the training so even before he was invited for training, he already developed some interest in it. He described the situation at the Enterprise before the KAIZEN intervention as summarized below:

- No records
- No signpost giving directions to the Enterprise
- No shelves for holding items
- No labelling of rooms
- Everything in disarray with items arranged in a disorderly manner
- Floor was always dirty
- Poor book keeping
- Finished work and work in progress arranged in no order and therefore a lot of time spent searching for items

He said that all of these challenges were confirmed during the enterprise diagnosis and tackled during the implementation activities.

During the monitoring visit, the Team's observed that most of the KAIZEN activities implemented were being sustained. They include;

- The cleanliness and orderliness of the premises
- The visualisation of the Enterprise's Vision and Mission
- The neatly arranged Seiton Board
- The neatly arranged thread section
- The creation of more space for Apprentices through a better workflow
- The placement of bowls and dustbins at vantage places to hold materials being sown to prevent them from getting dirty and for the collection of unwanted pieces of material
- Neatly arranged shelves and nicely packaged and labelled finished work and work in progress
- The demarcation of sections for various activities through the drawing of line markings

The new addition after KAIZEN included:

- The design and printing of new labels
- One staff assigned responsibility for keeping records with handholding support from the BAC
- The sewing of school uniforms to his lines of operation

These had brought considerable benefits to his business including:

- Increase in the number of apprentices because structured training provided and the professional outlook of the business after KAIZEN

- Increase in the number of customers
- A change in attitude to work especially in terms of punctuality to work, increased output per apprentice or and more seriousness at work

The Beneficiary expressed excitement and appreciation at the forward movement of the business as a result of KAIZEN and promised to propagate the KAIZEN message to other MSMEs whenever he had the opportunity.

3.2 Lofty One Clothing

The Client expressed interest and actually started the process but dropped out to go and bury a dead brother. The Team paid a visit to the Enterprise to encourage him to go through the training at his own expense because he great need for the training as observed by the Team and he also had the capacity to bear the full cost of training.

The BAC Head was encouraged to follow up to whip up his interest in the training.

3.3 Royal Foam

The General Manager was very excited to see the Team and immediately started talking about how beneficial the training had been for the Company. He said that even before KAIZEN some practices had already been installed as part of the Company's routine operations ie. 5s and electronic records keeping on all aspects of the business operations but otherwise many new practices had also been added such as:

- Improvement of layout through the relocation of certain machines to make their operations more efficient and the creation of sections for the various business lines
- The level of cleanliness of the Factory and Offices
- The clearly demarcated sections
- The clear delegation of tasks

It was clear that the activities had been sustained to large extent especially in terms of: Visualization

- Effective use of the line markings as evidenced by the orderly arrangement of finished items and work in progress
- Proper record keeping among others

The General Manager was very happy that their production levels had gone up considerably and subsequently their customer base. They had opened a sales outlet in Accra. To prop up the increased production, the Company had employed more permanent and casual staff since the training. He told about plans to open more sales outlets.

3.4 Benark Co. Ltd

The Team the absence of the Proprietor. There a few workers loitering about. Upon interrogation, they explained that power supply to the Company was highly erratic and seriously affected the flow of work at the Factory.

Even though there was evidence through visualization of KAIZEN activities implemented (Vision, Mission, Seiton Board, Production Control Board, Line markings among others) the Factory was very disorderly and dirty both externally and internally.

The BAC Head complained about the lack of enthusiasm among the workers to sustain the KAIZEN activities let alone improve upon them.

The Team advised the workers to make an effort to apply the KAIZEN Principles to ensure they reaped the maximum benefit out it,

4.0 OBSERVATIONS, RECOMMENDATIONS AND CONCLUSION

The Team observed that:

- Businesses which had sustained the activities and even added new ones on their own had considerably enhanced the general outlook of their businesses and subsequently their productivity the number of workers and production lines.
- The reverse applied to businesses which were not making the effort to apply and sustain the activities and also improve upon them.

The recommends as follows:

- There should be regular handholding support after training to enable the Beneficiaries apply and sustain KAIZEN activities to enable Beneficiaries reap maximum benefit.
- BACs should also provide other kinds of assistance that support the increased productivity and production lines on Companies that are expanding which include access to funding and market

The Team finally concludes that KAIZEN Training is critical to the growth of businesses and it should therefore be propagated across the length and breadth of the country.

Appendix 4

Minutes of RECOMEP Meeting in the Northern Region

MINUTES OF THE 8TH MEETING OF THE NORTHERN REGIONAL COMMITTEE ON MICRO AND SMALL ENTERPRISES PROGRAMME (RECOMEP), HELD ON THURSDAY, 13TH NOVEMBER, 2018 AT THE REGIONAL COORDINATING COUNCIL, TAMALE

PRESENT

S/N	Members Present	Institution	Designation	Position
1	Mr. Yakubu Osman	NRCC	Dep. Director	Ag. Chairman
2	Mr. Samuel Wood	MOTI	Reg. Trade Officer	Member
3	Mr. Adams Issahaku	TaTU	Senior Lecturer	Member
4	Mr. Seidu S. Bakari	GEPA	Regional Manager	Member
5	Mr. Abdallah Yussif	NBSSI	Accountant	Recorder
6	Mr. Marti Kusi	FDA	Reg. Director	Member
7	Mr. Abdul-Rahman Awal	ASSI	Reg. Chairman	Member
8	Mr. James Wanaba	GSA	Reg. Officer	Member
9	Ms. Alhassan Bashira	Dept. of Gender	Reg. Director	Member
10	Mr. Maxwell Ntiamoah	GRATIS	Training Mgr.	Member
11	Mr. Owusu Frimpong	NRCC	Reg. Budget Officer	Member
12	Mr. Eric Affram	NBSSI	Reg. Manager	Secretary

AGENDA

1. Confirmation of Previous Minutes.
2. Presentation of BACs' Monitoring Findings.
3. Presentation on Kaizen Project Report in the Northern Region.
4. Presentation on the progress of 1D1F Implementation in the Northern Region.
5. Other Matters

	Item	Action by
1	<p><u>OPENING</u></p> <p>The meeting was declared open by the chairman at 11: 00am with an opening prayer by Mr. Abdallah Yussif of NBSSI.</p>	
2	<p><u>INTRODUCTION OF MEMBERS</u></p> <p>The chairman, Mr. Osman Yakubu, a Deputy Director of the Regional Coordinating Council, who sat in on behalf of the Chief Director, took the opportunity to introduced himself and asked participants to do self-introduction</p>	
3	<p><u>WELCOME ADDRESS</u></p> <p>The chairman welcomed all members and thanked them for honoring the invitation from the Chief Director of the Northern Regional Coordinating Council to attend the eighth edition of RECOMMEP meeting. He urged members to fully participate in the discussions in order to contribute to the enhancement of MSMEs development in the Region.</p>	
4	<p><u>CONFIRMATION OF MINUTES</u></p> <p>The chairman admonished members to go through the minutes in order to make corrections and confirm the minutes.</p> <p>Members went through the minutes by pages for some corrections to be made before confirmation. Corrections were effected as follows;</p> <p>On page 1, line 2, the name of the Regional Chairman of ASSI, which was captured as Abdul-Rahman Awam was corrected to Abdul-Rahman Awal.</p> <p>A member suggested that corrections should be made in order of the list of meeting of attendees on page 1. He stated that with the normal order, the name of the chairman came first and that of the secretary was</p>	

	<p>captured last. There was also another suggestion for an additional column to indicate titles of attendees on page 1</p> <p>After all corrections were effected, Mr. Seidu S. Bakari, the Regional Manager of GEPA moved for the acceptance of the minutes as the true reflection of what was discussed in the last meetings and the motion was seconded by Ms. Bushira Alhassan of the Department of Gender.</p>	
5	<p><u>MATTERS ARISING</u></p> <p>1. <u>Damongo RTF</u></p> <p>The Chairman asked if there was any development on the Damongo RTF.</p> <p>In response, the NBSSI Regional Manager, Mr. Eric Affram indicated that during his recent visit, he observed that the building had been pulled down. He further said that the Damongo BAC Head had told him the machinery and equipment had been taken to the District Assembly for safe keeping.</p> <p>According to Mr. Wood, the Regional Trade Officer of MOTI, the reconstruction of the RTF has been given to a new contractor to be supervised by REP.</p> <p><u>UDS Students training</u></p> <p>Ms. Bushira Alhassan asked whether UDS students have been given another opportunity to undergo practical training in Kaizen and Mr. Eric Affram answered in the affirmative. Mr. Affram further stated that the details of Kaizen training for another group of UDS students will be stated in his presentation during the course of the meeting.</p>	
6	<p><u>PRESENTATION ON BACs' MONITORING</u></p> <p>The chairman asked the Regional Manager of NBSSI to take the floor and present his report on monitoring of BACs.</p> <p>In his introduction remarks Mr. Affram indicated that REP was being implemented in all but five (5) of the twenty-six (26) districts in the Northern Region. He then continued as follows;</p> <p><u>General Administration</u></p> <ul style="list-style-type: none"> • 13 BACs have adequate office spaces while 8 (Bunkpurugu, Savelugu, Tatala, Tolon, Walewale, Yendi, Zabzugu and Sawla) still have single office spaces. The District Assemblies of the BACs in question have promised to provide additional offices by the end of 2018. 	

- BRCs are being constructed at Yendi, Sagnarigu and Damongo. Vehicles have also been given to the BRCs.

Staffing Issues

- Vacancies exist for 7 BAC Heads and 17 Drivers
- CDOs have been attached to all BACs except Walewale BAC.
- All new BAC staff need to be trained on REP activities.

Summary of Activities Undertaken So Far in 2018

A. REP- Sponsored Activities (1st Qtr. 2018)

- 6 out of 19 BACs that made requests for 1st quarter, 2018 activities had funds from REP to conduct 35 activities.
- Buipe, Gushegu, Tatala and Yendi BACs also conducted 12 programmes rolled-over from 2017 for which funds were received in the first quarter of 2018.

B. Non- REP Activities (as at Nov.,2018)

- 7 kaizen pilot BACs (Damongo, Buipe, Sagnarigu, Gambaga, Saboba, Sang and Kumbungu BACs) have assisted 14 enterprises to implement Kaizen.
- VSLA groups under the RING Project are being monitored by 5 BACs (Buipe, Damongo, Sagnarigu, Tolon and Savelugu BACs) against a directive from NBSSI to stop all activities with RING.

Documentation

- Out of 3 BACs that have received counseling funds, only Karaga BAC had completed the activity. Daboya and Tatala BACs were yet to complete their counseling activities.
- Apart from the Danmango and Daboya BACs that have registered 5 and 4 LBAs respectively, all BACs have not registered any LBA.
- Generally, filing of documents has improved at all BACs except Karaga, Saboba, Walewale and Zabzugu BACs.

Other Issues

- The Daboya BAC Head is yet to trace a cheque for GH¢8,640.00 released for 3 ACPID programmes. The cheque was sent through EMS on the 17th April, 2018 but the EMS Delivery Officer (Issah Yashin) said he had delivered it through someone to the DA. The DA denied receiving the cheque.

	<ul style="list-style-type: none"> • Thieves broke into the Daboya BAC and made away with their desk-top computer and printer. <p>A pictorial presentation on the monitoring visits was also made by the NBSSI Manager.</p> <p>The Regional Manager of NBSSI also informed members about the involvement of the Karaga BAC vehicle in an accident when the DCE and DCD were traveling with it to Tamale. A picture of the mangled vehicle was shared with members.</p> <p>DELIBERATIONS ON BACs’ MONITORING FINDINGS</p> <p>On the issue of the new BRC vehicles, a member indicated that measures should be put in place to ensure that the BRCs have full control over them for smooth operations. Mr. Afram explained that undertakings have been signed between REP and NBSSI with support from the District Assemblies to that effect.</p> <p>Mr. S. S. Bakari of GEPA revisited the missing cheque for the Daboya BAC and registered his worry over the issue. On his part, Mr. Adam Issahaku of TaTU bemoaned the negligence of the courier service (EMS) and that he could not understand why this should happen.</p> <p>The Regional Manager of GSA wanted to know what necessitated the directive from the Management of NBSSI for BAC Heads to stop all RING activities. In furtherance to the question, the Regional Manager of GSA asked why such activities were not regularized from the beginning of the project.</p> <p>The NBSSI Manager explained the position of NBSSI on the issue to the understanding of members.</p>	
7	<p><u>REPORT ON KAIZEN IMPLEMENTATION</u></p> <p>Mr. Afram was again asked by the Chairman to make a presentation on the progress of Kaizen implementation in the Region.</p> <p>He gave a brief overview of the National Kaizen Project and stated that the JICA support for the National Kaizen Project will come to an end by the end of the year 2018. Mr. Afram then gave an account of the achievements of the project in the Northern Region since the year 2016 as follows;</p>	

- A total of 39 UDS students were trained on Basic Kaizen. Out of this number, 23 were trained in 2017, while 16 received their training in 2018.
- Basic Kaizen Lectures were conducted for 19 BAC Heads and the NBSSI Northern Regional Project Officer.
- 11 Officers of NBSSI in the Region were given practical Basic Kaizen training. Out of the number, only 6 Officers were at post.
- 4 Officers have gone through Advanced Kaizen training of which 2 Officers were currently at post.
- The Regional Office organized Basic Kaizen Lectures for 16 NBSSI Officers from the Upper East (7) and Upper West (9) Regions.
- A non-Pilot BAC Head in the Northern Region was trained by a Pilot BAC Head on practical Basic Kaizen.
- A total of 46 MSEs benefitted from Kaizen implementation'

The Regional Manager of NBSSI also made a pictorial presentation of some achievements from 2016 to the October, 2018.

DISCUSSIONS ON KAIZEN PRESENTATION

Members expressed their pleasure about the positive changes the Kaizen concept is bringing to businesses in the Region.

However, a member wanted to know whether the Regional Expansion of the project would continue with the exit of JICA. In response, Mr. Affram stated that REP will fund Kaizen implementation for MSMEs in the Region through the BACs. He also indicated that, management of NBSSI are in a continues discussion with BUSAC Fund and other MSE-Support Institutions to source for funds for the training on non-pilot BAC Heads to continue with the National and Regional Expansion programs of the project.

At this juncture, the chairman commended NBSSI for a good work done so far under the project implementation in the Region and hoped that the project would be extended to all parts of the Region.

8 PRESENTATION ON THE PROGRESS OF 1D1F IN THE NORTHERN REGION

The Regional Trade Officer of MOTI, Mr. Wood also took his turn to make a presentation on the progress of the One District One Factory (1D1F) initiative in the Region.

He stated that in 2017, MOTI facilitated the formation of District Implementation Support Committees in 22 districts. He also stated that there was a Regional Committee in place to support the activities of the District Committees.

According to Mr. Wood, 20 companies in the Region have been enrolled onto the 1D1F programme through the District Assemblies. He further stated that the companies' proposals have been submitted to various banks for support. He gave the names of the companies as follows;

NO.	NAME OF COMPANY	BUSINESS ACTIVITY	DISTRICT
1	Kataumi Food Processing Limited	Processing of Soyabean Oil	Mion
2	Shinkafa Buni Limited	Rice Milling	Karaga
3	ACPC Anfara Cement Company	Production of Cement Paper bags	Central Gonja
4	Daboya Investment	Production of cotton yarns	North Gonja
5	Do-Dave Company Ltd	Production of Oil from sesame seed	Savelugu Nanton
6	Chucatel Ghana	Production of roofing sheets	Tamale Metropolitan
7	African European Textiles	Manufacturing of cotton yarns	Tamale Metropolitan
8	Nuts for Growth Ltd	Build and operate a soya bean	Tamale Metropolitan
9	Ant Hill Investment Ltd	Processing meat and guinea fowl	Tamale Metropolitan
10	Northern Foods and Agric complex	Production of animal feed	Savelugu Nanton
11	Factor Green Ghana	Production of canned beans	Tamale Metropolitan
12	Zangoom Farms	Meat processing	West Mamprusi
13	Makwester Ghana Ltd	Establishment of a sugar factory	Savelugu Nanton
14	Pop Diesel Pure Plant Power	Plantation and Diesel Production	Zabzugu
15	Natural Shea Care	Manufacturing of cotton yarns	Zabzugu
16	DeGroup A Ltd	Process fresh tomatoes into paste	Savelugu Nanton
17	SOYMOLK	Process soya bean into soy milk	Saboba
18	PT & T	Cassava Processing	Savelugu Nanton
19	Steve Rhema	Shea Butter Processing	Savelugu Nanton
20	EPIC Co. Ltd	Processing of meat	Tamale Metropolitan

DELIBERATIONS ON THE PROGRESS OF 1D1F IN THE NORTHERN REGION

Mr. S. S. Bakari, a member of the Regional Committee under the 1D1F, further explained that, requests received were many but some had to be rejected because similar projects had already been considered in their districts. He gave an example where a proposed medium scale Rice Mill in the Sagnarigu District was rejected because, Avnash Rice Mills, a large scale enterprise was already operating in the district.

Mr. Affram disagreed with the reason for the rejection of the Rice Mill proposal stated in the example given. His explanation was that, Avnash uses a specific variety of rice, moreover, its source of raw materials was

	<p>the whole Region and beyond. The proposed mill may be taking its raw materials only from the Sagnarigu District and may require a different variety from that of Avnash. He concluded that the basis for rejecting a project should not necessarily hold because there was a similar existing project in the proposed project district.</p> <p>The NBSSI Regional Manager reminded the MOTI Regional Trade Officer about the inclusion of NBSSI in the Regional 1D1F Committee. Mr. Wood responded that they have realized the importance of the inclusion of NBSSI on the committee since the Board had a very crucial role to play in the implementation of the policy. He therefore promised to invite the NBSSI Regional Manager to their next meeting.</p>	Reg. Trade Officer
9	<p><u>OTHER MATTERS</u></p> <p>As there were no other matters to be discussed, the chairman called for the closure of the meeting.</p>	
10	<p><u>CLOSING</u></p> <p>In the absence of any further discussions, Mr. Adams Issahaku of TaTU moved for the adjournment of the meeting, which was seconded by Ms. Bashira Alhassan of Department of Gender. Mr. James Wanaba of GSA then brought the meeting to a close with a prayer at 1:35pm.</p>	

Appendix 5

List of Applied KAIZEN Methods

Applied Technical Standard in OJT Enterprises

	Northern	Japanese Expert	Brong Ahafo	Central Oil Mills	1st Advanced OJT	2nd Advanced OJT	3rd Advanced OJT	4th Advanced OJT
1	El Balicon Limited		MCKENZIE SPORTS WEAR	UCC Enterprise	1 Kumi & Company Limited	7 Francis Aluminum	13 PROSDO Aluminium Co., Ltd.	19 Cadling Fashions
2	Lowlandi Rice Processing Centre	Mr. Noriyuki Yoshida	Yedent Agro Group of Companies	Ewuradze Kasa	2 Salom Pharmacy Limited	8 Royal Foam	14 Mass Industries Limited	20 Everpure Ghana
3	Hazbuk Company Limited		ASPET-A COMPANY LIMITED	Ekem Art Pottery	3 Vicalex Brick & Tile Company	9 ASPEE PHARMACEUTICALS	15 Bulluk GH. Ltd.	21 J&J Plastics
4	Yumzaa Women Association	Mr. Mitsuo Tamada	Ghana Permaculture Institute	U2 Company	4 C.K.B Industry	10 UNI JAY LIMITED	16 Sleek Garments Export Ltd.	22 Bomarts Farms
5	Kumbatachua Enterprise		KASRAF ENTERPRISE	Bensworth Construction	5 A.A. Agyei Enterprise	11 Gyamfua Ababio Investment	17 SOLUTION OASIS Ltd.	23 Bulluk GH. Ltd.
6	Shekinah Glory Bakeries	Mr. Satoru Tajima	Kwasi Gyan (JOMO) Company Limited	Central Oil Mills	6 Jeomaxx Company	12 VITO A1 BAKERY	18 Praise Export Services Ltd	24 Yehans International
								25 Domod Aluminium

Note) I: Implemented, P: Proposed

22 items

No.	Category	Components	22 items																								Basic KAIZEN (Number of Companies) Advanced KAIZEN (Number of Companies)																		
			Northern						Brong Ahafo						Central						1st OJT MSMEs							2nd OJT MSMEs						3rd OJT MSMEs						4th OJT MSMEs					
B: Basic, A: Advanced			1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
I	Philosophy and Concept	B	5S, Enterprise Diagnosis, 7 Waste and KAIZEN																								22																		
		A	Enterprise Wide Application, KAIZEN Cost-Benefit, Enterprise Wide Impacts, Supply Chain Management, Financial Management, KAIZEN Master Plan																								22																		
II	Planning and	B/A	1. Selection of the Enterprise																																										
			2. Scheduling																																										
III	Enterprise Diagnosis	B	1. Five Major Field Diagnosis (Radar chart)																																										
			2. SWOT Analysis																																										
			3. Problem and Recommendation Identification																																										
			4. 5S checklist																																										
			5. Muda (wastes) check list																																										
			A	6. Detailed Production Diagnosis																																									
IV	Skills and Knowledge/ Methodology/ Tools	A	1. 5S Implementation																								42																		
			2. Seven Waste Identification																								42																		
			3. Survey and Data Collection (IE)																																										
		B	1) Time Study																								22																		
			2) Motion Analysis																								25																		
			3) Precedence Analysis																								25																		
			4) Layout and Spaghetti Analysis																								22																		
		A	5) Operational Analysis																								28																		
			6) Supply Chain Analysis																								1																		
			7) Bottleneck Analysis																								7																		
			8) Equipment Efficiency (Machine Down Time)																																										
			9) Man-machine chart																																										
			10) Preventive Maintenance																								19																		
			11) Total Preventive Maintenance																																										
			4. Organizational Development																																										
		B	1) QC Committee																								32																		
			2) 5S Committee																								38																		
		A	3) QC circle																								22																		
			4) 7 QC tools																								27																		
			5. KAIZEN Menu development																																										
		B	1) Video Analysis																								41																		
			2) Layout Change (Minor)																								18																		
			3) Inventory Control																								27																		
			4) Line Balancing (Minor)																								1																		
			5) Work in Process (Minor)																								9																		
			6) Work Standard																								37																		
			7) Allocation of Motion Economy																								8																		
			8) Activation Index																								18																		
			9) ECRS (Minor)																								22																		
			10) Safety																								35																		
		A	11) Video Analysis																								32																		
			12) Bottleneck Elimination																								4																		
			13) KAIZEN Master Plan																								39																		
			14) Streamlining																								1																		
			15) Supply Chain Management																																										
			16) Pull Production																																										
			17) Inventory Control (Major and FIFO)																								18																		
			18) Preventive Maintenance																								18																		
			19) Mode of Production (Cell Production)																																										
			20) Design and Fabrication of Jigs/Fixtures																								18																		
			21) Set up Time Reduction																								1																		
			22) Layout Change (Major)																								6																		
	23) Karakuri KAIZEN																								1																				
	24) Line Balancing (Major)																								3																				
	25) Standard Number of Work in Process																								3																				
	26) Pokayoke (Fail Proof)																								1																				
	27) ECRS (Major)																								5																				
	28) TQM																								4																				
	6. Visualization																																												
B	1) Skill map																								36																				
	2) Code of Conduct																								41																				
	3) Organization Chart																								42																				
A	4) Delivery Control Board																								15																				
	5) Production Control Board																								19																				
	6) Shipping Control Board																								4																				
	7. Financial Management Related																																												
B	1) Record Keeping																								18																				
	2) Basic Accounting																								17																				
A	3) Breakeven Point Analysis																								7																				
	4) Inventory Days																								5																				
	5) Cost Benefit Analysis																								2																				
	6) Working Capital Planning and Management																								16																				
	8. Company Wide Information Share System																								41																				
V	Skills on communication, interview, facilitation, convincing, obtaining commitment from enterprises																																												
VI	Implementation of Enterprise Diagnosis and KAIZEN Activities and Preparation of Reports																																												
VII	Present the Results of Enterprise Diagnosis and KAIZEN Activities based on the Reports																																												
VIII	Facilitate Enterprises to Implement Additional Recommendations in the KAIZEN Report																																												
IX	Post Consultation Follow up																																												
X	Develop and Share Good Practice Sheet																																												
Implemented Technical Standard			32	30	32	34	29	34	37	28	27	35	37	26	31	34	30	32	31	32	24	35	33	26	27	23	33	33	35	41	35	33	36	30	41	29	39	31	40	27	29	25	14	33	35
Proposed Technical Standard			5	8	3	2	5	4	1	2	2	2	0	0	3	1	7	5	3	3	8	3	5	3	4	5	9	2	3	1	1	2	3	5	3	2	3	4	0	3	6	4	5	3	0
Implemented Basic KAIZEN			22						23						21						18						18						21						23						
Implemented Advanced KAIZEN			14						20						11						22						21						21						29						

Appendix 6

Summary of KAIZEN Impact in OJT MSMEs

Appendix 7

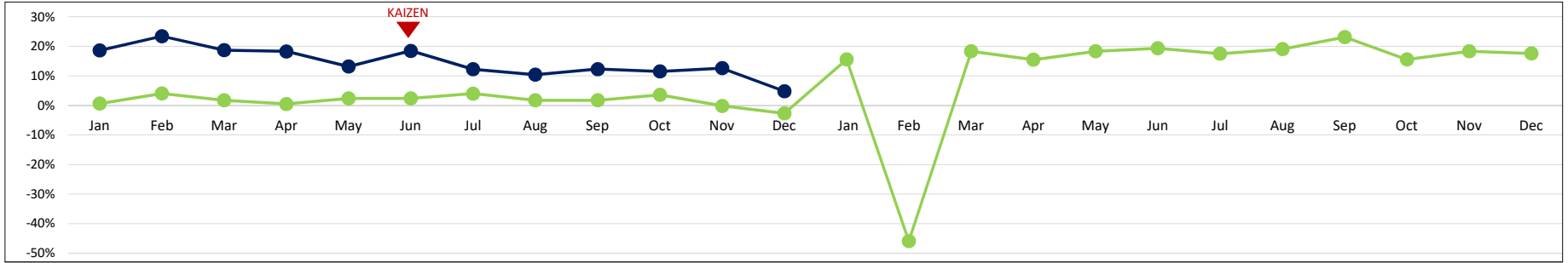
Summary of Analysis of Profit in OJT MSMEs

Transition of Profit Margin before and after KAIZEN

[Northern]

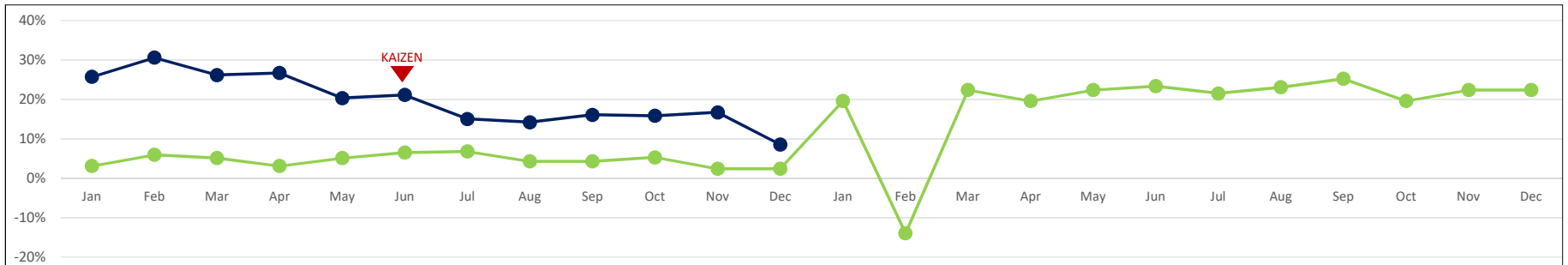
<Operating Profit Margin>

	2016												2017											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lolandi Rice Processing	18.57%	23.43%	18.71%	18.27%	13.17%	18.45%	12.22%	10.39%	12.28%	11.51%	12.58%	4.78%												
Kumbatachua Enterprise	0.65%	4.06%	1.73%	0.49%	2.37%	2.41%	3.98%	1.72%	1.72%	3.59%	-0.17%	-2.69%	15.56%	-45.93%	18.31%	15.43%	18.31%	19.30%	17.46%	19.03%	23.11%	15.56%	18.31%	17.57%



<Gross Profit Margin>

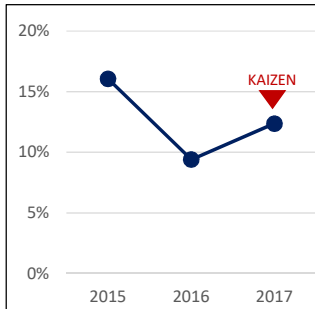
	2016												2017											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Lolandi Rice Processing	25.71%	30.57%	26.17%	26.69%	20.31%	21.10%	15.04%	14.20%	16.07%	15.83%	16.71%	8.54%												
Kumbatachua Enterprise	3.11%	5.96%	5.14%	3.11%	5.14%	6.49%	6.78%	4.29%	4.29%	5.30%	2.39%	2.39%	19.60%	-13.94%	22.35%	19.60%	22.35%	23.33%	21.50%	23.07%	25.22%	19.60%	22.35%	22.35%



[Brong Ahafo]

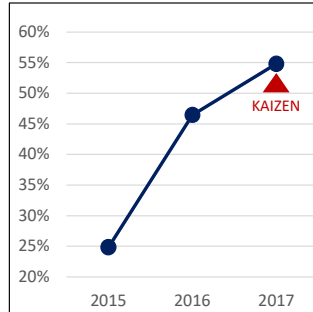
<Operating Profit Margin>

	2015	2016	2017
Mckenzie Sports Wear	16.05%	9.40%	12.38%



<Gross Profit Margin>

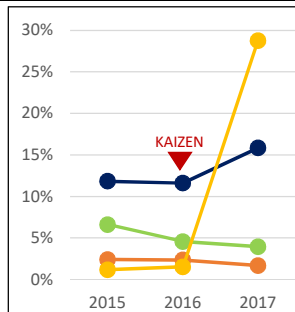
	2015	2016	2017
Mckenzie Sports Wear	24.87%	46.46%	54.81%



[Ashanti (First OJT)]

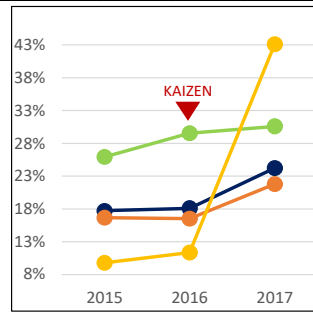
<Operating Profit Margin>

	2015	2016	2017
Salom Pharmacy Ltd.	11.86%	11.62%	15.86%
Vicalex Brick & Tile Company Ltd.	6.64%	4.58%	3.97%
A.A. Agyei Enterprise	2.42%	2.37%	1.69%
C.K.B Industrial Ltd.	1.20%	1.54%	28.77%



<Gross Profit Margin>

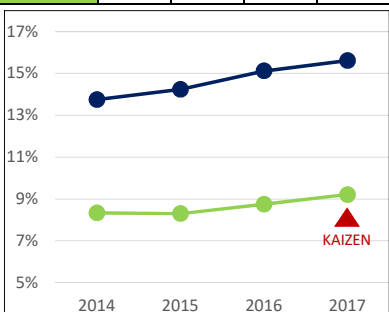
	2015	2016	2017
Salom Pharmacy Ltd.	17.72%	18.10%	24.23%
Vicalex Brick & Tile Company Ltd.	25.93%	29.53%	30.60%
A.A. Agyei Enterprise	16.65%	16.54%	21.77%
C.K.B Industrial Ltd.	9.78%	11.37%	43.12%



[Ashanti (Second OJT)]

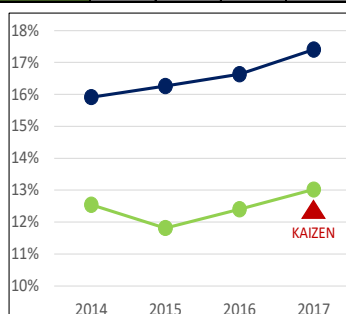
<Operating Profit Margin>

	2014	2015	2016	2017
Francis Aluminium Ltd.	8.33%	8.30%	8.75%	9.21%
Uni Jay Fashion	13.75%	14.25%	15.12%	15.61%



<Gross Profit Margin>

	2014	2015	2016	2017
Francis Aluminium Limited	12.55%	11.82%	12.40%	13.02%
Uni Jay Fashion	15.91%	16.26%	16.64%	17.40%



Appendix 8
Good Practice Collection

Collection of Good Practices











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3.6	AA Agyei Enterprise.....	33
4	Wood Processing/Furniture Manufacturing.....	36
4.1	Hazbuk Company Limited.....	36
4.2	Kwasi Gyan (Jomo) Company Limited.....	37
4.3	Royal Foam.....	38
5	Printing.....	39
5.1	Kumbatachua Enterprise.....	39
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6.1	Aspet-A Company Limited.....	40
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1 Food Processing

1.1 Shekinah Glory Bakeries

Enterprise Profile		
Number of workers	Location	Major Products
19 (As of Oct. 2018)	Northern Region	Brown bread, Dinner roll, Special Bread, Butter Bread
Person in charge		
1. Alidu Ewura, Damango BAC 2. Adam Mohammed Gadaf, Kumbungu BAC 3. Henrietta Zaato, Sagnarigu BAC	4. Kipo Dari, Akomadan BAC 5. Patience Asamoah Aidoo, Agona BAC 6. Eric Anthony Affram, Regional Manager, Northern Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Sales increased from GHS 2,066 to GHS 7,469. (+262%) Production lead time shortened from 6 hours to 0.75 hours (-88%)* <p>*The major benefits of reducing lead time are to reduce inventory, to improve productivity, to meet deadlines consistently and easily, etc.</p>	<ul style="list-style-type: none"> Searching time of baking pans reduced from 300 seconds to 90 seconds. (-70%) Daily transport time reduced from 35 minutes to 9 minutes. (-74%) Cooling space reduced from 7.2 m² to 1.8 m². (-75%) 	
Good Practices		
1. Inventory Management		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Old and new raw materials are mixed up and difficult to identify which raw materials should be used in first. 	<p><Intervention></p> <ul style="list-style-type: none"> Labelled “NEW STOCK” and “OLD STOCK” tag and introduced the FIFO inventory method. <p><Achievement></p> <ul style="list-style-type: none"> Enabled the enterprise to ensure that old stocks were used up before new stock to enhance quality products.   	
2. Introduction of Cooling racks		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Freshly baked bread were directly placed on the ground to cool them, resulting in the likelihood of introducing foreign material to them. In addition to that, workers carried them one after the other during transport. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of cooling racks   <p><Achievement></p> <ul style="list-style-type: none"> Daily time required to transport them reduced from 35 minutes to 9 minutes. Time required to cool them also reduced. Reduced cooling space from 7.2 m² to 1.8 m². 	
3. General Cleaning at Sales room		

Before



After



Further Activities

1. Renovation of shop facade

Before









After





2. Introduction of new equipment



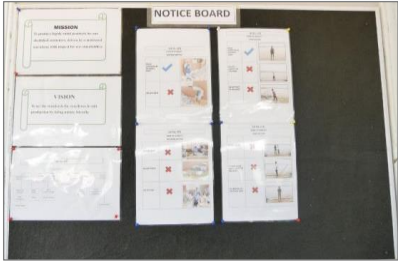


1.2 Lowlandi Rice Processing Centre

Enterprise Profile		
Number of workers	Location	Major Products
25 (As of Oct. 2018)	Northern Region	Variety of rice
Person in charge		
1. Haruna Mohammed, Tolon BAC 2. Rashidatu B. Alhassan, Buipe BAC 3. Bukari Mohammed, Tamale BAC		4. Tienah Emmanuel Mohammed, Mion BAC 5. Priscilla Kwakye-Fosu, Konongo BAC 6. Nana Sam-Himbson, Foase BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Production quantity increased from 284 bags to 452 bags. (+59%) Sales increased from 284 bags to 452 bags. (+59%) 		<ul style="list-style-type: none"> Defects decreased from 9 bags to 0. (-100%) Production lead time shortened from 5 days to 0 days. (-100%)
Good Practices		
1. 5S at the Factory Compound		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The factory compound was covered with heaps of bagged paddy rice, resulting in limited space for drying paddy rice. 	<p><Intervention></p> <ul style="list-style-type: none"> 5S at the Factory Compound <p><Achievement></p> <ul style="list-style-type: none"> Created more space in the yard for drying of paddy rice. 	
2. Introduction of Rakes		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers bent down to spread par boiled rice, resulting in waist pains. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Rakes <p><Achievement></p> <ul style="list-style-type: none"> Enable workers to spread the rice easily. 	
Further Activities after OJT		
1. Quality check for raw materials		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It took a lot of time to remove unwanted material from paddy rice. 	<p><Intervention></p> <ul style="list-style-type: none"> Test the paddy rice to ensure quality before buying from the farmers. <p><Achievement></p> <ul style="list-style-type: none"> Improved the productivity and reduced defects rate. 	



1.3 Yedent Agro Group of Companies

Enterprise Profile		
Number of workers	Location	Major Products
92 (As of Oct. 2018)	Brong Ahafo Region	Maisoy forte, Tom Vita, Maize Grit
Person in charge		
1. Daniel Sena Tsorme, Dormaa BAC 2. Vanessa Asoamea-Takyi, Tano North BAC 3. Kwasi Abayie Aceampong, Asutifi BAC		4. Agyepong Aikins, Asokore Mampong BAC 5. Alexander Nyame, Mampong BAC 6. Manu Bashir, Regional Manager, Ashanti Region
KAIZEN Impact		
<ul style="list-style-type: none"> Daily productivity per a worker increased from 4.0 units to 5.9 units. (+50%) Monthly sale increased from 4,150 units to 7,030 units. (+69%) Completed products inventory reduced from 4,980 cartons to 1,361 cartons. (-73%) 		<ul style="list-style-type: none"> Production lead time reduced from 2.89 minutes per a carton to 0.8 minutes per a carton. (-72%) Time required to search time for keys reduced from 25 seconds to 2 seconds. (-92%)
Good Practices		
1. Construction of a Seiton Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Keys were all put in a paper carton and it took a lot of time to search for the appropriate one. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of Seiton Board <p><Achievement></p> <ul style="list-style-type: none"> Made it easier for operators to identify and locate the needed keys. Time required to search time for keys reduced from 25 seconds to 2 seconds. 	

1.4 U2 Company Limited.

Enterprise Profile		
Number of workers	Location	Major Products
72 (As of Oct. 2018)	Central Region	Crude salt, Edible salt
Person in charge		
1. Emmanuel Deteah, Twifo Praso BAC 2. Henrietta Addai-Poku, Swedru BAC 3. Marina Kusi, Kodie BAC	4. David Kwabena Poku Oduro, Fomena BAC 5. Albert Boachie-Amofa, Regional Manager, Central Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Completed inventory reduced from 4,980 bags to 1,200 bags. (-76%) Production lead time reduced from 60 seconds per a bag to 35 seconds per a bag. (-42%) 	<ul style="list-style-type: none"> Time required to pack one bag reduced from 64 seconds to 44 seconds. (-31%) Time required to searching the parts reduced from 600 seconds to 20 seconds. (-97%) 	
Good Practices		
1. Improvement of Visual Management		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The company had a notice board at the administration office with no information, and thus the Vision and Mission statement were known to only to management. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of two additional notice boards to be placed in front of the administration and the canteen where all workers eat. <p><Achievement></p> <ul style="list-style-type: none"> Information is now well displayed including “Vision” and “Mission statements” and workers are now well informed.. 	
2. Introduction of a new workbench		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers bent down to pick up salt for packaging since bagging of salt was carried out on the floor. (Activation index 1), resulting in the waste in motion. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the new sliding packaging box. <p><Achievement></p> <ul style="list-style-type: none"> The sliding packaging box was upgraded from Activation index 0 to Activation index 2. It has reduced the practice of bending down to pick up salt and the time required to pack one bag reduced from 64 seconds to 44 seconds. 	



3. Construction of a metal rack

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Parts like bolts and nuts of different sizes were kept in rubber bags, resulting in taking a lot of time to search the appropriate one. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of a metal rack and arrangement of parts by size <p><Achievement></p> <ul style="list-style-type: none"> Reduced time used to search for bolts and nuts from 600 seconds to 20 seconds 


Introduction of Batch Control Board

<p>Introduction of Batch Control Board enabled the enterprise to keep track of batches of products and ensure the application of FIFO.</p>	
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Further Activities after OJT

1. Improvement of visual management	2. Introduction of a Conveyor
<ul style="list-style-type: none"> The Mission and Vision of the enterprise were improved from the laminated paper to durable wooden boards and displayed at other parts of the factory like the packaging section of the refinery and the workers' canteen. 	<ul style="list-style-type: none"> Conveyors were procured in accordance with the recommendation from the team. (Installation is under construction) 


3. Improvement of work bench

<ul style="list-style-type: none"> The workers now pack the salt on the trolley in accordance with the recommendation from the team (Activation Index 3), resulting in increased productivity 	
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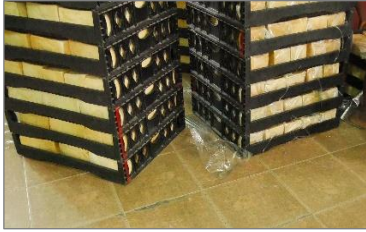




1.5 Ewuradze Kasa Bakery Center

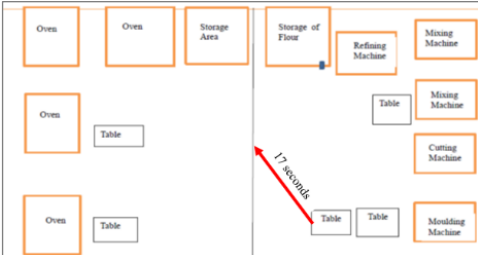
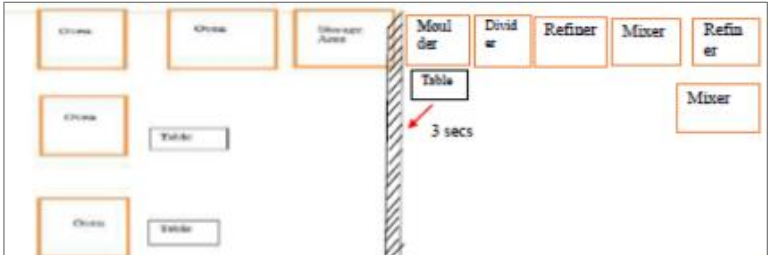
Enterprise Profile		
Number of workers	Location	Major Products
21 (As of Sep. 2018)	Central Region	Butter Bread, Sugar Bread, Tea Bread and Wheat Bread
Person in charge		
1. Patrick Asafo Agyei, Breman Asikuma BAC	4. Thomas Fofie, Nsuta BAC	
2. Francisca Dokua, Cape Coast Metro BAC	5. Henrietta Zaato, Sagnerigu BAC	
3. Mathias Sukah, Accounts Officer, Central Region		
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly production quantity increased from 269 bags to 288 bags. (+7%) 	<ul style="list-style-type: none"> Monthly sales increased from GHS 84,285 to GHS 91,833. (+9%) 	
Good Practices		
1. Demolition of the old Structure		
<ul style="list-style-type: none"> The old clay oven was demolished to make way for the new two store factory building to be constructed at the old oven section. The new building would ensure appropriate layout that would follow laid down processes in order to prevent waste such as waiting, transportation and motion. 		
Before	After	
		
2. Introduction of Container for Dough		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers carried dough on the shoulders which came in close contact with the body of the worker, resulting in the likelihood of introducing foreign material to the dough. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of container for dough <p><Achievement></p> <ul style="list-style-type: none"> The chances of contamination as a result of direct contact with the body was lowered. 	
Further Activities after OJT		
1. Introduction of shelves	2. Instruction of shelves in the distribute van	
<ul style="list-style-type: none"> New shelves were introduced for finished product in accordance with the recommendation of the team. 	<ul style="list-style-type: none"> New shelves were introduced in the distributing van in accordance with the recommendation of the team. 	

1.6 Central Oil Mills

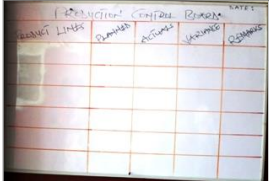
Enterprise Profile		
Number of workers	Location	Major Products
23 (As of Oct. 2018)	Central Region	Cooked Palm Oil and Palm Kernel
Person in charge		
1. Linda Oduro-Amoaning, Effutu BAC	4. Veronica Essel, Komenda Edina Eguafu Abrem BAC	
2. Nathan Arkaah, Gomoa East BAC	5. Kelvin Ofori-Atta, Obuasi BAC	
3. Boakye Atta Kwasi Jr., Assin South BAC	6. Benjamin Kwasi Marfo, Atwima Mponua BAC	
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly production quantity increased from 96,205 kg to 114,015 kg. (+19%) Sales increased from GHS 17,609 to GHS 83,386. (+374%) Defects rate decreased from 5% to 0%. (-100%) 	<ul style="list-style-type: none"> Daily raw material inventory reduced from 20 tons to 10 tons. (-50%) Daily completed product inventory reduced from 10 tons to 5 tons. (-50%)* <p>*The benefits of minimizing inventory are to avoid obsolete inventory due to prolonged storage, extra storage space and management cost, wasteful transportation and free up working capital to invest other business.</p>	
Good Practices		
1. Introduction of Production / Delivery Control Board		
<ul style="list-style-type: none"> Production and delivery control boards were constructed for the enterprise for proper planning of their operations. These displayed production and delivery information for all workers to see and understand the target to be produced weekly and for the whole month and also serve as a reference point that would constantly remind workers to increase their speed of work in order to meet deadlines. It also enabled management and workers to compare intended target and actual, know the variance and take decision on how the deficit can be achieved. 		
		

1.7 Vito A1 Bakery




Enterprise Profile		
Number of workers	Location	Major Products
110 (As of Mar. 2017)	Ashanti Region	Bread
Person in charge		
1. Ibrahim Tchedre, Kumawu BAC	5. Nyame Alexander, Mampong BAC	
2. Kwasi Boateng, Bekwai BAC	6. Kwame Agyenim Boateng, Mankranso BAC	
3. Priscilla Kwakye-Fosu, Konongo BAC	7. Michael O. Golightly, Kumasi BAC	
4. Nana Sam-Himbson, Foase BAC	8. Ahmed Abdul-Razak, Project Officer, Northern Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Raw material inventory period reduced from 14 days to 3 days. (-79%) Production lead time reduced from 12 hours to 8 hours. (-33%) Transport time reduced from 46 seconds to 31 seconds due to introduction of carts. (-33%) 	<ul style="list-style-type: none"> Transport time reduced from 60 seconds to 4 seconds due to making direct access available to the bread storage area by removing wire netting. (-93%) Transport time for one lot of bread reduced from 17 seconds to 3 seconds due to layout change before fermentation process. (-82%) 	
Good Practices		
1. Introduction of carts		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It was difficult for the workers to transport bread directly from the ovens to the packaging area and load the waiting vans by using plastic trays. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the carts <p><Achievement></p> <ul style="list-style-type: none"> Mitigated the difficulties involved in conveying the ten-packed crates of baked bread from the ovens to the packaging section and into the waiting vans, resulting in the reduction of time from 46 seconds to 31 seconds. 	
2. Creation of Entrance at Greased Pans Storage Area		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It was difficult for the workers to transport greased pans to the storage area because the workers had to go around from the back of the store while pushing the pans to access the door at the opposite side. 	<p><Intervention></p> <ul style="list-style-type: none"> Creation of a new pathway by removing part of the cage where the greased pans are directly packed at the store. <p><Achievement></p> <ul style="list-style-type: none"> Transporting distance from the greasing pans area to the storage area reduced from 60 seconds to 4 seconds. Eliminated the process of packing pans onto the cart, pushing of cart and unloading the cart for packing in the store room.  	
3. Layout optimization		

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Some of the workers crisscrossed each other and there was waste in transportation because of inappropriate layout. 	<p><Intervention></p> <ul style="list-style-type: none"> The machines were reallocated in accordance to the production flow. <p><Achievement></p> <ul style="list-style-type: none"> Eliminated the crisscrossing of people and materials. Time required to convey moulded dough from the moulding table to the assembling point at the elevated area for onward packing onto racks for fermentation reduced from 17 seconds to 3 seconds. 

4. Introduction of Production/Material Control Board

Challenge	Intervention / Achievement																																												
<ul style="list-style-type: none"> There was no visual control tool in place to monitor. The information on daily production was only known to the Production Manager. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Production Control Board/Material Control Board <p><Achievement></p> <ul style="list-style-type: none"> Enabled the workers to compare production target and actual production and the reasons for the variance. Enabled the workers to prompt management when the minimum level of inventory is reached for re-ordering.  <table border="1"> <thead> <tr> <th>ITEMS</th> <th>UNIT</th> <th>MAX</th> <th>MIN</th> </tr> </thead> <tbody> <tr> <td>WAL GAS (FLOUR) BAGS</td> <td></td> <td>1200</td> <td>300</td> </tr> <tr> <td>STOOL (FLOUR) BAGS</td> <td></td> <td>1200</td> <td>300</td> </tr> <tr> <td>MARGARINE</td> <td>BOXES</td> <td>800</td> <td>180</td> </tr> <tr> <td>SUGAR</td> <td>BAGS</td> <td>100</td> <td>20</td> </tr> <tr> <td>SALT</td> <td>BAGS</td> <td>55</td> <td>15</td> </tr> <tr> <td>YEAST</td> <td>PIECES</td> <td>140</td> <td>40</td> </tr> <tr> <td>SNEETNER</td> <td>BOXES</td> <td>180</td> <td>10</td> </tr> <tr> <td>NUT MEG</td> <td>BAGS</td> <td>20</td> <td>2</td> </tr> <tr> <td>MILK FLAVOUR</td> <td>BOXES</td> <td>100</td> <td>20</td> </tr> <tr> <td>FRUITABLE FLAVOUR</td> <td>GALLONS</td> <td>20</td> <td>5</td> </tr> </tbody> </table>	ITEMS	UNIT	MAX	MIN	WAL GAS (FLOUR) BAGS		1200	300	STOOL (FLOUR) BAGS		1200	300	MARGARINE	BOXES	800	180	SUGAR	BAGS	100	20	SALT	BAGS	55	15	YEAST	PIECES	140	40	SNEETNER	BOXES	180	10	NUT MEG	BAGS	20	2	MILK FLAVOUR	BOXES	100	20	FRUITABLE FLAVOUR	GALLONS	20	5
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1.8 Praise Export Services Limited

Enterprise Profile		
Number of workers	Location	Major Products
131 (As of Sep. 2018)	Greater Accra Region	Palm Oil, Palm Cream, Powdered Products, Gari and Egg Plant.
Person in charge		
1. Dari Kipo, Akomadan BAC	5. Philomena Norman, Adentan BAC	
2. Aikins Agyepong, Asokore Mampong BAC	6. Juliana Bemah Adubofour, Amasaman BAC	
3. Kelvin Ofori-Atta, Obuasi BAC	7. Akwasi Afriyie, Accra BAC	
4. Patience Asamoah-Aidoo, Agona BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly productivity per a worker increased from 0.4 tonnes to 2 tonnes. (+275%) Monthly sales increased from 3,977,577.34 to 7,497,655.69. (+88%, unit is unknown) Defects rate reduced from 1% to 0.26%. (-74%) 	<ul style="list-style-type: none"> Completed product inventory reduced from 5,573 cartons to 2,075 cartons. (-63%) Production lead time reduced from 45 hours per a container to 36 hours per a container. (-20%) Monthly production cost reduced from GHS 1,060,834 to 954,915. (-10%, unit cost is unknown.) 	
Good Practices		
1. Introduction of the Multi Bin system		
<ul style="list-style-type: none"> The Multi Bin System of inventory management was introduced at the warehouse in order to help the company practice First In – First Out (FIFO) system and also to optimize the factory floor. The floors were labelled to enable the enterprise effectively practice the system. This system also created enough space for packaging activities to be carried out. The warehouse was demarcated into sections A, B, C, D and E. To practice FIFO, products at section A has to be taken out first before those at B, C, D and E. 		
Before		After
		
2. Introduction of Production Control Board/Delivery Control Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The information on daily production and delivery were only known to Management. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Production Control Board/Delivery Control Board <p><Achievement></p> <ul style="list-style-type: none"> Enable the workers to see and track the enterprises' daily production targets and finished products delivery performance. 	
		

3. Improvement of raw material storage equipment

- Improved the material storage equipment at the powder section by replacing the wooden storage equipment with metallic equipment for the storage of raw materials to enhance safety and quality of the raw materials.

Before



After



4. Introduction of appropriate chairs

Challenge	Intervention / Achievement
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- The sitting condition of the workers at the packaging section was not appropriate because they used the same height chairs regardless of their tasks.



- <Intervention>**
 - Introduction of three types of chairs (High level, Middle level and Lower level)
- <Achievement>**
 - Improved the working conditions.






Further Activities after OJT

1. Introduction of new sanitizers and display of safety tips 2. Introduction of new filling machine






2 Toiletry Manufacturing



2.1 Yumzaa Women Association

Enterprise Profile		
Number of workers	Location	Major Products
500 (As of Oct. 2018)	Northern Region	Shea butter, Black soap and Mosquito repellent
Person in charge		
1. Ahmed Salman, Sawla BAC	4. Ibrahim Tchadre, Kumawu BAC	
2. Suragdeen Iddrisu, Saboba BAC	5. Eric Oti Nyarko, Ejisu BAC	
3. Mathew Azoya, Gambaga BAC	6. Ahmed Abdul-Razak, Project Officer, Northern Region	
KAIZEN Impact		
<ul style="list-style-type: none"> • Monthly production quantity increased from 30 tons to 40 tons. (+33%) • Monthly sales increased from 189,000 tons to 28,400 tons. (50%) • Monthly raw material inventory reduced from 240 units to 40 units. (-83%) 	<ul style="list-style-type: none"> • Monthly completed product inventory reduced to from 100 units to 20 units. (-80%) • Production cost reduced from GHS 8,175 to GHS 3,165. (-61%, production quantity is unknown.) • Time required to dry them reduced from 5 hours to 1 hour. (-80%) 	
Good Practices		
1. Construction of Drying Platform		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> • The workers dried their crushed and roasted nuts on the plastic sheet on the floor which were easily contaminated • It also took as long as 5 hours to dry. 	<p><Intervention></p> <ul style="list-style-type: none"> • Construction of Drying Platform  <p><Achievement></p> <ul style="list-style-type: none"> • Improve the quality of finished product • Time required to dry them reduced from 5 hours to 1 hour. 	

2. 5S at the kneading section

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The kneading section was a messy, resulting in obstructing the workers' efficient operation 	<p><Intervention></p> <ul style="list-style-type: none"> 5S at the kneading section  <p><Achievement></p> <ul style="list-style-type: none"> Unwanted materials were removed and the space was created. These improved the working environment. 

3. Construction of Trolley

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Carrying raw material, work-in-process and finished goods burdened on the workers bodies because they carried them on their heads. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of Trolley <p><Achievement></p> <ul style="list-style-type: none"> Reduced accidents in the production area and reduce the stress of workers. 

Further Activities after OJT

1. Construction of Shed at boiling section

Before



After



2. Construction of 3 new buildings

- Constructing the new store room enable the enterprise to separate organic material from inorganic. The enterprise applied organic certificate (Ecocert) and expected to get it.



3. Insourcing of milling

Challenge

- The enterprise asked outside persons to operate milling machine. It caused delay in processing because workers could not proceed process when that person was not in factory.



Intervention / Achievement

- <Intervention>
 - Training workers and in-sourcing operation of milling machine.
- <Achievement>
 - The workers can proceed processes whenever they want, resulting in reduction of lead time



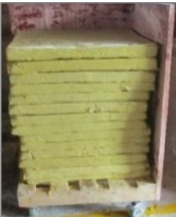






1. Construction of Security Post and Metal Gate









2. Introduction of pallets at the store room






2.2 Kasraf Enterprise

Enterprise Profile		
Number of workers	Location	Major Products
14 (As of Jun. 2017)	Brong Ahafo Region	Mini Bar Soap
Person in charge		
1. Nuhu Salifu Dimah, Jema BAC	4. Thomas Opoku, Tapa BAC	
2. Opong Isaac, Atebubu BAC	5. Kwame Agyenim-Boateng, Mankranso BAC	
3. Amil Ibrahim, Wenchi BAC	6. Anthony Abulai Akolbire, Regional Manager, Brong Ahafo	
KAIZEN Impact		
<ul style="list-style-type: none"> Hourly productivity per a worker increased from 3.3 boxes to 3.6 boxes. (+10%) Defects rate reduced from 10% to 3%. (-70%) Raw material inventory reduced from 7 drums to 1 drum. (-86%) Production lead time reduced from 0.08 days per a box to 0.06 days per a box. (-30%) 	<ul style="list-style-type: none"> Turnover ratio decreased from 30.8% to 15.4%. Time required to move 5 cakes of soap from moulding section to cutting area reduced from 46 seconds to 30 seconds. (-35%) Time required to stamp 3,600 bars of soap reduce from 84minutes to 48 minutes. (-43%) 	
Good Practices		
1. Introduction of Pallet with wheels		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The enterprise stored the moulded soap on the bare floor and carried them one after the other, resulting in lowering the quality of products and increasing production lead time. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Pallet with wheels <p><Achievement></p> <ul style="list-style-type: none"> Time required to move 5 cakes of soap from moulding section to cutting area reduced from 46 seconds to 30 seconds. 	
2. Introduction of Stamping Jig		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> At the stamping section, they used a one-headed stamping jig, causing a lot of time to stamp and not to stamp on the appropriate point. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the stamping Jig which can stamp 5 at once. <p><Achievement></p> <ul style="list-style-type: none"> Time required to stamp 3,600 bars of soap reduced from 84minutes to 48 minutes. Made it easier to stamp on the appropriate point.  	
3. Improvement of bucket handle		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The bucket handle was not conveniently designed because the handle was very thin and caused pain. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of foam handles to the buckets <p><Achievement></p> <ul style="list-style-type: none"> Reduced the pains and ensured workers' safety. 	



2.3 Ghana Permaculture Institute

Enterprise Profile		
Number of workers	Location	Major Products
41 (As of Oct. 2018)	Brong Ahafo Region	Moringa powder and oil, Mushroom, Ecosystem
Person in charge		
1. Mavis Yaa Owusu, Berekum BAC	4. Michael O. Golightly, Kumasi BAC	
2. Frederick Apraku Amoateng, Nsawkaw BAC	5. Abdul Rahman Talhat, Accountant, Brong Ahafo Region	
3. Maahi Mohammed, Mamponteng BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> Production quantity increased from 169 litres to 309 litres. (+83%) Sales increased from GHS 55,770 to GHS 77,525. (+39%) 	<ul style="list-style-type: none"> Defect rate reduced from 0.18% to 0.16%. (-11%) Production lead time per 1 kilos of oil reduced from 12 minutes to 9 minutes. (-25%) 	
Good Practices		
1. Introduction of Supplier Identification Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It was difficult for the workers to identify suppliers with their products in terms of product quality and defects 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Supplier Identification Board <p><Achievement></p> <ul style="list-style-type: none"> Enabled the workers to identify supplier of each material. 	
2. Introduction of Workbench		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers had to bend to pour the soap formula in its liquid state in the silicon moulds that were placed directly on the floor, resulting in waste in motion and waste pain. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Workbench <p><Achievement></p> <ul style="list-style-type: none"> Enabled the workers to shorten the time used during the production process and eliminated the level of waste in motion. 	
3. Introduction of new Cutting equipment with a mold		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> There were some lapses especially at the latter stages in the moringa soap making process, resulting in a lot of spillages and subsequently poor finishing of the product. 	<p><Intervention></p> <ul style="list-style-type: none"> New cutting equipment with a mold <p><Achievement></p> <ul style="list-style-type: none"> Eliminated the problem of spillage and improved the finishing and packaging of the final product. 	

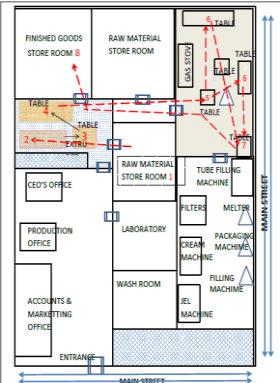
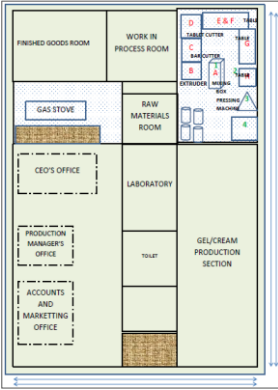
2.4 Solutions Oasis Company Limited

Enterprise Profile		
Number of workers	Location	Major Products
16 (As of Oct. 2018)	Greater Accra Region	Cocoa Butter, Shea Butter, Black Soap, Shower Gel, Baoabab Soap, Neem Soap, Moringa Soap
Person in charge		
1. Dari Kipo, Akomadan BAC	5. Philomena Norman, Adentan BAC	
2. Aikins Agyepong, Asokore Mampong BAC	6. Juliana Bemah Adubofour, Amasaman BAC	
3. Kelvin Ofori-Atta, Obuasi BAC	7. Akwasi Afriyie, Accra BAC	
4. Patience Asamoah-Aidoo, Agona BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly productivity per worker increased from 31 tables soap to 459 tablets soap. (+1,381%) Monthly sales increased from GHS 26,740 to GHS 45,900. (+72%) Defect rate reduced from 10% to 0%. (-100%) 	<ul style="list-style-type: none"> WIP inventory reduced from 700 tablet soap to 6 tablet soap. (-99%) Production lead time reduced from 8 weeks to 1 week. (-88%) Transporting distance reduced from 171 metres to 0 metres. (-100%) 	
Good Practices		
1. Introduction of “Line balancing”		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> There was a lot of Work-In-Process piled up (500 to 700 pieces) at the black soap production and packaging sections, resulting in waste of inventory. 	<p><Intervention></p> <ul style="list-style-type: none"> Line balancing was introduced to allocate proportionate task to the right number of employees with proportionate time for completion. <p><Achievement></p> <ul style="list-style-type: none"> The number of work-in-process reduced less than 15 pieces. The number of workers reduced from 7 to 5. Production quantity per 1 operator in a day increased from 77 to 135. 	
2. Introduction of “ECRS”		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Two operators carried out the production of Shea and Cocoa butter. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the Eliminate, Combine, Re-arrange and Simplify (ECRS) method A tray was provided for the packaging containers and placed closer to the operator Adjustable seats were also provided to enable the operator to sit comfortably and reach any height of the shelves. <p><Achievement></p> <ul style="list-style-type: none"> The entire process can be carried out by 1 operator. 	

3. Introduction of Jig to hold shower Gel Containers



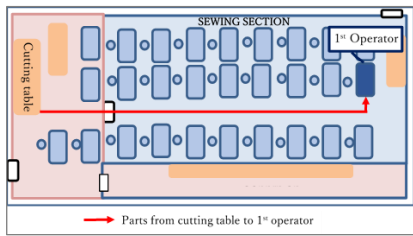
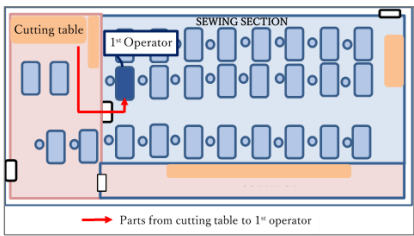
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The workers had to hold shower gel containers while labeling 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Jig to hold shower Gel Containers <p><Achievement></p> <ul style="list-style-type: none"> Enable the workers to label the shower gel container with two hands, resulting in improving the quality of finished products. 

4. Layout improvement

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The factory layout did not support smooth and efficient operations. 51 Operators carried cut tablet soap from the extruding section to the multi-purpose room for packaging. The distance between the two areas was 8.5 metres and they moved 20 times to transport about 500-700 pieces of soap within a day. 	<p><Intervention></p> <ul style="list-style-type: none"> Layout improvement <p><Achievement></p> <ul style="list-style-type: none"> The extruder was placed closer to the packaging area Transporting distance reduced from 171 metres to 0 metres. 

3 Garment/ Leather Processing

3.1 McKenzie Sports Wear

Enterprise Profile		
Number of workers	Location	Major Products
10 (As of Oct. 2018)	Brong Ahafo Region	School Uniforms, Jerseys
Person in charge		
1. Daniel Sena Tsorme, Dormaa BAC	4. Aikins Agyepong, Asokore Mampong BAC	
2. Vanessa Afia Asomea-Takyi, Tano North BAC	5. Alexander Nyame, Mampong BAC	
3. Kwasi Abayie Acheampong, Asutifi BAC	6. Manu Bashir, Regional Manager, Ashanti Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Daily productivity per a worker increased from 5.1 shorts to 9.7 shorts. (+88%) Monthly sales increased from 72 shorts to 3,664 shorts. (+4,989%) 	<ul style="list-style-type: none"> Production lead time shortened from 0.19 days to 0.1 days. (-47%) Time required to transport material from cutting section to sewing section reduced from 15seconds to 5 seconds. (-67%) 	
Good Practices		
1. Introduction of rack for finished products		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Finished products at the store room were packed on the floor without any demarcation or labeling. This made identification of products quite difficult and it was likely that the products could get dusty, stained and dirty. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of rack for finished products <p><Achievement></p> <ul style="list-style-type: none"> Made searching for particular one easier and kept them clean. 	
2. Layout optimization		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The cutting table was far from the first operator in the sewing room, causing waste in transportation. 	<p><Intervention></p> <ul style="list-style-type: none"> Layout Optimization <p><Achievement></p> <ul style="list-style-type: none"> Time required to transport material from cutting section to sewing section reduced from 15 seconds to 5 seconds. 	

Further Activities after OJT

1. Introduction of new rack at the store room

- The new shelves in the storeroom provided adequate space for more final products and raw materials.



2. Introduction of showcase

- Sample finished items are displayed to promote their products.



3. Winning of AGI Awards 2017








- Garments, Textiles and Leather-





McKenzie was awarded at the 2017 Association of Ghana Industries (AGI) awards as the best company in Garments, Textiles and Leather.

4. Winning of the International Quality Crown Award









The enterprise won the “International Quality Crown Award” and CEO and Technical Adviser were invited to UK.

3.2 Uni Jay Fashion



Enterprise Profile		
Number of workers	Location	Major Products
130 (As of Oct. 2018)	Ashanti Region	Uniforms and Ladies wear
Person in charge		
1. Patience Asamoah-Aidoo, Agona BAC	5. Thomas Fofie, Nsuta BAC	
2. Thomas Opoku, Tepa BAC	6. Theodore Bayeldeng, Offinso BAC	
3. Kelvin Ofori-Atta, Obuasi BAC	7. Henrietta Zaato, Sagnerigu BAC	
4. Maahi Mohammed, Mampong teng BAC	8. Haruna Mohammed, Tolon BAC	
KAIZEN Impact		
<ul style="list-style-type: none"> Hourly productivity per a worker increased from 0.42 units to 0.78 units. (+86%) Monthly sales increased from GHS 536, 622 to GHS 1,167,526.75. (+118%) Defect rate reduced from 0.11% to 0.02%. (-82%) 	<ul style="list-style-type: none"> Threads were arranged by using the cabinet and time required to search the particular threads reduced from 120 seconds to 10 seconds. (-92%) Time required to pick a material from the basket reduced from 5 seconds to 2 seconds. (-60%) 	
Good Practices		
1. Introduction of shelves for raw materials and finished goods		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Raw materials were mixed up and finished goods were poorly arranged, resulting in employees spending a lot of time to search for materials. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of shelves for raw materials and finished goods. <p><Achievement></p> <ul style="list-style-type: none"> Raw material and finished goods were arranged by using shelves and time required to search needed materials reduced.  	
2. Introduction of the cabinet for the threads		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Threads were mixed up in a sack and rubber container, resulting in making it difficult for the workers to find particular threads. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the cabinet for the threads. <p><Achievement></p> <ul style="list-style-type: none"> Threads were arranged by using the cabinet and time required to search the particular threads reduced from 120 seconds to 10 seconds. 	

3. Introduction of the Jig	
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> There was waste in motion because the workers had to bend down and pick the materials from the basket on the floor. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the Jig (Small bench). <p><Achievement></p> <ul style="list-style-type: none"> Time required to pick a material from the basket reduced from 5 seconds to 2 seconds. 
Further Activities after OJT	
1. Introduction of new Warehouse	2. Introduction of new Factory building (under construction as of Oct. 2018)
	


3.3 Bulluk GH Limited (Nallem)

Enterprise Profile		
Number of workers	Location	Major Products
216 (As of Oct. 2018)	Greater Accra Region	Apparel
Person in charge (1st)		
1. Eric Oti Nyarko, Ejisu-Juaben BAC	5. Alidu Mohammed Amin, Ashaiman BAC	
2. Kwame Agyenim-Boateng, Mankranso BAC	6. Emma Odame-Antwi, Weija BAC	
3. Ibrahim Tchedre, Kumawu BAC	7. Philomena Dsane, Regional Manager, Greater Accra Region	
4. Marina Kusi, Kodie BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> Daily production quantity increased from 350 pieces to 700 pieces. (+100%) Monthly sales increased from 419,542 to 631,017. (+50%, unit is unknown.) Defects rate reduced from 0.45% to 0.07%. (-85%) 	<ul style="list-style-type: none"> Production lead time reduced from 10 days to 8 days. (-20%) Time required to transport fabrics from the store room to the cutting section reduced from 51 to 11 seconds. (-78%) 	
Good Practices		
1. Re-arrangement of treads, zippers and buttons		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The threads, zippers and buttons were mixed up, resulting in making it difficult for the workers to search a particular one.   	<p><Intervention></p> <ul style="list-style-type: none"> Re-arrangement of treads, zippers and buttons  <p><Achievement></p> <ul style="list-style-type: none"> Enabled the workers to search the particular one.    	

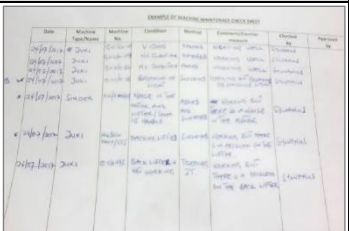
2. Introduction of fabric holder

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Fabrics were spread on the mat at the factory floor in the cutting section, resulting in the product getting dusty, stained and dirty. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of fabric holder <p><Achievement></p> <ul style="list-style-type: none"> Prevented fabrics from getting dusty, stained and dirty. 

3. Introduction of metal rack


Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The workers at the cutting section which was at the top floor of the factory went to the store room located at the ground floor to pick up fabric, resulting in a considerable amount of waste in motion. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of metal rack near the cutting section <p><Achievement></p> <ul style="list-style-type: none"> Time required to transport fabrics from the store room to the cutting section reduced from 51 to 11 seconds. 

4. Introduction of Preventive Maintenance Schedule (PMS)



<ul style="list-style-type: none"> Preventive Maintenance Schedule (PMS) was prepared for the company to help in keeping a routine maintenance. This helped in the smooth functioning of all machines and to minimize unnecessary break-downs. 	
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Further Activities after OJT (1st)

1. Introduction of embroidery pattern

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The company's embroidery hooks were mixed-up in a box. It took the operator a considerable amount of time to search and pick the right hook to work with. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of a shelf with labels for the hooks to be arranged according to their diameters. <p><Achievement></p> <ul style="list-style-type: none"> Time required to search for a particular embroidery patterns reduced. 

2. Introduction of cutting and trimming table 3. Development of new products by using excess fabrics

	
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Person in charge (2nd)

- | | |
|---|---|
| 1. Eric Oti Nyarko, Ejisu BAC | 5. Kwasi Boateng, Bekwai BAC |
| 2. Aikins Agyapong, Asokore Mampong BAC | 6. Alexander Nyame, Mampong BAC |
| 3. Maahi Mohammed, Mampong BAC | 7. Vanessa Afia Asoamea-Takyi, Tano North BAC |
| 4. Nana Sam-Himbson, Foase BAC | 8. Linda Oduro-Amoaning, Effutu BAC |

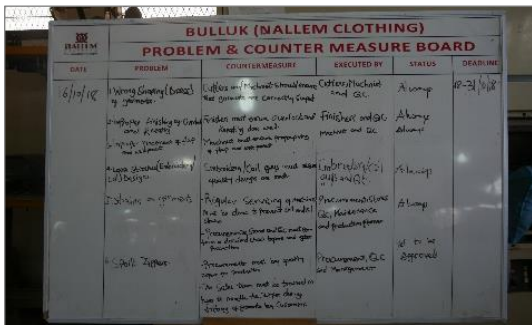
Good Practices (2nd)

1. Total Quality Management Training

- The Kaizen team took all sections of the enterprise through Total Quality Management (TQM) and Quality Control (QC) circle training. The main aim was to improve the quality of their products. The team proposed the following measures to ensure product quality.
 - Establishment of TQM committee and eleven QC Circles.
 - Holding the periodic meetings to address quality issues that are considered to affect the product quality.
 - TQM Committee must ensure and monitor that countermeasures identified are standardized and workers adhere to the new standard.
 - New standard should be documented and displayed.

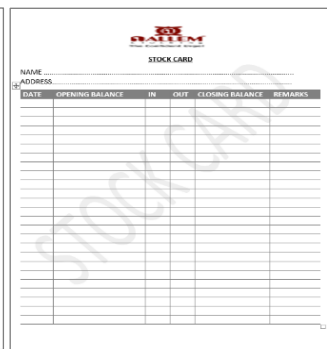
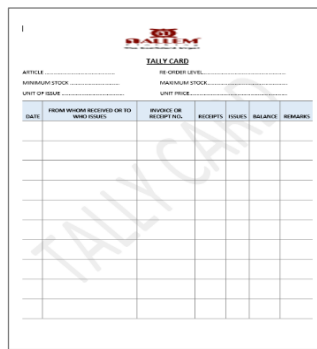
2. Introduction of Problem Countermeasure Board

- Problem Countermeasure Board was developed to record the minutes during QC meetings and problems that might be identified and suggest countermeasures to address the situation.



3. Introduction of Stock and Tally Cards

- Stock and Tally cards were developed to improve inventory management systems of finished products and raw materials



4. Introduction of Sketch and Sample Design Board

Challenge

- After samples were developed and approved by designers, the approved samples were issued in a form of three sheets for a whole line. This made it difficult for workers to grasp the designs and specifications, resulting in a lot of reworks

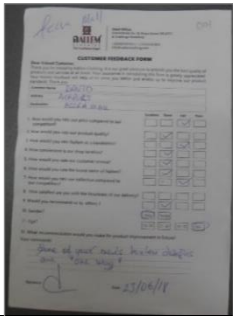
Intervention / Achievement




- <Intervention>**
 - Introduction of Sketch and Sample Design Board
- <Achievement>**
 - Enable the workers to check the specifications whenever necessary to avoid defect and reworks.







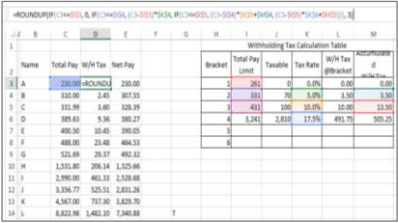
5. Development of Customer Feedback Analysis

- Customer feedback sheet was developed to get feedback from customers. This would help the company in adequately addressing concerns raised by the customers. These forms were sent to all the Six shops in Accra.

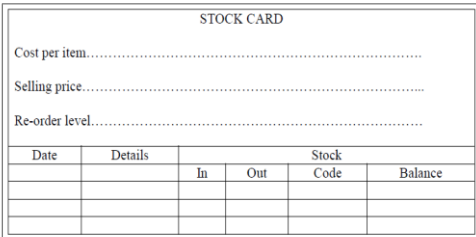



6. Fixing of Nails to Hold Threads	
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Threads were arranged well on the shelves but easily fall anytime an operator came to pick them, resulting in spending time to rearrange the falling threads. 	<p><Intervention></p> <ul style="list-style-type: none"> Fixing of Nails to Hold Threads <p><Achievement></p> <ul style="list-style-type: none"> Prevent threads from being fallen and eliminate the time to rearrange them. 
7. Introduction of baskets for the garment sizes	
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Jumpers were mixed together in one basket which made it difficult to select the sizes into small, medium, large etc. at the mass production section. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of baskets for each garment size. <p><Achievement></p> <ul style="list-style-type: none"> Made it easier for the workers to select the particular size. 
Further Activities after OJT (2nd)	
1. Introduction of Panels with the inscription of Kaizen Concepts	
	





3.4 KAD Manufacturing Limited



Enterprise Profile		
Number of workers	Location	Major Products
77 (As of Sep. 2018)	Greater Accra Region	Apparel
Person in charge		
1. Kipo Dari, Akomadan BAC	5. David Kwabena Poku Oduro, Fomena BAC	
2. Patience Asamoah-Aidoo, Agona BAC	6. Michael O. Golightly, Kumasi BAC	
3. Kwame Agyenim-Boateng, Mankraso BAC	7. Nuhu Salifu Dimah, Bechem BAC	
4. Kelvin Ofori-Atta, Obuasi BAC	8. Emmanuel Deteah, Twifo Praso BAC	
KAIZEN Impact		
<ul style="list-style-type: none"> Production quantity increased from 150 pieces to 500 pieces. (+233%, period is unknown.) Sales increased from GHC 19,653 to GHC 34603. (+76%, period is unknown.) 	<ul style="list-style-type: none"> Defects rate reduced from 40% to 10%. (-75%) Production Lead time shortened from 3 weeks to 2 weeks. (-33%, unit is unknown.) Time required to search right embroidery reduced from 600 seconds to 5 seconds. (-99%) 	
Good Practices		
1. Introduction of a rack for embroidery		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Embroidery hooks and other items were mixed up in a wardrobe and box, resulting in increasing the time for searching for the right item. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the rack for embroidery <p><Achievement></p> <ul style="list-style-type: none"> Time required to search right embroidery reduced from 600 seconds to 5 seconds. 	
2. Introduction of a rack for patterns		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> At the cutting section, old and not frequently used patterns were mixed up with new and frequently used ones, resulting in an increasing time used to search for a particular pattern even though there was labels. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the rack for patterns and improvement of labeling by adding numbering and index/legend. <p><Achievement></p> <ul style="list-style-type: none"> The new and frequently used patterns are hanged closer to cutting work bench and making it easy to identify the particular patterns, resulting in reducing search time. 	
3. Payroll Management Improvement		
<ul style="list-style-type: none"> Development of excel formula for calculating income tax on the company's payroll, resulting in reducing the required time for calculation from 240 minutes to 60 minutes. 		
		

3.5 Sleek Garments Export Limited



Enterprise Profile					
Number of workers		Location		Major Products	
37 (As of Oct. 2018)		Greater Accra Region		Garments	
Person in charge					
1. Eric Oti Nyarko, Ejisu-Juaben BAC		5. Alidu Mohammed Amin, Ashaiman BAC			
2. Kwame Agyenim-Boateng, Mankranso BAC		6. Emma Odame-Antwi, Weija BAC			
3. Ibrahim Tchedre, Kumawu BAC		7. Philomena Dsane, Regional Manager, Greater Accra			
4. Marina Kusi, Kodie BAC					
KAIZEN Impact					
<ul style="list-style-type: none"> • Monthly production quantity increased from 200 to 480. (+140%, unit is unknown.) • Sales increased from 235,000 to 268,327. (+14%, unit is unknown.) 			<ul style="list-style-type: none"> • Defects rate reduced from 12.5% to 7.5%. (-40%) 		
Good Practices					
1. Introduction of Stock Card and Stock Taking List					
<ul style="list-style-type: none"> • Introduced stock card and stock taking list to improve inventory management system. 					
					
2. Improvement in Pattern Arrangement and Labelling					
Challenge			Intervention / Achievement		
<ul style="list-style-type: none"> • The patterns were mixed up and there were no labeling, resulting in making it difficult for the workers to search particular one. 			<p><Intervention></p> <ul style="list-style-type: none"> • Improvement in Pattern Arrangement and Labelling <p><Achievement></p> <ul style="list-style-type: none"> • Enable the workers to search the particular one easily. 		







3.6 AA Agyei Enterprise

Enterprise Profile		
Number of workers	Location	Major Products
28 (As of Oct. 2018)	Ashanti Region	Leather sandals
Person in charge		
1. Maahi Mohammed, Mampong BAC	5. Theodore Bayeldeng, Offinso BAC	
2. Eric Oti Nyarko, Ejisu BAC	6. David Kwabena Poku Oduro, Fomena BAC	
3. Thomas Fofie, Nsuta BAC	7. Kwasi Owusu, Effiduase BAC	
4. Marina Serwaah Kusi, Kodie BAC	8. Samuel Asiedu, Project Officer, Ashanti Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Production quantity increased from 2,800 to 4,500. (+61%, unit is unknown) Defects rate reduced from 6% to 1%. (-83%) Inventory reduced from 3,500 to 3,000. (-14%, unit and raw material or completed product are unknown.) Production lead time reduced from 7 days to 4 days. (-43%) 	<ul style="list-style-type: none"> Time required to search right last reduced from 240 seconds to 5seconds. (-98%) Time required to search right tools reduced from 120 seconds to 5seconds. (-96%) Time required for gluing reduced from 110 seconds to 90 seconds (-18%) Time required for transporting to the next production section reduced from 25 seconds to 10 seconds. (-60%) 	
Good Practices		
1. Construction of a Seito Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The enterprise kept its tools in a rubber container, resulting in making it difficult to search right tools. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of Seiton Board <p><Achievement></p> <ul style="list-style-type: none"> Making it easier and faster to search right tools. Time required to search right tools reduced from 120 seconds to 5seconds 	
2. Construction of a new rack		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The various last sizes were kept in the rack without it being arranged according to its sizes, making it difficult for workers to identify the last particular size they worked with. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of a new rack <p><Achievement></p> <ul style="list-style-type: none"> Made it easier to identify last size. Time required to search for the right size reduced from 240 seconds to 5seconds. 	
3. Layout Optimization		
Challenge	Intervention / Achievement	

<ul style="list-style-type: none"> The layout and the process flow at the Enterprise was not appropriately designed, resulting in workers moving from one end to the other end before a process was completed. 	<p><Intervention></p> <ul style="list-style-type: none"> Layout Optimization <p><Achievement></p> <ul style="list-style-type: none"> The re-arrangement of the process flow reduced the waste of movement and also optimized the use of the work floor. 
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4. Making the process efficient

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> One operator at the gluing section glued the bona with small brush and container by a right hand only 	<p><Intervention></p> <ul style="list-style-type: none"> An additional worker was introduced at the gluing section Providing the workers with big brushes and containers <p><Achievement></p> <ul style="list-style-type: none"> Time required for gluing reduced from 110 seconds to 90 seconds. (Each of two workers spend 5 seconds to glue the bona) 



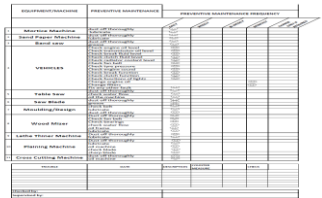


5. Introduction of New Jig①	
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The workers used an old jig with the pressing machine to cut the bona based on customers' sizes before it was sent to the next production section. It took 25 seconds to punch 8 holes in the leather. This method slowed down the production process. 	<p><Intervention></p> <ul style="list-style-type: none"> Made a new jig which the pressing machine could cut the bona and punch holes in them simultaneously. <p><Achievement></p> <ul style="list-style-type: none"> Time required to do the same work reduced from 25 seconds to 10 seconds. 
6. Introduction of New Jig②	
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The workers used a jig to cut the leather strip before it was sent to the next production section where operators punch 4 holes in the leather strip which took a lot of time. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of the pressing machine which can cut the strips and punches the 4 holes at the same time. Acquisition of a new rubber board to ensure smooth cutting of materials <p><Achievement></p> <ul style="list-style-type: none"> Time required to do the same work reduced from 18 seconds to 8 seconds. 
7. Construction of a Wooden Stand and Instruction of the Plastic Container	
Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Operator dropped the leather which he had sewed on the floor. Another operator from the next section of the production process pick up the leathers from the floor into plastic container and transport it to the next section. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of a wooden stand and introduction of a plastic container <p><Achievement></p> <ul style="list-style-type: none"> Time required for transporting to the next production section reduced from 25 seconds to 10 seconds. 

4 Wood Processing/Furniture Manufacturing





4.1 Hazbuk Company Limited

Enterprise Profile		
Number of workers	Location	Major Products
16 (As of Oct. 2018)	Northern Region	Tables, Chairs, Sofa, Wardrobes, Door frames, Window frames, Beds.
Person in charge		
1. Ahmed Salman, Sawla BAC	4. Ibrahim Tchedre, Kumawu BAC	
2. Suragdeen Iddrisu, Saboba BAC	5. Eric Oti Nyarko, Ejisu BAC	
3. Mathew Azoya, Gambaga BAC	6. Ahmed Abdul Razak, Project Officer, Northern Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly production quantity increased from 3 sets to 6 sets. (+100%) Monthly sales increased from GHS 13,500 to GHS 27,000. (+100%) Monthly Raw materials inventory reduced from 20 units to 7 units. (-65%) 	<ul style="list-style-type: none"> Monthly completed product inventory reduced from 5 unit to 1 unit. (-80%) Cutting processing time shortened from 20 minutes to 10 minutes. (-50%) Standard time reduced from 7 days to 3 days. (-57%) 	
Good Practices		
1. Construction of Cross-Cutting Saw Jig		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> A piece of wood was being used when cutting according to specific measurement 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of Cross-Cutting Saw Jig <p><Achievement></p> <ul style="list-style-type: none"> Ensured accuracy, safety, product quality and significantly reduced the standard time. 	

4.2 Kwasi Gyan (Jomo) Company Limited




Enterprise Profile		
Number of workers	Location	Major Products
44 (As of Jun. 2017)	Brong Ahafo Region	Table, Chairs, Cupboard, Window frames and Doors
Person in charge		
1. Nuhu Salifu Dimah, Jema BAC 2. Opong Isaac, Atebubu BAC 3. Amil Ibrahim, Wenchi BAC		4. Thomas Opoku, Tapa BAC 5. Kwame Agyenim-Boateng, Mankranso BAC 6. Anthony Abulai Akolbire, Regional Manager, Brong Ahafo Region
KAIZEN Impact		
<ul style="list-style-type: none"> Weekly productivity per a worker increased from 50 dual desks to 85 dual desks. (+70%) Monthly sales increased from GHS 49,960 to GHS 118,950. (+138%) 		<ul style="list-style-type: none"> Completed products inventory reduced from 24 chairs to 6 chairs. (-75%) Production lead time reduced from 54 minutes per a dual desk to 34 minutes per a dual desk. (-37%)
Good Practices		
1. Arrangement of Products at the Showroom		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The showroom was congested with finished products, work in process and other unwanted materials, resulting in making movement and identification of items difficult. 	<p><Intervention></p> <ul style="list-style-type: none"> Arrangement of Products at the Showroom <p><Achievement></p> <ul style="list-style-type: none"> Enough space for movement was created and customers identify items easily. 	
2. Preventive Maintenance Schedule for Equipment		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The company had no maintenance schedule for machines/equipment, resulting in unexpected breakdowns and interruptions in production. 	<p><Intervention></p> <ul style="list-style-type: none"> Development of Preventive Maintenance Schedule for Equipment <p><Achievement></p> <ul style="list-style-type: none"> Reduced the frequency of machine breakdown and increased productivity. 	
3. Erection of Sign Post		Further Activities after OJT
<ul style="list-style-type: none"> Constructed a sign post to improve upon the company's public image. 	<p>1. Construction of Washroom</p> <ul style="list-style-type: none"> Construction of washroom contributes to improving the working environment. 	

4.3 Royal Foam

Enterprise Profile		
Number of workers	Location	Major Products
77 (As of Oct. 2018)	Ashanti Region	PU (polyurethane) Foam products
Person in charge		
1. Marina Kusi, Kodie BAC		5. Aikins Agyepong, Asokore Mampong BAC
2. Benjamin Kwasi Marfo, Nyinahin BAC		6. Eric Oti Nyarko, Ejisu BAC
3. David Kwabena Poku Oduro, Fomena BAC		7. Kwasi Owusu, Effiduase BAC
4. Kipo Dari, Akomadan BAC		8. Ahmed Salman, Sawla BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Quarterly productivity per a worker increased from 1,017.3 units to 1069.3 units. (+5%) 		<ul style="list-style-type: none"> Sales increased from GHS 56,000 to GHS 102,337. (+83%) Defects rate reduced from 5% to 3%. (-40%)
Good Practices		
1. Introduction of Trolley		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Carrying Work-In-Process burdened on workers bodies because they carried them on their heads. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Trolley <p><Achievement></p> <ul style="list-style-type: none"> Time required to transport reduced and burden of the works was eliminated 	
Further Activities after OJT		
1. Creation of walk-way with disability friendly facility	2. Re-designed Show Room at the warehouse	
		




5 Printing

5.1 Kumbatachua Enterprise

Enterprise Profile		
Number of workers	Location	Major Products
6 (As of Oct. 2018)	Northern Region	Sachet water sheet (rolls)
Person in charge		
1. Alidu Ewura , Damongo BAC		4. Dari Kipo, Akomandan BAC
2. Adam Mohammed Gadaf, Kumbungu BAC		5. Patience Asamoah Aidoo, Agona BAC
3. Henrietta Zaato, Sangerigu BAC		6. Eric Affram, Regional Manager, Northern Region
KAIZEN Impact		
<ul style="list-style-type: none"> Weekly defects reduced from 8 to 0. (Production quantity is unknown) Production lead time shortened from 6 hours per 6 rolls to 2.5 hours. (-38%) 		<ul style="list-style-type: none"> Searching time for printing block for each customer reduced from 80 min to 5 minutes. (-94%) Searching time of tools reduced from 30 seconds to 5 seconds. (-83%)
Good Practices		
1. 5 S at the Inventory		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Materials were mixed together with other unnecessary items at the storeroom, resulting in making it difficult to search for the right one. 	<p><Intervention></p> <ul style="list-style-type: none"> Sorting for necessary items and setting in order <p><Achievement></p> <ul style="list-style-type: none"> The workers can easily identify necessary items. 	
2. Arrangement of Customer Block		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Customer Blocks were mixed up and it took a much time to find a necessary one. 	<p><Intervention></p> <ul style="list-style-type: none"> Arrangement of Customer Block <p><Achievement></p> <ul style="list-style-type: none"> Time required to search the printing blocks for each customer reduced from 30 seconds to 5 seconds. 	





6 Water processing

6.1 Aspet-A Company Limited


Enterprise Profile		
Number of workers	Location	Major Products
24 (As of Oct. 2018)	Brong Ahafo Region	Bottle and Sachet water
Person in charge		
1. Mavis Yaa Owusu, Berekum BAC	4. Michael O. Golightly, Kumasi BAC	
2. Frederick Apraku Amoateng, Nsawkaw BAC	5. Abdul Rahman Talhat, Accountant, Brong Ahafo Region	
3. Maahi Mohammed, Mamponteng BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> Production quantity increased from 5,000 cartons to 10,685 cartons. (+114%, period is unknown) 	<ul style="list-style-type: none"> Sales increased from 75,000 GHS to GHS 160,275. (+114%, period is unknown) Defects rate reduced from 12% to 0.8%. (-93%) 	
Good Practices		
1. Introduction of Trolley		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers used to carry finished products by hand to the warehouse, resulting in time wasting 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Trolley <p><Achievement></p> <ul style="list-style-type: none"> Time required to transport finished products reduced drastically. 	
		
2. Introduction of Batch Control Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It was difficult for workers to identify which raw materials should be used in first. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of FIFO system with Batch Control Board <p><Achievement></p> <ul style="list-style-type: none"> Informed workers to use products first received before using newer products. This system helps reduce the incidence of inventory becoming obsolete. 	
		
Further Activities after OJT		
1. Introduction of Belt Conveyer		
		

7 Ceramic/Brick Manufacturing


7.1 Ekem Art Pottery

Enterprise Profile		
Number of workers	Location	Major Products
30 (As of Sep. 2018)	Central Region	Crucibles, Liners for “Gyapa” Cooking stoves
Person in charge		
1. Henrietta Addai-Poku, Swedru BAC	3. Marina Kusi, Kodie BAC	
2. Emmanuel Deteah, Twifo Praso BAC	4. David Kwabena Poku Oduro, Fomena BAC	
	5. Albert Boachie Amofa, Regional Manager, Central Region	
KAIZEN Impact		
• Production quantity increased from 1,685 to 1,740. (+3%)	• Sales increased from GHS 8,147 to GHS 11,100. (+36%)	
Good Practices		
1. Introduction of Jig		
<p>• It took a lot of time to make holes because the workers had to make them one by one with existing Jig.</p> 	<p><Intervention></p> <ul style="list-style-type: none"> • Introduction of Jig which can make a lot of holes at once. <p><Achievement></p> <ul style="list-style-type: none"> • Time required to make holes drastically reduced. 	
2. Layout optimization		
Challenge	Intervention / Achievement	
<p>• One hydraulic press machine was used at the crucibles section.</p> 	<p><Intervention></p> <ul style="list-style-type: none"> • Relocation of hydraulic press to reduce transportation distance and improve productivity. <p><Achievement></p> <ul style="list-style-type: none"> • Transportation distance was reduced and it improved productivity 	

7.2 Bensworth Construction


Enterprise Profile		
Number of workers	Location	Major Products
8 (As of Oct. 2018)	Central Region	Bricks
Person in charge		
1. Linda Oduro-Amoaning, Effutu BAC	4. Veronica Essel, Komenda Edina Eguafu Abrem BAC	
2. Nathan Arkaah, Gomoa East BAC	5. Kelvin Ofori-Atta, Obuasi BAC	
3. Boakye Atta Kwasi Jnr., Assin South BAC	6. Benjamin Kwasi Marfo, Atwima Mponua BAC	
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly production quantity increased from 240 pieces to 960 pieces. (+300%) Monthly sales increased from GHS 15,000 to GHS 22,500. (+50%) Defects rate decreased from 0.05% to 0.03%. (40%) 	<ul style="list-style-type: none"> Completed product inventory reduced from 4,000 pieces to 1,500 pieces. (-63%) Production lead time shortened from 4 weeks per 10,000 pieces to 2 weeks per 10,000 pieces. (-50%) 	
Good Practices		
1. Instruction of Batch Control Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It was difficult for workers to distinguish freshly made bricks from old one. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of FIFO system with Batch Control Board <p><Achievement></p> <ul style="list-style-type: none"> Enabled the workers that deliver old batch of bricks before delivering newly dried bricks, resulting in reducing the incidence of inventory becoming obsolete. 	
		

7.3 Vicalex Brick and Tile Company Limited




Enterprise Profile		
Number of workers	Location	Major Products
20 (As of Mar. 2016)	Ashanti Region	Clay bricks
Person in charge		
1. Kwasi Boateng, Bekwai BAC	5. Benjamim Kwasi Marfo, Nyinahin BAC	
2. Aikins Agyepong, Asokore Mampong BAC	6. Kwakye-Fosu Priscilla, Konongo BAC	
3. Dari Kipo, Akomadan BAC	7. Antiri, Irenaeus Ahwireng (Nana), Jacobu BAC	
4. Nana Sam-Himbson, Foase BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> • Production quantity increased from 149,943 to 210,852. (+41%, unit and period are unknown) • Sales increased from 65,125 to 93724. (+44%, unit and period are unknown.) 	<ul style="list-style-type: none"> • Defects rate reduced from 12% to 4%. (-67%) • Raw material inventory reduced from 22,190 to 16,890. (-24%, unit is unknown.) • Turnover ratio decreased from 0.03% to 0.02%. 	
Good Practices		
1. Introduction of Batch Control Board		
<p>Introduction of Batch Control Board system to enable first in first out rule to operate. This enabled management and employees to easily identify bricks be fired first.</p>		
		

8 Pharmaceutical Manufacturing

8.1 Salom Pharmacy Limited






Enterprise Profile		
Number of workers	Location	Major Products
91 (As of Oct. 2018)	Ashanti Region	Pharmaceutical products
Person in charge		
1. Thomas Opoku, Tepa BAC		5. Tchedre Ibrahim, Kumawu BAC
2. Patience Asamoah Aidoo, Agona BAC		6. Kwame Agyenim-Boateng, Mankranso BAC
3. Kelvin Ofori-Atta, Obuasi BAC		7. Alexander Nyame, Bosome Freho BAC
4. Michael O. Golightly, Kumasi BAC		
KAIZEN Impact		
<ul style="list-style-type: none"> Sales increased from 203,115 units to 443,670 units. (+118%, period in unknown.) Defects rate reduced from 0.8% to 0.1%. (-88%) 		<ul style="list-style-type: none"> Production lead time reduced from 2 days to a day. (-50%)
Good Practices		
1. Introduction of the concept of “line balancing” and “ECRS”		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> 7 Operators worked at the syrup packaging area with the help of a conveyer belt. Below are the steps for the process: <ul style="list-style-type: none"> <Step 1> 4 Operators inserted bottled syrups and the product leaflets into individual cartons, closed the cartons and placed them on conveyer belt; <Step 2> 2 Operators received the secondary packed syrup, put them into shippers and placed them on the conveyer belt; <Step 3> 1 Operator received the tertiary packaged products, sealed them and stacked them for transfer into the warehouse. The 3 operators who were in charge of Steps 2 and 3 above spent too much time waiting because the work load at each step was not evenly distributed. 	<p><Intervention></p> <ul style="list-style-type: none"> Combined Step 1 and 2 into one step based on one of the major KAIZEN concepts of “Line balancing” and “ECRS” <p><Achievement></p> <ul style="list-style-type: none"> Eliminated the waiting time and reduced the number of workers from 7 to 5 in the section, with a consequent reduction in Lead time. The 2 Operators taken out of that system were reassigned to other sections which needed additional operators. 	
Further Activities after OJT		
1. Applying the concept of “Line balancing” and “ECRS” to other line		
<ul style="list-style-type: none"> A similar approach of the syrup packaging area was adopted at the tablets packaging line and this also resulted in the reduction of operators from 8 to 6. The extra 2 Operators were relocated to a newly created manufacturing unit. 		
2. Review of Standard Operating Procedure		
<ul style="list-style-type: none"> All Standard Operating Procedures were reviewed to identify sources of waste and assess the risks associated with proposed KAIZEN related solutions. 		

8.2 Aspee Pharmaceutical Company Limited

Enterprise Profile		
Number of workers	Location	Major Products
80 (As of Oct. 2018)	Ashanti Region	Pharmaceutical
Person in charge		
1. Patience Asamoah Aidoo, Agona BAC	5. Thomas Fofie, Nsuta BAC	
2. Thomas Opoku, Tepa BAC	6. Theodore Bayeldeng, Offinso BAC	
3. Kelvin Ofori-Atta, Obuasi BAC	7. Henrietta Zaato, Sagnerigu BAC	
4. Maahi Mohammed, Mampong teng BAC	8. Haruna Mohammed, Tolon BAC	
KAIZEN Impact		
<ul style="list-style-type: none"> Hourly productivity per a worker increased from 0.24 units to 1.9 units. (+956%) 	<ul style="list-style-type: none"> Monthly sales increased from GHS 314,236 to 358,254. (+14%) Defects rate reduced from 0.9% to 0.4%. (-56%) 	
Good Practices		
1. Introduction of adhesive stickers		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It took a lot of times to label the products at the packaging section because the workers used glue. 	<p><Intervention></p> <ul style="list-style-type: none"> Eliminated gluing process by introducing adhesive stickers <p><Achievement></p> <ul style="list-style-type: none"> Time required to label the products reduced. (Now, labeling is done by automated machine.) 	
2. Introduction of billboards		
<ul style="list-style-type: none"> The billboards were designed and mounted on the factory entrance 	3. Cost and benefit analysis to determine the automated machines <ul style="list-style-type: none"> Aspee operated a syrup section that was semi-automated. The company planned to purchase a fully automated machine in the foreseeable future. The enterprise assessed its ability to purchase the machine by using a “Cost and benefit analysis sheet” to determine the cost the company would incur in getting the machine and the benefit they would derive from its usage. (The enterprise purchased the machines. See “Further activities after OJT”) 	
Further Activities after OJT		
1. Introduction of automated machine		
<ul style="list-style-type: none"> The enterprise purchased automated washing, bottling and labeling machine based on the assessment conducted during OJT. 		



9 Aluminum Processing

9.1 Francis Aluminum Limited





Enterprise Profile		
Number of workers	Location	Major Products
33 (As of Oct. 2018)	Ashanti Region	Aluminum Basin and Pot Products
Person in charge		
1. Marina Kusi, Kodie BAC		5. Aikins Agyepong, Asokore Mampong BAC
2. Benjamin Kwasi Marfo, Nyinahin BAC		6. Eric Oti Nyarko, Ejisu BAC
3. David Kwabena Poku Oduro, Fomena BAC		7. Kwasi Owusu, Effiduase BAC
4. Kipo Dari, Akomadan BAC		8. Ahmed Salman, Sawla BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Daily productivity per a worker increased from 176 units to 336 units. (+107%) Monthly sales increased from GHS 194,720 to GHS 390,047. (+100%) Defects rate reduced from 0.9% to 0.5%. Completed product inventory reduced from 2,352 pieces to 458 pieces. (-81%) Production lead time for 1 tonne shortened from 14 days to 8 days. (-67%) 		<ul style="list-style-type: none"> Production cost per an item reduced from GHS 10.9 to GHS 7.7. (-29%) Time required to pick the right handle and fix to the lid reduced from 24 seconds to 17 seconds by Jig for parts. (-29%) Time required to tighten the washing machine reduced from 115seconds to 86 seconds. (-25%)
Good Practices		
1. Provision of Galvanized Handles Container and Work Table		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers stretched their hands more than once to pick the right handle to fix to the lid because the handles were not sorted. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of a broader work table and galvanized container (Jig) that was demarcated and fixed to the center of the work table to contain the sorted lid handles. <p><Achievement></p> <ul style="list-style-type: none"> Time required to pick the right handle and fix to the lid reduced from 24 seconds to 17 seconds. 	
2. Replacement of machine nuts with wing nuts		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> After the handles are put in the washing machine and before putting on the machine to wash the handles, an operator uses a spanner to tighten the bolts and nuts to close the gate / opening of the machine.  	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of wing nuts <p><Achievement></p> <ul style="list-style-type: none"> Time required to tighten the washing machine reduced from 115seconds to 86 seconds. 	

9.2 Gyamfua Ababio Investment Co., Limited

Enterprise Profile

Number of workers	Location	Major Products
86 (As of Jan. 2018)	Ashanti Region	Hollow ware, Roofing Sheet
Person in charge		
1. Ibrahim Tchedre, Kumawu BAC	5. Alexander Nyame, Mampong BAC	
2. Kwasi Boateng, Bekwai BAC	6. Kwame Agyenim Boateng, Mankranso BAC	
3. Priscilla Kwakye-Fosu, Konongo BAC	7. Michael O. Golightly, Kumasi BAC	
4. Nana Sam- Himbson, Foase BAC	8. Ahmed Abdul-Razak, Project Officer, Northern Region	
KAIZEN Impact		
<ul style="list-style-type: none"> Increased the quantity of products to be transported at once from 2 to 12, resulting in reduced transportation time. (+500%) 	<ul style="list-style-type: none"> Reduction of manpower at aluminium cutting section by eliminating waste of waiting from 4 workers to 2 workers. (-50%) 	
Good Practices		
1. Introduction of Trolley		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The quantity of finished products transported from the packaging area to the store room at once was limited because they carried them by hand. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of trolley <p><Achievement></p> <ul style="list-style-type: none"> Increased the quantity of products to be transported at once from 2 to 12, resulting in reduced transportation time. 	

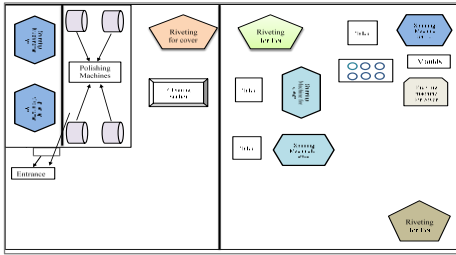
9.3 Prosdo Aluminum Company Limited

Enterprise Profile		
Number of workers	Location	Major Products
12 (As of Oct. 2018)	Greater Accra Region	Cookware
Person in charge		
1. Thomas Opoku, Tapa BAC		4. Nana Sam-Himbson, Foase BAC
2. Thomas Fofie, Nsuta BAC		5. Anthea Ohene, Tema BAC
3. Maahi Mohammed, Mamponteng BAC		6. Jemimah Arthur, Ada BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly production quantity increased from 12,346 to 14,123. (+14%, unit is unknown.) Monthly sales increased from GHS 186,881 to GHS 333,921.8. (+79%) 		<ul style="list-style-type: none"> Time required for transportation reduced from 27 seconds to 15 seconds. (-44%)
Good Practices		
1. Floor casting		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> There were steps and bumps in the production floor, which impeded movement of people and materials. 	<p><Intervention></p> <ul style="list-style-type: none"> The uneven production floor was smoothed <p><Achievement></p> <ul style="list-style-type: none"> Movement of people and goods become easier 	
2. Construction of storage box		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The finished products in the sacks were placed on the floor directly exposing it to dirt. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of storage box <p><Achievement></p> <ul style="list-style-type: none"> Enabled the finished products to be kept clean. 	

3. Layout improvement

Challenge

- The workers had to walk a long distance from the riveting section to the polishing section to pick their raw materials and back.
- The workers had to walk from the cleaning area to the riveting section to pick raw materials and back.
- The workers had to walk from the cover riveting table to the cover moulding machine and back.



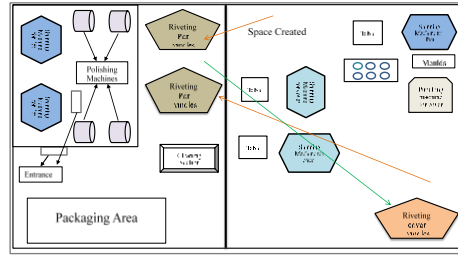
Intervention / Achievement

<Intervention>

- Moved the two pot handle riveters in the first production room close to the polishing section to where the cover riveter was stationed
- Moved the cover riveting workbench closer to its punching machine in the first production room.

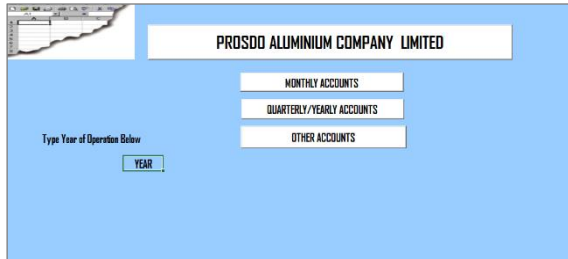
<Achievement>

- Time required for transportation reduced from 27 seconds to 15 seconds.






4. Development of accounting software

- Accounting software was developed to compute the yearly financial statement and balance sheet.



9.4 YEHANS International Company Limited

Enterprise Profile		
Number of workers	Location	Major Products
85 (As of Oct. 2018)	Greater Accra Region	Aluminum glazing and cladding works
Person in charge		
1. Thomas Opoku, Tapa BAC 2. Thomas Fofie, Nsuta BAC 3. Marina Kusi, Kodie BAC 4. Theodore Bayeldeng, Offinso BAC		5. Tchedre Ibrahim, Kumawu BAC 6. Benjamin Kwasi Marfo, Nyinahin BAC 7. Daniel Sena Tosome, Dormaa BAC 8. Patrick Asafo Agyei, Breman Asikuma BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Monthly production quantity increased from 12 tons to 15 tons. (+25%) Monthly sales increased from \$8,400 to \$105,000 (+25%) Defect rate reduced from 7% to 4%. (-43%) 		<ul style="list-style-type: none"> Production lead time reduced from 4 weeks to 3 weeks. (-25%) Time required to lift the drilling machine from the floor and drill a hole in a profile or a joint place it back to the floor reduced from 10 seconds to 2 seconds. (-80%)
Good Practices		
1. Re-arrangement and installment of wheel of the Products in the Showroom		
<ul style="list-style-type: none"> To ensure a better view of all displayed-items in the show room, the taller items were relocated behind and the shorter ones was relocated in front. Also, wheels were installed for the products to make transportation easier. 		
		
2. Introduction of new trolley		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The workers at the assembling section bent down to pick up parts and tools from the floor. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of new trolley <p><Achievement></p> <ul style="list-style-type: none"> Time required to lift the drilling machine from the floor and drill a hole in a profile or a joint and place it back to the floor reduced from 10 seconds to 2 seconds. 	

3. Filling of Production Floor Gully

- Filling of production floor gully ensured smooth transportation of finished products and work-in-process with the trolleys.

Before



After



4. Introduction of Multi Skill Map

- Multi-skill map was developed and displayed at the production floor to all workers.

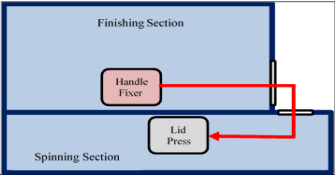
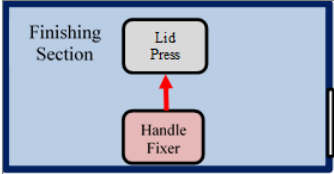
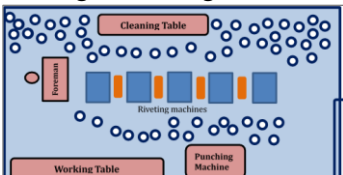
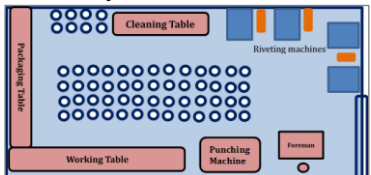




5. Introduction of Production Control Board




- Production control Board was introduced to display periodic production targets at the production floor.





9.5 Domod Aluminum Company Limited

Enterprise Profile		
Number of workers	Location	Major Products
55 (As of Jul. 2018)	Greater Accra Region	Cookware and Basins
Person in charge		
1. Thomas Opoku, Tapa BAC		4. Tchedre Ibrahim, Kumawu BAC
2. Thomas Fofie, Nsuta BAC		5. Benjamin Kwasi Marfo, Nyinahin BAC
3. Marina Kusi, Kodie BAC		6. Daniel Sena Tsorme, Dormaa BAC
1. Theodore Bayeldeng, Offinso BAC		2. Patrick Asafo Agyei, Breman Asikuma BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Production lead time reduced from 15 minutes to 9 minutes. (-40%, production item is unknown) 		<ul style="list-style-type: none"> Time required to transport reduced from 72 seconds to 10 seconds. (-86%)
Good Practices		
1. Layout Improvement		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> It took a lot of time to transport press lids from the press section to handle fixing section. 	<p><Intervention></p> <ul style="list-style-type: none"> Relocated the press lids closer to the handle fixing section. <p><Achievement></p> <ul style="list-style-type: none"> Time required to transport them reduced from 72 seconds to 10 seconds. 	
2. Layout Improvement (Riveting Section)		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Riveting machines occupied a lot of space. Work in process (WIP) was not arranged in order. The foreman's table was far from the entrance of the finishing section for efficient monitoring of what goes in and out. 	<p><Intervention></p> <ul style="list-style-type: none"> Relocated the riveting machines from the center of the section closer to the cleaning table. Arranged the WIP <p><Achievement></p> <ul style="list-style-type: none"> Enabled the foreman to monitor efficiently Additional table has been created at the packaging section 	
3. Construction of Seiton Board		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Maintenance department used to keep most of their tools in a box, resulting in making it difficult for workers to search for a particular tool. 	<p><Intervention></p> <ul style="list-style-type: none"> Construction of Seiton Board. * Worthy of noting is the use of elastic rubber to hold some of the heavy tools instead of nails in order to prevent accident. <p><Achievement></p> <ul style="list-style-type: none"> Time required to search for tools reduced from 179 seconds to 5 seconds. 	

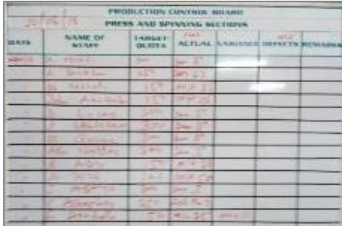
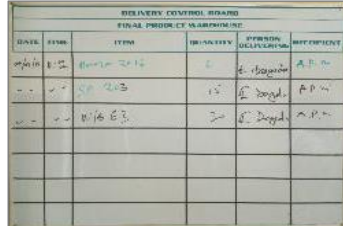
4. Introduction of Trolley

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> It took a lot of time to transport finished products to the warehouse because the number of products transported at once was small though the enterprise had trolley. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of new Trolley <p><Achievement></p> <ul style="list-style-type: none"> The number of finished products which one worker transported per second increased from 0.8 to 1.0.  

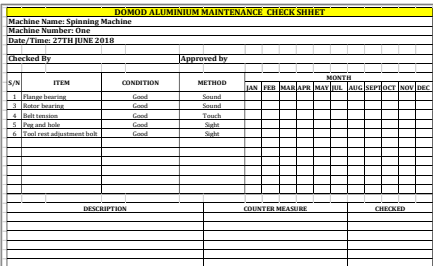
5. Introduction of Jig

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> The workers used single headed jig to fix handles which needed to be hit two points. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of two-headed Jig <p><Achievement></p> <ul style="list-style-type: none"> Enabled the worker to hit only once for both handles to be fixed on the lid. 




6. Introduction of Production and delivery Control Board

Challenge	Intervention / Achievement
<ul style="list-style-type: none"> Daily targets for employees at the various workstations were communicated to them verbally and individually, resulting in increasing the workload of the supervisors. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Production and delivery Control Board <p><Achievement></p> <ul style="list-style-type: none"> The workers can confirm the daily targets whenever they want, resulting in reducing the workload of the supervisors.  

7. Development of Machine Maintenance Sheet

<ul style="list-style-type: none"> The workers were explained how to use the machine maintenance check sheet and how to report to production manager 	
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9.6 J & J Plastics Limited

Enterprise Profile		
Number of workers	Location	Major Products
53 (As of Oct. 2018)	Greater Accra Region	Mono Desk, Foldable Chair, Eburo Bucket, 40 Lt Basin
Person in charge		
1. Eric Oti Nyarko, Ejisu BAC		5. Kwasi Boateng, Bekwai BAC
2. Aikins Agyepong, Asokore Mampong BAC		6. Alexander Nyame, Mampong BAC
3. Maahi Mohammed, Mampong BAC		7. Vanessa Afia Asoamea-Takyi, Tano North BAC
4. Nana Sam-Himbon, Foase BAC		8. Linda Oduro-Amoaning, Effutu BAC
KAIZEN Impact		
<ul style="list-style-type: none"> Daily Production quantity of Mono desk increased from 70 pieces to 125 pieces. (+79%) Monthly sales increased from 490,000 to 875,000. (+79%, unit is unknown) 		<ul style="list-style-type: none"> The number of pipes which can be transported at once increased from 10 to 120. (+92%)
Good Practices		
1. Introduction of Carts		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> Transportation of pipes from the cutting section to the bending section took a lot of time because the operator had to convey with his hands bit by bit. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Carts <p><Achievement></p> <ul style="list-style-type: none"> The number of pipes which can be transported at once increased from 10 to 120. 	
2. Introduction of Metal Stand with Casters to Hang Bent Pipes		
Challenge	Intervention / Achievement	
<ul style="list-style-type: none"> The operator after bending the pipes puts them on the floor for another worker to pick them to the workstation where the bent metals were tacked. This production process seems to be inappropriate and took a considerable amount of time which could decrease productivity. 	<p><Intervention></p> <ul style="list-style-type: none"> Introduction of Metal Stand with Casters to Hang Bent Pipes <p><Achievement></p> <ul style="list-style-type: none"> The number of pipes transported at a go increased from 10 to 264. 	
		

Appendix 9

Report on KAIZEN Forum in Accra

**REPORT ON
NBSSI/JICA FINAL KAIZEN FORUM
AT COCONUT GROOVE REGENCY
HOTEL**

NBSSI/JICA National KAIZEN Project

September 2018

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1.0 Introduction

The National Board for Small Scale Industries (NBSSI) with support by Japan International Cooperation Agency (JICA) National KAIZEN Project organized the final KAIZEN Forum at the Coconut Groove Regency Hotel on Friday 28th September, 2018. The NBSSI/JICA National KAIZEN Project is a three-year project which started in October 2015. The Project aimed at strengthening the capacity of NBSSI on its Business Development Service (BDS) provision and facilitation in four target regions namely Ashanti, Brong Ahafo, Central and Northern regions.

The objective of the Forum was to share the results of the NBSSI/JICA National KAIZEN Project and showcase the major achievements of NBSSI with beneficiary enterprises at the end of the Project. To date 273 businesses in Ghana have benefitted from the KAIZEN intervention leading to increased productivity, job creation and quality which is in line with the Presidents' vision of industrial transformation a better Ghana. The Forum was also an outstanding opportunity to show appreciation to all revered stakeholders.

1.1 Opening Prayer

The program commenced at 9:20 after all participants including honoured guests and special guests of Honour had been duly registered. The Master of Ceremony (MC) , Mr. George Sappor ushered the start of the programme and called upon Mrs. Emma Odame Antwi to give the opening prayer.

1.2 Introduction of Chairperson

Mrs. Anthea Ohene, the NBSSI Greater Accra Regional Manageress, was called upon to introduce the Chairperson for the Forum in the person of Mr. Kwasi Attah-Antwi; the National Director for the Rural Enterprise Programme (REP).

1.3 Chairperson's Acceptance Speech

Mr. Kwasi Attah-Antwi in his acceptance speech expressed gratitude for being called upon to chair the important forum. He expressed the importance of the KAIZEN philosophy and how it could play an important role in the SME policy being developed by the Ministry of Trade and Industry (MOTI). He welcomed all participants once again to the programme and called for fruitful deliberations.

The MC acknowledged the members seated at the "High table" in the persons of;

- 1) Ms. Kosi Yankey (Executive Director, NBSSI)
- 2) Mr. Ato Panford (Board Chairman, NBSSI)
- 3) Hon. Kwasi Atta Antwi (National Director, REP)
- 4) Hon. Robert Ahomka Lindsay (Deputy Minister of Trade and Industry)
- 5) H.E. Tsutomu Himeno (Japanese Ambassador to Ghana)

6) Mr. Hirofumi Hoshi (Chief Representative JICA Ghana Office)

2.0 Address

2.1 Welcome Address and Brief on NBSSI

Mrs. Kosi Yankey on behalf of NBSSI and its Board members acknowledged all protocols, all participants and members of the press present to the grand and Final KAIZEN Forum of the National KAIZEN Project. She further expressed profound gratitude and appreciation to JICA for their unflinching support and commitment towards NBSSI especially in building their capacities. Furthermore, she warmly thanked the Project Team, Regional Managers and BAC Heads in the target regions and all coordinators who played diverse roles in the success of the project.

She stated that the introduction of KAIZEN as a BDS had not only brought NBSSI to the limelight but also benefitted the enterprises immensely in terms of quality improvement, increased productivity, sales increase, etc. and its impact was visible through the success stories of the enterprises which had benefitted from the Business Development Services. Mrs. Yankey further stated that though the first phase of the National Expansion had come to an end and as they wait for further technical assistance from JICA, NBSSI was working hard with other development partners like REP and SDF for support to continue in the next phase of the National Expansion to ensure that enterprises and BACs in the other regions who have not yet benefitted will equally benefit. She reiterated that the government had expressed great interest in the KAIZEN for Ghana whereby the country aims at becoming a KAIZEN reference hub in the sub region and Africa as a whole. Thus, NBSSI is committed to setting up the KAIZEN Institute of Excellence here in Ghana and also for the sub region all in a bid for NBSSI to become an institution that provides the best and excellent services in Business Development in the country.

She ended her speech by expressing gratitude to all present for partnering in the roll out of KAIZEN and rallied for support in rolling out KAIZEN nationwide in the next phases of the project in Ghana.

2.2 Launch of KAIZEN Logo and Certificate Presentation

Mrs. Kosi Yankey on behalf of the Board and management went ahead to launch the newly designed KAIZEN Logo in Ghana. She made mention that, in order to institutionalize KAIZEN in Ghana, there was a need for a logo for branding and PR activities or purposes. Giving a brief history on the logo, she said as a way of empowering the youth in the Universities, a KAIZEN logo competition was launched in March 2018 and over 50 entries comprising various designs were received. Subsequently, NBSSI set up a committee to review all entries and shortlist the best. After careful consideration, an entry from University College of Education Winneba, Kumasi branch (UCEW) stood tall among the lot. Mr. Abraham Boateng (UCEWK graduate) winner of the KAIZEN logo competition was called upon to

receive a certificate for designing the first ever KAIZEN logo in Ghana. On receipt of the certificate, Mr. Boateng expressed sincere gratitude and explained his motivation for designing the logo and submitting his sample for the competition. He further went on to explain the parts and concept behind the logo as follows;



KAIZEN LOGO DESCRIPTION

COLORS: The **RED** represents the life blood and unending dedication, sacrifice and hard work of the management and staff of KAIZEN and the **YELLOW** represents the golden touch of KAIZEN on the finances of its customers/clients. The **GREEN** represents the wide range of opportunities KAIZEN has in stock for its clients. These opportunities are wide and fresh like the tropical green forest of Ghana.

THE THREE BLOCKS: these are perfect quadrilaterals with equal sizes and it indicates strong, vivid and the perfect setting on which KAIZEN was built/established. It also depicts the strong and good standard of services KAIZEN offers.

THE INFINITY ARROW: This refers to the upwards sustenance of good services that KAIZEN renders and the lasting positive impact it leaves on the lives and businesses of its clients and nation as a whole.

THE SMALL I : the red "i" in the middle of KAIZEN represents the minimal/minimum investment of resources by clients that yields positive and large income/output at the end.

THE BLACK STAR: the black star on top of the small "i" represents Ghana and its people and the business relationship KAIZEN has with them.

CONTINUOUS IMPROVEMENT: this is the motto of KAIZEN and it highlights the passion and dedication it has to continually help improve the lives of its clients and Ghana as a whole.

After the launching and presentation of the KAIZEN logo there was a 20 minutes' documentary video on KAIZEN which showed some beneficiary enterprises expressing gratitude for the KAIZEN intervention, how it had impacted their activities in terms of quality, productivity, efficiency etc.

2.3 Address by H.E. Ambassador of Japan

His Excellency Tsutomu Himeno in his address expressed gratitude and appreciation to all the participants who came to support this final KAIZEN forum. He stated that the reason why Japan is very supportive of the project is because they see the importance of supporting their partners as a way of empowering them as evidenced by the TICAD (Tokyo International Conference on African Development). He explained the reason behind the TICAD initiative two years ago was to bring together brothers and sisters of Africa to discuss on development issues and pertinent among them is KAIZEN. He stated that KAIZEN is a very effective Japanese tool which the Japanese government intends to spread in all of Africa. He said the main idea behind the TICAD refers to a mindset that comes from within to develop new initiatives capable of productivity improvement for a specific purpose since that is one sure way of growing a country's economy, job creation and value addition.

Currently, Japan is happy about the progress of the KAIZEN especially in Ghana and due to this, the Embassy of Japan and the JICA Ghana Office have both recommended for the future continuation of the KAIZEN initiative. However, the challenge currently is how to localize or internalize the progress of the KAIZEN in our institutions and it can be proven that Ghana can internalize the process, there is a high possibility for the continuation of this initiative even in its advanced form. This is because as a

nation, empowerment is most important and this can be achieved through internalizing the progress or success of previous achievements.

2.4 Address by the Deputy Minister of Trade and Industry

Hon. Robert Ahomka Lindsay in his address expressed gratitude to be part of the KAIZEN Forum under the NBSSI/JICA National KAIZEN Project. He said KAIZEN had gradually become a household name in Ghana for enterprises that strived for improved productivity, value creation, profit generation and job creation. He stated that SMEs which are the main providers of employment usually show lower levels of productivity due to low skilled workforce and ineffective management practices. He stated that KAIZEN which means continuous improvement has proven to be the panacea to addressing the low productivity and competitiveness of SMEs in order to utilize the SMEs as a catalyst in combating poverty, increase standards of living, attain better income distribution and ultimately contribute enormously to the growth of the economy.

Hon. Ahomka said the strategy for the new NBSSI is to support the Ministry of Trade and Industry to better deliver on its mandate especially through the establishment of the newly introduced Business Resource Centers nationwide. He stated that the Ministry is well aware of NBSSI intention to replicate KAIZEN methodology in the remaining five regions of Ghana namely; Eastern, Western, Volta, Upper East and Upper West and that NBSSI can continue to count on the support of the Ministry to achieve this laudable objective. In addition, he reiterated that KAIZEN will definitely be part of the speech His Excellency the President of Ghana when he meets the Japanese Prime Minister at the next TICAD in 2019.

He ended his speech with a special appeal to the government of Japan to consider supporting NBSSI to set up a KAIZEN institute which will help facilitate the rapid training of KAIZEN consultants and the deployment of KAIZEN to MSMEs not only in Ghana but in the entire West African sub region.

Coffee Break and Booth Session

This was followed by a thirty (30) minute break during which participants were treated to Coffee and snacks and during which they had the opportunity to visit some enterprises who had displayed their products in the booth area.

3.0 Presentation on KAIZEN and Performance Improvement in Manufacturing Enterprises in Ghana

Dr. Richmond Atta Ankomah, Research Fellow at the Institute of Statistical, Social and Economic Research (ISSER), University of Ghana, made a presentation on a KAIZEN research carried out by his team from ISSER, supported by JICA Research Institute. The main objective of the study was to “provide an empirical analysis on the effect of KAIZEN on the performance of enterprises in Ghana’s stagnant manufacturing industry” The research interviewed some firms who had undergone KAIZEN training and implemented it as *Treatment group* as against firms who were yet to receive the KAIZEN training and implement it as a *Control group*. Firm-level questionnaires were administered to the managers of each of the firms and found below are the results.

Table 1: Breakdown of number of firms used for the Research work

Type of treatment	Administrative regions			Total
	Ashanti	Northern	Brong Ahafo	
Treatment	64	22	0	86
Control	46	23	29	98
Total	110	45	29	184

Based on the results of the research on KAIZEN, it was evidently clear that the adoption of KAIZEN had significant impact on the performances of the manufacturing enterprises in various aspects such as sales, profit, output per work and employment.

Dr. Ankomah in his concluding remarks during the presentation emphasized the idea of factoring KAIZEN into a policy document since the findings suggested that extensive promotion of KAIZEN could contribute significantly to rejuvenating manufacturing in Ghana.

Performance by Cultural Troupe from the Ghana Dance Ensemble

The participants were then treated to a wonderful display of cultural drumming, singing and dancing by the Ghana National Dance Ensemble for close to 15 minutes.

4.0 Presentation on KAIZEN improvement activities and impact at Enterprises.

Mr. Dari Kipo, Akomadan BAC Head, and Mr. Ibrahim Tchadre, Kumawu BAC Head, who have been trained in KAIZEN, made presentations on KAIZEN improvement activities at Nkulenu Industries Limited and Accents & Arts respectively and Mrs. Linda Kankoh, (CEO of Nallem Clothing Limited) also made a presentation on the achievement of KAIZEN in her establishment.

4.1 Presentation on Nkulenu Industries Limited

In the presentation the following improvement activities was achieved included;

- Training Working Capital
- Development of Skill Map
- 5S Promotion
- Quality Control
- Production Records Sheet
- HACCP
- ECRS
- Layout Change
- Inventory Management
- Preventive Maintenance
- Production Control Board
- Total Quality Management

The overall achievements are summarized as below;

- ❖ There has been improvement in productivity, quality, safety and health level at the factory.
- ❖ Workers are now more conscious of the delivery deadlines, quality issues, daily targets.
- ❖ There has been improvement in the inventory management system.
- ❖ More space has been created in the factory
- ❖ Defects are now properly recorded
- ❖ Moral and commitment and team work of workers have increased.

4.2 Presentation on Accents & Arts

In the presentation, pertinent improvement activities included;

- Promotion of 5S
- Planning of Worker Training Programme Section
- Line Markings
- Production of Control Board
- Site Installation Control Board
- Quality Control Training
- Visualization Improvement
- Supply Chain Management

Achievements of the improvement activities are summarized as below;

- ❖ Improvements in the sanitation and safety level at factory
- ❖ Reduced set-up time and improved productivity
- ❖ Introduction of a production control board makes workers produce on schedule
- ❖ TQM, Grievance Handling, Basic Communication Skills, Conflict Management trainings/lectures which has helped address the attitudinal challenges bedeviling the company currently
- ❖ Introduction of audit forms which helps track progresses of 5S and TQM activities in the company

4.3 Nallem Clothing Limited.

In the presentation, pertinent improvement activities included;

- Monthly sales and cash flow projections
- Promotion of 5S(Lecture, formation of 5S Committee and implemented)
- Change of cutting section
- Quality Control(QC)
- Design of Customer Order Sheet
- Visual Management
- Labeling of Electricity Main Switch
- Introduction of Embroidery (frame shelf)
- Creation of accessory lines

Outcome of the improvement activities at Nallem included;

- ❖ Increased productivity and sales volume
- ❖ Reduction in defect rate and production lead time
- ❖ Improvement in turnover ratio, committed and loyal staff.
- ❖ Enhanced teamwork and effective decision making
- ❖ Improved health and reduced absenteeism
- ❖ Improved problem-solving skills
- ❖ Newly opened branches at the Airport Terminal 2 and 3

4.4 Panel Discussion

There was a 15-minute panel discussion with six member panelists of both NBSSI Staff and beneficiary enterprises comprising of;

- 1) Mr. Steven K. Ocloo (Managing Director, Nkulenu Industries Limited)
- 2) Ms. Constance Swaniker (Chief Executive Officer (CEO), Accents & Arts)
- 3) Mrs. Linda Kankoh (Chief Operating Officer, Nallem Clothing Limited)
- 4) Mrs. Janet Abobigu (CEO, Uni Jay Limited)
- 5) Mr. Ibrahim Tchedre (Kumawu BAC Head)
- 6) Mr. Kipo Dari (Akomadan BAC Head)

Pertinent among discussions were comments on how KAIZEN improvement activities had positively impacted the enterprises which was followed by some questions and answers.

Mrs. Kankoh really expressed her happiness and pleasure of how the KAIZEN had helped transform her business. She thanked the BAC Heads for their commitment, effort and dedication in taking Nallem throughout the KAIZEN intervention. She explained that as a result of the KAIZEN and how her enterprise had productivity increase, she had recently won an award in the 2018 SMEGA awards program.

Mrs. Abeogu explained how KAIZEN had benefitted her immensely in tracking her activities, created a lot of space at the workplace and increased her productivity by 100%.

4.5 Questions and Answers

4.5.1 Questions:

Mr. John Mack asked a question about waste and punctuality since majority of enterprises in Ghana are known to produce waste and were known to not start work on time and thus wanted to know how KAIZEN had helped solved it?

Ms. Anthea Ohene also asked if the beneficiary Enterprises were ready to pay for KAIZEN and if they are, how much they are willing to pay for it?

Another participant also asked what would be the recommendation of the panelists to their fellow entrepreneurs who had not yet experienced the KAIZEN?

4.5.2 Answers:

In answering the above questions, Ms. Constance Swaniker, made mention of an automated system that records the time each employee reports to work and also leaves work. In addition, an alarm system can be set up to sound at the beginning of work and at the close of work. This would ensure all employees are punctual since your absence will be visibly recognized at the start of working hours.

On the issue of payment, the CEOs agreed that since the benefits of KAIZEN far outweighs the cost of payment, they would be willing to pay a reasonable amount as defined by the management of NBSSI.

In their concluding remarks, all three CEOs of beneficiary enterprises termed themselves as **Ambassadors of KAIZEN** due to the impact it had on their enterprises and they will continue to spread the good news till all enterprises see the need to implement KAIZEN in their industries.

5.0 Presentation of NBSSI National KAIZEN Expansion Strategy and Implementation Plan

Mr. Manu Bashir, NBSSI Ashanti Regional Manager who also doubles as the National Coordinator of KAIZEN made a five (5) minute presentation on how NBSSI intends to expand and implement the KAIZEN BDS to the five remaining regions of Ghana which have not yet benefitted from the KAIZEN. He stated in the strategy that since KAIZEN is a tool for business acceleration in terms of quality and productivity improvement, NBSSI intends to accelerate 500 businesses during the period of 2019-2021 in all the regions of Ghana. During that period, three (3) key objectives remain key.

- ❖ To build capacity of all staff to better provide BDS and to strategically position NBSSI as a leader in BDS
- ❖ To expand the number of staff trained under KAIZEN and to expand delivery across the country for increasing sustainable businesses in Ghana
- ❖ To promote the growth and number of MSMEs producing quality products which can meet domestic and international markets.

In the expansion, the following outcomes are expected to be achieved;

1. The remaining BAC Heads, BDOs and CDOs capacity will be built in KAIZEN.
2. Provide Advanced KAIZEN related BDS to medium and large enterprises, establish systems of sustainability and collaborate with various institutions and related agencies.
3. Standardize of training manuals and certify training of KAIZEN and establish the award system.
4. Increase in jobs and wealth.
5. Establishment of a KAIZEN training institute/centre of excellence.

6.0 Closing

6.1 Address by Chief Representative of JICA Ghana

Mr. Hirofumi Hoshi the Chief Representative one of the Special Guests of Honour in his concluding address expressed his sincere appreciation to all stakeholders present including the Embassy of Japan, NBSSI, development partners etc. He stressed that the importance of KAIZEN mainly which has resulted in an incredibly increasing outcome of productivity which have created a conducive pathway for profitability and innovation amongst MSMEs. This was evidently seen due to the tremendous testimonies of beneficiary MSME that have adopted the KAIZEN principles.

It was such transformational impact that propelled the western world to also embrace the concept of KAIZEN in its industrial processes and it is this process that Japan believes that by sharing this KAIZEN technicalities with Africa, it can help transform its industrialization. He said that JICA will continue to

work hand in hand with the government to implement development cooperation programmes that will sustainably develop the formal and informal sectors through policy and field work activities.

In his conclusion, he reiterated the essence of SME development as an industrial transformational approach to economic growth and in achieving such that growth, the KAIZEN model is an essential tool to achieve it.

He ended his speech with a rallying call on all present to play the role of KAIZEN Ambassadors and ended with the words of Mr. Masaaki Imai (founder of KAIZEN Institute in Switzerland) and quoted; **“KAIZEN is an EVERYDAY improvement, an EVERYBODY improvement and an EVERYWHERE improvement”**.

6.2 Closing remarks

Mrs. Kosi Yankey (Executive Director) of NBSSI gave the closing and final remarks which brought the curtains to the program. She expressed her gratitude to all the Special Guests of Honour for making time to grace the occasion. She stressed that the importance of the impact of the KAIZEN and the need to institutionalize it and said NBSSI were taking measures to institutionalize it. She ended her speech by expressing gratitude to all NBSSI staffs, clients and stakeholders who had persistently stood by NBSSI in helping to implement the KAIZEN. She reiterated that this is not the end but the beginning of a new phase especially in rolling out the programme to cover all the regions of Ghana.

6.3 Closing prayer

Mrs. Emma Odame Antwi offered the closing prayer which brought the forum to a gracious end at 13:30 pm.

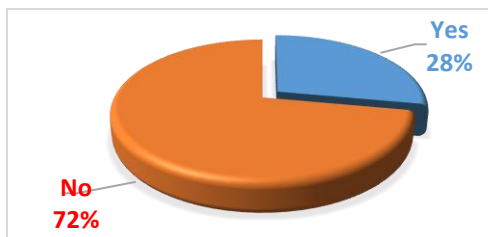
7.0 Achievements

The final KAIZEN forum lived up to its expectation and it was graced and well attended by high profile personalities, MMDAs, international organizations such as the USAID, EU, IFAD etc. but notable among them was the Deputy Minister of Trade and Industry, H.E. Japanese Ambassador to Ghana, Chief Representative of JICA Ghana Office and the National Director for the Rural Enterprise Program. In all 150 participants took part in the programme.

ORGANIZATION	NUMBER
Medium and Large companies	16
Japanese Embassy, JICA Ghana and Project Team	13
NBSSI	44
Ministries and MMDAs	16
OJTs and Client MSMEs	25
Media	16
International Organizations and Academic Institutions	20
Total	150

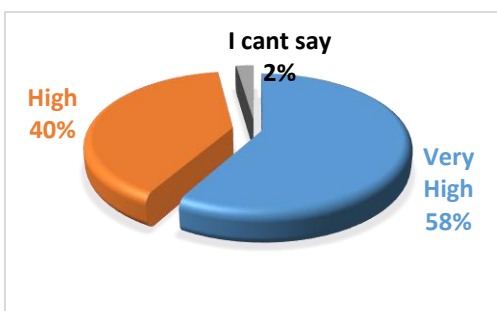
The results on questionnaire administered to participants are summarized below.

Is it the first time you are hearing of KAIZEN?



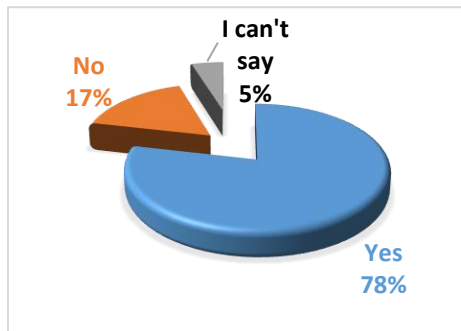
Out of the 43 respondents who partook in the survey, 12 representing 28% indicated that this was the first time they were hearing of the KAIZEN and 31 representing 72% indicated that this was not the first time they were hearing of the KAIZEN.

What is your level of understanding of KAIZEN?



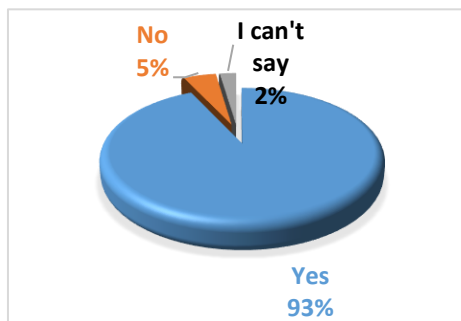
Out of the 43 respondents who partook in the survey, 25 representing 58% indicated that their understanding level of KAIZEN was very high and 17 representing 40% indicated that their understanding level was high and 1 representing 2% could not say after the Forum.

Would you want to obtain additional information on KAIZEN to enhance your understanding?



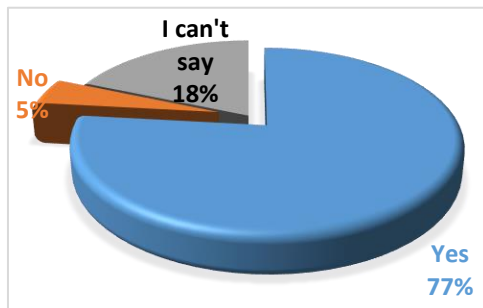
Out of the 43 respondents who partook in the survey, 33 representing 78% indicated they would like to obtain additional information on KAIZEN to enhance their understanding 7 representing 17% indicated they were okay with their understanding of KAIZEN and 2 representing 5% indicated that they could not say whether they would like to obtain more information after the Forum.

Are you interested in applying KAIZEN concept to your business/Institutions?



Out of the 43 respondents who partook in the survey, 40 representing 93% indicated they would like to apply KAIZEN to their business, 2 representing 5% indicated they were not interested in applying to their business whilst 1 representing 2% indicated could not say whether they would like to apply it to their business after the Forum.

Are you ready to commit resources to the implementation/collaboration of KAIZEN?



Out of the 43 respondents who partook in the survey, 33 representing 77% indicated they are ready to commit resources towards the implementation of KAIZEN towards their businesses, 2 representing 5% indicated they were not ready to commit resources and 8 representing 18% could not say whether they are ready to commit resources after the Forum

8.0 Media Disclosure

Prior to the main event Mrs. Kosi Yankey and Dr. Ryoichi Ozawa were hosted on GTV's *"Breakfast Show"* on 27th September, 2018 at 6:00am where they talked much on the KAIZEN Project and the success stories achieved over the years. The final Forum was covered by the Business & Financial Times and published on Monday 1st October, 2018 as well as a host of other media houses such as UTV, the Ghana News Agency and Peacefmonline.com (<http://www.peacefmonline.com/pages/local/news/201810/364350.php>).

9.0 Appendix

Appendix A: Forum Agenda

No.	Time	Agenda	Person in charge
1	08:30 - 09:00	Registration	Administrative Assistants
2	09:00 - 09:05	Opening Prayer	Participant
3	09:05 - 09:10	Introduction of Chairperson	NBSSI
4	09:10 - 09:15	Chairperson's Acceptance Speech	Chairperson
5	09:15 - 09:25	Welcome Address and brief on NBSSI	Ms. Kosi Yankey, Executive Director of NBSSI
		Launch of Kaizen Logo by Kosi Yankey And certificate presentation by board chair	
6	09:25 - 09:35	Introductory remarks on KAIZEN (KAIZEN Documentary)	NBSSI
		Presentation of research paper about Kaizen Impact	
7	09:35 - 09:40	Address by H.E. Ambassador of Japan	Embassy of Japan
8	09:40 - 10:10	Address by Hon. Minister of MOTI	MOTI
		Traditional performance	Ghana Dance Ensemble
9	10:10 - 10:30	Visit Booth and Coffee Break (OJT/100 KAIZEN MSEs run booth to exhibit products and introduce KAIZEN)	-
11	10:30 - 11:30	KAIZEN Showcase ① Introduction of case study ② Panel discussion ③ Q & A	NBSSI Beneficiaries
12	11:30- 11:45	Presentation on research paper about KAIZEN impact	University of Ghana
13	11:45- 12:00	Presentation on NBSSI Strategy	NBSSI
14	12:00 - 12:30	Q & A	-
15	12:30 - 12:40	Address by JICA Chief Representative	Mr. Hirofumi Hoshi, Chief Representative, JICA Ghana
16	12:40 - 12:55	Closing Remarks	Chairperson
17	13:00 -	Close	-

Appendix: B - Questionnaire

Name of Enterprise/Institution		Activity(ies)	
Name of Contact Person		Location	
Mobile Phone Number		Email	

(1) Is it the first time you are hearing of KAIZEN? 1 Yes 2 No

(2) From this Forum, what is your level of understanding of KAIZEN?
 5. Very high 4. High 3. I can't say 2. Not very high 1. Very low

If you indicated 1, 2 or 3, please tell us your reasons.

.....

(3) Will you want to obtain additional information on KAIZEN to enhance your understanding of KAIZEN?

1. Yes 2. No 3. I can't say

If you indicated 1, please tell us your area of interest.

.....

(4) Are you interested in applying/introducing the KAIZEN concept to your business or institution?

1. Yes 2. No 3. I can't say

If you indicated 2 or 3, please tell us the reasons of your lack of interest.

.....

(5) Are you ready to commit resources to the implementation/collaboration of KAIZEN?

1. Yes 2. No 3. I can't say

(6) What kind of service would you like to receive from BAC? (multiple answer allowed)

- 1. Seminar or Study Tour related to KAIZEN
- 2. On-site training to the employees
- 3. Skill development
- 4. Management development
- 5. Business plan making
- 5. Other (Please describe the service you would like to receive)

.....

Thank you very much for your cooperation

Appendix 10

New Classified KAIZEN Methods

KAIZEN Methods

Category	Basic	Advanced
I. Philosophy and Concept	5S, Enterprise Diagnosis, 7 Waste, KAIZEN, Enterprise-wide Impacts	Enterprise-wide Application, KAIZEN Cost-Benefit, Supply Chain Management, Financial Management
II. Planning and Scheduling of Enterprise Diagnosis and KAIZEN Activities	<ol style="list-style-type: none"> 1. Selection of the Enterprise 2. Scheduling 3. KAIZEN Master Plan 	
III. Enterprise Diagnosis	<ol style="list-style-type: none"> 1. Five Major Field Diagnoses (Radar chart) 2. SWOT Analysis 3. 5S checklist 4. Muda (Waste) checklist 5. Problem and Recommendation Identification 	<ol style="list-style-type: none"> 6. Detailed Production Diagnosis
IV. Skills and Knowledge/ Methodology/Tools	<ol style="list-style-type: none"> 1. 5S Implementation 2. Seven Waste Identification 	
	<ol style="list-style-type: none"> 3. Analysis and Industrial Engineering (IE) <ol style="list-style-type: none"> 1) Time Study 2) Motion Analysis 3) Process Flow Chart 4) Layout and Spaghetti Analysis 5) Video Analysis 	<ol style="list-style-type: none"> 3. Analysis and IE <ol style="list-style-type: none"> Operational Analysis 6) Supply Chain Analysis 7) Bottleneck Analysis 8) Equipment Efficiency (Machine-Down Time) 9) Man-machine chart
	<ol style="list-style-type: none"> 4. Quality Control <ol style="list-style-type: none"> QC Committee 5S Committee 1) QC circle 	<ol style="list-style-type: none"> 4. Quality Control <ol style="list-style-type: none"> QC circle 2) 7 QC tools (3 QC tools)
	<ol style="list-style-type: none"> 5. KAIZEN and Improvement Methods <ol style="list-style-type: none"> Video Analysis 1) Layout Change 2) Inventory Control (FIFO, Inventory Days) 3) Line Balancing 4) Work-in-Process) 5) Work Standard 6) Allocation of Motion Economy 7) Activation Index 8) ECRS 9) Safety 10) Preventive Maintenance 11) Design and Fabrication of Jig/Fixture 12) Karakuri KAIZEN 	<ol style="list-style-type: none"> 5. KAIZEN and Improvement Methods <ol style="list-style-type: none"> Video Analysis KAIZEN Master Plan 13) Bottleneck Elimination 14) Standard Number of Work-in-Process 15) Supply Chain Management 16) Pull Production 17) Setup Time Reduction 18) Pokayoke 19) TQM 20) Total Preventive Maintenance 21) Streamlining <p>Chain Management Mode of Production (Cell Production)</p> <p>Design and Fabrication of Jig/Fixture</p> <p>Layout Change (Major)</p> <p>Karakuri KAIZEN</p> <p>Line Balancing (Major)</p> <p>CRS (Major)</p> <p>Inventory Control (Major and FIFO)</p>
	<ol style="list-style-type: none"> 6. Visualization <ol style="list-style-type: none"> 1) Skill map 2) Code of Conduct 3) Organization Chart 4) Delivery Control Board 5) Production Control Board 6) Receiving (Receipt) Control Board 7) Company-wide Information-sharing System 	<ol style="list-style-type: none"> 6. Visualization <ol style="list-style-type: none"> Delivery Control Board Production Control Board Shipping Control Board
	<ol style="list-style-type: none"> 7. Financial Management Related <ol style="list-style-type: none"> 1) Record Keeping 2) Basic Accounting 3) Working Capital Planning and Management 4) Breakeven Point Analysis 	<ol style="list-style-type: none"> 7. Financial Management Related <ol style="list-style-type: none"> Breakeven Point Analysis Inventory Days 5) Cost Benefit Analysis Working Capital Planning and Management

Appendix 11

Key Points of KAIZEN Evaluation

Key Points of KAIZEN Methods Evaluation

- 0: Do not know yet.
- 1: Understand the process or related methods to a point.
- 2: Explain the process or related methods.
- 3: Explain fully and implement related methods/process with support.
- 4: Implement related methods/process appropriately with no supervision.
- 5: Provide an appropriate training to the other BACs.

B: Basic A: Advanced

Category	B/A	Methods	Key Points of Evaluation
I Philosophy and Concept	B	5S, Enterprise Diagnosis, 7 Waste, KAIZEN, Enterprise-wide Impacts	Understand and explain these with theoretically and practically, and convince others that KAIZEN activity is useful in improving productivity and enhance quality
	A	Enterprise-wide Application, KAIZEN Cost-Benefit, Supply Chain Management, Financial Management	Understand and explain benefits of application to entire organization with statistical analysis, then expand it from the suppliers to the customers, the importance of the cost benefit analysis (it should be done before investment)
II Planning and Scheduling of Enterprise Diagnosis and KAIZEN Activities	B A	1. Selection of the Enterprise	Select an appropriate enterprise to implement KAIZEN especially in consideration of ; - commitment of managements - number of employees, (for OJT) - products, - lateral application impacts to the similar industry in the region - when Kaizen is implemented, the enterprise operates by Enterprise Selection Score Sheet
		2. Scheduling	Develop implementation activity schedule, and roles & responsibilities of group members
		3. KAIZEN Master Plan	Develop suggesting KAIZEN menus that will contribute to improvement of productivity and quality for one-year period, and propose it to the enterprise managements for their self-implementation Plan is practical
III Enterprise Diagnosis	B	1. Five Major Field Diagnoses	Develop the diagnosis based on findings from interviews bases on the questionnaires and observations of the factory in categories; 1) Management, 2) Production, 3) Marketing & sales, 4) Human Resources Development, 5) Financial - The score is appropriate - The analysis is appropriate
		2. SWOT Analysis	Develop SWOT based on the Diagnosis and find out problems and challenges of the enterprise - The analysis is appropriate

Category	B/A	Methods	Key Points of Evaluation
		3. 5S checklist	5S checklist is created - The score is appropriate - The analysis is appropriate
		4. Muda (Waste) checklist	Muda checklist is created - The score is appropriate - The analysis is appropriate
		5. Problem and Recommendation Identification	Summarize III-2, 3, 4, and 1 or 6, then identify the problems and countermeasures The recommendation can be developed based on findings through 5S check list, Muda check list, Enterprise Diagnosis, Five Major Field Diagnosis, the SWOT analysis and so on
	A	6. Detailed Production Diagnosis	Develop the diagnosis in eight-fields based on finding from interviews by the questionnaires and observations of the factory: 1) Management, 2) Marketing & sales, 3) Human Resources Development, 4) Finance & Accounting, 5) Production, 6) Quality, 7) Raw Material, 8) Inventory - The score is appropriate - The analysis is appropriate
IV Skills and Knowledge/ Methodology/Tools	B	1. 5S Implementation	Initiate 5S implementation letting the managements and the workers understand the activities by lectures. - Sorting: identify necessary and unnecessary items, and create space for products or isles - Set-in Order: organize the necessary items, creation of Seiton Board, access and searching time are reduced - Shining: clean up the premises from the ceiling to the floor - Standardizing: let the managements and the workers understand the after 3S situation is the idealistic situation - Sustaining: keep he workplace clean and neat by having scheduled 3S activities as a rule, and enhance the standard level by continuous implementation of 3S activities The 5S lecture can be conducted Organize 5S committees at each division or section. Each committee conducts a meeting periodically such as once a week or every two weeks. Make the enterprise from management to workers understand 5S Make the enterprise workers involved in implementation
		2. Seven Waste Identification	Identify wastes based on Muda Checklist and develop countermeasures
		3. Analysis and Industrial Engineering (IE)	

Category	B/A	Methods	Key Points of Evaluation
	B	1) Time Study	Study on the production processes in time eruption by video and/or stop watch, and it leads to; - motion analysis - process flow chart - bottleneck analysis - line balancing - work standard, etc. work elements can be properly identified measurement/calculation is correct
		2) Motion Analysis	Study on the production processes in motions, and find out Muda in Motion, and countermeasures
		3) Process Flow Chart	Develop process flow from the raw materials and additives to the final products (material and product oriented) - the process can be defined from start to end, -the process can be diagrammed -the muda and countermeasures can be found Confer: IV 5-5) Work Standard
		4) Layout and Spaghetti Analysis	Create layout diagram and analyze the most frequent transportation routes of the workers, the materials and the products for identification of Muda in Transportation -layout design, shape of buildings, location of rooms, machine, materials, etc. are correct -movement of workers, transportation of materials, products etc can be identified -muda can be identified
		5) Video Analysis	Record video and use it for Muda findings especially in motions and transportations, and it is also useful for line balancing, spaghetti analysis, etc.
	A	6) Supply Chain Analysis	Study in supply chain from the raw material procurement from the suppliers to the delivery of the products to the customers
		7) Bottleneck Analysis	Watch recorded video and find out bottleneck processes
		8) Equipment Efficiency (Machine Down Time)	Machine down time is appropriately recorded for analyze equipment efficiency. $100\% - \text{Machine down rime/Work time} \times 100 = \text{equipment efficiency} (\%)$ Record equipment efficiency before/after KAIZEN so that the impact is calculated by points.
		9) Man-machine Chart	Analysis of multiple activity of man/men and machines by chart. Chart is created to analyze work and wait of workers and machines and develop a combination or orders of work to achieve better efficiency and productivity.
			4. Quality Control

Category	B/A	Methods	Key Points of Evaluation
	B	1) QC circle	Organize QC committees and each committee conducts periodical meetings such as once a week or once every two weeks for organizational quality enhancement through QC circle activities QC training is provided (e.g. cause and effect diagram) Provide QC training to the managements and the workers and organize QC circle. Each circle conducts a periodical meeting such as once a week or every two weeks and report the activities to QC committee
	A	2) 7 QC tools (3 QC tools)	7 QC tools were used for quality enhancement Not necessarily used all 7 tools, it is good enough to use “Check sheet,” “Histogram”, “Cause & Effect Diagram” or “Pareto analysis” for quality enhancement and assessment of KAIZEN activities. - At least three tools can be explained/introduced to companies. - QC tools are practically utilized for development of countermeasures
		5. KAIZEN and Improvement Methods	
	B	1) Layout Change	Design and implement Layout Change for productivity improvement and provide before & after layout diagram and measure impacts such as shortening of processing time. - New layout is appropriate and efficient.
		2) Inventory Control (FIFO, Inventory Days)	Reduction of inventories of raw materials, work-in-process and finished products by statistics (e.g. quantity, amount or inventory turn in days) FIFO is introduced to the workplace by batch control board, location numbers, demarcated areas etc. - The inventory is well recorded. - The inventory is well controlled, e.g. reducing the number of shortages in raw material, parts, overproduction, and so on.
		3) Line Balancing	Identify line imbalance by video analysis, time study and line efficiency, and develop & implement improvement idea that achieves productivity improvement - Eliminate or reduce wastes, such as waiting, work in process in an operation. - All operators take almost equal amount of time and workload - Increase work efficiency. - Be able to determine the required number of operators needed - Determine the correct time to meet the required number of production units per day
		4) Work-in-Process	Identify too many/much work-in-process inventories by Seven Waste Identification and develop and implement its reduction. - Reduce work in process in an operation - Reduce work in process in storage

Category	B/A	Methods	Key Points of Evaluation
		5) Work Standard	Develop Work Standard which describes work elements to complete the process (process oriented) Confer: IV 3-3) "Process Flow Chart" <ul style="list-style-type: none"> - Determine or identify a standard. - Ensure everyone in the organization understands and commits to the standards. - Confirm the standard is reasonable and fair and can be followed.
		6) Allocation of Motion Economy	Develop and implement better work efficiency utilizing motion economy for example; <ul style="list-style-type: none"> - Shorten length of movement - Use both hands - Reduce motions - Ease motions, etc.
		7) Activation Index	Develop and implement material handling efficiency by activation index and the materials, parts and products are stored in a better condition as the index number is greater. and for transportation of them more efficiently. Activation 0: materials, parts and products are put directly on the floor Activation 1: materials, parts and products are stored in containers Activation 2: materials, parts and products are stored in containers onto pallets Activation 3: materials, parts and products are stored in containers with wheels Activation 4: materials, parts and products are placed on conveyors and ready for production
		8) ECRS	Develop and implement better work efficiency utilizing Eliminate, Combine, Rearrange & Simplify the process or the motion
		9) Design and Fabrication of Jig/Fixture	Design and create jigs or fixtures that contribute to product improvement and/or quality enhancement <ul style="list-style-type: none"> - Jig: a tool specialized for the process that makes a work efficient and/or assures certain level of quality - Fixture: table, stools, workbenches etc. that make a work efficient and/or assures certain level of quality
		10) Safety	Provide OSHEM training to the managements and the workers Identify necessary protection gears e.g. mask, ear plug, glasses and safety shoes and recommend management to supply them to the workers
		11) Preventive Maintenance	Provide machine cleaning system by operators Develop and provide "pre-operational check sheet" and "scheduled maintenance check sheet" <ul style="list-style-type: none"> - Frequency of checking machine is appropriate - Operators understands and utilizes check sheet
		12) Karakuri KAIZEN	Develop and provide jigs or tools that is created by simple mechanical function, gravity or friction
	A	13) Bottleneck Elimination	Eliminate bottleneck process based on bottleneck analysis by utilizing time study, motion analysis, ECRS, etc., and contributed to productivity improvement

Category	B/A	Methods	Key Points of Evaluation	
		14) Pull Production	Establish a production system that manufactures only the volume or numbers of products used by succeeding process.	
		15) Mode of Production (Cell Production)	One or several workers take all processes to manufactures a finished product, instead of using a conveyor line with many workers in line working for a single product	
		16) Standard Number of Work-in-Process	Determine the standard number of WIP in consideration of lime balance, workspace, etc., and make it as a rule by displaying it or physically restrict it with demarcation, container, etc.	
		17) Pokayoke (Fail Proof)	Design and implement fail proof to avoid accidents and defects caused by simple human error	
		18) Supply Chain Management	Design and implement by collaborations among the raw material suppliers, sales outlets and the enterprise that achieve total optimization from procurement, production to distribution	
		19) TQM	Design and implement company-wide quality management; not only to the products or services, but also to the organization and its system, workers' tasks and its processes and the human resources and its competence	
		20) Total Preventive Maintenance	A companywide activity to ensure zero breakdown of the machine and the equipment, zero defect and zero accident & injury. 1 st Step: Prevent machine & equipment from deterioration 2 nd Step: Measure machine and equipment deterioration 3 rd Step: Standardize and provide pro-active maintenance activities to machine & equipment	
		6. Visualization		
		B	1) Skill map	Create lists which show workers skill levels with four-piece pie chart Necessary skills for operation are well captured Skill map is utilized for planning of training
			2) Code of Conduct	Create and share code of conducts which describe DOs and/or DON'Ts at workplace
			3) Organization Chart	Create and share organogram of the enterprise
			4) Delivery Control Board	Create and display shipping schedule of the products by daily, weekly or monthly bases Necessary items for delivery are properly included
			5) Production Control Board	Create and display production schedule by daily, weekly or monthly bases Necessary items for production are properly included
	6) Receiving (Receipt) Control Board		Create and display receipt schedule of raw materials and other supplies by daily, weekly or monthly bases Necessary items for receipt are properly included	
		7) Company-wide Information-sharing System	Create and display a notice board which shows mission & vision statements, organogram, other organizational information, and other necessary information to internal and/or external stakeholders	
		7. Financial Management Related		

Category	B/A	Methods	Key Points of Evaluation
	B	1) Record Keeping	Develop and implement a system to keep record of all business transactions such as cash, sales, purchase, inventory etc. with printed work sheets or excel formats
		2) Basic Accounting	Develop and implement accounting information recording system, e.g. ILO basic accounting record system and report it to the top management or middle managers for management decision
		3) Working Capital Planning and Management	Develop and implement working capital sheet with cash in-flow & out-flow, and help the enterprise for their cash management
		4) Breakeven Point Analysis	Breakeven point is appropriately calculated. Analysis and further recommendations/countermeasures are provided to the managements.
	A	5) Cost Benefit Analysis	Develop and implement calculation on the new capital expenditures with cost and benefit and propose viability of the investment to the top management.

Other Key Points

Evaluation shall be based on the facts

- Evaluation is subject to visible, tangible and measurable KAIZEN provisions., KAIZEN menus which is listed on Further Recommendations or KAIZEN Master Plan are not subjects for evaluation.

Consider KAIZEN Methods not completed

- In Category IV, it is better to evaluate KAIZEN provision not only from reading the reports, but hearing from the BAC Heads as well so that you can get their efforts that they developed and tried KAIZEN methods which were not successfully completed

Evaluation score

- The score must be step by step, do not score more than two (2)

Appendix 12

Minutes of 7th JCC Meeting

NBSSI/ JICA NATIONAL KAIZEN PROJECT.

MINUTES OF 7TH & FINAL JOINT COORDINATING COMMITTEE (JCC) MEETING HELD ON 4TH OCTOBER, 2018 AT THE COCONUT GROOVE REGENCY HOTEL.

Present

Hon. Carlos Ahenkorah	Deputy Minister of MOTI	Chairman
Ms. Kosi Yankey	Executive Director of NBSSI	Member
Ms. Anna Armo-Himbson	Ag. Deputy Executive Director of NBSSI	Member
Mr. Bashir Manu	RM, NBSSI, Ashanti Region (Project Coordinator)	Member
Mr. Mitsuyoshi Asada	Embassy of Japan	Member
Mr. Hirofumi Hoshi	JICA Ghana	Member
Mr. Hiroto Kondo	JICA Ghana	Member
Ms. Nana Adwoa Owusu-Achaw	JICA Ghana	Member
Dr. Ryoichi Ozawa	JICA Project Team	Member
Ms. Risa Yokoyama	JICA Project Team	Member
Mr. Kyo Tamura	JICA Project Team	Member
Mr. Mitsuo Tamada	JICA Project Team	Member
Mr. Satoru Tajima	JICA Project Team	Member
Mr. Noriyuki Yoshida	JICA Project Team	Member
Mr. Sampson Abankwa	SME Team Leader (MOTI)	Member
Mr. Opoku Michael	Special Assistant Deputy Minister (MOTI)	Member
Mr. K. Durlar	Advisor to the Minister (MOF)	Member
Mr. Abdul Razak Zakari	P.E.O (ERM) MOF	Member
Ms. Adadzewa Otoo	D.W.M (MOF)	Member
Mr. Jeremy Agyemang	Assistant Director MOFA (PPME)	Member
Mr. Saeed Moomen	ASSI	Member

Mr. George Afriyie

REP

Member

In Attendance

Mr. Akihiko Kodama

JICA Headquarters

Ms. Chigusa Seki

JICA Headquarters

Ms. Philomena Dsane

Ag. Director, NBSSI, PPME

Mr. Albert Boachie-Amofa

Ag. Director, NBSSI, Investment and Credit.

Mr. Anthony Akolbire

RM, NBSSI, Brong-Ahafo regional secretariat

Mr. Eric Affram

RM, NBSSI, Northern regional secretariat

Mr. Nathaniel Apalbilah

Associate (DWM) at Ministry of Finance

Ms. Juliana Darko

MOTI (SME Team)

Ms. Christiana Attafuah

MOTI (SME Team)

Ms. Freda Simons

MOTI (SME Team)

Mr. Wellington Nicholas

MOTI (SME Team)

Ms. Ruby Tetteh

MOTI (SME Team)

Mr. Osafo Ebenezer

JICA Project Team

Mr. Maxwell Ayisi Addo

JICA Project Team



S/No.	Activity
1.0	<p>Opening</p> <p>The meeting commenced at 9:44am with a welcome address by the Master of Ceremonies (MC) in the person of Mr. Bashir Manu, the Ashanti Regional Manager of NBSSI. Mrs. Anna Armo-Himbson said the opening prayer. He later introduced the Chairman for the meeting in the person of Hon. Carlos Ahenkorah, the Deputy Minister of Trade and Industry and Member of Parliament for Tema West Constituency.</p> <p>Hon. Carlos Ahenkorah in his acceptance speech, thanked all present for giving him a rousing welcome and an opportunity to Chair the meeting. He talked briefly on the impact of KAIZEN to MSMEs and the need to continue with the Project.</p>
2.0	<p>Self-Introduction of Members</p> <p>The members present introduced themselves.</p>
3.0	<p>Speech by the Executive Director of NBSSI</p> <p>The Executive Director of NBSSI in her speech welcomed all representatives and acknowledged all special representatives present for taking time to be present for the final National KAIZEN Project JCC. She expressed her deepest and profound gratitude to JICA for their continued commitment and support to develop the transformation of MSMEs in Ghana. In her view, the introduction of the KAIZEN Business Development Service (BDS) had played a key role especially to enterprises that had benefitted and thanked the JCC Members for their stewardship and commitment which has helped in managing the Project towards its successful phase. She stated that 55 of NBSSI BAC Heads were now trained consultants of the KAIZEN and over 200 enterprises (with 3,720 employees) have been supported and benefitted from this BDS.</p> <p>She assured members that, NBSSI will ensure KAIZEN sustainability and bring more partners on board to enable, more enterprises throughout Ghana benefit from the training.</p> <p>She ended her speech on the fact that KAIZEN is here to stay since a logo has been developed to localize the concept of the KAIZEN not only in NBSSI but in the country as a whole.</p>

S/No.	Activity
<p>4.0</p>	<p>Review of the 6th JCC Minutes</p> <p>The Chairman led the House to review the previous minutes of the 6th JCC meeting and after going through without making any corrections, Mr. Saeed Moomen, ASSI, moved a motion for the House to accept the minutes as a true reflection of what transpired at the last meeting. The motion was seconded by Mrs. Anna Armo-Himbson the Deputy Executive Director of NBSSI.</p>
<p>4.1</p>	<p>Matters Arising</p> <p>S.M.E Policy</p> <p>On the SME Policy, Mr. Sampson Abankwa, SME Team Leader of MOTI, informed members that a draft policy had been reviewed and the Consultant was working on a final draft which would be submitted to MOTI by close of work on the day of meeting..</p>
<p>4.2</p>	<p>MOU Between MOFA and NBSSI</p> <p>Mr. Jeremy Agyemang, MOFA, said an MOU had been drafted between NBSSI and MOFA and comments had been made by both parties and incorporated into the MOU. He mentioned that the MOU was currently with the Deputy Minister of Food and Agriculture awaiting his signature.</p>
<p>4.3</p>	<p>Demand on KAIZEN</p> <p>On the issue of the demand on the KAIZEN BDS, Mr. Bashir Manu stated that demand had risen since the last JCC. Enterprises that had benefitted were now advocating for more and it was due to this that even though Greater Accra was not originally part of the Project scope, it had been expanded to the region due to increasing demand.</p>
<p>4.4</p>	<p>Localization of the KAIZEN BDS</p> <p>Ms. Kosi Yankey, Executive Director of NBSSI, said that plans were far advanced with the localization of the KAIZEN concept. A new logo had been designed which would be out doored at the JCC. Secondly, training manuals were being developed to reflect the local content of Ghanaian enterprises as well as efforts were being made to standardize this materials since it will play a key role in the National Expansion of the KAIZEN BDS.</p>

S/No.	Activity
4.5	<p>Strategic and Implementation Plan</p> <p>Ms. Yankey informed members that a roadmap had been developed. Firstly, NBSSI had developed a National Plan to be presented to JCC members.. Secondly, with regards to funding, NBSSI had written to the Ministry of Finance a couple of times to seek for funding for its programmes. NBSSI had also held talks with the Vice-President’s Office on KAIZEN to request for sufficient funding for the National Expansion. Also talks with some development partners such as BUSAC, REP and SDF had yielded results as both BUSAC and REP had sponsored KAIZEN training activities for the Association of Small Scale Industries (ASSI) and some BAC clients in some of the regions in Ghana.</p> <p>Also, in the National Expansion phase, plans were being made to bring most of the academic institutions on board to train the students in the basic principles of KAIZEN in addition to the on-going training at the University for Development Studies. Ms. Yankey said this was all part of the Expansion which is in line with the conversion of NBSSI to an Enterprise Development Authority.</p>
4.6	<p>KAIZEN Seminar by ASSI</p> <p>Mr. Moomen further made a statement in support of the fact that BUSAC had supported ASSI to organize a needs assessment and KAIZEN seminar for 150 of its members comprising 70 females and 80 males in five (5) regions namely Brong Ahafo, Eastern, Greater Accra, Northern and Upper West,. ASSI had therefore applied to BUSAC for the next phase of training for the five (5) remaining regions targeting 100 members of their association which they are hopeful will be granted by BUSAC for its implementation.</p>
5.0	<p>Business of the Day</p> <p>Address by Chief Representative of JICA Ghana.</p> <p>Mr. Hirofumi Hoshi, Chief Representative of JICA Ghana, in his final address for the Joint Coordinating Committee meeting expressed gratitude to NBSSI for holding a successful KAIZEN forum which marked the successful completion of the current phase of the National Expansion project. , He expressed satisfaction at the successful implementation of the National KAIZEN Project over the past three years. He stated that the National KAIZEN Project had been one of the most important projects for JICA Ghana and also for the KAIZEN Movement all over Africa promoted by JICA under the TICAD Initiative.</p> <p>In his speech, it was his hope that KAIZEN would be institutionalized and become a national asset for Ghana just as other African countries such as Ethiopia and Kenya had adopted it. It was also his hope that the outcome of the project in this period would continue to identify</p>

S/No.	Activity																														
6.0	<p>its contribution in the value chain of Government’s “One District One Factory”. He hoped the Government of Ghana and the Ministry of Trade and Industry would offer that strong pillar of support to NBSSI for the effective dissemination of KAIZEN in all sectors of development in Ghana.</p> <p>, He reiterated that JICA would continue to work hand in hand with the government to create a conducive environment for the private sector to develop targeting MSMEs.</p> <p>Presentation on Project Completion Report</p> <p>Ms. Kosi Yankey made a presentation on the Project Completion Report on National KAIZEN Project. In that presentation she talked briefly about;</p> <p>1. The KAIZEN Project</p> <p>A three-year phase initiated from October 2015 to January 2019. The target areas were Ashanti, Brong Ahafo, Central, Northern and Greater Accra regions with the NBSSI Head Office serving as the Project Monitoring Unit (PMU). The main purpose of the project was to develop the capacity of NBSSI to provide and facilitate BDS through KAIZEN with an overall goal of improving Ghanaian businesses.</p> <p>2. Results of the Project</p> <p>175 MSMEs had been supported in the five (5) target regions. Capacity of BACs in target regions on provision of BDS including Enterprise Diagnosis and KAIZEN had improved by 48% and management capacity of NBSSI regional offices had increased by 44%. Also more than 41 KAIZEN methods were implemented by NBSSI in the five (5) target regions.</p> <p>3. Case studies</p> <table border="1"> <thead> <tr> <th>MSME</th> <th>Sales</th> <th>Defect rate</th> <th>Lead time</th> <th>Productivity</th> </tr> </thead> <tbody> <tr> <td>Shekinah Bakery</td> <td>+53% increment</td> <td>-45% reduction</td> <td>-30% reduction</td> <td></td> </tr> <tr> <td>Mckenzie Gh. Clothing</td> <td>+50% increment</td> <td></td> <td>-33% reduction</td> <td>+50% increment</td> </tr> <tr> <td>Central Oil Mills</td> <td>+374% increment</td> <td>-40% reduction</td> <td>-25% reduction</td> <td></td> </tr> <tr> <td>Uni Jay Fashion</td> <td>+118% increment</td> <td></td> <td>-82% reduction</td> <td>+86% increment</td> </tr> <tr> <td>Solution Oasis</td> <td>+72% increment</td> <td>-100% defect rate</td> <td></td> <td>+100% increment</td> </tr> </tbody> </table> <p>4. Achievements of the project goals</p> <ul style="list-style-type: none"> ➤ 700 MSMEs practise KAIZEN activities through NBSSI and have shown improvements in their quality and productivity. ➤ Capacity of pilot BACs of the target regions have been strengthened on the BDS provision and facilitation through the application of KAIZEN. 	MSME	Sales	Defect rate	Lead time	Productivity	Shekinah Bakery	+53% increment	-45% reduction	-30% reduction		Mckenzie Gh. Clothing	+50% increment		-33% reduction	+50% increment	Central Oil Mills	+374% increment	-40% reduction	-25% reduction		Uni Jay Fashion	+118% increment		-82% reduction	+86% increment	Solution Oasis	+72% increment	-100% defect rate		+100% increment
MSME	Sales	Defect rate	Lead time	Productivity																											
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S/No.	Activity
7.0	<p>NBSSI has already developed a National Expansion Plan, MSMEs have shown interests of KAIZEN, and some development partners such as REP, SDF and BUSAC have shown some level of willingness to support the KAIZEN BDS. Based on these factors, project goals were expected to be achieved.</p> <p>5. Lessons Learned</p> <ul style="list-style-type: none"> ➤ KAIZEN concept is applicable in Ghana. ➤ Assessment of KAIZEN impact should be incorporated in the training. <p>Need to expand client target and train them in KAIZEN.</p> <p>6. Post Project Monitoring</p> <ul style="list-style-type: none"> ➤ Try to secure funds for the disbursement of KAIZEN application. ➤ Promotional efforts by NBSSI on the KAIZEN ➤ Development of a certification and award system. <p>Speech by Dr. Ryoichi Ozawa (Chief Advisor to the Project)</p> <p>Dr. Ozawa emphasized the fact the National KAIZEN Project was his 4th project in Ghana since 2006 and he is happy to say that it is the most successful projects of all his projects and he is really happy about the impact it had made so far. He stated that the most intriguing nature of this project was the fact that further success of the project could be predicted. He ended his speech by thanking all members present.</p> <p>Signing Session on the “Minutes of Meetings”</p> <p>During the coffee break, there was a signing session on the Minutes of Meetings between the Republic of Ghana represented by NBSSI and MOTI and JICA represented by Mission Team where all parties signed and agreed to the recommendations and necessary actions to be taken based on the recommendations and necessary actions to be taken based on the Project Completion Report and discussions with all concerned stakeholders with a view to achieving the overall goal of the Project.</p>

S/No.	Activity
8.0	<div style="display: flex; justify-content: space-around;">   </div> <p>From left to right; Ms. Kosi Yankey (Executive Director of NBSSI), Mr. Carlos Ahenkorah (Deputy Minister of Trade and Industry) signing on behalf of the Republic of Ghana and Mr. Akihiko Kodama (JICA Mission) signing on behalf of JICA Headquarters.</p> <p>A group picture taken to commemorate the signed minutes.</p> <p>Presentation on Strategies and Direction of KAIZEN by NBSSI</p> <p>Mr. Bashir Manu, the National Coordinator for the project made a presentation on how NBSSI intends to disseminate the KAIZEN BDS nationwide as well as its sustainability. In his presentation, he emphasized certain indicators and pertinent among them are;</p> <p>Objectives for the next phase are to;</p> <ul style="list-style-type: none"> ➤ Build capacity of all staff to better provide BDS and to strategically position NBSSI as a leader in BDS) ➤ Expand the number of staff trained under KAIZEN and to expand delivery across the country for increasing sustainable businesses in Ghana ➤ Promote the growth and number of MSMEs producing quality products which can meet domestic and international markets. ➤ Enhance PR activities and stimulate further interest in KAIZEN. <p>Specific Interventions Include</p> <ul style="list-style-type: none"> ➤ Conduct KAIZEN training in remaining five (5) Regions i.e. Eastern, Western, Upper East, Upper West and Volta ➤ Provide Advanced KAIZEN related BDS to medium to large scale companies in Ghana ➤ Establish the systems for sustainability of KAIZEN, i.e. KAIZEN Awards, Fee Scheme, Certification System

S/No.	Activity
9.0	<p>➤ Collaborate with institutions, i.e. academic, national service secretariat, youth employment agency, government ministries, incubation centre, banks, and related agencies.</p> <p>Mr. Bashir in his presentation stated that by following these interventions, NBSSI expects to achieve the following;</p> <ul style="list-style-type: none"> <li>➤ Extended coverage of the 175 districts where the BACs are situated with a target of 1080 companies. <li>➤ Increased number of beneficiary institutions such as public and private universities, Youth Employment Agency, some governmental ministries and agencies <li>➤ Increase in jobs and wealth creation <li>➤ Standardization of training manuals <li>➤ Establishment of a training institute <p>Recommendations on Sustainable KAIZEN Dissemination</p> <p>Ms. Chigusa Seki, an Official from JICA Headquarters made a brief presentation on sustainable ways of disseminating the KAIZEN. She expressed her satisfaction on the achievements of the Project over the past three years jointly due to efforts made by NBSSI and MOTI as well as other stakeholders involved in the Project. She stated that her recommendations were based on her observations and interviews she had with some of the enterprises (OJTs and Self-implemented), NBSSI HQ, Regional offices and BAC Heads over the last four days during her visit in Ghana.</p> <p>In her speech, she stated that for KAIZEN to be sustainable, the demand on KAIZEN services and the supply on KAIZEN services should be balanced based on certain mechanisms which included matching systems and grants, facilitation, budgets, costs among others. which is well linked to a well branded PR strategy which aims to promote KAIZEN to companies and highlights the immense benefits they can gain as evidenced from the success stories of companies implementing KAIZEN. She highlighted on the recommendations as follows;</p> <ul style="list-style-type: none"> <li>➤ Establishing a KAIZEN Unit/Department <li>➤ Securing sustainable financial resources <li>➤ Enhancing KAIZEN demand among companies through branding and promotional activities <li>➤ Strengthening regular monitoring on regional offices and activities. <li>➤ Sustainability of KAIZEN activities by companies

S/No.	Activity
10.0	<p> ➤ Introducing workflow formally ➤ Increasing the number of BAC Heads. </p> <p> Mr. Bashir expressed his gratitude to Ms. Seki for the insightful recommendations and he was sure NBSSI had taken note of them and would work well to implement it as they roll out the National Expansion plan and institutionalizing KAIZEN in Ghana for the benefit of MSMEs. </p> <p> Comments, Questions & Answers </p> <p> Mr. Kodama, JICA HQs, made a comment on the fact that the KAIZEN concept had to be centralized and well promoted as PR activities were really low as observed by him personally. He proceeded to ask how much NBSSI were planning to charge companies for KAIZEN services for the purposes of sustainability. </p> <p> Mr. Bashir and Mrs. Yankey responded that NBSSI was still working on the fee structure as it had really been difficult to cost the KAIZEN services due to the following reasons; </p> <ol style="list-style-type: none"> <li>1. You can only know what an enterprise is really lacking after conducting the “Enterprise Diagnosis” <li>2. The cost has to be based on the number of days the Consultant spends with the Enterprise and that is not fixed. <li>3. Miscellaneous cost that is not readily seen. <p> However, Mr. Bashir added that an estimated cost evident from the beginning of GHS 11,000 had been suggested to SDF but yet to be fully approved as other factors are also being considered. </p> <p> Ms. Nana Adwoa, JICA Ghana, also commented that in offering KAIZEN to an enterprise, NBSSI should not overlook the willingness or drive of the enterprise to implement KAIZEN since that is a key in ensuring the success of the enterprise in achieving productivity and quality improvement. </p> <p> Mr. Moomen in a quick follow up comment said due to the fact that companies who had benefitted from KAIZEN had now become KAIZEN Ambassadors due to the immense benefits gained, many other enterprises are now willing to implement KAIZEN. He said what attributed to the low drive initially was the fact that KAIZEN was a relatively new concept that many enterprises were yet to grasp. </p>

<p>11.0</p>	<p>Presentation on Platform for Innovative Businesses</p> <p>Mr. Kodama presentation was based on JICAs current position for business orientation especially on KAIZEN, since the overall aim of the Project was the growth of MSMEs which should translate into jobs, business expansion and increased profits. He stated that for growth to be realized, some form of innovation was needed and the capability of the enterprise to implement that kind of innovation.</p> <p>He stated that projects on KAIZEN have been implemented in 8 African countries but what remains is the invention capabilities and technological adoption to enhance firm capabilities essential for further growth. It was as a result of this that JICA came up with the concept of “platform for innovative business” as a way to build the capacities of these MSMEs.</p> <p>He stated that the platform consists of two aspects i.e. <i>the technical and financial support for innovation</i>”.</p> <p>The technical support composed of KAIZEN BDS, and to some extent entrepreneurship</p> <p>The financial support deals with funding and access to financial market for these MSMEs which usually is a big problem for the enterprises.</p> <p>Mr. Kodama concluded that JICA will still consider how to launch this kind of platform in Ghana and it was his hope that Ghana continued to grow and prosper to be a model for Africa.</p>
<p>12.0</p>	<p>Comments, Questions & Answers</p> <p>Mr. Abdul Razak Zakari from the Ministry of Finance wanted more clarification from NBSSI on itsr earlier submission made to the House about a request for funds to carry out KAIZEN related activities since he had never sighted a letter to that effect at MOF. He therefore entreated NBSSI to follow up on that letter by using a copy of the request.</p> <p>Ms. Yankey in response to that comment said they will definitely follow up on that letter and if a Representative from the Ministry of Finance would also be interested to visit some of the firms they had implemented the KAIZEN BDS with, NBSSI would be more than willing to take them on field visits to the enterprises.</p> <p>Ms. Yankey expressed her happiness with the presentation made on the platform for innovative business solutions since it was in the right direction of helping MSMEs to transform their operations especially in the two main areas of technical and financial support. She added that it was also important for JICA to look at the cost of financing and the right partners to work with.</p>

S/No.	Activity
13.0	<p>Mr. George Afriyie, REP, urged all the Regional Managers of NBSSI to let their respective BACs plan their KAIZEN implementation for the ensuing year ahead of time since it could be difficult for REP to fund them if they did not due to the system they operate.</p> <p>Closing Remarks</p> <p>Mr. Sampson Abankwa from the Ministry of Trade and Industry gave a brief closing remarks in which he acknowledged all Members present for their continued support to the programme. He expressed his sincerest gratitude to JICA as the most important partner especially for their support in creating an enabling environment for the growth of MSMEs. He acknowledged the fact that due to the KAIZEN, NBSSI has become more effective and the Ministry of Trade and Industry would continue not only to support but endorse fully the activities of the KAIZEN under NBSSI.</p> <p>The meeting was brought to a close at 1:30pm with a prayer said by Mr. Moomen.</p> <p>Chairman Hon. Carlos Ahenkorah</p> <p>Recorder Ebenezer Osafo</p>

Agenda for the Seventh Joint Coordinating Committee Meeting

Date: Thursday, 4th October 2018

Time: 09:30 – 12:45

Venue: Meeting Room, Coconut Grove Regency Hotel - Accra

Time Allocation	Items	Person in charge
09:00-	Registration	Project Assistants
09:30-	Opening prayer	A Member
09:33-	Introduction of Chairperson	A Member
09:35-	Chairperson's Welcome Remarks	Chairperson
09:45-	Self-Introduction of Members	Members
09:50-	Review of Minutes of the Sixth JCC Meeting	Chairperson
10:05-	Short Address by Executive Director, NBSSI	Ms. Kosi Antwiwaa Yankey
10:15-	Short Address by JICA	JICA Ghana Office
10:20-	Presentation on Achievement of the Project - Achievement on Project Design Matrix Indicators - Evaluation of Project -Q and A	NBSSI Head Office Ashanti Regional Office
11:00-	Coffee Break	
11:15-	Presentation of the NBSSI National Expansion Plan and Way Forward	NBSSI Head Office
11:40-	Recommendation from JICA	JICA Headquarters
11:50-	Comments and Discussions	Members
12:10-	Presentation on the Platform for Innovative Business	JICA Headquarters
12:15-	Chairperson's Remarks	Chairperson
12:30-	Closing Prayer	A Member
	Lunch	

Appendix 13
Project Completion Report

Project Completion Report

Project Title: National KAIZEN Project

Name: Ms. Kosi Yanke

Title: Project Director (NBSSI Executive Director)

Name: Dr. Ryoichi Ozawa

Title: Chief Advisor/MSE Development

Submission Date: September 30th 2018

I. Basic Information of the Project

1. Country: Ghana

2. Title of the Project: National KAIZEN Project

3. Duration of the Project (Planned and Actual):

October 2015 – January 2019 (Planned)

October 2015 – January 2019 (Actual)

4. Background (from Record of Discussions(R/D))

In Ghana, while a high level of 8% annual growth rate has been sustained in recent years, the manufacturing sector has been experiencing slow growth. The ratio of industrial sector, including the mining sector, was 29% of GDP in 2012, and that of the manufacturing sector was 6%. The private sector is dominated by a very large number of micro, small and medium enterprises (hereinafter referred to as "MSMEs"). Especially in the manufacturing sector, 98.5% of its companies are MSMEs. The weakness of the linkage between companies, such as undeveloped subcontract structure, undeveloped material industry and weak linkage between the material industry and the processing industry, are big challenges of the Ghanaian industrial structure. Companies have been depending on import of raw materials, resulting in high production cost, which hinders growth of the manufacturing sector.

For the sustainable growth of the Ghanaian economy, diversification of the industry is indispensable and the promotion of manufacturing sector, particularly MSMEs, is important. However, MSMEs face many challenges in working capital, human resources, managerial/technical knowledge/skills, and quality/productivity of their products. These are considered as main reasons why the private sector in Ghana remains uncompetitive both locally and internationally.

The Government of Ghana (hereinafter referred to as "GOG") intends to foster the competitiveness of the private sector as described in the policy documents such as "Ghana Shared Growth and Development Agenda (GSGDA) 2010-2013", "National Medium Term Private Sector Development Strategy II (PSDS 11) 2011 - 2015", and "Industrial Sector Support Programme (ISSP) 2011-2015". These policy documents point out that enhancement of the MSMEs is indispensable to promote the competitiveness of the private sector.

In order to ensure effective promotion of Micro and Small Enterprises (hereinafter referred to as "MSEs"), National Board for Small Scale Industries (hereinafter referred to as "NBSSI") was established under the Ministry of Trade and Industry (MOTI) as the governmental agency which has established Business Advisory Centers (hereinafter referred to as "BAC") to support MSEs development. Currently, the BACs are established in 170 districts nationwide. They support MSEs by delivering Business Development Services (hereinafter referred to as "BDS") as providers as well as facilitators.

Although the capability of BACs is relatively high, further capacity development is needed to enable them to provide specific BDS in response to the clients' actual and potential needs. NBSSI and Japan International Cooperation Agency (JICA) have been implementing 'the Project for Formulating a Strategic Model for Quality/Productivity Improvement through Strengthening BDS for MSEs' (hereinafter referred to as "the Previous Project") from 2012 to 2015. In the Previous Project, the Strategic Model was worked out to establish the mechanism in Ashanti Region to ensure the continuity for delivery of the new BDS, especially KAIZEN related BDS as one of the additional contents of their BDS. The Previous Project is demonstrating positive results on a pilot basis and the Strategic Model is verified as a capacity development approach in Ashanti Region for nation-wide application.

5. Overall Goal and Project Purpose (from Record of Discussions(R/D))

(1) Overall Goal

Enterprise Diagnosis and KAIZEN methods (*1) are introduced in all regions. and also, micro, small and medium enterprises (MSMEs) that have practiced KAIZEN activities recommended by the National Board for Small Scale Industries (NBSSI) show improvements in their quality and productivity.

*1: "Enterprise Diagnosis and KAIZEN methods" indicate a series of KAIZEN activities including Enterprise Diagnosis, KAIZEN recommendations, Support for KAIZEN application and follow-up activities. based on the Strategic Model developed by JICA Technical Cooperation Project, i.e. the Previous Project.

(2) Project Purpose

Capacity of NBSSI on its Business Development Service (BDS) provision and facilitation is strengthened in the four (4) target regions (*2) through the application of Enterprise Diagnosis and basic KAIZEN methods and advanced KAIZEN methods (*3).

*2: The four target regions include Northern, Brong Ahafo, Central, and Ashanti Regions. Northern, Brong Ahafo, and Central Regions are the three new target regions for the introduction of basic KAIZEN as the first stage of the National Expansion Programme of NBSSI while Ashanti Region is the target region for advanced KAIZEN.

*3: Advanced KAIZEN methods include the ones which were not introduced through the Previous Project such as quality control, industrial engineering, inventory management, cost management, production plan, etc.

6. Implementing Agency: National Board of Small Scale Industries (NBSSI)

II. Results of the Project

1. Results of the Project

1-1 Input by the Japanese side (Planned and Actual)

			Planned	Actual	Reasons of Changed
(1) Amount of input by the Japanese side			400 million JPY	462 million JPY	Addition of following activities and items: <ul style="list-style-type: none"> • Follow up (Task 2-6 and 3-8) • Advanced KAIZEN training in Accra • KAIZEN with 100 MSMEs • Procurement of 19 laptop for Ashanti • Making documentary • Three times of Knowledge Sharing Seminar
(2) Expert dispatch					
Position		Main responsibility	Planned	Actual	
1	Chief Advisor/MSE Development	Management of overall Project	8.30	8.20	
2	Deputy Team Leader/Training Facilitation	<ul style="list-style-type: none"> • Support Chief Advisor on management of overall Project • Training planning and management 	14.53	19.03	<ul style="list-style-type: none"> • Transfer of assignment from PR Facilitation/ Project Coordination • Management of additional tasks
3	Productivity Improvement 1	Train BAC Heads on KAIZEN	15.35	17.65	Additional tasks, such as follow up and advanced KAIZEN training in Accra
4	Productivity Improvement 2	Train BAC Heads on KAIZEN	12.65	14.07	
5	Productivity Improvement 3	Train BAC Heads on KAIZEN	13.97	16.78	
6	PR Facilitation/ Project Coordination	<ul style="list-style-type: none"> • Arrange all activities Plan and implement PR 	6.40	3.70	
7	PR Expert	Develop KAIZEN documentary	0	1.70	Development of KAIZEN documentary
8	Business Analysis/ Financial Analysis	Analyze KAIZEN impact	0	1.97	Request from JICA to analyse the KAIZEN impact on profit
9	Coordinator of Training in Japan	Arrange Training in Japan	2.70	2.70	
Total			73.90	85.80	

(3) Trainee Intake

- **<Ghana>KAIZEN Training: 50**
 - Basic KAIZEN Training: 3 times with 29 trainees
 - Advanced KAIZEN Training: 4 times with 31 trainees
- **<Japan> Training in Japan: 28 (4 from MSMEs)**
 - Training in Japan: 3 times with 28 trainees and 4 trainees from MSMEs

Country	Type of Training	Northern		Brong Ahafo		Central		Ashanti		Total	
		Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
Ghana	Basic KAIZEN	11	11	9	9	8	9	0	0	28	29
	Advanced KAIZEN	0	4	0	3	0	3	21	21	21	31
Japan	Training in Japan	10	10	8	8	7	7	0	2	27	27

(4) Procured Equipment

	Planned	Actual
Amount	6.2 million JPY	8.2 million JPY
Procured Equipment	<ul style="list-style-type: none"> ● 28 Laptops ● 28 Digital Cameras ● 3 Colour Printers ● 3 Projectors ● 3 Screen 	<ul style="list-style-type: none"> ● 49 Laptops ● 28 Digital Cameras ● 3 Colour Printers ● 3 Projectors ● 3 Screen
Equipment for Project	<ul style="list-style-type: none"> ● 2 Laptops ● 1 Digital Camera ● 1 Binding Machine ● 1 Black and White Printer ● 1 Generator 	<ul style="list-style-type: none"> ● 2 Laptops ● 1 Digital Camera ● 1 Binding Machine ● 1 Black and White Printer ● 1 Generator ● 5 Air Conditioners

(5) Overseas Activity Cost: (Million JPY)

Total		Administration (local staff wage, stationery)		Training expenses (venue, stationery, communication, KAIZEN material, fuel, copy)		Travel Allowance for CP		PR expenses (poster, banner, brochure, radio jingle, KAIZEN forum)	
Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
107	124	9	9	44	49	50	61	4	5

1-2 Input by the Ghanaian side (Planned and Actual)

(1) Counterpart Assignment: 67 persons

NBSSI Head Office		Northern		Brong Ahafo		Central		Ashanti		Total	
Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
6	9	3	3	3	3	3	3	3	3	18	21
KAIZEN Training (BAC Head)											
Northern		Brong Ahafo		Central		Ashanti		Total		3 resigned, 1 transferred, 1 passed away	
Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual		
10	10	8	8	7	7	21	21	46	46		

(2) Provision of Offices, etc.:

- working spaces and running expenses in the four regions and HQ

(3) Other Items Borne by the Counterpart Government:

- The arrangement of NBSSI and BACs vehicles for trainings

1-3 Activities (Planned and Actual)

In order to make an efficient operation, and to cope with the change of the PDM, the following activities in summary are added to the planned ones as major highlighted activities for the modification. Project Activities and its detailed PO is attached PDM. The changes of Project Activities are summarized in the following table.

Output	Planned	Actual	Additional Input
2	The targets of basic KAIZEN training were originally only pilot BAC Heads, Project Officer and Accountant of the three target regions (28 officers).	All BAC Heads in the three target regions and new BAC Heads in the Ashanti Region were included in the lecture session of basic KAIZEN training (57 officers).	Training expenses and travel allowance to BAC Heads were added.
2	NA	“2-6: Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the pilot BACs” was added.	1.44 MM of field assignment by Japanese experts and travel expenses for NBSSI were added.
3	NA	“3-8. Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the BAC trainers” was added.	
2 and 3	100 MSMEs would be targeted for three years to be provided KAIZEN by Ashanti BACs covered by the NBSSI or Rural Enterprise Programme (REP).	The BAC’s self- implementation of KAIZEN to approximately 100 MSMEs in the Ashanti, Northern and BA Regions was supported by Project.	0.60 MM of assignment in Japan by Japanese experts, training expense and travel expenses for NBSSI were added.
Target Area	Ashanti, Northern, Brong Ahafo (BA), Central Region and Accra	Ashanti, Northern, BA, Central and Greater Accra (GA) Region. The location of the third advanced KAIZEN training was changed to GA from Ashanti and GA BAC Heads received the lecture on basic KAIZEN and participated in the training as observer.	8.19 MM of field assignment by Japanese experts and training expenses and travel allowance were added.
Public Relations (PR)	PR activities would be conducted in the target regions and districts which KAIZEN are introduced to.	Nation-wide PR activities were conducted, such as KAIZEN documentary and radio jingle etc.	1.50 MM of field assignment by Japanese experts and expenses for PR were added.

Output	Planned	Actual	Additional Input
KAIZEN knowledge sharing seminar	NA	The CP and Japanese Expert participated in the KAIZEN knowledge sharing seminar in Ethiopia in 2016 and Kenya in 2017 and Africa KAIZEN Annual Conference in South Africa in 2018.	0.60 MM of field assignment by Japanese experts and travel expenses for NBSSI were added.
Equipment	28 laptops for Regional Office and Pilot BACs in Northern, BA and Central Region	19 laptops were additionally procured to NBSSI Ashanti Regional Office and targeted BACs. Air conditioner, conference table and chairs were procured to NBSSI Northern, Brong Ahafo and Greater Accra	

2. Achievements of the Project

2-1 Outputs and Indicators

Target values and actual values achieved at completion are shown in the table below. It is noted that those figures are as of July 2018, and subsequent progress shows that those all are expected to be achieved.

OUTPUT	Objectively Verifiable Indicators	Achievement	Activities/ Challenges
Output 1	1-1. NBSSI Regional Office of three (3) new target regions prepares the Workflow and integrates it with the annual plan.	NBSSI Regional Office in three new target regions prepared the action plan for the Workflow, and integrated it into the annual plan for 2016, 2017 and 2018. The budget for the Workflow action plan was reflected to the budget of NBSSI Regional Offices for 2019.	<p>Output: Workshop for problem analysis and development of the action plan were conducted from 2015 to 2018.</p> <ol style="list-style-type: none"> 1) May 2016 in Kumasi, Ashanti 2) November 2016 in Tamale, Northern 3) May 2017 in Kumasi, Ashanti 4) December 2017 in Techiman, BA 5) July 2018 for Winneba, Central 6) September 2018 in Accra, Greater Accra <p>The following training were conducted</p> <ul style="list-style-type: none"> • Problem Analysis, • Training Design, • Networking, • Lobbying, • Proposal Writing, • Leadership, • Communication, • Knowledge Management, • Office Management, • Human Resource Management, • Study Tour of basic/advanced KAIZEN OJT MSMEs, Presentation on Overseas Training, • Research on Economy, • Report Writing. <p>Implementation of KAIZEN and OJT to non-pilot BAC Heads and in the target regions could be carried out with funding by REP and Knowledge/ Archive Management will be streamlined through the Knowledge Management Centre established in NBSSI Head Office.</p>
	1-2. The assessment results of NBSSI Regional Office of three (3) new target regions on their Workflow implementation meet a standard (more than 3.5 in 5-grade evaluation) ¹	Based on the evaluation, the capacity related to Workflow was enhanced to an average of 3.7. Northern: 4.0, Brong Ahafo: 4.0, Central: 3.0 ²	
	1-3. More than 75 % of activities listed in the Workflow is implemented in three (3) new target regions.	The following 14 kinds of activities out of 17, namely 82% of activities, in the Workflow action plan were conducted: <ol style="list-style-type: none"> 1) Competency Assessment/ Needs Assessment Plan, 2) Management Development, 3) KAIZEN Training Management, 4) Skill Development Scheme, 5) Trainer Development, 6) KAIZEN Action Plan, 7) KAIZEN Regional Expansion 8) Public Relations (PR), 9) Stakeholder Coordination, 10) Working Group (WG) Meeting, 11) Monitoring 12) Budgeting 13) Annual Review, Monitoring 14) Office Management 	

¹ Evaluation indicators are 1: Poor/Not try yet, 2: Fair/Partly try, 3: Good (tried but more improvement is needed), 4: Very good (achieved good results and able to explain how to do, 5: Advanced/Innovative (achieved great results and able to teach how to plan/implement,)

² The score was calculated on average of three officers from each regional office.

OUTPUT	Objectively Verifiable Indicators	Achievement	Activities/ Challenges
		<p>Activities which have not been implemented are: Staff Training, Incentive scheme, Knowledge/Archive Management.</p>	<p>Challenge the Project have faced is that The activities have been planned, however, it the budgeted amount has not been released from GoG to implement all planned Workflow activities and required personnel have not been assigned.</p>
Output 2	<p>2-1. The assessment results of capacity of pilot BACs on their Enterprise Diagnosis and KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation).</p> <p>2-2. More than 70% of MSMEs that accept OJT show the improvement on the basis of quality/ productivity indicators.</p> <p>2-3. Pilot BACs implement Enterprise Diagnosis and KAIZEN activities to more than 40 MSMEs by themselves.</p>	<p>The capacity of pilot BAC Heads on their Enterprise Diagnosis and KAIZEN provision were enhanced to an average of 3.6.</p> <ul style="list-style-type: none"> • Northern: 3.6 (average of 10 pilot BAC Heads) • Brong Ahafo: 3.74 (average of 8 pilot BAC Heads) • Central: 3.48 (average of 7 pilot BAC Heads) <p>All MSMEs showed improvement of either or both quality and productivity based on the results of follow-up.</p> <p>65 MSMEs in total have been benefitted by July 2018</p> <ul style="list-style-type: none"> • Northern: 35 MSMEs, • Brong Ahafo: 21 MSMEs, • Central: 9 MSMEs 	<p>Outputs: Basic KAIZEN training (Lecture, OJT and follow up) was conducted:</p> <ol style="list-style-type: none"> 1) Northern: May to July 2016 2) BA: May to June 2017 3) Central; January to February 2018 <p>Self-implementation of KAIZEN: Following the training, Enterprise Diagnosis and KAIZEN were implemented by themselves under supervision of Ashanti Trainer BAC Heads.</p> <p>KAIZEN with 100 MSMEs</p> <p>Follow up The quarterly follow-up of OJT and Self-implementation of KAIZEN MSMEs were conducted to measure KAIZEN impact and further advise. The external factors, such as seasonal decline in demand, affect the operation in MSMEs, but the follow-up verified their improvement of quality/productivity.</p> <p>It is noted that some of Central BAC Heads achieved more than 3.50, but Central Pilot BAC Heads could not reach 3.50 on average. Skills are expected to be enhanced through experience of KAIZEN implementation.</p>

Project Completion Report

OUTPUT	Objectively Verifiable Indicators	Achievement	Activities/ Challenges
Output 3	3-1. The assessment results of BAC trainers on their advanced KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation).	The average score of 18 Ashanti BAC trainers for 22 items was 3.97 .	<p>Outputs:</p> <p>Four times advanced KAIZEN training (Lecture, OJT and follow up) was conducted with 24 OJT MSMEs.</p> <ol style="list-style-type: none"> 1) January to March 2016 in Kumasi 2) January to March 2017 in Kumasi 3) July to September 2017 in Accra 4) May to July 2018 in Accra <p>Self-implementation of KAIZEN Enterprise Diagnosis and KAIZEN with 7 MSMEs were implemented by 6 groups from July to September 2018.</p> <p>KAIZEN with 100 MSMEs Ashanti BAC Heads implemented KAIZEN with 35 MSMEs in their districts funded by Project.</p> <p>Follow up Same as Output 2, quarterly follow-up of OJT MSMEs were carried out.</p>
	3-2. More than 70 % of enterprises that accepted OJT and practiced advanced KAIZEN activities recommended by BAC trainers show the improvement on the basis of quality/productivity indicators.	An average of 94% of MSMEs showed improvement.	
	3-3. BAC trainers implement Enterprise Diagnosis and KAIZEN activities to more than 25 MSMEs by themselves.	<ul style="list-style-type: none"> • BACs in the Ashanti Region implemented Enterprise Diagnosis and KAIZEN activities with 35 MSMEs. 	

2-2 Project Purpose and Indicators

Achievement of the Project Purpose

Capacity of NBSSI on its Business Development Service (BDS) provision and facilitation is strengthened in the four target regions through the application of Enterprise Diagnosis and basic and advanced KAIZEN methods.

Objectively Verifiable Indicators	Achievement	Remarks																					
1-1. More than 170 MSMEs of five (5) target regions undergo Enterprise Diagnosis provided by NBSSI and practice the recommended KAIZEN activities.	<p>A total of 164 MSMEs experienced Enterprise Diagnosis and KAIZEN activities by July 2018.</p> <table border="1"> <thead> <tr> <th>Region</th> <th>Planned</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Ashanti</td> <td>106</td> <td>67</td> </tr> <tr> <td>Northern</td> <td>33</td> <td>41</td> </tr> <tr> <td>Brong Ahafo</td> <td>21</td> <td>27</td> </tr> <tr> <td>Central</td> <td>13</td> <td>15</td> </tr> <tr> <td>Greater Accra</td> <td>0</td> <td>12</td> </tr> <tr> <td>Total</td> <td>173</td> <td>164</td> </tr> </tbody> </table>	Region	Planned	Actual	Ashanti	106	67	Northern	33	41	Brong Ahafo	21	27	Central	13	15	Greater Accra	0	12	Total	173	164	<p>The Ashanti Region was expected to continuously implement KAIZEN during the project period, however the fund could not be secured. Then, the amendment of the contract was made in 2017 to fund KAIZEN implementation with 100 MSMEs. Based on discussion the number of MSMEs were allocated to each region.</p>
Region	Planned	Actual																					
Ashanti	106	67																					
Northern	33	41																					
Brong Ahafo	21	27																					
Central	13	15																					
Greater Accra	0	12																					
Total	173	164																					
1-2. Assessment results of management capacity of NBSSI Regional Office of four (4) target regions and of capacity of pilot BACs on their Enterprise Diagnosis and BDS including KAIZEN provision and facilitation are improved by 48 %.	<p>The capacities were enhanced by an average of 52%.</p> <p>Note 1: evaluation is 5-point scale. The rate is calculated average score/5.</p> <p>Note 2: figure is calculated with average of management capacity of NBSSI Regional Office, the assessment results of capacity of pilot BACs in the Northern, Brong Ahafo and Central Regions on their basic KAIZEN provision and the assessment results of Ashanti BAC trainers on their advanced KAIZEN provision</p> <ul style="list-style-type: none"> Management capacity of NBSSI Regional Offices: 44% increased <table border="1"> <thead> <tr> <th>Region</th> <th>Nov 2015</th> <th>Jul 2018</th> </tr> </thead> <tbody> <tr> <td>Northern</td> <td>1.7</td> <td>4.0</td> </tr> <tr> <td>Brong Ahafo</td> <td>1.4</td> <td>4.0</td> </tr> <tr> <td>Central</td> <td>1.5</td> <td>3.3</td> </tr> <tr> <td>Average</td> <td>1.5 (30%)</td> <td>3.7 (74%)</td> </tr> <tr> <td>Improvement</td> <td></td> <td>44 %</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The assessment results of capacity of pilot BACs in the Northern, Brong Ahafo and Central Regions on their Enterprise Diagnosis and KAIZEN provision: 63% increased 	Region	Nov 2015	Jul 2018	Northern	1.7	4.0	Brong Ahafo	1.4	4.0	Central	1.5	3.3	Average	1.5 (30%)	3.7 (74%)	Improvement		44 %				
Region	Nov 2015	Jul 2018																					
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Central	1.5	3.3																					
Average	1.5 (30%)	3.7 (74%)																					
Improvement		44 %																					

	Region	Before Training	July 2018	Improvement	
	Northern	0.35 (7%)	3.60 (72%)	65% increased	
	Brong Ahafo	0.62 (12%)	3.74 (74%)	62% increased	
	Central	0.37 (7%)	3.48 (69%)	62% increased	
	Average			63%	
	<ul style="list-style-type: none"> The assessment results of Ashanti BAC trainers on their advanced KAIZEN provision: : 51% increased 				
		Before training	Jul 2018	Improvement	
	Average Score	1.4 (28%)	3.97 (79%)	51% increased	
1-3. More than 41 KAIZEN methods are practiced by NBSSI in five (5) target regions.	A total of 52 KAIZEN methods were implemented. 23 basic KAIZEN methods and 29 advanced KAIZEN methods				Achieved.

3. History of PDM Modification

It is noted that the PDM is revised in March 2017 JCC to change the number of the target regions, adding the Greater Accra Region, because the Project should be more visible to the Greater Accra Region, and also to cover medium class enterprises and hence the PO is to be revised to include the activities in the Greater Accra Region.

Major PDM Modification in March 2017		
Original	Amendment	Reasons
1. Target Area Ashanti, Northern, Brong Ahafo (BA) and Central Regions and Accra	Ashanti, Northern, BA, Central and Greater Accra Regions.	There is a challenge to identify sufficient OJT MSMEs in the Ashanti Region
2. Objectively Verifiable Indicators for Project Purpose: 1-2. More than 170 MSMEs from <u>four (4)</u> target regions undergo Enterprise Diagnosis provided by NBSSI and practice the recommended KAIZEN activities. 1-3. More than 41 KAIZEN methods are practiced by NBSSI in <u>four (4)</u> target regions.	MSMEs in Greater Accra Region are added.	As per 1. above.

4. Others

4-1 Results of Environmental and Social Considerations (if applicable)

None is expressed.

4-2 Results of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)

The selection criteria of OJT MSMEs were set in Output 2 and 3 based on the discussion with NBSSI, and it included gender balance of workers, such as enterprise which ratio of female workers is higher than male could obtain higher mark in the section of gender balance.

The Ghana Women Entrepreneurship Summit (GWES) was organized by NBSSI on 4th and 5th June 2018 to find effective ways to resolve the constraints and challenges faced by women entrepreneurs across multiple sectors in Ghana. The objectives are to strengthen the contribution of women in Ghana's economy, assess the progress to date in economic empowerment of women, build sustainable networks to bring resources to women entrepreneurs, advocate for change against negative social norms that impede the progress of women, and open a new path using technology to ensure their advancement and economic liberalization. The Project Team supported GWES to deliver KAIZEN master class for female entrepreneurs and conduct panel discussion on contribution of KAIZEN to women empowerment.

III. Results of Joint Review

1. Results of Review based on DAC Evaluation Criteria

Project Purpose has not changed and against it these evaluations are made:

- Relevance: High

- Relevance to the Government Policy

The development policy by the new Government is now shifted to be more proactive and developmental rather than policy oriented in the previous Government.³

KAIZEN is now understood by all the stakeholders such as MOTI and MOFA (Ministry of Food and Agriculture) in the public sector, and AGI (Association of Ghana Industries) and ASSI (Association of Small Scale Industries) in the private sector as imperative for the MSME development mechanism.

It is also understood to realize especially the new Government's 10 pillars initiatives for industrial transformation and the Ghana National Medium-Term Development Plan (NMTDP 2018-2021) contains Six (6) Policy Objectives⁴ that are relevant to the MOTI to which NBSSI's roles are seriously considered.

The SME Policy which covers several thematic areas of the SME development and regulations such as access to finance, access to market and related infrastructural development, and gender issues is most likely to be activated within 2018. This will enable NBSSI to further reinforce its position as an apex body of SME development to cover several thematic areas, and it is also evidential that similar thematic areas in the Ghana Women Enterprise Summit held in June 2018 are looked at.

- Relevance to needs of target areas and groups

Over the period of the Project, it is also evident that the interest of the KAIZEN applications has been shown by MSMEs and associations through various KAIZEN forums and PR activities. In this line, KAIZEN is seen as the effective way for private sector development through both the KAIZEN Project and in relation to these policy change.

Furthermore, it is noted that the KAIZEN OJT companies selected have, as evidence of the relevance in terms of matching needs of those companies in the designated four regions in the Project improved significantly the growth potential through the

³ It is noted that policies and programmes at the commencement of the Project cited are not kept valid due to a) Industrial Sector Support Programmed (ISSP) was completed and PSDS II (Private Sector Development II) that had taken over the ISSP was also completed in 2017.

⁴ Six Policy Objectives of NMTDP are;

- Improve Private Sector Productivity and Competitiveness Domestically & Globally
- Attract Private Capital from both Domestic and International Sources
- Pursue and Expand Market Access
- Promote an Enabling Environment and Effective Regulatory Framework for Corporate Management
- Improve Competitiveness and Efficiency of MSM
- Ensure rapid Industrialization driven by strong linkages to Agriculture and other Natural Resource Endowments

KAIZEN applications with the productivity and quality improvement indicators, and also profit generations.

● Effectiveness: High

It is noted that Capacity of NBSSI on its Business Development Service (BDS) provision and facilitation is strengthened in the four target regions through the application of Enterprise Diagnosis and basic and advanced KAIZEN methods. As the indicators in PDM show the significant results. It is evidential that Project Purpose and all indicators of Outputs could be achieved which is shown in the Section II. This is again highlighted through combined 3 Outputs such as :

- a) More than 164 MSMEs of five (5) target regions underwent Enterprise Diagnosis provided by NBSSI and practiced the recommended KAIZEN activities.
- b) Assessment results of management capacity of NBSSI Regional Office of four (4) target regions and of capacity of pilot BACs on their Enterprise Diagnosis and BDS including KAIZEN provision and facilitation were improved by 52%.
- c) A total of 52 KAIZEN methods were implemented. 23 basic KAIZEN methods and 29 advanced KAIZEN methods.

Furthermore, it is noted that the KAIZEN OJT companies have as evidence improved significantly the growth potential through the KAIZEN applications with the productivity and quality improvement indicator, and also profit generations.

Moreover, the readiness of the NBSSI, especially pilot BACs trained went ahead with the implementation of the KAIZEN with the fund supported by the REP as evidence that self-implementation of KAIZEN solely managed by NBSSI.

● Efficiency: Moderate to High

It is noted that the expected Outputs over the Project period (No change) are achieved through the activities conducted according to the plan and additional inputs/arrangements.

	Planned	Actual	Remarks
Project Period	Oct 2015 to Jan 2019 (3.2 Years)	Oct 2015 to Jan 2019 (3.2 Years)	No change
Budget	400 million JPY	462 million JPY	<ul style="list-style-type: none"> • the fund for self-implementation of KAIZEN with 100 MSMEs were added. • additional 19 laptops were procured to Ashanti Region to conduct activities effectively. • follow-up of MSMEs of OJT and self-implementation by the pilot BACs" was added. • the Greater Accra Region was additionally covered for advanced KAIZEN training • participation of KAIZEN Knowledge Sharing Seminars was added.

- The additional budget was provided by Project to compensate the delay of the disbursement of budget by the Government and REP, to add the activities for further assessment of the KAIZEN impact, and to ensure the KAIZEN opportunities to

trainee. It is note that this addition could produce effect, such as BAC Heads were able to further improve skills on KAIZEN, especially measurement of KAIZEN impact and efficient implementation, and contribute the achievement of all indicators of Outputs 2 and 3.

- Impact: Moderate to High

- Prospects to achieve the overall goal

The targets or the Overall Goal is expected to be achieved with the trajectory of the Project effectiveness: the activities in the Project and hence the achievements of the outputs and Project Purpose have set up the mechanism such as people, fund and NBSSI structural organization for National Expansion in which the current Project is in the first phase of the expansion.

Thus the overall goal is expected to achieve

- Conditions

As the external conditions, it is reasonable that the continuation of the REP and its collaboration with NBSSI can make up the majority of the targets, and yet for more KAIZEN dissemination and training to the other regions shall be realized accordingly to the National Expansion Plan of the NBSSI.

As the REP funding can assure the realization of the targets in implementation, more funding arrangements are needed to a) training on the BACs in the other non-target regions, and also b) cover up the medium enterprises which will lead to both growth and employment and c) partnering with the academic institutions.

As for internal conditions in order for NBSSI to self-manage and control the KAIZEN dissemination, it is noted that both operational funds for the Head Office and Regional Offices, enough human resource for Head Office, Regional Office and BAC is to be assigned and organizational set out of the KAIZEN department is to be reinforced, which is to be closely monitored.

- Ripple effect

Partnering with the universities⁵ of NBSSI are in progress, where additional KAIZEN benefits will be realized for different type of target groups. Collaboration with the various interested parties have now been increased, which is beneficial to cover various sectors for KAIZEN practices.

In addition, the KAIZEN training can be selected as supplemental training by some funding agencies like Skill Development Fund (SDF) and Rural Development Fund

⁵ The collaboration with academia is proceeding in the four regions.

- University for Development Studies in the Northern region and NBSSI Northern made MOU to introduce KAIZEN to the industrial attachment for 2017 and 2018, and continuous collaboration has been considered.
- University of Energy and National Resources in the BA Region and NBSSI BA MOU is under way
- University for Cape Coast in the Central Region has been considering introduction of KAIZEN in their business course.
- Kwame Nkrumah University for Science and Technology in the Ashanti Region students and lecturers participated in the lecture of basic KAIZEN in 2018. Further collaboration is under way.

(RDF) for the skills developments or enterprise development of the managerial and workers as a training and one to one consultation activities.

It is also noted that the recognition by the policy makers and government implementation agencies like Free Zone Authority and Ghana Export Promotion Authority and among the MSMEs under those agencies is now increased, which might provide the NBSSI a certain level of potential medium companies.

- Sustainability: Moderate to High

- Policy: it is understood as High

MOTI that understands the efficacy of the KAIZEN will back up the NBSSI and has already endorsed the NBSSI as an apex body for SME development in the SME Policy, and the reinforcement of NBSSI is supported by the Government for 1D1F realization as part of Government 10 pillar initiatives.

- structural/ organization: it is understood as moderate

NBSSI has set up a KAIZEN department where one staff member is already appointed while the finalization is under way, and the motivation is still high. The department will manage the workable National Expansion Plan.

However, the shortage of required human resources in NBSSI should be solved such as the Project Officer in the Ashanti Regional Office and as for the organization capacity, the structure and capacity of the NBSSI Head Office is not fully upgraded to manage the National Expansion, which needs some additional inputs by the NBSSI especially for the staffs in the KAIZEN Department

NBSSI Regional Offices in the target regions have set up TU and AU for effective planning and management on implementation of KAIZEN and related to activities.

- skill levels it is understood as High

Basic KAIZEN: BAC Heads in the target regions could sufficiently upgrade their skills on basic KAIZEN to continuously provide KAIZEN instruction to MSEs by themselves.

Advanced KAIZEN: Although some of advanced KAIZEN methods could not be applied to OJT MSMEs during the project period, the average score of 18 trainer Ashanti BAC Heads on all advanced KAIZEN methods could be improved by 3.6. Since the size of MSMEs should be larger and high expertise of each filed is to be required, the formation of groups of BAC Heads is recommended when implementing of advanced KAIZEN, but it is highly expected that BAC Heads would continue implementation of advanced KAIZEN.

The components on skill development and KAIZEN trainer development were incorporated in the Workflows of NBSSI Regional Office to continuously improve skills of BAC Heads on KAIZEN and BDS. The training plan to upgrade skills to advanced KAIZEN from basic KAIZEN were included in the National Expansion Plan.

The Workflow is to be expected to introduce to the remaining Regional Offices to effectively manage the BACs and continuously improve BAC Heads' skill.

- finance It is understood as moderate

Activities for BACs are to be well funded by the various funds. The major one is REP and REP has already started disbursing the money to the practices. Yet the more funding according to the National Expansion Plan which is under preparation is needed to for both KAIZEN implementation and related training activities. Apparently, some of the collaborations between the Ministries and the other programs such as SDF, RDF, and Business Sector Advocacy Challenge are now underway, and likely to increase the level of source of funding.

The cost and fee scheme for the KAIZEN in MSMEs could be improved. The scheme is to be developed and improved for self-financing, and also new funding schemes are to be developed complementary to realize the mandates of the NBSSI for the future Enterprise Development Authority, yet at the moment, it is not that clear.

This source of funding to the activities in the Project and the post Project for the National Expansion is almost secured, however this is a going concern, and further collaboration with the partners are required.

2. Key Factors Affecting Implementation and Outcomes

(Planning and Project Start up)

- 1) It was anticipated the Project activities and other NBSSI activities such as other trainings sponsored by the other institutions could be harmonized by the NBSSI in advance. However, there have occurred some cases⁶ that It some trainees were taken out for other training sessions have caused disturbance to the Project activities such as non-participation of the expected trainees. NBSSI was informed the schedule of trainings by the other development partners with very short notice and often the schedule of the training could not be changed. As a countermeasure, the Project Team has put more efforts in re-scheduling of training/workshop and Japanese Experts delivered supplemental lecture for those BAC Heads. This measure has led to completion of training/workshop and up to the level of the required skill sets for those BAC Heads.
- 2) PR activities were planned mainly in the target regions and PR activities at the national level could be managed by the PR officer in NBSSI Head Office, and the NBSSI PR strategy that was developed by the NBSSI could be implementable by themselves with the sufficient resources in NBSSI. However, PR on KAIZEN and the Project was more featured to create KAIZEN demands from MSMEs and seek further collaboration with development partners, and it was turned out that close support to the PR officer was needed.

As a countermeasure, the JICA Project team dispatched additional PR expert in the development of the KAIZEN documentary and so on. As a result, the PR materials could be used on time for the planned events such as meeting with development partners, KAIZEN Forum and TV broadcasting. This measure has led to the KAIZEN demands from MSMEs, especially in the Greater Accra Region.

⁶ Trainings sponsored by other institutions such as African Development Bank, Ghana Institutional Support Program and also the meetings for REP.

- 3) It was anticipated that the fund for KAIZEN implementation by the Ashanti BAC Heads who trained in the previous project could be secured from REP or the other institutions and they could start implementation from outsets of the Project. However, it is noted that the Memorandum of Understanding with REP, NBSSI and Project Team was required by REP to fund for KAIZEN to BACs, which required one year to be concluded. Moreover, the disbursement of the fund could not be timely made as planned. These factors caused the delay of provision of KAIZEN to MSMEs which are a part of indicators of the Project Purpose and Output 3. Therefore, the additional budget for implementation of KAIZEN was supported by JICA, which leading to achievement indicators.

(The implementation of the Project)

- 1) It is anticipated that NBSSI could manage to implement all the Workflow components in the target regions. Although the target could be achieved, it is noted that lack of financial resources of the NBSSI on its own has constrained the Project to achieve to a full extent and could not test all components such as staff training and incentive scheme. It was expected that NBSSI Regional Offices are able to design these activities with limited financial resources in creative ways, such as provision of citation of best BACs, KAIZEN Champions and so on as incentive scheme.
- 2) Dismissal of some BAC Heads and managements staffs of the NBSSI has caused the delay on activities, such as monitoring of Project activities by PMU, self-implementation of KAIZEN with 100 MSMEs. The core member, Project Officer in the Ashanti Regional Office, promoted to the Upper West Regional Manager without the replacement, therefore Regional Manager has been overloaded and replacement of Project Officer was requested. However, it remains so in the Project term due to the freeze of new recruitment. Due to the more efforts exercised by the Regional Manager, the Project activities has been jointly managed to have made all the outputs completed due to the high commitment of the regional manager and good communications with the JICA Project Team

NBSSI Head Office PMU	2015			2018		
	Director	Officer	Total	Director	Officer	Total
	5	4	9	5	4	9
Regions	Regional Manager	Project Officer	Pilot BAC Heads	Regional Manager	Project Officer	Pilot BAC Heads
Ashanti Region	1	1	21	1	0 (-1)	21
Northern Region	1	1	10	1	1	7 (-3)
Brong Ahafo Region	1	0	8	1	1	7 (-1)
Central Region	1	1	7	0 (-1)	0 (-1)	7

3. Evaluation on the results of the Project Risk Management

(1) Risk Management Result by JICA and the recipient country's government

Project has made the mitigation measures against risks as follows;

Risk Factor	Risk Management for Mitigation by the Project
Assignment of C/P	<ul style="list-style-type: none"> ● The retirement of the Directors in the NBSSI Head Office and PMU could have disrupted, however a quick assignment of the Project Manager (Ashanti Regional Manager) was made ● Some trained BAC Heads in number especially in the Northern Region are out of their posts due to several reasons, e.g. transfer, and resignation etc. The prompt training to non-pilot BAC Heads in the Northern Region is recommended and the plan was developed by the Northern Regional Office. The proposal is to be submitted to REP.
Assignment of Japanese Expert	<ul style="list-style-type: none"> ● Additional assignment of the PR expert for accelerating the delayed PR materials development
Management of Scheduling and Implementation	<ul style="list-style-type: none"> ● In order to execute planned activities, the Project has well discussed with NBSSI and flexibly modified the schedule, even NBSSI has received the invitation by the other institutions on the training/meeting with short notice.
Office Space and Working Environment	<ul style="list-style-type: none"> ● Project Office was planned to be located in Greater Accra, however there was no enough space in the NBSSI Head Office. The Project Office was set in the Ashanti Regional Office. After 2017 the Project Office was transferred to NBSSI Head Office. ● In order to utilize the Regional Offices during KAIZEN training, the JICA Project Team has procured tables, chairs and the air conditioners to Regional Offices to ensure the good working environment. Regional Offices did the 5S activities as well.
Budgetary Allocation by Ghana side	<ul style="list-style-type: none"> ● NBSSI has at least approached the other donors for partnering and sponsoring to secure the operational funds for the events such as Ghana Women Entrepreneur Summit in which KAIZEN disseminating is also supported by the Project Team. ● No additional allocation of funds by the NBSSI and Government are not realized for the Project. ● To compensate the delay in funding to KAIZEN practices agreed upon by REP and NBSSI, JICA has provided additional funds to support KAIZEN self-implementations with 100 MSMEs in three (3) regions, namely, Ashanti, BA, and Northern Regions in August 2017.

Over the period, Actions have been undertaken by Gov. of Ghana as follows:

MOTI has expressed its commitment to allow for the use of the resources under its control for the NBSSI KAIZEN application such as FZA (Free Zone Authority) and GEPA (Ghana Export Promotion Authority) to KAIZEN which are under negotiation.

MOTI has also mitigated the relationship between REP and NBSSI, which has made finally completed the MOU between them, REP extension up to 2022 in line with conversing of the BAC to the BRC (Business Resource Centres) will enable the NBSSI to increase the activities to the rural enterprise and newly establishing factories under the 1D1F initiative (One District and One Factory.)

(2) Result of the use of lessons learnt for this project and lessons learnt from similar projects have been used in the project.

- 1) From the previous project, the documentation of discussion, agreement. further actions and so on is critical to prompt implementation of the request, proposal and suggestion. The JICA Project Team has consciously issued documents to effectively follow up the matters to clearly deliver the requests and to prevent misunderstanding and the delay of execution of activities.

- 2) It is stated in the Ante Project Evaluation Report (in Japanese) as the experiences learnt in the similar projects that the responsibility rests on the counterpart organization to secure enough fund and resources to make counterparts organizations sustainably operate the KAIZEN dissemination in and after the TA project. In this aspect, the following activities have been made by the NBSSI.
 - NBSSI has conducted negotiations to make available REP fund for KAIZEN, which is realized towards the end of the Project. It is also noted that the REP will be extended to 2022 by the Government. However, the EDAIF funds that was expected to sponsor KAIZEN training and implementation before the Project is not realized because the EDAIF is transferred from MOTI to MOF (Ministry of Finance.)

(3) Lessons learnt that have been newly referred to or used in the project implementation and management phase.

JICA HQs since 2016 has initiated a series of Africa KAIZEN Knowledge Sharing seminars have made improvement of the motivation of KAIZEN dissemination in a whole of Ghana especially, certification, awarding and fee-based consultations if applicable, and also have contemplated the concept of KAIZEN institute; TICAD HRDC as centre of excellence for KAIZEN dissemination in Ghana and for the other countries in the West Africa. The participation on and the further understanding in Africa KAIZEN Annual Conference up to 2020 will enhance the way of the thinking of the KAIZEN utilization for NBSSI.

4. Lessons Learnt

The approaches and methods selected towards problem solving and the countermeasures for major risks that have arisen during the project implementation are described hereinafter as lessons learned.

(Sourcing the funds)

As a method to secure the collaboration mechanism with other donors and agencies, the approach by NBSSI is accelerated with the growth confidence of technical expertise and outstanding usefulness of KAIZEN achieved in the course of the Project and also the dominant effort by the NBSSI to receive funding for the KAIZEN and other activities, that is initiated by the newly appointed Executive Director. This change seems to be quite unique in governmental administrative institution, and it is well noted that the governmental initiatives will take on the leadership of the cause of KAIZEN dissemination. It is suggestible to other similar projects that the joint approach to secure the funds are well planned with the willing and able head of counterpart.

(For the Project Design)

- The professional training like KAIZEN trainer training is not well funded or resource allocated by both NBSSI as CP in Ghana and project/program implementation agencies like REP which recognize the trained professional services. It is suggestible in the contexts of the similar level of the countries like Ghana that trainings that the non-pilot regions like the Project should be accommodated with the notion that it is needed for the assessment of the TOT capacity of the KAIZEN trainers developed as well as to ensure the quick movement of the dissemination in

the post Project. This notion should be included in the design as the implementation of KAIZEN could be secured by the funding agencies like REP, but they are not ready for the support to the trainings of this kind to BAC Heads.

- The involvement of the academic institutions is to be catered for is not well articulated in the project design. It is suggestible that the approach to the academic institutions should be included in the components as they will expand the usefulness of KAIZEN to a wider audience apart from the enterprises.

(For the Project Implementation Methods and Approach)

- It is noted that the Project Team have introduced in the selection process of the pilot BACs in confirmation of their understanding of the KAIZEN and qualification level of the pilot BACs through the interviews. However, it is observed that some BACs independently worked and thought of his/her own interest rather than NBSSI organizational mission, which have caused some disturbances in some cases. The countermeasures, transfer to the other regions, was taken, however it resulted in decreasing of the number of pilot BAC Heads. It is suggestible that a kind of disciplinary regulations should be set out to mitigate those conducts.
- Even the consent letters for cooperation on OJT and information disclosure were signed by companies, some of large sized companies have changed their mind or could not fully cooperate to OJT. Based on analysis of these cases, the following points are recommended in relation to the client relation.
 - 1) If companies hire consultants, it should be considered that KAIZEN concepts should be well explained to these outside consultants as well and the cooperative relationship well developed to avoid competition which might mislead companies of negative impression on NBSSI.
 - 2) The timing of KAIZEN implementation should be well examined and agreed with the companies. The peak season would be preferable to implement KAIZEN, since the actual operation and challenges can be observed and analysed, however, some of companies cannot spend enough time to implement KAIZEN. The common ground should be found, which just before peak season or at the beginning of peak season would be recommend.
- It is noted that some KAIZEN related methodologies planned could not be in reality applicable to Ghana and its relevant companies, such as Total Preventive Maintenance, Man-Machine Chart, which are more relevant to the industries which many precision machineries equipped. These KAIZEN methods could be applied when these companies are developed in Ghana.
- Not enough numbers of MSMEs which are appropriate to advanced KAIZEN were identified by the lists of MSMEs provided by ministries and associations. It is also in the course of the Project that the identification of medium to large scale companies were also relied on individual networking to reach out the target number of OJT companies. To establish the fee-paying system, medium to large scale companies are required to be identified. Then these companies could be another array of the NBSSI clients. It is suggestible to find resource persons who have network with industry should be hired to identify the potential medium companies for the future expansion.

- In the course of the Project NBSSI set out the KAIZEN Unit / KAIZEN Department Somehow this could be earlier developed. This could make easier in terms of communication and fund raising activities, while credibility can be guaranteed by the team's joint effort and eventual good practice development. In this connection, PMU does not need to be set out only expected for the monitoring on the trainings, so the institution complication is avoided because there is an internal meeting. It is suggestible that at the onset, the focal department should be developed by the CP.
- It was often noted that the follow-up reports lacked information on the figure basis such as either daily or weekly or monthly and were short of proposals to the OJT MSMEs. The reasons were analyzed as follows:
 - Some of BAC Heads have difficulty in measuring and calculating of indicators of KAIZEN impact.
 - Most of micro, small scale enterprises are not able to keep properly records.
 - Some of companies are reluctant to disclose data.

It should be analyzed to what extent KAIZEN is effective for development of the MSMEs and eventually could contribute to economic growth in the target countries. Moreover, since the KAIZEN impact, both quantitative and qualitative, is crucial for PR to induce demands on KAIZEN from MSMEs and development partners, improvement of productivity, quality, profit and so on should be visualized.

It is suggestible that the following should be considered in design of the KAIZEN training.

- The training for assessment of KAIZEN impact should be incorporated in the lecture and OJT.
- BAC Heads are required to make management of MSEs understand importance of record keeping and continuously conduct follow up to MSEs to encourage to keep necessary records.
- Even if the data is not able to be provided by MSEs, BAC Heads should attempt to collect the data by interview from workers, using time study, video analysis and so on during Enterprise Diagnosis and KAIZEN implementation to enable them to compare the data for assessment of KAIZEN impact

(Others)

- Third party assessment of the effectiveness and the actual impact to the OJT companies, which is initiative by the JICA HQ and JICA Research Center have made a good way of providing the evidence to the partnering institutions, and others of the KAIZEN usefulness in the company performance. This can be complementary to good practices accumulated by the Project. In combination these will make a good promotion to potential companies or institutions as an evidence. It is suggestible that this kind of research is also included in the similar projects.

IV. For the Achievement of Overall Goals after the Project Completion

1. Prospects to achieve Overall Goal

As indicated in the explanation of DAC Evaluation in III.1, the overall goal based on its indicators are expected to be achieved. The indicators are shown below, and it is understood that the target is achievable based on the evidences during the Project; as for the Indicator 1, as illustrated in the table below a required number to achieve is workable in consideration of annual per person KAIZEN case required; as for indicator 2, it is achievable foreseeable with the sound track record in the Project.

Overall Goal	Objectively Verifiable Indicators
Enterprise Diagnosis and KAIZEN methods are introduced in all regions, and also micro, small and medium enterprises (MSMEs) that have practiced KAIZEN activities recommended by the National Board for Small Scale Industries (NBSSI) show improvements in their quality and productivity.	1. Enterprise Diagnosis and KAIZEN methods are introduced in all regions and more than 700 MSMEs practice KAIZEN activities recommended by NBSSI.
	2. More than 70 % of MSMEs that practiced KAIZEN activities recommended by NBSSI show the improvement on the basis of quality/productivity indicators

It is note that towards the end of the Project 247 companies (including the previous JICA Project) has taken KAIZEN practices, and the targets are set out for the 5-year period after the Project.

It is noted that the expected number of the implementation cases is stated as below as the allocation to meet the targets. National Expansion Plan by NBSSI is expected to achieve those targets

Ashanti: **264 MSMEs**

Year	Calculation	Number
- 2015	From the results of Phase 1 36 + 12+15=63 MSMEs	63
2016	Advanced KAIZEN OJT MSMEs: 6 MSMEs.	6
2017	Advanced KAIZEN OJT MSMEs: 12 MSMEs	32
	Self-implementation of KAIZEN: 20 MSMEs.	
2018	Advanced KAIZEN OJT MSMEs: 6 MSMEs	48
	Self-implementation of advanced KAIZEN: 7 MSMEs.	
	Self-implementation of basic KAIZEN: 35 MSMEs	
2019	23 BACs x 1 MSME (initially 21 BAC Heads, but 1 BAC Head will retire, and 3 new BAC Heads are expected to be trained. 21-1+3=23 BAC Heads)	23
2020	23 BACs x 1 MSME	23
2021	23 BACs x 1 MSME	23
2022	23 BACs x 1 MSME	23
2023	23 BACs x 1 MSME	23
Total		264

Northern: 131 MSMEs

Year	Calculation	Number
2016	KAIZEN OJT MSMEs : 6 MSMEs	19
	Self-implementation of KAIZEN: 13 MSMEs.	
2017	Self-implementation of KAIZEN: 4 MSMEs	4
2018	Self-implementation of KAIZEN: 23 MSMEs	23
2019	17 BACs x 1 MSME (initially 7 BAC Heads/Project Officer, but 10 new BAC Heads are expected to be trained. 7+10=17 BAC Heads)	17
2020	17 BACs x 1 MSME	17
2021	17 BACs x 1 MSME	17
2022	17 BACs x 1 MSME	17
2023	17 BACs x 1 MSME	17
Total		131

Brong Ahafo: 109 MSMEs

Year	Calculation	Number
2017	KAIZEN OJT Enterprise: 6 MSMEs	15
	Self-implementation of KAIZEN: 9 MSMEs	
2018	Self-implementation of KAIZEN: 24 MSMEs	24
2019	14 BACs x 1 MSME (initially 9 pilot BAC Heads/Accountant, but 1 BAC Head resigned, and 6 non-pilot BAC Heads were trained. 9-1+6=14)	14
2020	14 BACs x 1 MSME	14
2021	14 BACs x 1 MSME	14
2022	14 BACs x 1 MSME	14
2023	14 BACs x 1 MSME	14
Total		109

Central: 85 MSMEs

Year	Calculation	Number
2018	KAIZEN OJT MSMEs: 6 MSMEs	15
	Self-implementation of KAIZEN: 9 MSMEs	
2019	14 BACs x 1 MSME (initially 9 BAC Heads/Accountant, but 5 non-pilot BAC Heads are expected to be trained. 9+5=14)	14
2020	14 BACs x 1 MSME	14
2021	14 BACs x 1 MSME	14
2022	14 BACs x 1 MSME	14
2023	14 BACs x 1 MSME	14
Total		85

Total 589 MSMEs

NBSSI National Expansion Plan for other regions: Expected MSMEs which Enterprise Diagnosis and KAIZEN are provided to:

- Phase 2 (Greater Accra, Eastern, Upper East Regions) :
29 BAC Heads x 2 MSMEs =58 MSMEs
- Phase 3 (Upper West, Western, Volta Regions):
36 BAC Heads x 2 MSMEs =72 MSMEs

Total 130 MSMEs

Grand Total: 719 MSMEs

Precondition:

- 1) NBSSI secures enough human resources, management structure and budget to implement KAIZEN and OJT to non-pilot BAC Heads in the Northern, Brong Ahafo, Central and Ashanti Region, as well as introduce KAIZEN to the Eastern, Upper East, Upper West, Western and Volta Region.
 - 2) NBSSI secures enough capacities of BAC Heads to implement quality KAIZEN with MSMEs
 - 3) There exists a certain number of enterprises which appropriate to introduce KAIZEN
- 1) For Impact realization related

REP funding is expected to support the KAIZEN implementation (Fee for BAC head to provide KAIZEN service to companies) until 2022 to achieve the target number. The fund for KAIZEN training to the remaining regions (Pilot BAC head to provide KAIZEN training to non BAC head) has not been secured, even though it has been discussed with institutions, such as SDF, BUSAC, AfDB and so on, on their support to the training.

More funding arrangements are needed to cover up the medium enterprises and youth employment (employability), and also with the partnering with the academic institutions such as universities such as KNUST and UDS.

- 2) For the Sustainability rela

NBSSI is to secure the operational funds to manage the KAIZEN dissemination, which is a major risk element in the post Project. As for the organization capacity, the structure and capacity of the NBSSI Head Office, and KAIZEN Department is not fully upgraded to manage the National Expansion according to its National Expansion Plan. This requires some additional inputs by the NBSSI together with overall reinforcement of the staff members. Pay schemes are to be improved for self-financing, and also new funding schemes are to be developed

2. Plan of Operation and Implementation Structure of the Ghanaian side to achieve Overall Goal

(Plan of Operation): KAIZEN dissemination is made through the National KAIZEN Plan which is developed up to the end of the Project

(Internal structure): The Implementation of KAIZEN dissemination is management by the KAIZEN Department and according to the National Expansion Plan that shows the roll out plan after the Project. PPME in NBSSI is going to monitor the progress of the National Expansion. This should be clearly mentioned in the National KAIZEN Plan.

(External system): MOTI will be jointly supporting to develop in communication with the NBSSI for the realization of KAIZEN dissemination and also in relation to the Governmental 10 pillar initiatives. Other partnering institutions and stakeholders like BUSAC, SDF and RDF, in addition to the WB, USAID, and GIZ at the time can be an added financial input to the KAIZEN dissemination as a part of their programs and also additional inputs to the advancement of the technical expertise of the NBSSI staff members and to the implementation to cover new BDS development by the NBSSI which are not covered by the Project.

(Auditing and monitoring): NBSSI should invite the JICA Ghana Office on a regular basis

to have information exchanges based on the NBSSI monitoring results of the national expansion.

3. Recommendations for the Ghanaian/NBSSI side

In order to make a smooth operation to achieve the overall goal the following suggestions are made. It should be emphasized that the approach is to shift to the capacity development of Head Office and Regional Offices as service facilitation to the service provider, on a commercial basis.

For a short-term action;

- NBSSI Head Office is to make fully operational of KAIZEN dissemination by establishing the KAIZEN Department which will guide and control Regional Offices and BACs for KAIZEN implementation with a clear mandate, and resources, and required system development which includes the sustainable funding.
- KAIZEN Department and NBSSI Head Office to revise the National and Regional Expansion Plan which is to be authorized by MOTI
- KAIZEN Department and NBSSI is to strengthen the KAIZEN promotion to beneficiary SMMEs by the way of branding KAIZEN and intensified promotion.
- KAIZEN Department and NBSSI HQ is to conduct a regular monitoring of the regional offices activities to maintain the KAIZEN dissemination.
- NBSSI Head Office is to strengthen all the Regional Offices by formalizing and put effective “WORKFLOWS “developed in the Project.
- KAIZEN Department and NBSSI Head Office is to set out the appropriate cost sharing and fee scheme, as well as to secure access to fee paying enterprises; the willing to pay beneficiaries

For a long-term action;

- NBSSI Head Office is to develop, for sustaining the quality of KAIZEN application by the BAC Heads, adopt the Certification and Awarding system, and Motivation Inducement system which include incentives, training opportunities and also monitoring and assessment and evaluation.
- NBSSI Head Office is to sustain KAIZEN application by the companies by such as offering follow up supports, setting out motivation scheme such as awards, and also providing KAIZEN impact information such as profit and benefit.
- NBSSI Head Office is to recruit suitable BAC Heads staff members for KAIZEN activities
- NBSSI Head Office is to expand the interested parties especially in the universities and other sectors like service industries and also accommodate other ministries' interests.

- Expanding the interested parties especially in the universities and other sectors like service industries and also accommodate other ministries' interests.

Addressing well to the government policy changes; SME Policy, 1D1F in the transformation to EDA, which will serve the new BDS which goes along the KAIZEN exploring the ways expand more BDS provisions in line with KAIZEN expansion and with the KAIZEN being emphasized.

- Recruit suitable staff members for KAIZEN in no BAC Heads districts if and when applicable.

4. Monitoring Plan from the end of the Project to Ex-post Evaluation

It is suggested that a regular meeting at least every three months could be held between the JICA Ghana Office and NBSSI to check on the progress which is based on the National Expansion Plan. JICA Ghana Office is also expected to conduct the counselling/checking and advising on the following matters.

- (1) Advising/ Instructions
 - a) All the activities are controlled based on the PDCA cycle and number based
 - b) Some additional information exchange and clarification of the Ghana SME development
- (2) Checking points for KAIZEN
 - a) Progress of the performances in comparison to the targets and indicators in the National Expansion Plan
 - b) Progress of securing the funds for NBSSI and KAIZEN, and progress of the disbursement of the funds to the KAIZEN applications
 - c) The structural development and upgrading of KAIZEN Department in the NBSSI
 - d) Check on the control /management of Regional Offices and BACs
 - e) Promotional efforts by the NBSSI of the KAIZEN
 - f) The special attention to the KAIZEN activities on the Capital city BACs
 - g) Quality control in relation to the applicable technical standards are conducted
 - h) Development of certification and award system
- (3) Additional Supports
 - a) Conduct the third-party evaluation of the performance of the enterprises
 - b) Support to the Africa KAIZEN Annual Conference
 - c) Partnering with the ECOWAS countries for the KAIZEN Dissemination
 - d) Further training opportunists for advancement of KAIZEN training

Project Title: National KAIZEN Project in Ghana

Version 1

Implementing Agency: National Board For Small Scale Industries (NBSSI) (PMU and Ashanti Regional Office)

Dated July 2018

Target Group: Staff of NBSSI Headquarter (HQ) and Pilot Regional Offices (Regional Office Staff and BAC Heads)

Period of Project: Year 2015 to 2018 (3 years and 3 Months)

Project Site: Ashanti, Northern, Brong Ahafo, Central and Greater Accra Regions

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Enterprise Diagnosis and KAIZEN methods (*1) are introduced in all regions, and also MSMEs that have practiced KAIZEN activities recommended by NBSSI show improvements in their quality and productivity.	1-1. Enterprise Diagnosis and KAIZEN methods are introduced in all regions and more than 700 MSMEs practice KAIZEN activities recommended by NBSSI. 1-2. More than 70 % of MSMEs that practiced KAIZEN activities recommended by NBSSI show the improvement on the basis of quality/productivity indicators(*2).	Monitoring reports on National Expansion Programme Results of questionnaire survey for MSMEs	NBSSI continually secures the budget to implement BDS provision and facilitation activities.		
Project Purpose Capacity of NBSSI on its BDS provision and facilitation is strengthened in the four (4) target regions (*3) through the application of Enterprise Diagnosis, basic KAIZEN methods and advanced KAIZEN methods (*4).	1-1. More than 170 MSMEs of five (5) target regions undergo Enterprise Diagnosis provided by NBSSI and practice the recommended KAIZEN activities. 1-2. Assessment results of management capacity of NBSSI Regional Office of four (4) target regions and of capacity of pilot BACs on their Enterprise Diagnosis and BDS including KAIZEN provision and facilitation are improved by 48 %. 1-3. More than 41 KAIZEN methods are practiced by NBSSI in five (5) target regions.	Quarterly Monitoring reports Baseline / Endline Survey Results Quarterly Monitoring reports	NBSSI secures enough human resources, budget, equipment and facilities to implement the National Expansion (the Full-scale Expansion).	1-1 A total of 166 MSMEs experienced Enterprise Diagnosis and KAIZEN activities by July 2018. Ashanti: 67 MSMEs, Northern: 41 MSMEs, Brong Ahafo: 31 MSMEs, Central 15 MSMEs and Greater Accra: 12 MSMEs 1-2 The capacities were enhanced by an average of 52%. -Management capacity of NBSSI Regional Offices: 42% increased -The capacity of BAC Heads on their Enterprise Diagnosis and BDS, including KAIZEN provision and facilitation: Northern: 42% , Brong Ahafo: 62% , Central: 62% increased, -The capacity of BAC Heads of the Ashanti Region on their BDS provision and facilitation: by 50.8% 1-3 A total of 52 KAIZEN methods were implemented. 23 basic KAIZEN methods and 29 advanced KAIZEN methods*1	
Outputs Output 1 Management capacity of NBSSI Regional Office of three (3) new target regions (*5) is strengthened through the application of a Workflow for management improvement.	1-1. NBSSI Regional Office of three (3) new target regions prepares the Workflow, and integrates it with the annual plan. 1-2. The assessment results of NBSSI Regional Office of three (3) new target regions on their Workflow implementation meet a standard (more than 3.5 in 5-grade evaluation). 1-3. More than 75 % of activities listed in the Workflow is implemented in three (3) new target regions.	Workflow and Annual Plan of three (3) new target regions Assessment results of management capacity of Regional Office of three (3) new target regions by Japanese experts Quarterly Monitoring reports of three (3) new target regions	The Government of Ghana does not change the policy framework for the strengthening of BDS provision targeted MSMEs. NBSSI staff who took the trainings in the project do not leave their jobs.	1-1 NBSSI Regional Office in three new target regions prepared the action plan for the Workflow, and integrated it into the annual plan for 2016, 2017 and 2018. The budget for the Workflow action plan was reflected to the budget of NBSSI Regional Offices for 2019. 1-2 Based on the self-evaluation, the capacity related to Workflow was enhanced by an average 3.7. Northern: 4.0, Brong Ahafo: 4.0, Central: 3.0 1-3 14 kinds of activities out of 17, namely 82% of activities, in the Workflow action plan were conducted*2	
Outputs Output 2 Capacity of pilot BACs of three (3) new target regions on their BDS provision and facilitation is strengthened through the application of Enterprise Diagnosis and Basic KAIZEN methods.	2-1. The assessment results of capacity of pilot BACs on their Enterprise Diagnosis and KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation). 2-2. More than 70% of MSMEs that accept OJT show the improvement on the basis of quality/productivity indicators. 2-3. Pilot BACs implement Enterprise Diagnosis and KAIZEN activities to more than 40 MSMEs by themselves.	Assessment results of capacity of pilot BACs by Japanese experts Quarterly Monitoring reports Follow-up Report Quarterly Monitoring reports	The Government of Ghana does not change the policy framework for the strengthening of BDS provision targeted MSMEs. NBSSI staff who took the trainings in the project do not leave their jobs.	2-1 The capacity of pilot BAC Heads on their Enterprise Diagnosis and KAIZEN provision were enhanced to an average of 3.6 . - Northern Region: 3.6 based on the assessment by Ashanti trainer BAC Heads in 2016. - BA Region: 3.74 based on the assessment by Japanese Experts after the fourth advanced KAIZEN OJT in 2018. - Central Region: 3.48 based on the assessment by Japanese Experts after the fourth advanced KAIZEN OJT in 2018. 2-2 All OJT MSMEs in the Northern, BA and Central Region showed improvement of quality or productivity.*3 2-3 69 MSMEs in total have been benefitted by July 2018 Northern: 35 MSMEs, Brong Ahafo: 25 MSMEs, Central: 9 MSMEs	
Outputs Output 3 Capacity of BAC trainers (*6) on their KAIZEN provision is strengthened through the application of advanced KAIZEN methods in Ashanti region.	3-1. The assessment results of BAC trainers on their advanced KAIZEN provision meet a standard (more than 3.5 in 5-grade evaluation). 3-2. More than 70 % of enterprises that accepted OJT and practiced advanced KAIZEN activities recommended by BAC trainers show the improvement on the basis of quality/productivity indicators. 3-3. BAC trainers implement Enterprise Diagnosis and KAIZEN activities to more than 25 MSMEs by themselves.	Assessment results of capacity of BAC trainers by Japanese experts Quarterly Monitoring reports Follow-up Report Quarterly Monitoring reports		3-1 The average score of BAC trainers for 22 items was 3.97 . 3-3 BACs in the Ashanti Region implemented Enterprise Diagnosis and KAIZEN activities with 55 MSMEs .	
Activities 0-1. Implement a project baseline survey 0-2. Monitor the project activities regularly 1-1. Organize the training on Workflow application for NBSSI Regional Offices of three (3) new target regions 1-2. Implement the problem analysis of target Regional Offices and prepare the action plan for Workflow application 1-3. Prepare the Workflows in the target regions 1-4. Organize the training on Workflow implementation 1-5. Organize the workshops on progress and achievements on the Workflows 1-6. Update the reference materials on the Workflow 2-1. Set up the technical standards (*7) for pilot BACs 2-2. Set up the assessment methods and indicators for KAIZEN impact 2-3. Select the pilot BACs and MSMEs for OJT in three (3) new target regions 2-4. Organize the trainings on Enterprise Diagnosis and KAIZEN provisions (Orientation/Lectures, OJT and etc.) and evaluate the technical capacity of participants 2-6. Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the pilot BACs 2-7. Systematize KAIZEN cases and update the reference materials 2-8. Organize KAIZEN fora (*8) and promote information-sharing through media 3-1. Implement the needs assessment on advanced KAIZEN provision in Ashanti region 3-2. Set up the technical standards for the advanced KAIZEN methods 3-3. Set up the assessment methods and indicators for the advanced KAIZEN impact 3-4. Select the enterprises for OJT 3-4. Select the enterprises for OJT (*9) 3-5. Prepare modules and materials for the advanced KAIZEN provision 3-6. Organize the trainings on the advanced KAIZEN provision (Lectures and OJT) and evaluate the technical capacity of participants (*9) 3-7. Implement Enterprise Diagnosis and KAIZEN provisions by the BAC trainers who experienced OJT for themselves (*9) 3-8. Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the BAC trainers (*9) 3-9. Systematize KAIZEN cases and update the reference materials 3-10. Organize KAIZEN fora and promote information-sharing through media	Inputs Japan Side a) Japanese Experts: 85.90 MM in total 10 persons such as Chief Advisor/MSE Development, Deputy Team Leader/ Training Facilitation, Quality/Productivity Improvement 1, Quality/Productivity Improvement 2, Quality/Productivity Improvement 3, Project Coordinator/Public Relation Facilitation, PR Expert Business Analysis/Finance Analysis Coordinator of Training in Japan b) Short-term training : In Japan 1) 10 Northern BAC Heads from 26 Sep to 7 Oct 2016 2) 8 BA BAC Heads, 2 Ashanti BAC Heads and 4 MSMEs from 16 to 27 October 2017 3) 7 Central BAC Heads and 1 Ashanti Regional Manager from 27 August to 7 September 2018 c) Machinery and equipment necessary items for the operation of three (3) target Regional Offices and pilot BACs Northern Region: 11 Laptops, 11 Digital Cameras, 1 Colour Printer, 1 Projector and 1 Screen, 1 Air Conditioner, 1 Lamination Machine Brong Ahafo Region: 9 Laptops, 9 Digital Cameras, 1 Colour Printer, 1 Projector, 1 Screen, 1 Lamination Machine, and 1 Air Conditioner Central Region: 8 Laptops, 8 Digital Cameras, 1 Colour Printer, 1 Projector and 1 Screen. Ashanti Region: 19 Laptops Greater Accra Region: 3 Air Conditioner Project Office: 2 Laptops, 1 Digital Camera, 1 Binding Machine, 1 Black and White Printer, 1 Generator d) Part of the Project implementation cost	Important Assumption The system of service provision by NBSSI and BAC are not fundamentally modified. Pre-conditions NBSSI secures enough human resources and budget to implement the National Expansion (the Introductory Expansion). There exists a certain number of enterprises which have demands for KAIZEN BDS. Issues and countermeasures			

*1: "Enterprise Diagnosis and KAIZEN methods" indicate a series of KAIZEN activities including Enterprise Diagnosis, KAIZEN recommendations, Support for KAIZEN application and follow-up activities, based on the Strategic Model developed in the previous project.
 *2: "Quality/productivity indicators" are supposed to be introduced taking into consideration the applicability to MSMEs of Ghana (e.g.) production efficiency, error detection and etc.
 *3: "Four (4) target regions" include Ashanti, Northern, Brong Ahafo and Central Regions.
 *4: "Advanced KAIZEN methods" includes the KAIZEN methods which were not introduced through the previous project such as inventory management, cost management, production plan and etc.
 *5: "Three (3) new target regions" include Northern, Brong Ahafo and Central regions.
 *6: "BAC trainers" consists of eighteen (18) BACs out of eleven (11) pilot BACs and ten (10) non-pilot BACs of Ashanti region, who experienced the trainings on Enterprise Diagnosis and KAIZEN provision.
 *7: "Technical standards" indicate knowledge and skills that are expected to be mastered as KAIZEN providers / trainers after the trainings on Enterprise Diagnosis and KAIZEN provision
 *8: "KAIZEN fora" indicate the seminars to be organized in the target regions to promote the concepts, tools, good practices of KAIZEN with the participation of stakeholders, local MSMEs and educational institutes.
 *9: The Activities 3-4, 3-6, 3-7 and 3-8 are conducted in the Greater Accra Region as well as the Ashanti Region.

Project Title: National KAIZEN Project in Ghana

Monitoring

Inputs	Plan	JFY2015				JFY2016				JFY2017				JFY2018				Remarks	Issues	Solution
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV			
Expert																				
Yuzuki Ozawa (Chief Advisor/MSME Development/KAIZEN)	Plan																			
Risa Yokoyama (Deputy Team Leader/Training Facilitator)	Actual																			
Satoru Tajima (Quality/Productivity Improvement 1)	Plan																			
Mitsuo Tamada (Quality/Productivity Improvement 2)	Actual																			
Noriaki Yoshida (Quality/Productivity Improvement 3)	Plan																			
Chiaki Maruyama Kyohie Yamamoto / Eriko Kosuge (Project Coordinator/Public Relation Facilitator)	Actual																			
Chunichi Nakase (PR Expert)	Plan																			
Kyo Tamura (Business Analysis/Finance Analysis)	Actual																			
Equipment																				
Equipment for Regional Office, BACs and Project Office	Plan																			
Items: digital camera, colour printer with scanner, projector, screen, black and white printer, laptop, notebook, projector and air conditioner	Actual																			
Training																				
Training in Japan	Plan																			
Training in Third Countries	Actual																			
KAIZEN Knowledge Sharing Seminar in Ethiopia and Kenya	Actual																			

Outputs	Activities	Plan	JFY2015				JFY2016				JFY2017				JFY2018				Responsible Organization/Person	Achievements	Issue & Countermeasures	
			I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV				
	0-0. Organize the Project Management Unit	Plan																	Chief Advisor/Deputy Team Leader	NBSSI HQ	Project Management Unit, Technical Unit and Administration Unit members were set out in 2015. Some of members were replaced due to transfer/resignation.	<Issues> Some were replaced due to the retirement, resignation and transfer. <Countermeasures> stated in the OUTPUT-1
	0-1. Implement a project baseline survey	Plan																	Chief Advisor/Deputy Team Leader	NBSSI HQ	The project baseline survey was implemented from October to December 2015 to collect the necessary data and information for the detailed design, order of the Project activities and setting the target of POM indicators. The project endline survey was carried out from July to October 2018 to with the purposes of measuring the impact on KAIZEN and collecting the necessary data and information for the future plan of NBSSI BDS related to KAIZEN.	
	0-2. Monitor the project activities regularly	Plan																	Chief Advisor/Deputy Team Leader	NBSSI HQ	Monitoring of the project was conducted by PMJ periodically and the evaluation and recommendation were reported to Project Team. Five (5) monitoring reports were developed by Project Team and PMU in March and September 2016, March and September 2017 and March 2018, and they were submitted to JICA.	
	Output 1 Management capacity of NBSSI Regional Office of three (3) target regions is strengthened through the application of a Workflow for management improvement.	Plan																	Chief Advisor/Deputy Team Leader	NBSSI HQ	The components of and reference materials for the Workflow for the Regional Office were revised in 2015.	
	1-1. Organize the training on Workflow application for NBSSI Regional Offices of three (3) new target regions	Plan																	Deputy Team Leader	NBSSI HQ/Ashanti Regional Office	The introduction workshop on the Workflow was conducted with target regions from 16th to 20th November, 2015 in Kumasi. The self-evaluation on the targeted Regional Offices' capacity on implementation of each Workflow component was conducted to obtain the score at the outset of the Project.	
	1-2. Implement the problem analysis of target Regional Offices and prepare the action plan for Workflow application	Plan																	Deputy Team Leader	NBSSI HQ	Problem analysis and development of the action plan were conducted each year. It was confirmed that the Workflow Action Plans prepared by NBSSI Regional Office for three (3) new target regions were integrated with the annual plan for 2016, 2017 and 2018. Six (6) times workshops on progress and achievements of the Workflows.	
	1-3. Prepare the Workflows in the target regions	Plan																	Deputy Team Leader	NBSSI HQ	1) May 2016 in Kumasi, Ashanti 2) November 2016 in Tamale, Northern 3) May 2017 in Kumasi, Ashanti 4) December 2017 in Techiman, BA 5) July 2018 for Wereba, Central 6) September 2018 in Accra, Greater Accra	
	1-4. Organize the training on Workflow implementation	Plan																	Deputy Team Leader	NBSSI HQ	The following training were conducted Problem Analysis, Training Design, Networking, Lobbying, Proposal Writing, Leadership, Communication, Knowledge Management, Office Management, Human Resource Management, Study Tour of basic/advanced KAIZEN OJT MSMEs, Presentation on Overseas Training, Research on Economy, Report Writing.	
	1-5. Organize the workshops on progress and achievements on the Workflows	Plan																	Deputy Team Leader	NBSSI HQ	The capacity related to Workflow was enhanced by an average 3.7. Northern: 4.0, Brong Ahafo: 4.0, Central: 3.0	
	1-6. Update the reference materials on the Workflow	Plan																	Deputy Team Leader	NBSSI HQ/Regional Office	The reference materials were updated occasionally, and finalised in October 2018	
	1-7. Finalize the Workflow and National Expansion Plan	Plan																	Chief Advisor	NBSSI HQ	The Workflow was reviewed and revised in October 2018	
	Output 2 Capacity of pilot BACs of three (3) new target regions on their BDS provision and facilitation is strengthened through the application of Enterprise Diagnosis and basic KAIZEN methods.	Plan																	Chief Advisor	NBSSI HQ	The technical standards for basic KAIZEN were determined together with advanced KAIZEN in 2015.	
	2-1. Set up the technical standards (6) for pilot BACs	Actual																	Chief Advisor	Quality/Productivity Improvement 1.3	The technical standards for basic KAIZEN were determined together with advanced KAIZEN in 2015.	
	2-2. Set up the assessment methods and indicators for KAIZEN impact	Plan																	Quality/Productivity Improvement 1.3	NBSSI HQ	The methods, the indicators and format to measure the KAIZEN impact of at the enterprises were set in 2015, and they were reviewed occasionally and finalised in October 2018.	
	2-3. Select the pilot BACs and MSMEs for OJT in three (3) new target regions	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Regional Office	<Pilot BAC Heads> Pilot BAC Heads were determined based on the pre-selection by Regional Manager, the results of the evaluation with the selection criteria and interview by Project Team in 2015. The pilot BAC Heads of the Central Region were changed due to resignation and re-selected in 2017. <OJT MSMEs> Six (6) OJT MSMEs were selected in each region based on the profile sheet and interview with candidate MSMEs.	
	2-4. Organize the trainings on Enterprise Diagnosis and KAIZEN provisions (Orientation, Lectures, OJT and etc.) and evaluate the technical capacity of participants	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Regional Office	The first basic KAIZEN training in Northern Region was designed in February 2016, orientation and preliminary training for pilot BAC Heads were conducted in March 2016. Each role of TU/AU in Northern and Ashanti were confirmed. Trainer refresher training was carried out in March 2016. The basic KAIZEN training in the Central Region was conducted from Jan to Feb 2018 with six (6) OJT enterprises. The capacity of pilot BAC Heads in the Central Region on their Enterprise Diagnosis and KAIZEN provision was improved by 2.98 based on the assessment by Japanese Experts.	
	2-5. Implement Enterprise Diagnosis and KAIZEN provisions by the pilot BACs who experienced OJT by themselves	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Regional Office	Pilot BAC Heads and Accountant in BA Region implemented Enterprise Diagnosis and KAIZEN activities with 9 MSMEs from July to September 2017. Japanese Experts and Ashanti Trainer BAC Heads visited MSMEs to confirm implementation of KAIZEN and evaluated technical standard of BAC Heads which increased by 3.62.	<Issues> The delay of KAIZEN with 100 Businesses in the Northern Region was found. The re-selection of MSMEs for KAIZEN and low commitment to KAIZEN by some BAC Heads caused the delay. Also, only 4 pilot BAC Heads have remained in the Northern Region. <Countermeasures> Supervision of selection of MSMEs is provided by Regional Manager. OJT for non-pilot BAC Heads is implemented
	2-6. Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the pilot BACs	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Regional Office	Northern The follow up workshop and the third follow-up visits for the basic KAIZEN OJT MSEs by pilot BAC Heads were conducted in October 2017 with pilot BAC Heads and Japanese Experts. The third follow-up of self-implementation of KAIZEN MSEs were conducted from November to December 2017. BA The second follow-up visits for the basic KAIZEN OJT MSEs were conducted in January 2018 by pilot BAC Heads and Ashanti Trainer BAC Heads. The first follow-up visits for self-implementation of KAIZEN were conducted in January 2018 by pilot BAC Heads.	
	2-7. Systematize KAIZEN cases and update the reference materials	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Regional Office	KAIZEN good practice on OJT enterprises and self-KAIZEN implementation enterprises were developed by BA pilot BAC Heads.	
	2-8. Organize KAIZEN fora (7) and promote information-sharing through media	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Regional Office	8 Kaizen fora in 8 districts in the Brong Ahafo Region were conducted in February 2018 respectively.	
	Output 3 Capacity of BAC trainers on their KAIZEN provision is strengthened through the application of advanced KAIZEN methods in Ashanti region.	Plan																	Quality/Productivity Improvement 1 and 2	NBSSI HQ/Ashanti Regional Office	A needs assessment was implemented from October to December 2015. The needs of enterprises and NBSSI were assessed, applicable KAIZEN methods were identified by visiting MSMEs and interview.	
	3-1. Implement the needs assessment on advanced KAIZEN provision in Ashanti region	Actual																	Quality/Productivity Improvement 1 and 2	NBSSI HQ/Ashanti Regional Office	A needs assessment was implemented from October to December 2015. The needs of enterprises and NBSSI were assessed, applicable KAIZEN methods were identified by visiting MSMEs and interview.	
	3-2. Set up the technical standards for the advanced KAIZEN methods	Plan																	Chief Advisor	NBSSI HQ/Ashanti Regional Office	The technical standards were set up based on the results of the needs assessment.	
	3-3. Set up the assessment methods and indicators for the advanced KAIZEN impact	Plan																	Quality/Productivity Improvement 1.3	NBSSI HQ/Ashanti Regional Office	A number of assessment methods and indicators were set up to measure the impacts of advanced KAIZEN with the primary KGI's determined from indicators in cost, quality, and lead time. The format of assessment methods for KAIZEN impact was revised and the new format was explained to BAC Heads in January 2018.	
	3-4. Select the enterprises for OJT	Plan																	Quality/Productivity Improvement 1.3	NBSSI HQ/Ashanti Regional Office	MSMEs were selected for fourth advanced KAIZEN OJT. The enterprises that accepted OJT for advanced KAIZEN implementation were selected from the long list, and the final selection of six (6) OJT enterprises was decided in December 2016.	
	3-5. Prepare modules and materials for the advanced KAIZEN provision	Plan																	Quality/Productivity Improvement 1.3	NBSSI HQ/Ashanti Regional Office	The modules and materials for advanced KAIZEN training were prepared from October 2015 to January 2016. The modules consisted of twenty-one (21) subjects related to advanced KAIZEN methods and E methods, along with the modules not learned by the BAC Heads in the Phase 1. Lecturing material on costing was prepared.	
	3-6. Organize the trainings on the advanced KAIZEN provision (Lectures and OJT) and evaluate the technical capacity of participants	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Ashanti Regional Office	The third advanced KAIZEN training was conducted from 4 July to 15 September 2017 in the GA Region with 12 selected BAC Heads. The average score on technical standard on 22 items of advanced KAIZEN was improved by 4.05. The first advanced KAIZEN training was conducted with 1-week lecture and 4-week OJT from 25th January and 18th March, 2016. The JICA Project Team and PMJ evaluated the BAC Heads in line with the technical standards, gave them feedback. The management capacity of the TU/AU in Ashanti and PMJ were reviewed.	
	3-7. Implement Enterprise Diagnosis and KAIZEN provisions by the BAC trainers who experienced OJT by themselves	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Ashanti Regional Office	Enterprise Diagnosis and KAIZEN were implemented by 20 BACs with 20 MSMEs from October to December 2017.	
	3-8. Conduct follow-up of MSMEs provided Enterprise Diagnosis and KAIZEN through OJT and self-implementation by the BAC trainers	Plan																	Quality/Productivity Improvement 1.3	NBSSI HQ/Ashanti Regional Office	The second follow-up of the second advanced KAIZEN OJT MSMEs were carried out in September 2017, and the third follow-up for the second advanced KAIZEN OJT MSMEs and the first follow-up for the third advanced KAIZEN OJT MSMEs were done with Japanese Experts in Jan 2018.	
	3-9. Systematize KAIZEN cases and update the reference materials	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ/Ashanti Regional Office	Third advanced KAIZEN OJT MSMEs' Good Practice sheets were developed by BAC Heads.	
	3-10. Organize KAIZEN fora and promote information-sharing through media	Plan																	Deputy Team Leader/Project Coordinator	NBSSI HQ	The first KAIZEN forum and PR activities were planned.	

Duration / Phasing		Plan	JFY2015	JFY2016	JFY2017	JFY2018	Remarks	Issues	Solution
Monitoring Plan									
Monitoring	Joint Coordinating Committee	Plan							
	Set-up the Detailed Plan of Operation	Actual							
	Submission of Monitoring Sheet	Actual							
	Monitoring Mission from Japan	Actual							
	Joint Monitoring	Actual							
	Post Monitoring	Actual							
Reports/Documents	Progress Report	Actual							
	Project Completion Report	Actual							
Public Relations	Public Relation through KAIZEN Fora	Actual							
	Press release on the Project activities	Actual							