

National KAIZEN Project
in
the Republic of Zambia

FINAL REPORT

DECEMBER 2016

Japan International Cooperation Agency (JICA)

UNICO International Corporation (UNICO)
Japan Productivity Center (JPC)

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List of Abbreviation

APO	Asia Productivity Organization
C/P	Counter Part
CEO	Chief Executive Officer
DCCI	District Chamber of Commerce and Industry
EKI	Ethiopia Kaizen Institute
ICT	Information &. Communication Technology
IE	Industrial Engineering
ISO	International Organization for Standardization
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
JPC	Japan Productivity Center
JUSE	Union of Japanese Scientists and Engineers
KIZ	KAIZEN Institute of Zambia
MCTI	Ministry of Commerce, Trade and Industry
MLGH	Ministry of Local Government and Housing
MLSS	Ministry of Labour and Social Security
MESVTEE	Ministry of Education, Science, Vocational Training &. Early Education
MOF	Ministry of Finance
MSMEs	Micro, Small and Medium Enterprises
NPDD	National Productivity Development Department
OJT	On the Job Training
PAPA	Pan African Productivity Association
PS	Permanent Secretary
PSDRP	Private Sector Development Reform Programme
RDA	Road Development Agency
QC	Quality Control
QCC	Quality Control Circle
SME	Small and medium-size(d) enterprise
SNDP	Sixth National Development Plan
TEVETA	Technical Education, Vocational and Entrepreneurship Training Agency
ToH	Triangle of Hope Project
TOT	Training of Trainers
TQM	Total Quality Management
ZABS	Zambia Bureau of Standards
ZACCI	Zambia Association of Chambers of Commerce and Industry
ZAM	Zambia Association of Manufacturers
ZCSMBA	Zambia Chamber of Small and Medium Business Associations
ZDA	Zambia Development Agency

Zambian kwacha exchange rate (October 2016: Monthly exchange rate, JICA)

1ZMW=¥10.2934=US\$0.1023

Introduction

Introduction

This is a final report for the “National KAIZEN¹ Project in the Republic of Zambia” (the “Project”).

With an aim to improve work efficiency and productivity of the government and private sectors and reinforcing industry’s competitiveness, the Zambian government established the KAIZEN Institute of Zambia (“KIZ”) in October 2013, taking the first step toward the building of a sustainable system for promotion of KAIZEN. In developing and building the required system, the Zambian government requested Japan International Cooperation Agency (“JICA”) to provide technical cooperation for capacity building of KIZ including KAIZEN consultants, the building of the foundation for an organization to promote KAIZEN dissemination and deployment, and the formulation of a master plan for future KAIZEN development. In response, JICA started the Project in February 2014 as a JICA Technical Cooperation for Development Planning, for a scheduled period of two years.

In the first year of the Project (2014), however, KIZ – the local counterpart of the Project – was unable to achieve the results as planned due to the shortage of budget and human resource, which was partly because it was a newly founded institution. In the second year (2015), while various activities were initiated and conducted with some progress, it was agreed by the Zambian and Japanese sides that full-fledged institutional building and further KAIZEN dissemination and deployment would require support by JICA experts for a significant period of time. Thus, JICA has decided to extend the project period by another 10 months and continue its support. As a result, the Project period was extended until November 2016, for the total period of around three years.

This report constitutes a final report covering the results of the Project activities, which were conducted for almost three years, , and the comprehensive master plan. It is compiled to outline and review five progress reports that have been submitted so far.

1. Outline of the Project

(1) Purpose of the Project

The purpose of the project is; as JICA’s Technical Cooperation for Development Planning to develop a comprehensive master plan to build up organizations and systems relating to KAIZEN activity in Zambia, such as to ensure sustainable training of consultants capable of providing assistance and guidance relating to KAIZEN activity (“KAIZEN consultant”²), and to enhance the ability and capacity to promote the interest in KAIZEN activity; and to carry out

¹ “KAIZEN” in this report means the comprehensive activities of quality and productivity improvement.

² The KAIZEN consultant is defined as a KIZ employee who provides assistance and guidance relating to KAIZEN activity.

technology transfer to the KIZ and related organizations in Zambia for the purpose of building their capacity in KAIZEN-related fields and activities, thereby to contribute to autonomous initiation and expansion of KAIZEN activity in the country.

(2) Outline of expected outputs and activities

Three outputs expected from the Project and activities to be conducted to achieve the outputs are summarized as follows.

【For Output 1】 Organizations and systems regarding quality/productivity improvement through KAIZEN in Zambia are prepared:

- 1-1 to support the KIZ in formulating a mid-term and long-term plan (including staffs assignment, organization structure, etc.);
- 1-2 to formulate an implementation strategy of the KIZ;
- 1-3 to establish a mechanism for monitoring, evaluation and feedback of the above plans and strategy;
- 1-4 to establish a mechanism to secure financial resources required to establish self-sustainability;
- 1-5 to develop and enhance an organizational management framework for the KIZ including human resources;
- 1-6 to enhance a governing mechanism among the relevant ministries and organizations concerned;
- 1-7 to study parameters for measuring national-level productivity; and
- 1-8 to draft a comprehensive master plan for quality/productivity improvement of Zambia after the Project.

【For Output 2】 Mechanism to foster consultants continuously in KIZ, who provides quality/productivity consultation services through KAIZEN, is established:

- 2-1 to formulate a plan to train and enhance capacity of consultants (including consultation strategy, consultant segmentation, setup of variety of consultants, system for training, achievement level, system for qualification, etc.);
- 2-2 to implement training plans for consultants with evaluation and feedback.
- 2-3 to establish a self-sustainable mechanism to train consultants including training of trainers (ToT) manual and on-site manual; and
- 2-4 to train consultants and KAIZEN coordinators³ on an on-the-job-training (OJT) basis through on-site consultation services for pilot enterprises and model ministries/ relevant organizations.
- 2-5 to implement Total Quality Management (TQM) as a basic part of a consultant program.

³ The KAIZEN coordinator is a staff member of companies or government organizations, who takes a lead in implementation of an actual KAIZEN activity, and serves as an organization's leader under direct assistance and guidance of a KAIZEN consultant.

【For Output 3】 Capacities to promote and raise awareness on quality/productivity improvement activities are improved:

- 3-1 to formulate a strategy for promotion and information activities for quality/productivity improvement through KAIZEN;
- 3-2 to make promotion materials including leaflets, promotion audio/visual aid and website and to strengthen the relation with the media;
- 3-3 to plan and establish a self-sustained mechanism for improving seminars and promotion activities;
- 3-4 to formulate systems and processes for self-sustained operation and management of the National KAIZEN Conference;
- 3-5 to hold periodical KAIZEN coordinator meetings for information sharing and mutual development; and
- 3-6 to enhance collaboration with regional and international KAIZEN networks.

(3) Project area

While the Project basically covers all geographical areas of Zambia, OJT activities were mostly conducted in two provinces: Lusaka Province where the level of industrial concentration is relatively high; and Copperbelt Province where KAIZEN activities have already been carried out. Then, in the third year, Kabwe in the Central Province was added for implementation of the OJT program. On the other hand, one seminar in Livingstone in the Southern Province and two seminars in Kabwe in Central Province were conducted. (See the following map)



Fig. 1 Project Area

(4) Project Implementation Schedule

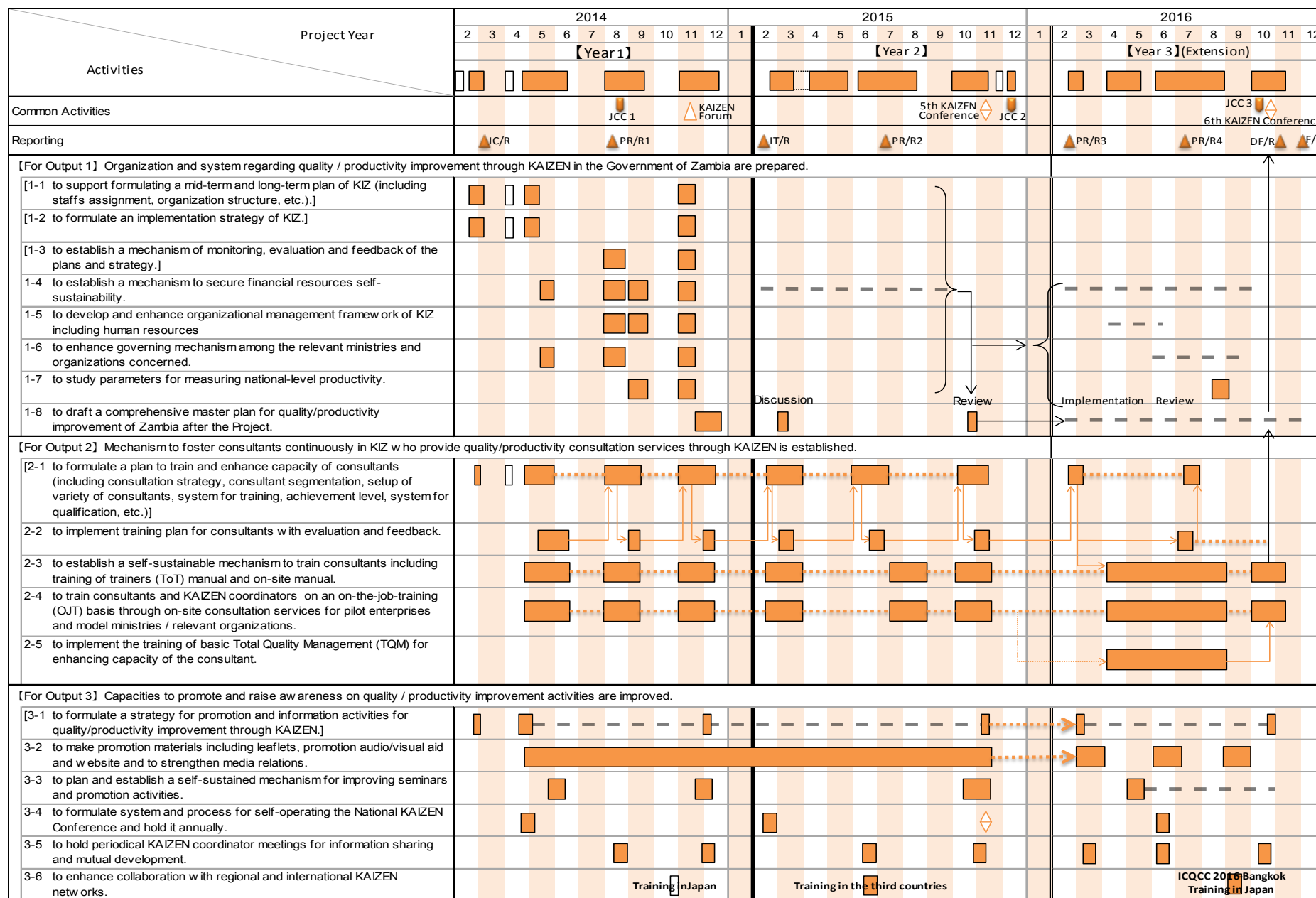
Although the Project has been undertaken since mid-February 2014 for the planned period of 24 months, most activities required extension of project period due to a significant delay in the development of the KIZ as an organization in the first year (2014). For completion of the Project, the period has been extended from twenty four (24) months to thirty four (34) months until December 2016. While the Project activities of the extended period are designed to include practical guidance of TQM, other activities are according to the original plan and have been carried out over the extended three-year period. The Project activities are divided into the following two phases (see Fig.2 “Activity Plan” and appendix 1. “Experts Assignment Table”).

In the Phase 1 (February 2014 – August 2015), the following activities were conducted: (i) information gathering and analysis relating to the formulation of the Comprehensive Master Plan, and evaluation and finalization of the draft plan (Output 1), (ii) development and implementation of a formal training system for KAIZEN consultants (Output 2); and (iii) designing and development of information dissemination activities and tools relating to KAIZEN (Output 3).

In the Phase 2 (September 2015 – November 2016), (i) improvement of capabilities and skills of KAIZEN consultants as trainer, the establishment of a training system for KAIZEN consultants and coordinators, and the development of a related KAIZEN dissemination system (Output 2); (ii) promotion of autonomous management of PR activity and the National KAIZEN Conference, and the establishment of the KIZ’s network with related organizations in and outside of the country (Output 3); and (iii) the preparation of a final report including the Comprehensive Master Plan (Output 1).

(5) Report submitted (month/year of submission)

- | | |
|-------------------------------|---------------|
| • Inception Report (IC/R) | February 2014 |
| • Progress Report (1) (PR/R1) | August 2014 |
| • Interim Report (IT/R) | January 2015 |
| • Progress Report (2) (PR/R2) | July 2015 |
| • Progress Report (3) (PR/R3) | February 2016 |
| • Progress Report (4) (PR/R4) | July 2016 |
| • Draft Final Report (DF/R) | November 2016 |
| • Final Report (F/R) | December 2016 |



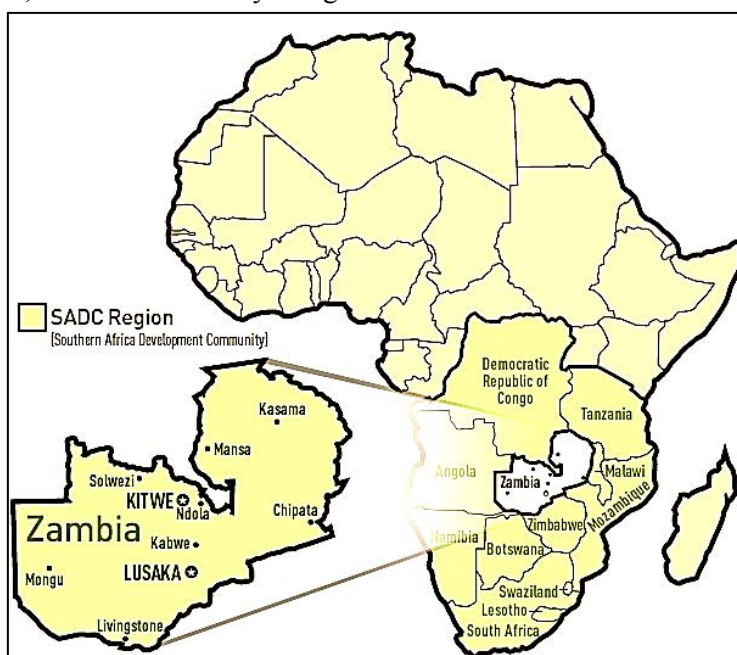
Note: Activities in parentheses are done for last two years.

Fig. 2 Work Plan

2. Socioeconomic Conditions

2.1 Land and population

Zambia is a landlocked country located in the southern part of Africa. It has a land area of 752,618km² and population of approximately 16 million (as of 2014). The country is bordered on the east by Malawi and Mozambique, on the south by Zimbabwe, Botswana and Namibia, on the west by Angola, and on the north by Congo and Tanzania.



Source: Aidsoversixty, 2011. <<http://aidsoversixty.wordpress.com/>>

Fig. 3 Geographical Location of Zambia

Most of Zambia's territory is located in a highland, savanna climate, characterized as a relatively moderate and dry weather within the African continent. Approximately 56% of its land is said to be arable, while less than half of which is actually cultivated. The country is also abundant with water resources, including rivers, lakes and groundwater. Together with the vast floodplains formed along and around rivers, Zambia accounts for approximately 40% of water resources in Central and Eastern Africa. These rich resources clearly indicate that the country has high potential for agriculture, irrigation, and hydropower development. In reality, however, they are not effectively utilized partly because the country has still to overcome often erratic weather conditions, i.e., the likelihood of draught in the dry season and of flood in the rainy season.

The country's population is concentrated in Lusaka which has a major industrial area, accounting for 17.5% out of 15,720 thousand population (as of 2014), followed by Copperbelt

(15.3%). The average growth rate of population during 2000 and 2010 was at 2.8%, while it has been around 3% in recent years.

As of 2012, the country's working age population (15 – 64 years old) was approximately 7.83 million, of which 5.39 million is reported to be the actual working population⁴. It should be noted that informal sector employment totaled 4.49 million (83.4% of total active employment) (see Table 1), many of which seem to work in the agriculture sector. The unemployment rate is relatively low at 7.9% in comparison to other African countries, seemingly reflecting the large informal sector employment, but it is expected that the actual jobless population far exceeds the official number.⁵

Table 1 Zambia's Working Population (2012)

(a)	Total Population	14,080,000	%
(b)	Working Age Population (15 years and above)	7,837,038	55.6% of (a)
(c)	Economically Active	5,845,240	74.5% of (b)
(d)	Active Employment	5,386,118	92.1% of (c)
(e)	Formal Sector Employment	894,095	16.6% of (d)
(f)	Informal Sector Employment	4,492,023	83.4% of (d)
(g)	Unemployed	459,132	7.9 % of (c)

Source: Republic of Zambia, 2013. "Draft Revised Sixth National Development Plan 2013-2016".

2.2 Macroeconomic Conditions and Industrial Structure

(1) Macroeconomic

As a result of fiscal reforms undertaken under the assistance of the IMF/World Bank, Zambia's macroeconomic condition reached the completion point (CP) of the Enhanced HIPC Initiative in April 2005. Partly due to the debt relief granted by foreign governments and international donor organizations, the country's debt indicators have significantly improved. According to the World Bank's World Development Indicators (WDI) in 2014, Zambia's GNI per capita was \$3,660. As a result, the country's status in the World Bank's classifications was raised from low income to middle income economy. At the same time, the national economy grew steadily in the recent five years (2009-13) with an annual average rate of 6.96%, partly thanks to the rise in copper price since 2004. This rate is higher than the average rate of African countries by 1.5%. As the five-year growth rate has nearly achieved the World Bank indicator of 7% - the growth rate required to double per capita income in Africa and other

⁴ Central Statics Office, 2012 "Living conditions Monitoring Survey Report 2006 and 2010". Approximately 50% of the population of Zambia is between Age 15 to age 64, which is slightly lower compared to overall African countries.

⁵ In particular, the decline of the kwacha currency in addition to lower demand of Zambia copper from China and the decline in copper prices in the international market to enter the 2015 fiscal year, a number of unemployment in Zambia copper mine workers has been increasing especially in the non-regular employees.

emerging economies over one generation., the Zambian economy up to 2013 is considered to be fairly strong among other African countries.

However, the macroeconomic conditions have recently descended from the previously steady pattern due to the recent slump in copper price, with significant declines in GDP and GNI since 2015. This has harshly affected the people's lives: people who live under the poverty line of 1.25 U.S. dollars a day account for 60.5% of the total population according to the 2010 statistics, which is higher in rural areas where the poverty class accounts for 77%. These data have not very been improved even though these days. Furthermore, the Zambia economy is clearly in a difficult state caused by twin effects of the copper price slump and the devaluation of the Kwacha. In response, President Lungu announced, in a parliamentary speech (the first session of the 12th National Assembly) on his administrative policies on 30th September 2016, the acceleration of industrial diversification and creation of one million jobs in the next five years. As Zambia still ranks ninth in the business environment among African countries⁶, it has high potential to become a stable business base if it can make progress in infrastructure development – especially electricity – and industrial diversification (away from dependence on copper products and diversification of revenue sources in foreign currency).

(2) Industrial structure

The agriculture sector in Zambia's industrial structure is rather low share in GDP, despite its dominance in working population (accounting for 65% of the total). On a GDP basis, the primary industry represents in the range between 12% and 15%, the secondary industry 40% and 45%, and the tertiary industry 48% and 55%. However, from the viewpoint of foreign currency earning, the mining industry boasts its overwhelming position.⁷ In particular, the country produces large amounts of copper, cobalt and gems, and uranium exports have recently started. Given the continuous investment it has received the mining sector is expected to play a central role in the country's industry. Nevertheless, as copper products (including black copper and cathode) - the country's major export items – are subject to considerable price fluctuation in the international market, a substantial downside risk is always present in Zambia's economy, which faces a major challenge of promoting “development of non-copper natural resources” and “effective linkage between the mining and the manufacturing industries” for creation of more diverse, resilient industrial structure.

Zambia's latest statistics of business establishments can be obtained from two sources, “Zambia Business Survey (ZBS), June 2010” and “2011 Listing Phase of the Economic Census.” The latest ZBS report indicates that there are around 30,000 MEs and SMEs throughout the country, plus around 1.02 million informal MEs and individuals (not registered with the Zambia

⁶ The International Bank for Reconstruction and Development/The World Bank, 2013. “Doing Business, 2013”

⁷ The break down of Zambia's export items are: intermediary goods 84.5%, primary material 6.9%, and capital goods 2.7%. The major export products are copper products such as cathode and refined copper which consists of 82.8% of export in 2012.

Revenue Authority). On the other hand, “2011 Listing Phase of the Economic Census” – which is considered as a reliable source of census information – covers most of business establishments including informal enterprises (even though they are not registered), which amount to 66,743. In this report, considering its broad coverage of enterprises, the latter has been selected to be used as the basis of further analysis on distribution of business establishments in the country.

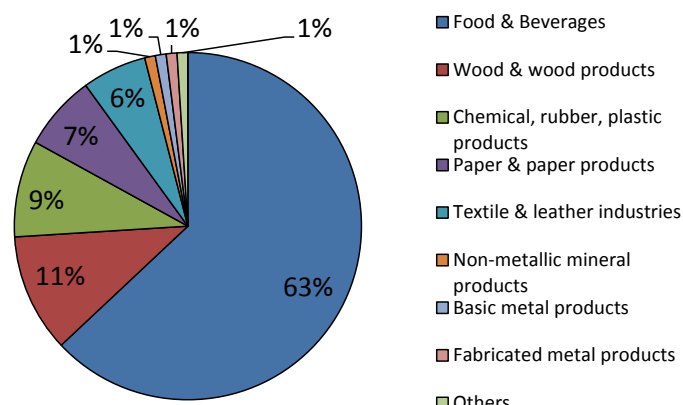
Table 2 Number of Business Establishments by Industrial Sector

Industrial Sector	No. of Business Establishments	%
Wholesale & Retail trade; repair of motor vehicles and cycles	39,278	58.8
Accommodation and food service activities	8,876	13.3
Other service activities	5,942	8.9
Manufacturing	4,745	7.1
Education	1,524	2.3
Administrative & support service activities	1,001	1.5
Agriculture, Forestry & Fishing	822	1.2
Financial & Insurance activities	753	1.1
Transport and Storage	707	1.1
Information & Communication	698	1.0
Human health & social work activities	633	0.9
Professional, scientific & technical activities	615	0.9
Construction	370	0.6
Mining and quarrying	249	0.4
Arts, entertainment and recreation	214	0.3
Real estate activities	141	0.2
Water supply, sewerage, waste management & remediation	93	0.1
Electricity	82	0.1
Total	66,743	

Source: 2011 Listing Phase of the Economic Census, Central Statistical Office

By industrial sector, “wholesale & retail trade: repair of motor vehicles and motor cycles” holds a dominant share at 58.8%, followed by “accommodation and food service activities” (13.3%) and “manufacturing” (7.1%)⁸. A detailed breakdown of the manufacturing sector is not available from the table. According to ZDA, the “food and beverage” sector accounts for nearly 60% of the total (Fig.4), then followed by woodworking and plastics. All in all, one of major characteristics of Zambia’s industry is found in relatively high concentration on food and products for daily use, in comparison to small share of machining, assembly and similar sectors.

⁸ These share are based on establishment survey, however the share of actual sales amount shows 19.3% for whole & retail sale, 8.1% for manufacturing, and only 1.5% for hotel & Accommodation service in 2014.



Source: ZDA, 2013. "Manufacturing Sector Profile".

Fig. 4 Breakdown of the Manufacturing Industry by Subsector

Table 3 presents the breakdown of business establishment data by size of enterprise and province. Notably, four provinces – Copperbelt, Central, Lusaka and Southern – account for an aggregate total of nearly 70% of all the establishments, reflecting the availability of rail service which runs through the provinces, together with wide accessibility to electricity and water. In particular, business concentration is clearly seen in Lusaka, which has the national capital and Copperbelt as the principal mining area. In particular, large enterprises show higher presence in these provinces.

Table 3 Distribution of Business Establishments by Size and Province

Provinces	Large		Middle		Small		N/A	Total	
Lusaka	2,074	45.4%	1,613	38.8%	10,654	26.4%	4,713	19,054	28.5%
Copperbelt	1,168	25.6%	1,033	24.9%	8,487	21.0%	4,001	14,689	22.0%
Southern	432	9.5%	371	8.9%	5,038	12.5%	2,062	7,903	11.8%
Central	333	7.3%	310	7.5%	3,737	9.3%	1,805	6,185	9.3%
Eastern	172	3.8%	229	5.5%	3,191	7.9%	1,206	4,798	7.2%
Western	77	1.7%	172	4.1%	2,263	5.6%	898	3,410	5.6%
Northwestern	114	2.5%	135	3.2%	1,954	4.8%	864	3,067	4.8%
Luapula	64	1.4%	85	2.0%	2,006	5.0%	813	2,968	5.0%
Northern	73	1.6%	110	2.6%	1,924	4.8%	788	2,895	4.8%
Muchinga	61	1.3%	97	2.3%	1,107	2.7%	509	1,774	2.7%
Total	4,568		4,155		40,361		17,659	66,743	

Source: Central Statistical Office, 2011 (Listing Phase of the Economic Census," p.13, Study Report for Formulation of Detailed Plans for the One Village One Product Project in the Republic of Zambia

2.3 Issues and Challenges for Industrial Development in Zambia

From the current macroeconomic conditions and industrial structure, industrial development in Zambia appears to face the following challenges and issues:

(1) Need for industrial diversification under the mono-culture economy

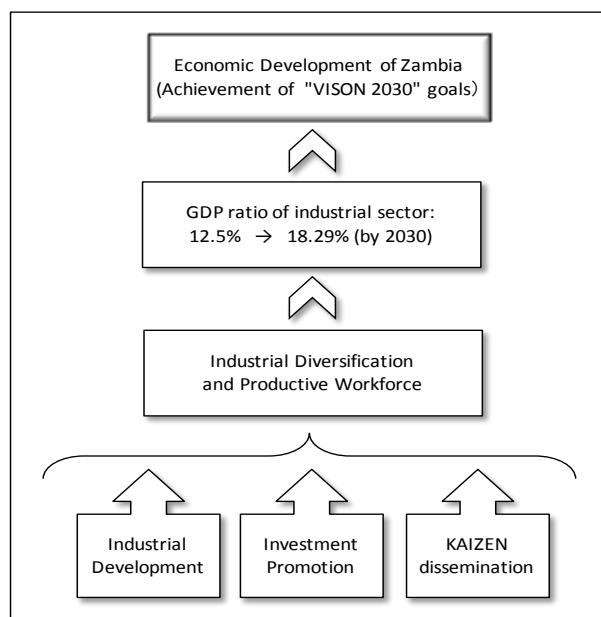
While the tertiary industry accounts for majority of the country's GDP, the copper industry (production and processing) leads the country's industrial activity. In recent years, the sector produces other minerals, including cobalt, lead, and zinc, which accounts around 75% to 80% of the country's exports (value basis) and forms the foundation of the national economy.

However, mineral resources are generally subject to violent price fluctuations in the international market, the Zambian economy is highly vulnerable to price declines, once occurred. For instance, worldwide copper prices are in a steady declining trend since December 2014, and international copper price hit its lowest at 5,571 US\$ per ton in January 2016 declined from 7,291 US\$ per ton in January 2015. This caused the decline of Zambia's planned GDP growth rate in 2015 from 7% to 3.6%. The negative impact persists in 2016 and seems to cause the 2016 government budget to become very tight. Furthermore, the mining sector does not have a high labor absorption effect⁹ and is now expected to reduce the workforce in increasingly intensive international competition. Under these circumstances, industrial diversification is an inevitable course of action for Zambia so as to significantly increase employment opportunities and to correct economic disparity between urban and rural areas, which are major challenges for the national economy. While some view that Zambia is close to become a middle-income country (from US\$1,916 up to US\$ 3,975), the economy must achieve an annual average growth rate of around 7%. All in all, ensuring the macro-economic stability and promoting industrial diversification that directly leads to job creation and income growth is considered to be a long-term challenge for Zambia's economic development.

In this connection, Zambia's long-term national development plan, "VISION 2030," sets forth a clear target of increasing the industrial sector's GDP share from 12.5% in 2004 to 18.29% in 2030. Furthermore, the Sixth National Development Plan 2011-15¹⁰ states a goal of sloughing off the mining-dependent economy vulnerable to market fluctuations by aiming for industrial diversification. This trend is expected increase further under the Seventh National Development Plan (2017-22). That is, the government intends to materialize country's industrial diversification through human resource development and productivity improvement, together with export and investment promotion as the key success factors. Thus, they are expected to help achieve long-term economic development goal by working together as three drivers (see Fig.5).

⁹ A share of employment in mining sector is only 1.5% of the total working labor in Zambia. (ZAMBIA Business Survey, June 2010 P13)

¹⁰ The 6th National Development Plan (2011-2015) was once revised and changed implementation period to 2013-2016.



Source: JICA Project Team

Fig. 5 Promotion of Industrial Diversification in Zambia

(2) Low productivity commonly seen in the Zambian industry

Low productivity seen in all parts of the Zambian industry is a large challenge for its development. According to a joint study report by ILO and WTO¹¹, labor productivity in Zambia is higher than that in Ethiopia and Malawi but lower than Kenya. Also the World Bank's report¹² indicates that the copper industry in Chile boasts per capita productivity that is seven times as high as that in Zambia, which seems to come from various problems, such as the lack of worker training and the absence of work morale, in addition to the technical problems such as the low level of facility and equipment modernization.

One of the most distinctive characteristic of Zambia's private sector is a dominant presence of self-employment enterprises and microenterprises employing five or less persons, which account for 88% of all business establishments in the country. It has been pointed out that this creates the following problems: the lack of the business environment that spurs competition, insufficient business capability (low educational levels of business owners), together with external problems such as shortage of investment in machinery and equipment, insufficient public support systems and programs, and the lack of organizations to provide support for improvement and upgrading of business management. Furthermore, business owners and managers, regardless of the sector do not fully recognize the need for productivity/quality improvement and those who have such recognition rarely initiate action.

¹¹ International Labour Organization and World Trade Organization, 2011. "Making Globalization Socially Sustainable". Chapter 2, Globalization, Structural Change and Productivity Growth.

¹² World Bank and USAID, July 2011. "What would it take for Zambia's Copper Mining, it's potential?".

Regardless of the business size, Zambian companies are still generally governed under the old principle of “master and servant” as is widely seen in the country, which prevents employees from making committed and continuous efforts to improve companies they work for, including productivity improvement, with initiative, positive mind-set, and a clear sense of participation. All these factors seem to work together to produce an unwanted result of low productivity in the entire industry.

In consideration of these conditions, “Private Sector Development & Competitiveness Strategy 2015-2019”, which is presented by Private Sector Development Programme (PSD) of the Government of Zambia, has taken up productivity improvement as a major policy objective by stating that changing of people’s mind-set and working attitude is essentially important for all people involved in production activities. This addresses a clearer idea on importance of quality/productivity improvement beyond the traditional development plans or strategies.¹³

(3) Issues and challenges in non-industry sectors

In Zambia, it is pointed out that there are strong needs for quality and productivity improvement in the primary and tertiary sectors as well as in the public sector. The tertiary sector shows the highest growth rate in the country, and transportation, commerce, finance, real estate, education, and tourism grow faster than the manufacturing sector. The commerce (wholesaling and retailing) sector accounts for around 20% of the country’s working population and is said to have a significant job creation effect, but it is actually dominated by small retailers, who have low awareness of quality and productivity. The tourism industry is also said to have high growth potential and is expected to increase GDP share to 8% over the five-year period between 2012 and 2017, while creating 300,000 jobs, but infrastructure investment, including the development of new air routes, upgrading of airport facilities, and construction of hotels, is progressed only slowly. As the recent, the industry’s service level remains fairly low. The private sector, especially electricity and roads, is mostly operated by monopolistic enterprises, where service and price are distorted. Also, the Zambian government points out the inefficiency of public service organizations as a major issue.

Thus, there are increasing needs for quality/productivity improvement (KAIZEN) in not only the mining and manufacturing sector but the rest of the sectors as well, which are expressed as “the improvement of service sector’s productivity and efficiency,” “raising-awareness for workers,” “upgrading of management capacity,” “improvement of worker moral with quality awareness,” and “improvement of government service.”

¹³ Private Sector Development & Competitiveness Strategy 2015-2019 mentions the importance of people’ mind set as follows, ”There has to be a deliberate effort to foster a competitive mind-set among citizens with a change in beliefs and attitudes by stakeholders, confidence and belief in the private sector.”

3. Positioning of Quality/Productivity Improvement (KAIZEN) in Government Policy

JICA's involvement in KAIZEN initiatives undertaken in Zambia was started in 2008 (see the next section 4.1 for detail). In light of the growing recognition on low productivity which is widely seen in the country, together with promotion of industrial diversification, the KAIZEN concept was introduced and caused the Zambian government to feel the need to initiate KAIZEN activity as a national movement, as seen in KIZ's prospectus. The initial focus was placed on efforts to improve quality/productivity in the industrial sector, and attention has been increasingly expanded to other sectors, and now to change the public mind-set.

When the introduction of KAIZEN was initially considered in Zambia, the first step was taken from the perspective of using it for quality and productivity improvement in the manufacturing industry, as seen in other countries. MCTI set forth the following policy objective in January 2009 as part of industrial policy: "to improve competitiveness of the manufacturing industry to a level where it can contribute to the country's export growth and increase the manufacturing sector's GDP share to 20% by 2015, and toward the goal, to provide education and training relating to technical skills and encourage technology investment relating to industrial products." KAIZEN program was decided to be promoted along this line at that time. Then, MCTI has been conducting KAIZEN program as one of the Private Sector Development Reform Program (PSDRP) since 2006. With that trend, KIZ's first year budget was disbursed through PSDRP.

It was in the speech made by President Edgar Lungu at the Fifth Session of the 11th National Assembly on September 18, 2015 when a clear announcement by a government leader to recognize the importance of quality and productivity improvement was made. Among many national issues addressed in the president's speech, promotion of people's mind-set and change in work culture are started as follows.

"Mr. Speaker, The transformation agenda requires worker productivity to significantly improve. This, therefore, calls for change in work culture. Government is, therefore, committed to having a productive workforce as a production for sustainable development and improved well-being of the people. Government has established the KAIZEN Institute and is also considering establishing a national productivity centre which will promote continuous improvement throughout the economy. To make use of the KAIZEN Institute, I have directed the Secretary to the Cabinet to ensure that continuous improvement is institutionalized in the public service." (Sic)

Thus, President Lungu, after reelection in August 2016, made a formal speech on his administrative policies for the subsequent five years at the First Session of the 12th National Assembly on September 30, 2016, including public commitments such as creation of one million

jobs, double-digit DGP growth, and single-digit inflation. He pointed out that industrialization would be the key factor and put an emphasis on policies and programs to promote industrialization. In the section on “Employment and Productivity” of the speech, the president explained as follows, on the basis of the previous year’s policy speech at the National Assembly.

“Government will, in this regard, implement measures to improve productivity both in the public and private sectors. These measures will include improving work culture, and the provision of appropriate skills. Following my directive during my address to Parliament last year, Government has begun the process of institutionalizing productivity and continuous improvement concepts in the public service.”

Political positioning of KAIZEN in Zambia is linked to a clear intent, as seen in the presidential speeches above, that economic development including industrial diversification should be promoted by combining awareness rising and productivity improvement efforts with investment and technological innovation. It should be noted, however, that creation of one million new jobs and industrial diversification to achieve the goal have already been announced by the previous administration as National Strategy for Industrialization and Job Creation (NSIJC).

NSIJC, announced in 2012, designated four key sectors – agriculture, tourism, infrastructure (energy and transportation) and manufacturing – and planned to create one million jobs by 2017. Sector-wise, it was planned to create 89,000 jobs in the manufacturing sector, 85,000 in construction, 300,000 in tourism, and 550,000 in agriculture. Within the manufacturing sector, processing of agricultural products, wood, industrial products, and pharmacy are considered to have high potential for job creation. Major challenges facing the manufacturing sector include low capacity utilization rates (around 20% of the sector’s total production capacity) and high production costs. NSLIC identified a variety of measures to promote the manufacturing sector and boost local products: (i) infrastructure development in integrated economic zones in the country; (ii) tax exemption measures; (iii) attraction of FDI to the automobile assembly, copper refining, pharmaceutical, and electronic equipment sectors; (iv) strengthening of production capacity of export companies; and (v) upgrading of product quality through compliance with safety and environmental standards.

At the central government level, the Office of the President Cabinet Office and MCTI has been playing leading roles in KAIZEN dissemination. In reality, however, they only define KAIZEN dissemination vaguely as one of their public policies and have not been able to put it into the implementation stage. According to the Director General of MCTI’s Industry Department, the government will propose specific policies and programs on the basis of the Comprehensive Master Plan to be developed under the Project. Furthermore, detailed proposals are expected to be included in the Seventh National Development Plan (2017-22), which is in the process of formulation, with regard to the dissemination and deployment of KAIZEN concept and activity.

4. Historical Background for JICA's KAIZEN Activity in Zambia

4.1 Official Support for KAIZEN Activity by the Japanese Government

(1) Triangle of Hope (ToH) Project

JICA's technical support for productivity improvement in Zambia was started in March 2008. Its origin dates back to April 2005, when the 50th Asia/Africa Conference was held in Indonesia, where the Japanese government announced, as part of its strategic partnership initiative, the launching of an ODA project to help the development of the environment to promote investment in Africa – Triangle of Hope (ToH) Project – in the spirit of South-South Cooperation by applying the results of productivity initiatives undertaken in various Asian countries under the leadership of Japan. The ToH Project included technical support for dissemination of KAIZEN practice to African countries as effective means to promote productivity improvement, one of which was Zambia.

(2) Sending of JICA-SV and experts

Actual technical support in Zambia was started in March 2008 when four JICA Senior Volunteers (JICA-SVs) were sent to the Zambia Association of Manufacturers (ZAM). Since then, JICA has been conducting activities to introduce and disseminate KAIZEN. Initially quality and productivity improvement (KAIZEN) activity, centered on QC circle activity, was conducted for domestic companies and organizations. As a result, it became recognized by the Zambian counterpart that KAIZEN activity would be applicable not only to the manufacturing industry but also to a wide range of industries and even to the public sector. In May 2010, the counterpart organization which receives JICA experts was shifted from ZAM to Zambia Development Agency (ZDA) under the MCTI. Also, in addition to JICA support, the Japan Productivity Center (JPC) under the contract with the Japanese Ministry of Economy, Trade and Industry (METI) started KAIZEN guidance (technology transfer) to Zambia National Productivity Development Department (NPDD) in 2010. Table 4 shows details on KAIZEN activities support by the Japanese Government.

Table 4 History of Japan's Support for KAIZEN Activities in Zambia

《JICA》

- The Japanese government started the ToH Project in July 2006
- Four experts were sent to Zambia in March 2008 on a short-term basis to hold seminars on production management technology, quality management technology, and human resource development, to teach the concept of “field-based KAIZEN”, and to provide field guidance and advice for selected companies
- Technical support for the Zambia Association of Manufacturers for three years starting in August 2009, including the eight-month residence of a JICA senior volunteer (SV); the start of KAIZEN practice by ZAM member companies, centered on QC circle activity and implementation of KAIZEN promotion seminars; and the shift of the activity center in March 2010 from ZAM to Zambia Development Agency (ZDA), including local deployment such as Copperbelt Province.

- Support for the holding of a nationwide KAIZEN practice conference held by 6 companies and 9 circles (which received the above technical support) to report individual KAIZEN initiatives and results in February 2010, which was then held continuously in 2010 – 2013 with increasing attendance (6 organizations and 9 teams at the first conference, 9 organizations and 20 teams at the second conference, 19 organizations and 30 teams at the third conference, and 37 organizations and 131 teams at the fourth conference). (Note that the groups that made reports at the conference included those who received technical guidance and advice from NPDD of the Ministry of Labor and Social Security and the KAIZEN Institute of Africa, a private organization.)
- Zambia Quality and Productivity Improvement (KAIZEN) Deployment Project started in February 2014 as JICA's technical cooperation project focusing on development planning and study.

《Support by the Asian Productivity Organization (APO) and Japan Productivity Center (JPC)》

- The Round Table Conference on Promotion of Productivity Movement in Africa was held in Johannesburg in August 2006, where Asian and African countries discussed on a master plan for productivity improvement (Zambia sent a representative of MLSS).
- The Pan-African Productivity Association (PAPA) and the Asian Productivity Organization (APO) held an expert meeting on formulation of productivity partnership programmes in Singapore in October 2008. Then in November, a basic training course for productivity specialists was held for 25 persons sent by the five PAPA member countries (including Zambia) in South Africa.
- JPC sent experts to NPDD three times in April 2010 to conduct technology transfer relating to KAIZEN to 6 NPDD staff members, which was completed by a meeting held at TICAD V (Yokohama) in June 2013 where they reported the results of technology transfer, together with representatives of other PAPA member countries.

Source: JICA consultant team

4.2 Establishment of KIZ

At the end of 2012 when JICA's expert assistance projects were completed, the Japanese and Zambian governments held discussion on the Dissemination of KAIZEN Activities in Zambia – positioned as a foundation of the Project – and the Zambian government decided to initiate preparation for the establishment of the KIZ under the direction of the Secretary to the Cabinet for the purpose of propagating KAIZEN more aggressively and widely on a nationwide basis. On January 24, 2013, the Steering Technical Committee (STC) responsible for the establishment of the KIZ was called by distributing the KIZ Project Development Concept Paper to related government ministries and organizations, namely MCTI, MLSS, MLGH, MOE, MOF, ZDA, ZABS, and ZAM. As a result of discussion made by these government organizations, it was decided to establish the KIZ jointly by ZDA and ZABS and under the leadership of MCTI. (See the chronological table on KIZ, Chapter 1, pages 1-2)

KIZ was registered as judicial entity on October 28, 2013, while the Project was officially launched in February 2014, but KIZ's organizational formation was actually started after April 15, 2014, despite of its status as counterpart. KIZ's formal establishment ceremony was not held until June 19, 2014. Then, KIZ failed to make a smooth startup in 2014 due to a delay in budget allocation, and full-fledged formation of KIZ occurred only in April 2015 and after. While it employed three administrative staff members in the latter half of 2014, it had only two consultants, seconded from ZDA and ZABS each. In April 2015, KIZ employed one consultant from the first consultant training program and four from the second consultant program (still underway). Meanwhile, the consultant seconded from ZABS returned to the original post. As a result, KIZ's

staffing in 2015-16 consisted of an acting CEO (transferred from ZDA and officially taken the CEO since November 2016), five KAIZEN consultants three administrative staff members, totaling nine. (Note: although trainees of the third consultant training program receive training at KIZ since April 2016, they have still to become formal employees.)

5. Outputs and Progress made in the Project

5.2 Progress made towards achievement of Outputs

All the activities described in the beginning of this report were totally carried out (outputs and activities expected from the project). Each activity's output and progress is summarized in Table 5 and more details are described in the following chapters.

Table 5 Summary of Expected Outputs, Activities, and Progress

Expected outputs and itemized activities	Latest status of progress
Output 1 Organizations and systems regarding quality/productivity improvement through KAIZEN in Zambia are developed:	
1-1 to support the KIZ formulates a mid- and long-term plan;	Draft plans for KIZ's core capacity to be developed, KIZ's organization and system to be built by 2020, its mandated services, and methodology for day-to-day operation, management (including operational budgets), and employee training, were prepared and proposed to the counterpart in the second year. The original draft plans were later integrated into M/P.
1-2 to formulate an implementation strategy of the KIZ;	An implementation strategy was developed and proposed in October 2014 to KIZ on the basis of the medium- and long-term plans, and the results of discussion were mentioned in the interim report submitted in January 2015. However, as KIZ only started its formal activity in January 2015 by hiring full-time staff, it has still to have the planned organization and system due to the shortage of the budget and manpower.
1-3 to establish a mechanism for monitoring, evaluation and feedback of the above plans and strategy;	Under the Project, evaluation has only been made on activity results of KAIZEN consultants and pilot companies/organizations. Evaluation methodology has been applied to KIZ consultants. The monitoring and evaluation of the plans and strategy will be conducted in and after 2017.
1-4 to establish a mechanism to secure self-sustainable financial resources;	KIZ has still to develop a mechanism to secure its own financial resources and continues to rely on the government budget for day-to-day operation and management. As such mechanism has been already proposed in the interim report, and after discussion, it was partially implemented in 2016 with an aim to establish it as a sustainable mechanism.
1-5 to develop and enhance an organizational management framework of the KIZ including human resources;	An employment plan for KIZ staffs and a KAIZEN consultant training plan are shown in the interim report. Except for the training of KAIZEN consultants, capacity development and strengthening of KIZ's staff is delayed in comparison to the original plan. Meanwhile, technical advice as JICA experts has been provided in various areas including budgeting and development of information transmission tools.

Expected outputs and itemized activities	Latest status of progress
1-6 to enhance a governing mechanism among the relevant ministries and organizations concerned;	A proposal was made with regard to effective collaboration with related organizations. Effort will be made to develop a formal mechanism on the basis of relevant experiences, such as the secondment of related government personnel to KIZ in the form of consultant training and KAIZEN guidance service for government agencies as pilot organizations. An attempt has been made for the building of a mechanism.
1-7 to study parameters for measuring national-level productivity; and	NPDD will be responsible for measurement of national-level productivity, while KIZ will focus on assessment of productivity at individual companies and organizations, thereby to establish clear allocation. KIZ has started to assess effectiveness of KAIZEN activities at various organizations, especially pilot companies in 2014. See Appendices from 5 to 11 and 13 for key outcomes of KAIZEN at pilot companies.
1-8 to draft a comprehensive master plan for quality/productivity improvement of Zambia after the Project.	A draft comprehensive master plan was developed and proposed to the counterpart. Extensive discussion will be held to agree on a final plan.
Output 2 A mechanism to foster consultants within the KIZ in a sustainable manner, who are capable of providing quality/productivity consultation services in the form of KAIZEN, is established:	
2-1 to formulate a plan to train and enhance capacity of consultants;	A plan for training and capacity enhancement of consultants (a draft plan was proposed in Chapter 6 of Inception Report and was revised each year, as well as 22 textbooks, has been developed and produced.
2-2 to implement training plans for consultants and to conduct their evaluation and feedback.	Three-stage evaluation (initial, intermediate, and final) of candidate consultants who received training in 2014 and 2015 was conducted (as a result, certification was completed until the second year).
2-3 to establish self-sustainable mechanism to train consultants including training of trainers manual and on-site manual; and	Based on the consultant training and capacity enhancement plan, as developed under Activity 2-1, training and capacity evaluation was conducted in 2014 and 2015, during which technical transfer to KIZ was carried out. In the process, technology transfer to KIZ has been carried out. A future challenge is to find lecturers who can replace JICA experts who currently serve as lecturers.
2-4 to train consultants and KAIZEN coordinators through on - the - job - training (OJT) of consultation services for pilot enterprises and model ministries and relevant organizations.	The OJT program was conducted for around 80 companies and organizations in the three years to certify around 60 KAIZEN coordinators respectively. On the other hand, 10 KAIZEN consultants have been certified as a result of the two-year training program (those who have completed the training program in the second year). Then 6 will be certified, totaling 16 in three years.
2-5 To conduct a basic training program with regard to TQM as part of the capacity enhancement effort.	Technical guidance on TQM practice is conducted for the Road Development Agency (RDA) as an additional item in 2016 (extended phase), including lecture. It is planned to conduct TQM activity over three years, and in the second half of 2016, an overall plan (including divisional goal setting according to management policy and activity plans) is developed in the form of a workshop including the head of local offices.
Output 3 Capacities to promote and raise awareness on quality/productivity improvement activities are improved:	
3-1 to formulate a strategy for promotion and information activities for quality / productivity improvement in the form of KAIZEN;	A strategy for KAIZEN-related promotion and information activities was formulated and implemented jointly with KIZ, although KIZ was not able to take a lead in information activity as it did not have full-time personnel in charge of promotion and information (KIZ therefore appointed a person in charge for each activity).
3-2 to make promotion materials including leaflets, promotion audio/visual aid and website and to strengthen media relations;	The KIZ logo, banner, pamphlets, newsletters, and DVD introducing KAIZEN were produced. As for media relations, the appearance on interview programs on radio and TV was made and relevant articles on newspapers and industrial organs were published.

Expected outputs and itemized activities	Latest status of progress
3-3 to plan and establish a self-sustained mechanism for improving seminars and promotion activities;	Technical guidance for KIZ was provided in the course of planning and implementation of KAIZEN seminars in Kitwe, Kabwe and Livingstone, and participation in various local events such as Agriculture & Commercial Show. At present, KIZ is becoming capable of taking leadership in planning and management of such programs and events, although the absence of full-time personnel and budget constraint still present a problem.
3-4 to formulate systems and processes for self-sustained operation and management of the national KAIZEN conference, and hold it annually.	The National KAIZEN Conference was held in a forum style in 2014 and 2016, and a competition style in 2015. The preparation committee was established for each conference and jointly planned and managed the event with the JICA team. Now, KIZ is expected to be capable of managing future conferences on a self-supportive and sustainable basis.
3-5 to hold periodical KAIZEN coordinator meetings for information sharing and mutual development; and	In November 2014, the KAIZEN Club was organized, mainly consisting of companies and organizations that participated in the OJT program under the Project. The club was formally registered in May 2015 as a NGO organization. It has periodically been holding study group meetings and other events, thus functioning as an important place for mutual learning and development in the area of KAIZEN.
3-6 to enhance collaboration with regional and international KAIZEN networks.	KIZ's representatives visited the Ethiopian KAIZEN Institute (EKI) twice in June and November 2015, while EKI sent representatives to the National KAIZEN Conference in 2015 and 2016 to make speeches. Thus KIZ has been successfully developing close relationship with EKI, which involves organizational exchange and cooperation as well as top management communication.

5.2 Outlook for Development and Improvement of Organizations and Systems relating to KAIZEN Dissemination

An activity under the Project, which has still to produce expected results, is the development and improvement of relevant organizations and systems under Outcome 1. As for information dissemination and PR activities relating to KAIZEN, use of IT tools is delayed in terms of commercial development, while KIZ has become capable of planning and managing seminars and the KAIZEN conference, in addition to production of PR tools. On the other hand, organizational and system development is behind the schedule, including KAIZEN guidance capacity of organizations that will become KIZ's partners in future KAIZEN dissemination and deployment, as well as the development of a collaboration system. In response, the comprehensive master plan makes most of its proposals within regard to "development and implementation of organizations and systems relating to KAIZEN dissemination.

Development and implementation of organizations and systems relating to KAIZEN dissemination is roughly divided into two elements. The first element is the reinforcement of KIZ's organization and capacity. Although initial development efforts were delayed due to an insufficient first-year budget, KIZ's financial condition has been improved after the second year on account of budget increase; in 2016, KIZ is expected to receive the budget in almost full amount in comparison to its request, despite a rapid decrease in government revenues. Also, the budget will increase further in 2017, according to KIZ's acting CEO. As a result, KIZ's staffs are

expected to reach nearly 20 (including the employment of third-year and fourth-year consultants in June 2017, the third year after its establishment).

On the other hand, Secretary to the Cabinet Dr. Roland Msiska has been making efforts to incorporate KAIZEN into the President's speeches and the next Five-year National Development Plan for the purpose of making KAIZEN a national movement, while appealing to MNDP to allocate the budget for dissemination activities. If disbursement of the budget will be approved, it will be disbursed not only to KIZ, but also to other ministries and agencies that will be actually engaged in KAIZEN dissemination.

For instance, MCTI, MLGH and TEVETA have intention to promote KAIZEN dissemination in collaboration with KIZ. They have already sent their staffs to KAIZEN consultant training by KIZ and have also received on-site KAIZEN guidance as pilot organizations of OJT. Also, ZAM, which has received KAIZEN consultation service, plans to receive KIZ KAIZEN consultants.

The present condition indicates that, while the KAIZEN-related budget for human resource development and dissemination activity will not increase rapidly, a steady increase will be made to develop necessary organizations and system, as seen from the present move of the Zambian government. In this connection, it is desirable that the government will implement programs proposed in the Comprehensive Master Plan.

6. Summary of the Comprehensive Master Plan

Key items of the Comprehensive Master Plan for KAIZEN Dissemination in Zambia, as proposed in this report, are shown below (title only). Detailed explanation is given in Chapter 2 of this report.

- ① The concept and methodology for quality/productivity improvement (KAIZEN) to be disseminated and deployed in Zambia will be established according to the country's social conditions and on the basis of experience and knowledge developed in Japan.
- ② Dissemination and deployment of KAIZEN will be promoted in all geographical areas and sectors in Zambia.
- ③ The Zambia National KAIZEN Committee will be established as the supreme council on KAIZEN dissemination, with the president as the chairperson, so as to make it clear that KAIZEN will be disseminated under a national program.

- ④ KIZ will disseminate and deploy KAIZEN in the country as a core organization to promote KAIZEN dissemination, under supervision of the Zambia National KAIZEN Committee and according to the National KAIZEN Development Strategy to be authorized by the committee.
- ⑤ To establish KIZ's self-support financial system that relies on revenues from its own activity as far as possible.
- ⑥ KIZ's KAIZEN consultant training course will be basically conducted for one year, with the educational curriculum consisting of lecture, OJT, and certification test.
- ⑦ KIZ will open a basic KAIZEN course for KAIZEN coordinators and the general public on a fixed fee basis.
- ⑧ Efforts will be made to improve consulting service, in terms of content and methodology, all the time in consideration of changing customer needs.
- ⑨ PR and information service activities will be conducted according to the process flow of information service/customer acquisition, preliminary diagnosis, and corporate consulting, with a primary objective to promote KAIZEN dissemination as national movement.
- ⑩ Assessment of productivity at national level is carried out by NPDD, while KIZ is responsible for measurement of KAIZEN effect at individual companies and organizations.
- ⑪ The National KAIZEN Conference is positioned as an event relating to the International Conference for Quality Control Circle (ICQCC) and is held annually under KIZ's management.

Chapter 1

Evaluation of Project Activities, Results, and Issues

Chapter 1 Evaluation of Project Activities, Results, and Issues

1.1 Project Activities and Results Related to Output 1

Output 1 under the Project is to prepare organizations and systems regarding quality/productivity improvement through KAIZEN in Zambia. In particular, KIZ is positioned as the core organization for KAIZEN dissemination in future. Under the Project, related organizations and systems will be built up, together with collection of relevant information such as a basic mechanism for dissemination activity, a basic mechanism for consultant training, the securing of financial sources, methodology for organization and coordination. At the same time, concrete proposals will be developed through discussion with related organizations in Zambia and trial implementation of action plans. Also, in the first year of relevant activities, KIZ's medium- and long-term plans in substance and activity strategies was formulated, and various activities were conducted on a trial basis, including local seminar and PR activities, and implementation of fee collecting services. Activities undertaken in relation to Output 1 during the past three years are described below.

1.1.1 KIZ's organizational and resource development

1.1.1.1 Historical background for KIZ establishment

The establishment of KIZ as an organization to promote efficiency, discipline and competitiveness in Zambia society as a whole, including public and private sectors, has been discussed since April 2013. As a result, it was decided to establish it as a legal entity in 2013. Then, on March 5, 2013, the first KIZ board meeting agreed on the primary objective of establishing KIZ as follows.

“The main objective of establishing the KAIZEN Institute of Zambia Limited is to increase wealth, broad based growth and improve the distribution of gains resulting from the practices of KAIZEN as part on the process towards improved competitiveness of industry and public service delivery consistent with the Vision 2030 of attaining a ‘Prosperous Middle Income Country Status’ by 2030 as well as the industrialization and job creation strategy.” (Excerpted from a document distributed at the First KIZ Board Meeting)

On June 19, 2014, KIZ officially held its launching ceremony and started to build necessary organizations and systems. However, KIZ was unable to hire KAIZEN consultant candidates – a key element of its initial activity – as planned due to a delay in the first-year budget allocation, and it was decided to conduct consultant training in the first year for mainly personnel from ministries and agencies relating to KAIZEN. Meanwhile, KIZ was not able to establish its activity base in the first year as it used ZDA's meeting room as its main office and held the launching ceremony at ZDA's facility, far from the start as an official organization. Due to the lack of a sufficient office

space and equipment (including vehicles), consultant trainees seconded from other organizations came to ZDA for training but were required to work at their original organizations. In November 2014, KIZ finally established its own office by moving to Kwacha House Annex, but due to late disbursement of the FY2014 budget (finally disbursed on December 31, 2014), completion of office facility and equipment was delayed until March 2015.

Preparation for the establishment of KIZ was started in April 2013, when a steering committee for the establishment of KIZ was organized under Mr. Stephen Mwansa (then Permanent Secretary of MCTI) as chairman, which discussed a plan to establish KIZ by June 30, 2013. In addition, as National Productivity Development Department (NPDD) under MLSS was in charge of productivity improvement, prior to KIZ, the steering committee discussed on possible role-sharing between KIZ and NPDD, especially positioning of KIZ. Finally, it was decided to establish KIZ as a legal entity under jurisdiction of MCTI and financial guarantee by ZDA and ZABS in terms of KIZ's initial capital, while leaving KIZ. Dr. Roland Msiska, Secretary to the Cabinet, was appointed KIZ's board chairman, together with board members being vice ministers or directors of six ministries and agencies, including MCTI.

Major actions undertaken after the conception of KIZ's establishment are listed below in a chronological order.

- September 13, 2013 ZDA and ZABS agreed on the establishment of KIZ in the form of Memorandum of Understanding (MU)
- October 28, 2013 KAIZEN Institute of Zambia Limited was formally registered.
- February 14, 2014 Meeting for establishment of KIZ was held under the call of the Secretary to the Cabinet – Dr. Roland Msiska, to appoint board members and confirm KIZ's Development Concept Note and MU signed by ZDA and ZABS.
- March 5, 2014 The first board meeting was held to discuss and adopt resolutions on KIZ's organization, personnel appointment, budget, office location, and job descriptions of managers.
- April 3, 2014 The second board meeting was held to discuss and adopt resolutions on the hiring of consultants and other personnel to meet requirements for implementation of the JICA project.
- April 15, 2014 The third board meeting was held to discuss and adopt resolutions on hiring, salary, KIZ's bank account, etc.
- June 19, 2014 The KIZ Official Launching Ceremony was held. (at ZDA)
- July 15, 2014 The fourth board meeting was held to discuss and adopt resolutions on KIZ's office regulations and the PSDRP support, together with confirmation on the progress of the JICA training program.
- October 30, 2014 KIZ office moved to Kwacha House Annex
- December 31, 2014 FY2014 budget was disbursed by Ministry of Finance

- June 1, 2015 4 consultants were recruited as KIZ staffs between June and August
- June 19, 2016 The number of staffs are 9. Until June 2016, 11 KIZ board meeting were held
- November 1, 2016 Mr. Mwitwa being appointed as CEO

While the period between October 2013, when KIZ was registered as legal entity, and May 2015, when first consultant candidates were employed, is considered as KIZ's startup phase, the period after June 2015 is said to be the period of organizational development. The shift was largely impacted by the third-country training program in June 2015, which was led by Secretary to the Cabinet, and conducted in Ethiopia. It was planned and managed by the JICA project team as part of the third country training program under the Project. As discussed earlier, the JICA project team concerned about a slow progress of KIZ's startup and planned a study tour on KAIZEN activity in Ethiopia for the purpose of raising awareness of government officials including KIZ board members.

The study tour group was able to examine Ethiopia that promoted KAIZEN activity as popular movement and to learn lessons from discussion with many persons in Ethiopia, who were engaged in KAIZEN. As a result, it was agreed to establish policy to promote dissemination and deployment of KAIZEN, as government, for the purpose of encouraging a change in mindset of people in all sectors and for the benefit of better living and working, thus going beyond KAIZEN activity in the manufacturing industry. At the same time, it was confirmed to set the direction of policy toward development of organizations and systems that help achieve the purpose. Then, thanks to Secretary to the Cabinet, Dr. Msiska's influence to MOF, and other moves, it was decided to allocate KIZ's budget as originally planned, and the Cabinet Office (by PSDRP) disbursed a budget relating to equipment purchase (including vehicles)¹, resulting in a major progress in installation of a new office.

As of the end of October 2016, KIZ's staff members totaled nine (including five consultants), headed by CEO Mr. Mwitwa. Then, as many as four persons will be employed from six consultant trainees, who are expected to complete the training program in December 2016², as KIZ consultants, and total staffing will reach 13 in January 2017.

¹ From PSDRP under the Cabinet Office, about 800,000 Kwacha was disbursed as financial support to KIZ. This amount was almost the same level of KIZ's 2014 budget and it was allocated to purchase, vehicle, computers, photocopier, desks, chairs, and so on. (The support was through the purchase actual equipments, not through provision of cash)

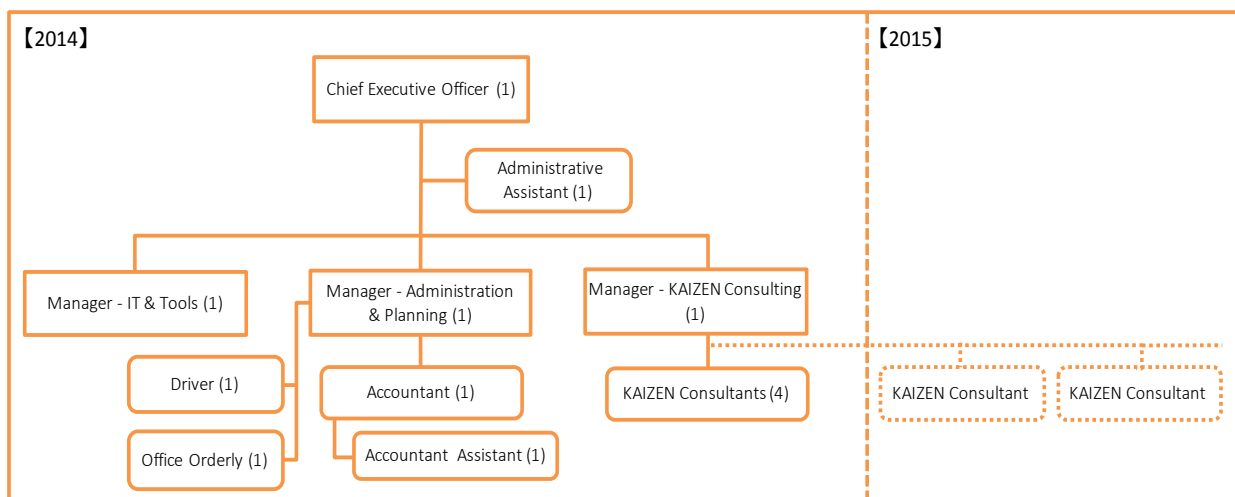
² Two out of six persons participate in the training program on a seconded basis and will likely return to their original posits after being certified as KAIZEN consultant.

1.1.1.2 KIZ's Organization

(1) Original organization plan

KIZ's organization approved by the first board meeting is shown in Fig.1.1.1-1. It was defined as a provisional organization (plan) to be formed within two years (2014-15) after KIZ's formal establishment. After the establishment, the board meeting reached the following agreements on organizational development in the initial period.

- 1) The organization for FY2014 consists of 11 persons including CEO, and two more persons are added in 2015.
- 2) Mr. Abel Chola Mwitwa (seconded from ZDA) is appointed as interim CEO and Mrs. Peggy Chituta (seconded from ZABS) as consulting manager.
- 3) The interim CEO serves for six months, starting in April 2014, and subsequent CEO will be selected publicly.
- 4) As KAIZEN consultants, the consulting management as well as two manager-class personnel is employed. (Meanwhile, six persons at maximum are accepted from other organizations for the 2014 KAIZEN consultant training program to be conducted by the JICA project team.) In 2015, two more KAIZEN consultants are employed.
- 5) Other staff members are employed from time to time to meet the needs.
- 6) The interim CEO is responsible for drafting service rules for KIZ staff members, including CEO, service conditions, salary structure, and administrative policies.
- 7) KIZ's office is established in Kwacha House Annex (1st floor) on Cairo Road.



Source: JICA Project Team

Fig. 1.1.1-1 KIZ's Organizational Chart

While the Project was started in February 2014, the establishment of KIZ's organization as the counterpart was not commenced until the third board meeting held on April 15, 2014. The first meeting was held to confirm the purpose of the establishment and review qualification of the provisional CEO, and the second meeting was called off because a sufficient number of

board members were not present. In the first year (2014), organizational formation was started by the provisional CEO (seconded from ZDA) and a consulting manager (seconded from ZABS). In May, nine consultant trainees were accepted. At the end of June, three staff members were hired. However, partly because the office was provisional and the budget disbursement was delayed, KIZ was unable to conduct full-fledged activity and show its presence.

(2) Further progress in organization and system buildup

In the second year, four consultants were hired (June 2015), and at the yearend (December 31, 2015), the staff count totaled nine persons, i.e., the interim CEO (appointed by the board meeting), five consultants, a secretary, a driver, and a caretaker. Thus, KIZ did not have a planned number of employees shown in the organizational chart (Fig.1.1.1-1), which continued until the end of October 2016, close to the end of the Project. In FY2016, it was planned to hire consultant candidates in number similar to the one employed in the previous year, but because participants in the 2016 consultant training program were generally young and did not have much work experience, it was decided to hire those who were certified as KAIZEN consultant. As trainees in the 2016 program have completed training, 4-5 certified consultants will be hired in January 2017.

The number of KIZ consultants has been on the steady increase, although not very many. The immediate tasks are the formal appointment of CEO and the employment of managers (or appointment from consultants). The appointment of CEO started in 2016 with public advertisement, and after the reviewing of candidates, the formal CEO will be appointed by the end of October 2016. On the other hand, although three persons were selected as managers, their hiring has not been finalized³. In particular, the accounting manager who is essential in budget management is provisionally assigned to ZABS's accountant, who functions as KIZ's check signatory. On the other hand, seminars and PR activities are managed by consultants on a time share basis (including the third-year consultants who participated in the training program in 2016). The provisional organization planned at the establishment of KIZ in 2014 will probably be realized in the fourth year (2017), and the next stage is to build up the organization that is capable of conducting full-fledged business as KIZ.

KIZ organizational chart is shown below as Fig. 1.1.1-2. The chart is planned as an organizational structure of the new organization, though this does not include IT and Public Relations staffs. The administrative section is covered by Interim CEO and Account Assistant is Ms. Monica Mwiche assisting the Accountant in ZDA which is a parent organization. Also, although it is not shown in the chart, KAIZEN Consulting section only has 5 staff members and

³ A person seconded from ZABS as consulting manager was appointed as manager but returned to ZABS in August 2015 for ZABS's convenience.

no manager. 6 KAIZEN consultants that are participating the training course from 2016 are supporting KIZ's daily tasks.

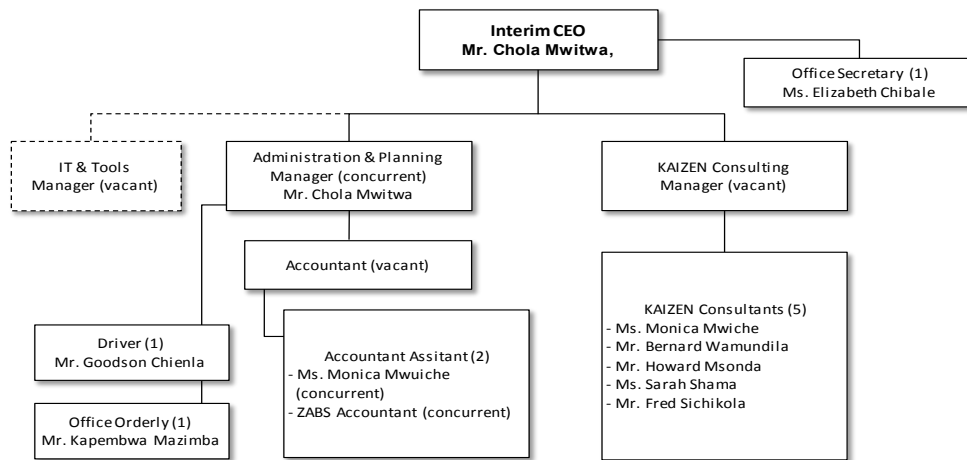


Fig. 1.1.1-2 KIZ Organizational Chart (October 2016)

(3) KIZ board members

KIZ has an executive organ (board) consisting of the following members and secretariats. First board meeting was held on March 5, 2014, after the JICA project team came to Zambia for the first time. The board is chaired by Dr. Msiska, Secretary to the Cabinet, consisting of members representing six ministries and agencies, two government organizations, and one private sector organization, as follows.

Secretary to the Cabinet, Cabinet Office	Chairperson
Permanent Secretary, Ministry of Commerce, Trade and Industry (MCTI)	Vice Chairperson
Permanent Secretary, Ministry of Labour and Social Security (MLSS)	Member
Permanent Secretary, Ministry of Local Government and Housing (MLGH)	Member
Permanent Secretary, Ministry of Education, Science, Vocational Training & Early Education (MESVTEE)	Member
Permanent Secretary, Ministry of Finance (MOF)	Member
President, Zambia Association of Manufacturers (ZAM)	Member
Director-Industry, Ministry of Commerce (MCTI), Trade and Industry	Member
Director, Zambia Bureau of Standards (ZABS)	Secretariat
Director-General, Zambia Development Agency (ZDA)	Secretariat

Note that four organizations that send board members, namely MCTI, MLSS, ZABS, and ZDA, has been seconding their staff members to KIZ for participation in the first year consultant training program. Also, MLGH and MESVTEE serve as pilot organizations for the OJT program, while no staff is sent to the consultant training program.

The board members mainly consist of high government officials (secretaries or CEOs of ministries and agencies in charge of industrial promotion). This means that KIZ has strong

support to perform its tasks and thus needs to work in close cooperation with the board member organizations.

(4) Duties of managers

At the first board meeting, the following four manager positions (including CEO) was approved.

- 1) Chief Executive Officer
- 2) Manager-KAIZEN Consulting
- 3) Manager-Administration and Planning
- 4) Manager-IT and Tools

Among them, two managers in 1) and 2) were appointed in April 2014. However, the manager in KAZEN consulting returned to its original post in August 2015, and it is still vacant in October 2016. The manager position in 3) is concurrently held by CEO. Job descriptions for the four managers are summarized below (as recorded in the document distributed at the first KIZ board meeting).

1) Chief Executive Officer

- Establish operational control systems to pursue achievement in planned objectives with organizations practicing KAIZEN countrywide and across sectors.
- Development of Key Performance Indicators by strategically reviewing all business objectives/requirements and environmental aspects (Houshin Kanri)
- KAIZEN education/training/consultation to external organizations
- Organize National KAIZEN Conference
- Coordinate the Institutes engagement with foreign related organizations on KAIZEN or quality and productivity improvement issues.

2) Manager-KAIZEN Consulting

- Promote business development and business consultancy
- Promote ISO 9000 certification
- Promote KAIZEN program widely across the country
- Provide value add to a range of services

3) Manager-Administration and Planning

a. Personnel/Administration:

- Personnel System Establishment and Management
- Staff Planning and Recruitment
- Performance Evaluation and Earning Management
- Staff Education and Training Program Management
- Office Space and facility Plan and Control

- Office Maintenance and Improvement
 - Safety/Security Plan and Management
 - JICA Expert Administrative Services
 - b. Finance:
 - Budget Planning and Control
 - Accounting Report and Recommendation
 - Cash Flow Control
 - Financial Plan and Control
 - c. Procurement
 - Purchase Requirement Control
 - Tender Control and Source Evaluation
 - Procurement Order/Receive/Payment Control
 - d. Business Planning and Operations
 - Internal/External Training Plan and Control
 - Seminar/Conference Plan and Control
 - International Relations Plan and Control
 - JICA Relations Plan and Control
- 4) Manager-IT and Tools Functions
- a. IT
 - Intranet Service Plan and Control
 - Internet Service Plan and Control
 - KIZ Web Site Plan and Control
 - IT equipment Plan and Control
 - Database Plan and Control
 - Data Analysis and Report and Recommendation
 - System Plan and Control
 - Information Security Plan and Control
 - b. Tools
 - QC Tools Plan/Setting and Control
 - Text (hard/soft) Preparation and Control
 - Seminar/Conference material Preparation and Control
 - Education/Training Tools Plan and Control

Their job description generally covers work areas required for KIZ's operation and management, and the three managers play an important role, so that qualified persons should be appointed as early as possible. Also, it is important to match the above work areas with KIZ's activities in the near future and to clearly define the role of each manager as key person in KIZ's organization. For instance, human resource development and consulting services, which are KIZ's key activities, should preferably be handled by different managers. Operation and management of seminars and KAIZEN conference, which are conducted as part of human

resource development and marketing activities, is defined as the area of IT manager’s responsibility. If this policy continues to be pursued, it is important to appoint the manager as early as possible. At present, consultants are engaged in these activities, while receiving training, and they are not in a position to devote their energies.

(5) KIZ consultants

The Project mandates the training of two KAIZEN-related experts, namely KAIZEN consultant and KAIZEN coordinator. Definitions and roles of KAIZEN consultant is summarized in Table 1.1.1-1.

Table 1.1.1-1 Definitions and Roles of KAIZEN Consultant and Coordinator

	KAIZEN consultant
Definition	Consultant providing technical guidance on KAIZEN activity at KIZ, receiving direct instruction from Japanese experts Employees of ZDA, ZABS and other related organizations, who have received specific training and have satisfied specific requirements, are qualified to become KAIZEN consultant.
Selection criteria	Proposed criteria ①Having strong desire for quality/productivity improvement (KAIZEN) in the field ②Having graduated from college and work experience for three years or longer ③Capable of being fully engaged in technology transfer conducted under the Project (attendance at lecture, KAIZEN OJT in the field, technical guidance to KAIZEN coordinator) ④Having PC skills including Word, Excel, PowerPoint
Primary activity	To use KAIZEN techniques learned from experts as part of technology transfer, for the purpose of identifying problems facing pilot companies, proposing KAIZEN solutions, and providing guidance for KAIZEN execution; in particular to use QC circle as a driver.
Training method	①Lecture by Japanese experts ②OJT in a pilot company/public sector ③Self-development through guidance for KAIZEN coordinators ④KAIZEN consultants who have participated since Phase 1 are trained as KAIZEN trainer.
Evaluation and certification	Evaluated by Japanese experts on the basis of written test results, skill map, and record in the OJT program, and other factors. Certification criteria and evaluation standard are determined through discussion with counterpart organizations.

Source: JICA Project Team

As for KAIZEN consultants, KIZ was unable to employ a planned number of persons (three in the first year) and recruited trainees including those seconded from related organizations. The trainees were selected through interview of persons who had fulfilled “selection criteria” in Table 1.1.1-1, including those seconded from other organizations; nine in the first year; seven in the second year; and eight in the third year. To this date, six trainees in the first year program and four in the second year program have been certified as KAIZEN consultants, and six trainees who will complete the third year program will likely be certified. As the original plan assumed the training of five KAIZEN consultants in the first two years, it

progresses accordingly, and when trainees in the third year program are added, the total number will become ten. Meanwhile, KIZ will obviously need more KAIZEN consultants in order to deploy KAIZEN nationwide, requiring further expansion of KIZ's budget and training program.

Tables 1.1.1-2, 1.1.1-3 and 1.1.1-4 show lists of consultant candidates who have been selected in the past three years.

Table 1.1.1-2 First Year Consultant Candidates

No	Name	Age	Previous organization & position	Present position
①	Ms. Peggy Kaunda Chituta	42	Zambia Bureau of Standards (ZABS) Metrology Manager	Zambia Bureau of Standards (ZABS) Manager, Import Quality Monitoring
②	Mr. Bernard Wamundila (KIZ employee)	47	Northern Technical College (NORTEC) Quality Assurance Manager	KIZ Consultant
3	Mr. McLean Sakala	41	Medical Store Ltd. Quality Assurance Manager	Medical Store Ltd. Quality Assurance Manager
④	Mr. Dismas Chapula	35	Ministry of Commerce, Trade and Industry (MCTI) Economist - Industrial Monitoring & Evaluation	Ministry of Commerce, Trade and Industry (MCTI) Economist - Industrial Development
⑤	Mr. Gabriel Musentekwa	48	Zambia Development Agency (ZDA) Academy Coordinator	Zambia Development Agency (ZDA) Manager
6	Mr. Malioty Kaimba	31	National Productivity Development Department (NPDD) Occupational Assistance Officer	National Productivity Development Department (NPDD) Occupational Assistance Officer
⑦	Ms. Muchemwa Siame	28	National Productivity Development Department (NPDD) Senior Productivity Measurement Officer	National Productivity Development Department (NPDD) Senior Productivity Measurement Officer
⑧	Mr. John Kapenda	42	Road Development Agency (RDA) Senior Manager Monitoring & Evaluation	Road Development Agency (RDA) Senior Manager Monitoring & Evaluation
9	Mr. Ndiwa Mutelo	37	Road Development Agency (RDA) Monitoring & Evaluation Officer	Road Development Agency (RDA) Monitoring & Evaluation Officer

Remark : Circle number were certified as KAIZEN consultant on November 2015.

Table 1.1.1-3 Second Year Consultant Candidates

No	Name	Age	Previous organization & position	Present position
1	Ms. Monica M. Mwiche (KIZ employee)	42	Kafubu Water and Sewerage Company Quality Control Manager	KIZ Consultant
2	Mr. Howard Musonda (KIZ employee)	38	Mulonga Water and Sewerage Co Manager Peri Urban	KIZ Consultant
3	Ms. Sarah Shawa (KIZ employee)	32	Zambia Bureau of Standards Senior Inspector – IQMS	KIZ Consultant
4	Mr. Mambo Chiluwe	46	Mach Consultancy Services Managing Consultant	Unknown
5	Mr. John Hikanyemu	47	Ministry of Agriculture and Livestock Senior Irrigation Engineer	Ministry of Agriculture and Livestock Senior Irrigation Engineer
6	Ms. Mutale C. Sichone	26	Gizmos/Arention Intern	Unknown
7	Mr. Fred Sichikolo (KIZ employee)	28	Self employed Transport engineer	KIZ Consultant

Remark : Persons who are written with a thick letter are KZ employees including Mr. Bernard.

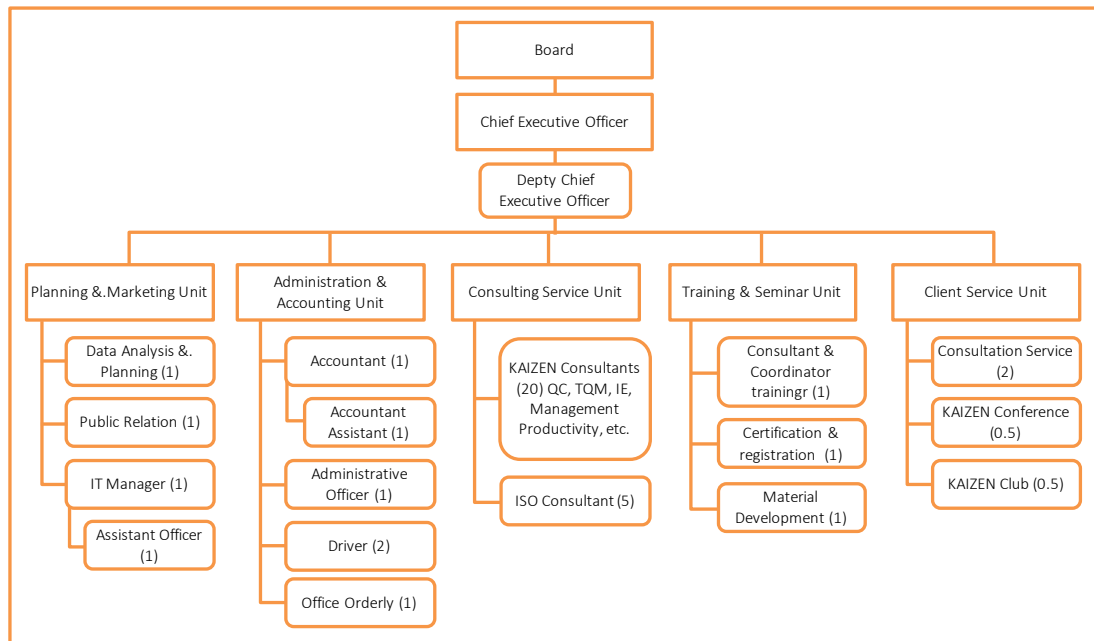
Table 1.1.1-4 Third Year Consultant Candidates

No	Name	Age	Previous organization	Present position
1	Mr. Voster Nkukumbani	27	Chikanta District Council Trainee Planning Officer	KIZ Consultant (expected)
2	Ms. Febby Msango	25	University of Zambia (graduated in 2014)	Ministry of Labour
3	Ms. Bwalya Mwansa Tembo	30	Ministry of Agriculture, Fisheries and Livestock Senior Livestock Production Officer	KIZ Consultant (expected)
4	Mr. Webster Hamoonga	40	Konkola Copper Mine Business Excellency Coordinator	Konkola Copper Mine Business Excellency Coordinator
5	Ms. Praise Luwaile	26	Electoral Commission of Zambia Assistant Registration Officer	KIZ Consultant (expected)
6	Mr. Aaron Magwenzi	25	University of Copperbelt (graduated in 2015)	KIZ Consultant (expected)
7	Ms. Vasumathi Vriddhagiri	42	Iyso Consultants (NGO) Consultant	Iyso Consultants (NGO) Consultant
8	Mr. Gilbert Kiprios	24	Optimus Building and Civil Contractor Operation &. Marketing Exec.	KIZ Consultant (expected)

Remark : Persons with thick letter are supposed to be certified as KAIZEN consultant on Dec. 2016
 Source: JICA Project Team (Table 1.1.1-2~Table 1.1.1-4)

(6) Future outlook for KIZ’s organization

KIZ’s organization confirmed at the first board meeting is shown in Fig.1.1.1-1, but it is designed for the startup phase. A permanent organization under the middle- and long-term plans was proposed by the JICA project team as shown in Fig. 1.1.1-3. It will ultimately employ 50-55 staff members, which is also proposed in the Comprehensive Master Plan.



Source: JICA Project Team

Fig. 1.1.1-3 Proposed New KIZ’s Permanent Organization

In considering the future KIZ organization, an additional care should be given to the treatment of KAIZEN consultants who have been certified by participating in the training program on a secondment basis. As of October 2016, there are five persons outside KIZ, who have obtained certification. While KIZ will continue to conduct the KAIZEN consultant training program in Zambia, it can be expected that all of participants (persons certified as KAIZEN consultant) will not necessarily belong to KIZ. Certified KAIZEN consultants on a secondment status will generally return to their original posits after certification, but they may be hired as lecturer of KIZ's human resource development program or field leader or adviser. Also, they are expected to serve as an organization's leader in KAIZEN promotion. For KIZ as well as the Zambian government, it is imperative to use all KAIZEN consultants as an integrated, available resource. Note that possible collaboration with outside KAIZEN consultants is proposed as part of networking under the Comprehensive Master Plan.

(7) Collaborating organization for dissemination of KAIZEN and the possibilities

The organizations such as MCTI, ZDA, ZABS, and NPDD are considered as possible supporting organizations of KIZ in order to disseminate KAIZEN in Zambia. Some staffs from such organizations were seconded as KIZ KAIZEN consultant candidates to receive training from the first year of the project. In addition, 3 organizations namely MLGH, ZABS and one of the technical colleges NORTEC became OJT model organizations and are continuously training KAIZEN coordinators as well as implementing KAIZEN in their companies (gemba). In this way, the formation to promote KAIZEN activities has been already started through the first year consultant trainings. This framework will be enhanced by KIZ's continuous effort from second year of the project, by receiving human resources from related organizations and supporting those organizations by training consultants and making them as model organization of KAIZEN implementation.

On the other hand, KIZ's largest challenge is the local dissemination and deployment of KAIZEN. In general, Zambia's ministries do not have local networking offices (such as branch offices) in most of the cases. Therefore, it is important to collaborate and utilize local organizations in each district. The candidate organizations will be district Chambers of Commerce and Industry under ZACCI, district business associations under ZCSMBA, and vocational training institutes under TEVETA. The private consultants under these organizations as well as lecturers of vocational training institutes are expected to be trained as KAIZEN consultants and to become facilitators of KAIZEN dissemination in local areas.

The approved KAIZEN consultants who have participated training programme seconded by other organizations are well qualified and are expected to become trainers. It is important to consider how to best utilize these human resources. Amongst those organizations that have dispatched their staffs to KAIZEN consultant training programmes, NPDD and ZABS are willing not only to implement KAIZEN activities within their organizations but also to develop their activities to providing consulting services in the future. In addition, as an educational institution, NORTEC is willing to include KAIZEN within their curriculum. Thus, such kind of

collaboration with organizations that are willing to develop outreaches will be a major style at the beginning. However, it is necessary for KIZ to be prepared with the conditions of such styles of service provision.

1.1.1.3 Securing of KIZ's financial source

(1) KIZ's budgeting mechanism⁴

KIZ is operated under the Zambian government budget as it is positioned as a public organization under MCTI. The government budgeting procedure in Zambia is summarized as follows.

- 1) A general guideline and ceiling for the national budget are presented by MOF to each ministry in around June each year (Call Circular to Ministries).
- 2) Each ministry submits its budget proposal, including budgets for organizations under its supervision, to MOF in mid-August.
- 3) MOF and each ministry jointly review the budget proposal. Generally, the secretary-level negotiation is considered to be most important, and secretary of each ministry is accountable to budget proposals for affiliated organizations.
- 4) After negotiation with each ministry, MOF compiles a national budget proposal.
- 5) The financial minister will express his formal opinion on the next year's budgeting policy and intent (around the end of August).
- 6) The budget proposal is submitted to the Diet for discussion and approval. The approved budget proposal is called the appropriation bill and is published on the Yellow Book.
- 7) The budget approved by the Diet is returned to MOF and starts to be disbursed accordingly.

Generally, the Zambian government budget is rarely distributed 100% by the end of each fiscal year, ranging between 50% and 90% of the annual budget. The average rate is around 70%, but it declined to around 60% in 2015 and 2016, during which tax revenues decreased significantly. As a result, most ministries and agencies faced restraint on program budget, while labor costs were secured. Meanwhile, a public organization under a ministry may be able to receive a special budget under the ministry's consideration, in addition to a formal budget disbursed by MOF.

KIZ's 2014 budget is treated as one of MCTI's program budget (SMSE development program), rather than a special budget for an independent organization. The program budget is disbursed quarterly, subject to review and adjustment. As for KIZ's budget, Department of Industry of MCTI negotiates with MOF in each quarter.

⁴ Fiscal year of the Zambian government is from January 1st to December 31.

Since 2015, KIZ's budget has been removed from MCTI's program budget and is positioned similarly to other organizations under MCTI, namely "grant to institution – operational activities budget." ZDA, ZABS and other organizations under MCTI are budgeted under this category. It should be noted, however, that the budget application process is same, namely KIZ's budget continues to be requested to MOF via MCTI, including the 2016 budget. Whether it is the program budget or the operational activities budget, the budgeting process is made through MCTI, so that the budget proposal is reviewed by MCTI before being submitted to MOF. Thus, KIZ's budget in the past three years has been processed in such manner. Meanwhile, budget disbursement by MOF is made via ZANACO.

(2) FY2014 budget

KIZ's first budget for FY2014 amounted to around 750,000 Kwacha. Originally, when a plan to establish KIZ was made, the initial budget was estimated at around 3.1 million Kwacha including infrastructure and human resource development costs. Thus, actual budget disbursement was one fourth the original budget estimate. To meet additional financial needs, therefore, it was decided to call for external support including international donor organizations (e.g., JICA) where possible. In fact, JICA provided substantial support for KIZ in FY2014, not only technical assistance but financial assistance covering KIZ's office equipment (including vehicles), implementation of the consultant training program, and production of various advertisement tools. Also, in July 2014, it was decided to disburse around 800,000 Kwacha from the PSDRP Fund for the development of KIZ's office infrastructure, which has been used to purchase office equipment and supplies since late November.

As a result, KIZ planned to dispense its first year budget (750,000 Kwacha) to employee salaries and activities, while using the subsidy from the PSDRP (800,000 Kwacha) to purchase vehicles and office equipment and supplies. In addition, JICA's support was intended for the organization of the KAIZEN conference, implementation of training programs, and production of PR tools. In practice, however, disbursement of the formal budget and the PSDRP Fund was delayed until the yearend, making it very difficult to build up the organization and conduct KIZ's activity according to the plan. In consequence, the progress of the Project to help KIZ's capacity building in the first year has delayed significantly as KIZ is not ready to receive such support.

(3) FY2015 budget

KIZ's budget announced in FY2015 Yellow Book amounted to 2 million Kwacha, or 2.7 times the 2014 budget. However, detailed comparison reveals that the labor cost in the FY2014 budget consisted of 2 KAIZEN consultants x 7 months and 5 staff members (accountant, secretary, driver, and others) x 5 months, in contrast to 13 employees x 12 months for the FY2015 budget. This means, the total labor cost becomes close to 2 million Kwacha, remaining in a tight budget condition in 2015 and causing concern about the negative impacts

on KIZ's capacity building. In reality, KIZ's new employment was limited to 4 KAIZEN consultants. Adding a consultant hired in the previous year and the interim CEO transferred from ZDA, the new labor cost for KIZ in 2015 was equivalent to 6 persons (notably, the four consultants were hired in May, instead of January). As KIZ was able to obtain financial support from PSDRP, JICA and other organizations, in addition to the formal budget, its total operational budget amounted to around 3.2 million Kwacha and allowed KIZ to operate the organization without causing delayed payment of salaries. It should be noted, however, that the budget and external assistance mainly covers KIZ's operation and management costs, while the costs for local seminars and the KAIZEN conference are mostly borne by JICA.

(4) FY2016 budget

At the KIZ's board meeting held on December 30, 2015, the FY2016 budget amounting to 5,345,328 Kwacha (around 56 million yen) was approved⁵. In addition, a separate budget of around 10 million Kwacha was requested to MOF (via MCTI) in September. The final amount totaled 6.1 million Kwacha, an increase by 800,000 Kwacha, although it is estimated that the authorized budget would be limited to around 5 million Kwacha, at maximum, in consideration of the fact that actual budget allocation is reduced for most ministries and agencies, together with Zambia's tight financial condition. Still, the budget (including the special budget) is more than twice the FY2015 budget, and in consideration of the fact that the current budget is disbursed regularly, indicating the government's firmer commitment to public support for KIZ.

Within the FY2016 budget, it is planned to allocate approximately 60% to labor and office-related costs. For 2016, a new budget item - the KAIZEN awareness promotion cost of around 800,000 Kwacha - is included, for the first in three years since its foundation. On the other hand, recent discussion with KIZ indicates the expectation for financial support by the JICA project team, as continued from the last year, covering facility fees for the KAIZEN conference and local seminars, participation in the international QC conference, and additional vehicle costs relating to the OJT program (financial support for gasoline cost). These costs are disbursed from the general administration cost item, which was added as part of an extended contract.⁶

⁵ Here, around 340,000 Kwacha is included as disbursement from the JICA project and 200,000 Kwacha from ZDA.

⁶ In the case of the KAIZEN conference and local seminar, the Zambian side is expected to bear the cost close to that of facility lease.

Table 1.1.1-5 The transition of KIZ's budget 2014-2016

(unit: Zambian Kwacha)

Year	Income		Major Expenditure
	MOF	Other	
2014	K750,000	K800,000	The 80% of the budget from MOF was disbursed on the year end (December 31) and this mainly covered salaries and repayment of debt. The rest of the budget was subsidiaries from PSDRP mainly covered KIZ's office infrastructure and purchase of 2 motor vehicles.
2015	K2,000,000	K1,200,000	The budget from MOF was mainly for covering salaries of 13 expected staffs. Others were mainly from PSDRP and covered vehicle maintenance, fuel cost, and cost for KAIZEN conference and Seminars.
2016	K2,000,000	K4,100,000	The budget approved by KIZ board were totaled K5,345,328 for FY2016 including disbursement by PSDRP and other sources. Approximately K900,000 was added later. The disbursement from MOF is rather steady, the other sources of finance is not well functioned due to budget cut of the government. As for expenditure, approximately K3,400,000 was budgeted and also K800,000 for public relations and K300,000 for network enhancement.

(5) Securing of KIZ's financial source

For KIZ, the securing of a financial source for its activities is one of the most important issues. While KIZ is expected to develop its activity plan by relying on the government's budget, the board members expect KIZ to expand its own business and become financially independent as early as possible. It thus seems to be expected to secure an operational budget from own business revenues as in the case of ZABS. Thus, the final goal is to make shift to a self-supportive, sustainable organization, while securing ordinary expenses as government budget.

Clearly, the introduction of a fee-paying system for all the services provided by KIZ is a practical option; it is essential to secure KIZ's own financial source if it is to be managed sustainably. All the services provided by KIZ should include consultation, field diagnosis and guidance, training and seminar programs, publication, and management of a certification system. Furthermore, the KAIZEN conference may be held by collecting a fee. While pay service areas should be expanded gradually and stepwise, the first step is to establish rate systems for field diagnosis/guidance service and training service.

Table 1.1.1-6 shows the results of a survey on seminar and consultant fees in Zambia. Consultant fees range between 2,500 Kwacha per day for foreigners and 500-2,000 Kwacha for Zambians. Professional consultant fees are estimated in the range between 2,000 and 2,500 Kwacha, although the sample size is small. On the other hand, training courses generally cost 300 Kwacha per person, with the minimum number of attendants being 8. Thus, 2,400 Kwacha seems to be the breakeven point for training courses⁷. Thus, attendance of 8 or more

⁷ In this case, ZABS provides staffs and facility.

persons makes training and seminar programs profitable in the case of ZABS, which serves as a yardstick for course management.

Table 1.1.1-6 Examples of Fees for Consultants and Seminar Speakers

Organization surveyed	Fee
a. Zambia Bureau of Standards (ZABS)	1,500 ZMK per person for a five-day training program, equivalent to 300 ZMK per person per day
b. Company S (manufacturing)	US\$4,000 for a foreign consultant to receive on-site guidance and advice for five days, which includes travelling and accommodation costs; if the consultant fee is assumed to account for one half of the amount, US\$400 per day (or 2,000/5).
c. District chamber of commerce and industry	500 ZMK per day for a Zambian lecturer for a seminar, as sent from Lusaka
d. Technical colleges under TEVETA	2,000 ZMK per day for a lecturer sent by a technical college
e. Training centers under TEVETA	US\$25 per hour for a Zambian speaker (US\$200 (1,250 ZMK) for 8 hours)

Source: JICA project team

In the Comprehensive Master Plan, a daily fee for KIZ KAIZEN consultant is estimated to be 2,200 Kwacha (for FY2016, however, one half the amount is applied to RDA as the first year of the paying system).

In addition to the fee structure, the pay service system should include contractual terms and conditions as well as operation rules, which should include the payment of transportation and accommodation costs and daily allowance, government procedures that authorize the organization to charge the fee, and specific rules relating to the provision of pay service. Also, KIZ needs to have internal standards and regulations concerning qualification and evaluation of consultants and lecturers.

In consideration of KIZ's future organization, service content and rate structure as contemplated, it is difficult for KIZ to maintain its operation in a completely self-supportive manner by relying on its own financial source only, and it is a more realistic choice to have ordinary operation costs financed by government and other organizations (in particular, labor and other fixed costs). (Note: ZABS is a standard accrediting organization that successfully self-supports its operation by means of business revenues. Its business environment relying on accreditation service for legal standards is clearly different from that of KIZ, it suggests that inclusion of ISO consultation service into KIZ's business will work in its favor in terms of revenue source diversification. Based on these considerations, the Master Plan proposes that KIZ should establish a mechanism to secure sustainable financial sources by 2020.

1.1.1.4 KIZ's business areas and activity strategy

(1) KIZ's feasible business areas

KIZ's core capacity elements are listed in Table 1.1.1-7. To develop new business areas, KIZ is required to strengthen these capacities (required knowledge and skills). They represent business areas which KIZ is expected to deploy systematically and thus constitute core capacity. The fostering and strengthening of consulting skills has already started under the Project, resulting in 5 KIZ KAIZEN consultants (expected to increase to 9-10 in January 2017). In the next step, a mechanism to train next- KAIZEN consultants continuously should be adjusted and redesigned in consideration of lessons learned from consulting training experience under the three-year Project, and efforts should be made to enhance capacity in each area shown in Table 1.1.1-7 with an aim to expand KIZ's business.

Table 1.1.1-7 KIZ's Core Capacity Elements

	Required knowledge and skills	Status of capacity development
1. Consulting skills		
➤ Basic knowledge on KAIZEN	KAIZEN concept, understanding and implementation of 5S, understanding of "muri-muda-mura (excess, waste, unevenness)", management of small group activity (QCC), and TQM	For the consultant candidates, technology transfer was made by means of lecture and OJT. KIZ's other staffs participated in basic programs such as 5S and use what they learned for the KAIZEN meeting held every Monday (participated by all the staffs) and day-to-day work by applying KAIZEN knowledge and skills.
➤ Preparation of reports	Writing and editing skills, and PC skills	For the consultant candidates, education and training was provided for capacity improvement, including guidance for report preparation through OJT training (writing and correction).
➤ Presentation	Use of PowerPoint, photos and videos, editing skills	Efforts were made to improve related capacity and skills, including preparation of teaching materials by lecturer, preparation of presentation materials for OJT client companies and at the KAIZEN conference. As most candidates already had the ability to make presentation materials in PowerPoint, Japanese experts provided advice on organization and presentation techniques.
➤ Communication	Persuasive talk, ability to use knowledge in practice, information management	Communication skills were high, while planning and management was weakness, for which guidance was provided in OJT and KIZ's event preparation.
➤ Problem analysis and solving	Analysis of actual cases	This was taught to the consultant candidates as one of OJT's main themes.
➤ Quality control	Basic concept of quality control and techniques	Although there was a question of where an emphasis should be placed, namely production management in the PDCA cycle or quality control, sufficient time was used for quality control at manufacturing companies. While consultant candidates did not reach the level to teach TQM, OJT-based training was continued.
➤ Productivity improvement	KAIZEN techniques and productivity calculation methods	Preparation of KAIZEN reports was given as an assignment, and data collection and analysis was taught in the process.

	Required knowledge and skills	Status of capacity development
➤ ISO	ISO rules, standardization, preparation of manuals	Experts were called from ZABS to conduct five-day intensive training on ISO. In addition lecture was given as part of the consultant training program.
➤ Management analysis	Business plan, marketing, Financial analysis, HRD	This was taught as lecture course, not yet by OJT.
➤ On-site diagnosis	Ability to use the above skills in a systematic manner, analytical skills, and ability to apply theories in practice	While OJT is conducted, more experience is required to acquire sufficient analytical skills as professional advisor.
➤ Assessment of consulting service	Preparation of evaluation tables and assessment and analytical skills	Guidance was made by OJT, and the candidates including those in the third year showed improvement in consulting skills, including the above.
2. Organizational management		
➤ Development of an organization	Recruitment, development of evaluation standards, coordination with related organizations	Employment procedures and evaluation standards for consultants were established and applied.
➤ Education and training, personnel management	Recruitment and training of human resources, revision of service regulations, and assessment of personnel performance	Employment of manager-class personnel was delayed.
➤ Organizational operation and management	Development of staff regulations and organizational management rules	Employment regulations and rules for organization management were set forth.
➤ Management of a KAIZEN promotion network	Network development and management of a KAIZEN club	KAIZEN-related human resource development at candidate organizations for networking is being implemented. Organizational expansion of KAIZEN Club is underway.
➤ Marketing, Self-earning power	Market analysis and development as KIZ	Recruitment of clients is underway by means of Kabwe seminars and magazines of trade organizations, although the tasks are conducted by consultants because the absence of full-time personnel.
➤ Budget planning and management	Budget planning, funding, budget management, reporting	At present, this is conducted by the active CEO. There is a pressing need to employ an accountant.
➤ Planning and institutional development	Institutional and policy development and coordination, development of KAIZEN promotion plans, establishment of a consultant certification system	The active CEO is in charge of management planning and budget preparation. As part of dissemination plan, plans for local seminars and pay services are prepared by consultants.
➤ Establishment and management of an appropriate work environment	Maintenance of office equipment and supplies, vehicles, and communication systems	Under the active CEO's direction, the administration section is responsible for this task.
➤ Information gathering and public relations	Collection and management of KAIZEN-related information in and outside of the country, development of KAIZEN activity promotion and information strategies, and management of a Web site	Due to the absence of full-time personnel, no organizational management is made in this area.

	Required knowledge and skills	Status of capacity development
➤ Planning of promotional tools and publication	Production of pamphlets, newsletters and other publications	The task is performed by consultants, who have sufficient planning and documentation capabilities.
3. Planning, implementation and management of training programs and seminars		
➤ Planning of training programs	Target analysis (needs assessment), development, evaluation and analysis of curriculum, syllabus and teaching materials	Teaching materials and other documents can be produced as a result of consultant training (lecture) and coordinator training. It is now urgent to hire a manager capable of managing the entire training program.
➤ Implementation and management of training programs	Development of program and management manuals, profit estimation	Training and other facilities are not sufficient. Also, while partial payment of the consultant training cost is demanded to trainees, starting in FY2016, the rate system is not good enough to earn profits. It is thus important to calculate the program cost as the first step toward self-supporting management of KIZ.
➤ Implementation and management of OJT programs	Planning, evaluation, design, implementation and management	The ability to implement and manage OJT is fully established.
➤ Program evaluation	Evaluation design, implementation, and analysis	Program evaluation capability is in the stage to receive formal guidance.
➤ Operation and management of a KAIZEN conference	Preparation of conference manuals, implementation and management, and profit estimation	Manuals to organize and manage the KAIZEN conference are being developed.
➤ Planning of training programs and seminars	Program planning, demand analysis, coordination, and establishment of an award system	Planning and coordination capabilities are sufficient.

Source: JICA project team

At the same time, KIZ is expected to have a variety of organizational capabilities, including general operation and management, and organization and management of training programs and seminars, in addition to KAIZEN consultant training. As KIZ reinforces these capabilities, it comes to be recognized in society as the core organization in KAIZEN dissemination. Thus, development of KIZ's core capacity is assumed to have achieved when it has acquired the following organizational capabilities.

- KIZ has organizational capacity to provide good guidance relating to quality/productivity improvement (KAIZEN) in Zambian society, while necessary infrastructure is established.
- KIZ becomes capable of conducting KAIZEN dissemination activity in a self-supportive and sustainable manner.
- KIZ becomes capable of finding new targets and techniques for KAIZEN dissemination on its own.

(2) Guiding principal of KIZ's activity

The activity strategy for each theme is discussed in 1.2 – with regard to the building of a mechanism relating to human resource development – and in 1.3 – a mechanism relating to

information dissemination. Also, practical application of the Master Plan is discussed in 2.6. In this section, key points relating to KIZ's future activities are summarized, with some duplication with discussion in the above sections.

1) Securing of budget and revenue required for future activities

The first step is to present KIZ's plan for self-supportive operation to MCTI, Cabinet Office and MOF and then to take actions required to secure the budget to accomplish the plan. As it is clearly difficult to augment own revenues significantly for the time being, immediate focus should be placed on the securing of a steady stream of budget allocation. Then the fee-paying system should be introduced systematically to increase own revenue.

2) Building of an organization and system to implement activities

While KIZ is steadily building its organization, it lacks middle managers as pointed out earlier. The CEO is still provisionally appointed as of the end of October 2016, requiring formal appointment as early as possible. Then, an organization capable of conducting KIZ's business in a reliable manner should be built up. It is important to make shift from the organizational buildup to the development of a functional system to implement KIZ's duties.

3) Establishment of work rules and manuals

As for work rules, the reviewing and modification of "KIZ Terms and Conditions of Service, May 2014" will be done with the establishment of rules for hiring outside consultants. Also, priority should be given to the preparation of internal work manuals so as to support smooth implementation of future activities, including the application for business trip, use of vehicles, purchase of office equipment and supplies, and forms of quotation to be submitted to other organizations and related procedures.

4) Building of collaboration with related organizations in and outside the country

Focus should be placed on three collaboration channels; collaboration with Ethiopian EKI (mutual exchange); collaboration with KAIZEN promotion organizations in South African countries; and collaboration with the International Conference for QCC. Efforts should be made to establish regular exchange with EKI and KAIZEN promotion organizations in South African countries. As for the International Quality Conference, activities in Zambia will be conducted to seek opportunity for participation in the conference and the sending of a Zambian team, in addition to participation in an inspection tour.

5) Building of a mechanism for monitoring, evaluation and feedback

In the past three years, evaluation and feedback systems for consultants and pilot companies/organizations are being established. Also, KIZ's KAIZEN meeting in every Monday starts working as a permanent function. Now, they should be developed to a higher stage (by aid of the monitoring sheet and other tools) so as to conduct evaluation and feedback on KIZ's activities and results.

1.1.2 Development of KIZ's KAIZEN Network

1.1.2.1 Governance and relationship between related ministries and agencies

KIZ is governed by the KIZ Board that is chaired by Secretary to the Cabinet and consists of members representing six ministries and agencies, two government organizations, and one private sector organization. In Zambia, Secretary to the Cabinet is No.3 position, next to President and Vice President, and is responsible for general management of the Cabinet (government) and serves as the Head of Public Service. Thus, KIZ, having Secretary to the Cabinet as the head of its management board, is virtually controlled by the secretary's strong power and initiative, which has strong impacts on the decision making process and goes over boundary or conflict of interest between related ministries and agencies, thus working as a formidable support for KIZ.

It should be noted, however, that the strong support is limited to KIZ's board level. The experience in the past three years indicates that, for the establishment and maintenance of good collaboration with related ministries and agencies, it is more important to build a working relationship with secretary or director general of related ministries. In this connection, KIZ has already worked with ministries and agencies which KIZ wants to collaborate in nationwide deployment of KAIZEN dissemination activity, not only KIZ's board members but also the sending of KIZ staff to consultant training programs and pilot organizations for the OJT program. It is thus important for KIZ to take advantage of the present relationship. For instance, it is possible to use certified KAIZEN consultants within related ministries and agencies for KIZ's activity in the form of long-term secondment or short-term service to provide intermediary service between KIZ and the ministries and agencies (their local organizations) in the local deployment process.

For future networking in the country, collaboration with educational institutions need to be promoted in an accelerated pace. While the relationship with NORTEC and TEVETA has been established, KIZ does not seem to give priority to full-fledged integration of educational institutions to its KAIZEN dissemination network. Meanwhile, general interest in KAIZEN seems to heighten at universities and vocational training schools, as evidenced from a request made by a local university to conduct a special KAIZEN lecture at a KAIZEN seminar held at the Kabwe chamber of commerce and industry in October 2016. Together with the use of outside consultants, as discussed above, it is imperative to plan strategies and activities for development of the comprehensive KAIZEN network in the country.

Then, the primary issue relating to promotion of collaboration with related organizations by KIZ as the core organization of KAIZEN dissemination is cost burdens. KIZ is expected to bear related costs in many cases, while using human resource and facility of partner organizations. Efforts should be made to provide service on a fee basis, especially for seminars, but the

participation fee alone does not cover the cost. KIZ should thus secure a financial source to pay for the strengthening of its KAIZEN network as part of the program budget.

1.1.2.2 Collaboration with NPDD in measurement of national productivity

Generally, the word “productivity” means an index to show the relationship between output and input. It is used as an index to measure efficiency produced by improvement of work efficiency and other production-related improvements. The most commonly used index is “labor productivity” that means output produced by a worker or output produced per hour in an indexed form. There are two types of labor productivity, i.e., one represents output by value added (GDP on a national level) and another volume of production or sales. On the other hand, input is calculated using labor input expressed by the number of workers or total work hours. In Zambia, NPDD under MLSS periodically announces “value added work productivity” on an industrial basis, thus assuming the role of measuring productivity on a national level, not KIZ’s responsibility. In addition, use of other indexes for efficiency measurement – such as capital productivity and total factor productivity – is considered, but it does not go beyond that due to NPDD’s budget constraint, human resource shortage, and difficulty in monitoring population to be measured.

Apart from NPDD that measures value added work productivity at national levels, KIZ attempts to develop various methods to measure KAIZEN effect at company or national level as part of the Project. Both quantitative and qualitative analyses are made to measure KAIZEN effect in each production process or in each service section. The basic concept is to evaluate total effect of KAIZEN activity on the basis of indicators relating to quality and production management, rather than management criteria such as sales, gross profit ratio and total capital turnover. Measurement of KAIZEN effect under the Project has been carried out for pilot companies in the OJT program, and the some of the results are reported in Appendices 7 – 10, and the result of KAIZEN activities at all the target companies/organizations are shown as Appendix 11. (Note: different methods and criteria are applied according to company size and business type).

Evaluation criteria such as worker’s behavior and attitude, manager’s leadership, and customer satisfaction, should be assessed by KAIZEN consultants at the time of field diagnosis. Using these criteria, a technique to measure KAIZEN effects at individual companies will be developed and established.

Furthermore, evaluation of KAIZEN activity in the service and public sectors will be made using both qualitative and quantitative criteria to assess KAIZEN effect for each section or department, rather than the entire organization. In this connection, it is very important to pay particular attention to three key aspects, namely “specific,” “measurable,” and “result-oriented.”

1.1.3 Issues and lessons learned relating to KIZ's organizational development

Issues and lessons learned relating to KIZ's organizational development has already been discussed in Introduction. In this section, the following four key issues are pointed out with the perspective from how the future organization and system should be planned and developed, with some duplication with discussion in Introduction.

(1) Acceleration from organizational formation to system development

KIZ's organization does not have sufficient staffing in comparison to the original plan and is still in the organizational formation process until 2016. It is expected to complete the minimum required organization by the end of 2017. In the next step, KIZ is required to develop a sufficient system to conduct its mandated activities. In this connection, KIZ has five KAIZEN consultants (one from the first-year training program and four from the second year), and is expected to hire around five from the third-year training program. Clearly, they do not have sufficient experience, especially management position, and are thus expected to face various challenges in development of an adequate work management system. Nevertheless, it is the time to accelerate the strengthening of the work system (including support) by the current workforce, which would constitute an important step toward KIZ's full-fledged activity.

(2) Cooperation with KAIZEN deployment as national movement

In Zambia, President, in his address in September 2015, has declared policy to disseminate KAIZEN as national movement. KIZ should thus seize this opportunity to expend its activity, which constitutes the next challenge. Meanwhile, the Office of the President Cabinet Office requests each ministry and agency to produce concrete results from all programs and activities, which is no exception to KAIZEN. KIZ is therefore required to build up an organization and system to implement KAIZEN effectively and plan and implement activity programs in collaboration with national movement.

(3) Nationwide dissemination of KAIZEN by top-down approach

To promote KAIZEN dissemination and deployment as national movement, efforts should be made to network activities on a national basis, inclusive of all industries. The Master Plan prepared under the Project proposes the establishment of "National KAIZEN Committee" headed by the Vice President and consisting of representatives of key ministries and agencies, other government organizations, and the private sector. At the same time, it is proposed to establish a similar committee in each of the ten provinces, under Provincial Administration (PDCC), to help promote KAIZEN deployment at local levels. The proposal aims to take a top-down approach at central and local levels to strongly promote expansion of KAIZEN on an aerial and sectorial basis. For instance, under the proposed system, the National KAIZE Committee will set forth general direction and strategy for KAIZEN dissemination, while KIZ

will be responsible for implementation. In this connection, KIZ's major challenge lies in how to promote KAIZEN dissemination in effective collaboration with the top-down approach by central and local government organizations.

(4) Systematic training of KAIZEN consultants

KIZ is expected to hire as many as five KAIZEN consultants each year, in consideration of its financial condition. In terms of a desirable pace of KAIZEN dissemination and deployment, however, the hiring rate is far from sufficient; it is necessary to accept 10-15 trainees each year, from which five consultants should be hired by KIZ. Other certified KAIZEN consultants (including those seconded from other organizations) will be registered as a reserve human resource, allowing KIZ to use them for its program on a required basis. In fact, it is proposed in this report to initiate a one-year consultant training program to replace the present two-year one on a permanent basis.

1.2 Project Activities and Achievements Related to Output 2

1.2.1 Implementation of KAIZEN consultant training and capacity development

To train KIZ KAIZEN consultants and develop their capacities (technology transfer), the project has implemented the following activities:

- Group trainings for a technical transfer of knowledge essential to KAIZEN consulting
- On-the-job trainings (OJT) through KAIZEN consulting providing for the pilot enterprises
- Regular follow-ups to reinforce consulting skills, including instruction on preparing consulting reports
- Training programs in Japan and a third country

1.2.1.1 A training plan for KAIZEN consultants

The project was initially planned for two years and then launched its activities. At the end of the second year, it was decided to extend for another year, eventually implemented as a three-year project.

While the training plan indicated below is originally designed to cover a two year period, the project has implemented its added third-year activities within the same underlying conceptual framework in the preceding two years. As a new effort, furthermore, a basic OJT on total quality management (TQM) has been incorporated into the extended period.

The first and second year consultants had undergone a two-year training program, and this placed a heavy financial burden on them to cover that period. Thus, for consultant candidates recruited for the third year, the project prepared a one-year curriculum by compacting the previous two-year training program, allowing certification of KAIZEN consultants for those who have met qualification requirements by attending the said training program to be carried out until December 2016.

The initial training plan intended for the project's two-year activities is described in (1) through (3) below.

Table 1.2.1-1 through Table 1.2.1-3 provide the major outcomes of activities planned by the project. Further details of the training output are described in 1.2.1.2 below.

Table 1.2.1-1 Lectures Planned for Consultant Training and the Output

	Plan	Output		
		2014	2015	2016
Period learned in lectures	10 to 15 days	11 days	14 days	18 days
Number of training participants	1st year: 3 2nd year: 2 + α 3rd year: approximately 5	7	4	6
Lectured subjects	22 (100 hours)	21 (52.5 hours)	23 (65 hours)	22 (105 hours)

Table 1.2.1-2 Planned Pilot-Enterprise Selection and the Output

(Planned number of enterprises/Selected enterprises)

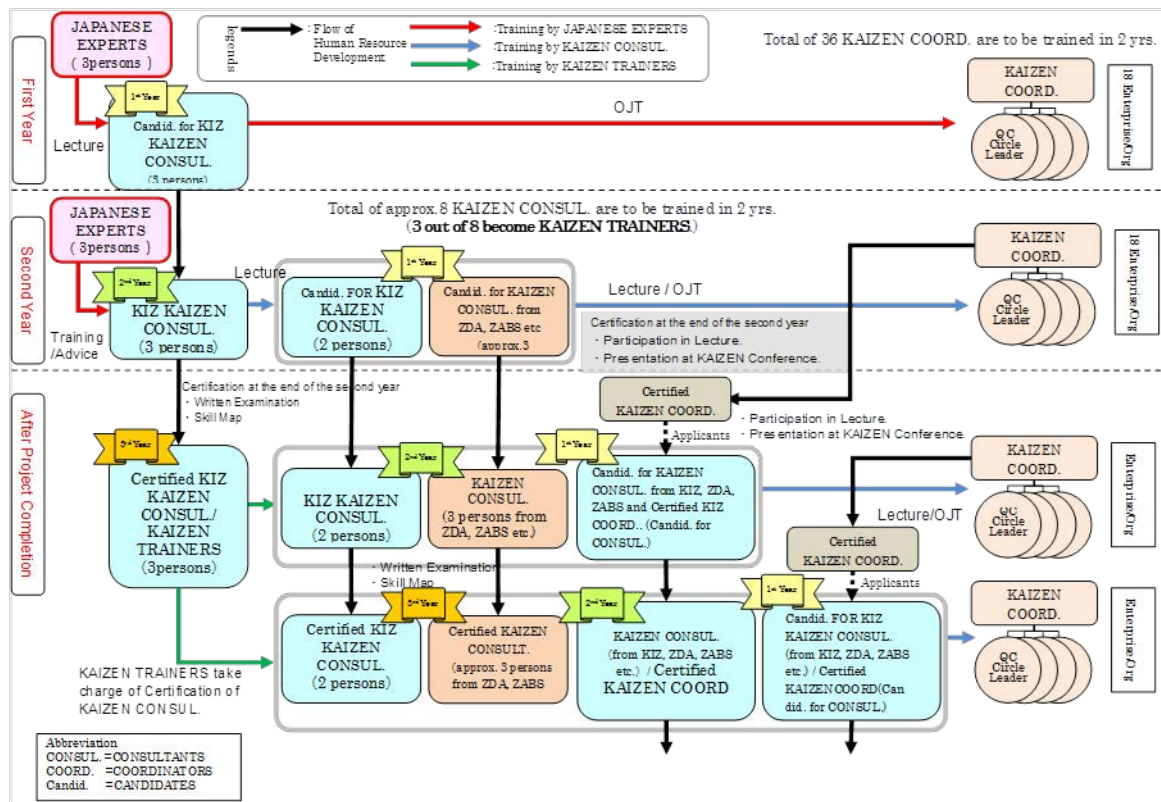
	2014	2015	2016
Manufacturing sector	8 / 8	10 / 5	6 / 6
Non-manufacturing sector	4 / 4	4 / 4	3 / 3
Public sector	6 / 6	4 / 10	7 / 7
(Follow-up)	-	-	(16)
Total	18 / 18	18 / 19	16 / 16 + (16)

Table 1.2.1-3 Planned Number of Certified KAIZEN Consultants and the Output

	First Year Consultants	Second Year Consultants	Third Year Consultants
Planned number of trainees	3	2 + α	Approx. 5
Number of trainees	7	4	6
Number of certified consultants	6	4	6 (to be certified in December 2016)
Consultants employed by KIZ (of which certified consultants)	1	4	5 (to be appointed in January 2017)

(1) Basic concept of training

With a Training of Trainers (TOT) approach, Japanese experts planned to train KAIZEN consultants and KAIZEN trainers. KAIZEN consultants, having been trained by these experts, in turn train KAIZEN coordinators who would implement KAIZEN activities at their workplaces. In a post-project phase, KAIZEN trainers train KAIZEN consultants. A detailed training flow is as shown in Fig. 1.2.1-1.



Source: JPC
 Fig. 1.2.1-1 Training Flow

(2) KAIZEN consultants and KAIZEN coordinators

The project has intended to train KAIZEN consultants and KAIZEN coordinators. The definition and roles of the respective positions are as provided in Table 1.2.1-4.

Table 1.2.1-4 Definitions and Roles of KAIZEN Consultant and KAIZEN Coordinator

	KAIZEN consultant	KAIZEN coordinator
Definition	A consultant at KIZ who directs KAIZEN activities, trained directly by Japanese experts. Staff members of ZDA, ZABS and TEVETA may be considered for possible consultant candidates in and after the phase 2.	A staff member of an enterprise or a public agency who initiates and implements KAIZEN activities. A KAIZEN coordinator is trained directly by the Japanese experts or KAIZEN consultants, and plays a leading role in hosting a KAIZEN OJT in a pilot enterprise.
Selection criteria	Selection criteria is as follows. (1) Committed to improving quality and productivity (KAIZEN) at given workplace. (2) A college graduate with more than three years of work experiences (3) Able to be fully involved in the project's technology transfer (lectures, KAIZEN OJT, training of KAIZEN coordinators) (4) Have basic skills and knowledge in using PC (Word, Excel, PowerPoint)	A person who is recommended and assigned by the top management to be appropriate to serve as a KAIZEN coordinator (1) A working leader or group leader with hands-on knowledge and experiences, who are able to demonstrate a leadership for guiding employees at a workplace. (2) The KAIZEN coordinator may be selected from circle leaders, if any QCC activities are already in practice.

	KAIZEN consultant	KAIZEN coordinator
Activities	Applying KAIZEN techniques trained by the Japanese experts, a KAIZEN consultant identifies problems in pilot enterprises, proposes relevant KAIZEN, and instructs the implementation. KAIZEN activities are carried out through quality control circles (QCC).	Play a leading role to carry out KAIZEN proposed by the Japanese expert or a KAIZEN consultant. KAIZEN activities are carried out through QCC.
Training methods	(1) Training with lectures instructed by the Japanese experts (2) OJT instructed by the Japanese expert at pilot enterprises and in the public sectors (3) Self-learning in a process of training of KAIZEN coordinators (4) Those consultants who joined in the first year are trained to become KAIZEN trainers.	OJT and a Quality and Productivity Improvement Training for KAIZEN coordinators instructed by KAIZEN consultants
Evaluation and certification	Japanese experts evaluate consultants based on the results of their written examinations, skill maps, OJT performances, etc. Certification requirements and evaluation criteria are decided in consultations with KIZ.	Japanese experts and KAIZEN consultants evaluate coordinators based on their practices and achievements of KAIZEN activities, presentations made at a KAIZEN conference, attendance in prescribed lectures, etc. Certification requirements and evaluation criteria are decided in consultations with KIZ.

(3) Procedural steps in a KAIZEN consultant training

1) Lectures

Candidates of KAIZEN consultant (hereinafter referred to as “consultants”) attend lectures instructed by Japanese experts which are outlined below.

Period: A program of 10 to 15 days

Participants: Prospective consultants

(3 candidates in the first year, and two or more candidates in the second year)

Training objectives:

- (1) To acquire knowledge of KAIZEN and quality and productivity improvement essential to KAIZEN consulting OJT (hereinafter referred to as “OJT”) to be engaged in pilot enterprises and public agencies (hereinafter collectively referred to as the “pilot enterprises”)
- (2) To learn more practical techniques from lectures, case studies and exercises

Lecture components:

Lectures covering approximately 22 subjects totaling 100 hours that include essential knowledge on KAIZEN, Industrial Engineering (IE), and advanced contents such as TQM and ISO

2) Policy and process of selecting pilot enterprises targeted for OJT

1. In principle, the target sector is all kinds of industries, particularly those organizations operating in the following three major sectors.

- Model ministries and agencies (selected from government organizations such as Ministry of Commerce, Trade and Industry, Ministry of Labour & Social Security, Ministry of Local Government and Housing, Ministry of Education, Ministry of Finance, Ministry of Health, the Cabinet Secretariat, ZDA, and ZABS)
 - Public sector (municipalities, educational institutions, hospitals, public utilities and corporations including electricity, water supply, and bus transportation)
 - Private sector (manufacturing and non-manufacturing industries)
2. Selected pilot enterprises may include those enterprises/organizations participated in a National KAIZEN Conference prior to the project’s launch so that they can have a follow-up opportunity for what they practice in this project.
 3. Allocation of pilot organizations in different sectors is to be discussed with KIZ and determined in JCC. It is important for KAIZEN to be successfully achieved at an early stage of the project, if planned to be practiced in Zambia more broadly. Thus, the project planned to select more pilot enterprises in the manufacturing sector, where the visible results can be obtained relatively sooner than in other sectors. Regarding model ministries and agencies, the project has prioritized ZABS and vocational training organizations, as strongly requested by top management thereof.

Table 1.2.1-5 Candidates of pilot enterprises/public agencies

Sector	First year	Second year	Total
Private sector (manufacturing sector): Select from the following industries listed in “Manufacturing Sector Profile” (June 2013), ZDA Food processing (seed oil, beef, dairy products), textile, mineral processing (copper wire, cable, copper plate, stone polishing), chemicals (fertilizer), industrial products (building materials such as cement, spare parts for machinery), leather, wood (pulp, paper, palm fiber, cardboard), and the potentially promising areas such as electric products, medicine, and packaging materials.	8	10	18
Private sector (non-manufacturing sector): Potential candidates identified in such areas as food services, distribution (retail and wholesale), transportation, and hotels, where quality and productivity issues are better recognized by enterprises serving for foreign customers	4	4	8
Public sector: Selection from such organizations as ZDA, ZABS, TEVETA, ZESCO, LWSC, Ministry of Health, agricultural cooperatives, farmers’ associations	6	4	10
Total	18	18	36

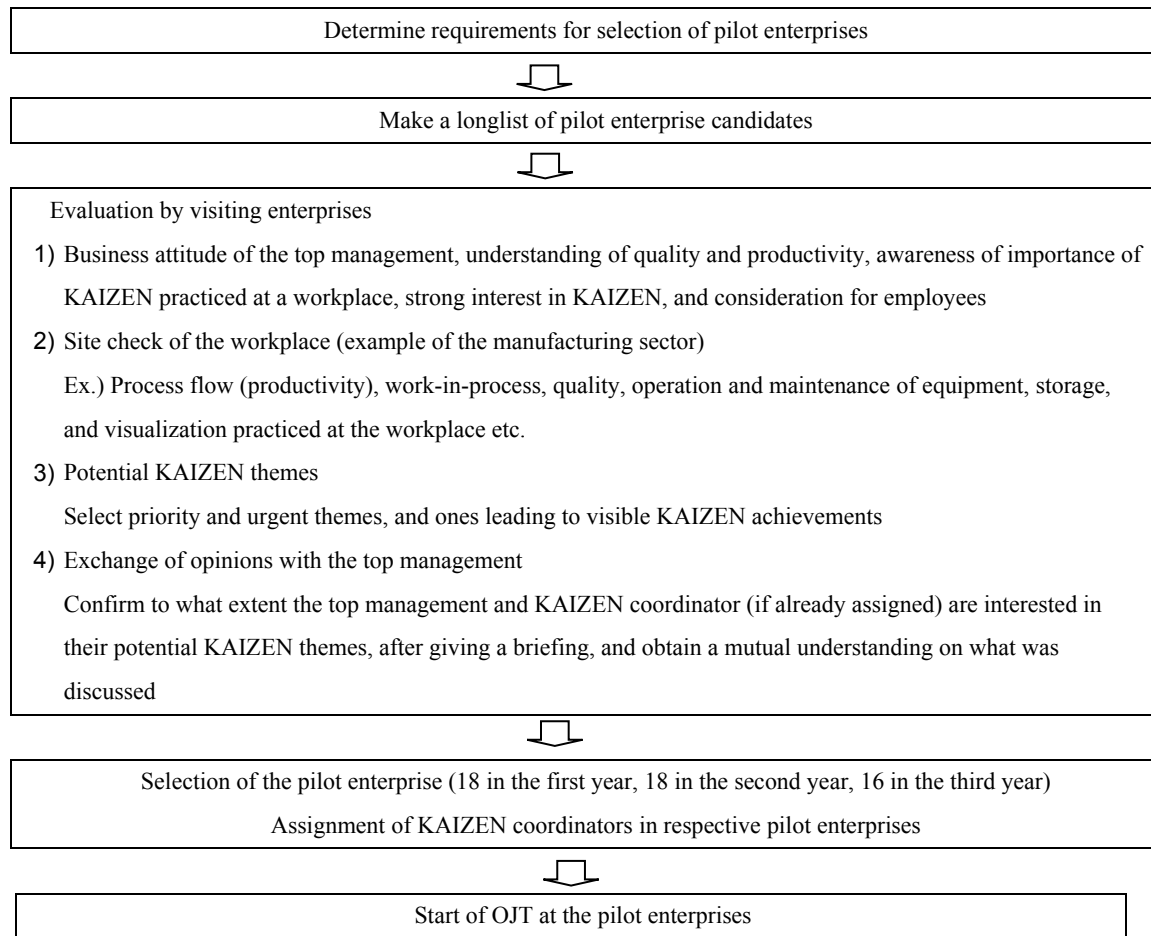
Note: The above figures were provisional when the project was planned. In principle, the project intended to achieve the intensive and effective enhancement of capacities through a ‘one on one OJT’ between a Japanese expert and a KAIZEN consultant on as many occasions as possible.

4. Assuming there should be three KAIZEN consultants in the first year, each KAIZEN consultant expected to receive OJT at 12 pilot enterprises in two years.

5. KIZ makes a list of candidates of pilot enterprises, according to the selection requirements discussed with the project.
6. The number of pilot organizations per sector is reviewed based on the results obtained in the first year, where necessary. Alternative candidates of pilot organizations are to be preliminarily selected beforehand in case that any pilot organizations should give up their KAIZEN consulting halfway.
7. The proposed selection requirements are as follows:
 - Commitment of the top management (Expectation for quality and productivity improvement, cooperation, motivation)
 - Availability of a suitable person as a KAIZEN coordinator
 - Stability of the corporate management
 - Willingness to provide management information and agree to publicize KAIZEN activities, for instance through presentations made at KAIZEN conferences.
 - Infrastructure to receive training, such as provision of a meeting room, etc.
 - Permission for pictures taken and filmed, which is necessary for consulting
 - Commitment of managers and employees to cooperate for KAIZEN activities
 - Potential abilities to learn a variety of KAIZEN themes, and any resulting output expected (KAIZEN themes must be set balanced among pilot enterprise, sorted out for a comparison.)

The point to bear in mind when selecting pilot enterprises is their KAIZEN coordinators to be assigned. A good leader assigned at a workplace is indispensable in order to internalize KAIZEN activities in a self-supporting manner. A KAIZEN coordinator committed to quality and productivity improvement and KAIZEN efforts enhances morale of employees involved in the process, making relevant decisions and leading KAIZEN being implemented on site.

8. A flow of selection of pilot enterprises is as follows:



During OJT at pilot enterprises, three experts in charge of “Quality and Productivity Improvement” (1 through 3) respectively instruct three consultants equally, who are appointed in the first year. A consulting session at a pilot enterprise requires at least half a day, and therefore should be feasible to undertake one company a day. Furthermore, considering various conditions, the team planned to engage in OJT at three pilot enterprises a week. Where each Japanese expert trains three consultants equally, those experts and consultants are responsible for providing consultation to six pilot enterprises respectively. This has allowed a two-week cycle of OJT taking place in pilot enterprises. It requires approximately a total of eight on-site consulting sessions per enterprise at minimum in order for them to engage in KAIZEN, leading to successful results. Therefore, OJT at pilot enterprises will entail 16 weeks, where a two-week cycle should be taken place for eight sessions. The project has planned to allocate these 16 weeks in each field activity occasion: 4 weeks (two training sessions) in the second field activity, six weeks in the third activity (three training sessions), and six weeks in the fourth activity (three training sessions in the first year).

The underlying policy above had been implemented in the first and second year, and the third year of the extended project has similarly planned field activities three times to provide OJT consulting practices.

3) Implementation procedures of OJT at the pilot enterprises

The project has set out the following steps to implement OJT.

Step 1 Formulation of a KAIZEN plan, identification of KAIZEN themes (selecting the themes, setting objectives based on the understanding of the present situation, and creating an action plan)

1. Analyze and understand management problems related to quality and productivity improvement in the pilot enterprise.
2. Set out KAIZEN themes and a draft plan, and explain them to the top management of the pilot enterprises and a KAIZEN coordinator.
3. Adjust the targets and levels of KAIZEN activities to match the potential practicability in the pilot enterprise. The initial step of the activities starts with a simple task focusing on a specific workplace or work process so that it leads employees to find their problem and think of solutions.

Step 2 Implementation of KAIZEN activities (factor analysis, planning and implementing strategies, and assessing the effects)

1. With a KAIZEN consultant and KAIZEN coordinator working together, organize a kick-off meeting in which top management of the pilot enterprise, managers, administrators and employees participate.
2. Pursue an on-site training in a “round-visit” manner at enough intervals, where each training takes half a day per enterprise.
3. Expand the scope of KAIZEN activities from a specific workplace or process to other parts of the operations so that company-wide quality and productivity improvement (KAIZEN) will be fully institutionalized.

【During the absence of Japanese experts】

1. A pilot enterprise implements KAIZEN activities, led by its KAIZEN coordinator. KAIZEN consultants make round-visits to their pilot enterprises to check how these activities have been progressed and internalized, and provide guidance on technical and operational aspects (once or twice per month per enterprise).
2. KAIZEN consultants work on assignments given by Japanese experts, and prepare reports. When staying back in Japan, the experts give guidance, advice and feedback to KAIZEN consultants.
3. KAIZEN consultants organize study sessions in order to facilitate information sharing and mutual learning among KAIZEN coordinators.

4. KAIZEN consultants assist internalization of KAIZEN activities at the pilot enterprises, offering individual consultation sessions for KAIZEN coordinators, and a leader and members of quality control circles (hereinafter referred to as the “QCC”).
5. KAIZEN consultants work closely with KAIZEN coordinators to prepare for making presentations at the KAIZEN conferences.

Step 3: Evaluation of KAIZEN activities (Standardization and institutionalization of management)

1. Japanese experts assess with indicators how far company-wide KAIZEN activities are internalized and standardized across the respective pilot enterprises.
2. Output of KAIZEN activities is monitored through making interviews with the management executives, KAIZEN coordinators, and chief managers, and also through visiting the work sites. It is encouraged that the results are reported in an internal briefing session so that all the employees share achievements of their KAIZEN activities.
3. Each pilot enterprise, having obtained sufficient KAIZEN know-how from the Japanese experts and KAIZEN consultants, continues its KAIZEN activities primarily led by respective KAIZEN coordinators, according to a procedural problem-solving scenario (QC story), using 7QC tools and other relevant techniques.

Step 4: Follow-up of KAIZEN activities

1. KAIZEN consultants work closely with KAIZEN coordinators to monitor a progress of KAIZEN activities and the extent of institutionalization.
2. KAIZEN consultants organize consultation sessions provided on a workplace basis for KAIZEN coordinators, QCC leaders and members in pilot enterprises, according to stages of their KAIZEN activities. KAIZEN consultants encourage those enterprises to take initiatives in promoting their KAIZEN efforts as well as support them for broader practices and institutionalization.
3. KAIZEN coordinators work closely with KAIZEN consultants, and give presentations on relevant case studies in such occasions as KAIZEN conferences and seminars.

4) Assessment and certification of KAIZEN consultants

For a successful training and capacity development of KAIZEN consultants, an appropriate assessment is key to enhance their morale and commitment. To this end, the project has made a plan for an assessment and certification requirements based on a skill map and a written examination, which is finalized in consultation with KIZ.

1. Capacity assessment with a written examination
Japanese experts conduct a written examination in order to objectively assess KAIZEN consultants whether they properly understand quality and productivity improvement.
2. Capacity assessment with a skill map

With a skill map rated five levels below, KAIZEN consultants are assessed for a degree of mastering their comprehensive skills, including knowledge, techniques, and on-site instructions essential to consulting.

- Level 5: Able to render consulting by himself/herself and to train junior consultants
- Level 4: Able to render consulting by himself/herself without an expert's guidance
- Level 3: Able to render consulting with an expert's guidance in some cases
- Level 2: Have necessary knowledge and skills, but no experience of consulting
- Level 1: Do not have enough knowledge and skills

A skill map was revised as shown in Table 1.2.1-6 from a version used in JICA's Project on Quality/Productivity Improvement in Tunisia. Followed by a self-rated appraisal of consultants using a skill map, they are personally interviewed by a Japanese expert team for assessment. A skill map thus serves for a communication tool for the consultants and the Japanese expert team, which facilitates further capacity development of those consultants.

Table 1.2.1-6 Sample of Skill Map

Name	Mr.														
	Initial stage (dd/05/2014)					Interim stage (dd/12/2014)					Final stage (dd/11/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X							X							X
Basic production mgt.	X							X							X
KAIZEN	X								X						X
5S	X								X						X
Visual control	X							X							X
Method study	X							X						X	
Work measurement	X							X						X	
Work sampling	X							X						X	
Layout	X						X					X			
Line balance	X						X					X			
Inventory ctrl.	X							X							X
QCC	X								X						X
SQC	X							X							X
7 QC tools	X							X							X
Cost mgt.	X						X					X			
Lean production	X						X					X			
TPM	X						X					X			
TQM	X							X				X			
ISO			X							X					X
Management of KAIZEN Practice	X								X						X
Average level	12/10=1.2					36/10=3.6					47/10=4.7				

Note 1) Level 1 --- Do not have enough knowledge (1 point)
 Level 2 --- Have enough knowledge, but no experience of consulting (2 points)
 Level 3 --- Able to render consulting with an expert's guidance in some cases (3 points)

Level 4 - - -Able to render consulting service by himself/herself without an expert's advice (4 points)
 Level 5 - - -Able to render consulting by himself/herself and train junior consultants (5 points)
 Note 2) Average points (= Total points/Number of items) 3.5 will be acceptable to certify a consultant at the final stage (2015/Nov.). The average level is calculated based on 10 core skills indicated in bold letters.

(4) Certification

To certify KAIZEN consultants, Japanese experts have discussed with KIZ on certification criteria for both KAIZEN consultants and KAIZEN coordinators, proposing requirements in Table 1.2.1-7.

Requirements for KIZ-certified KAIZEN consultants shown in Table 1.2.1-7 are designed for those consultants joining the project from the first year. In the post-project phase, "Japanese experts" described in the requirements must be alternatively understood as "KIZ KAIZEN trainers." In other words, consultant candidates recruited in the second year receive the training instructed by the first year consultants who were previously trained by the Japanese experts. Similarly, the third year consultant candidates are trained by consultants certified in the second year. The Japanese experts have provided advice and assistance, when necessary.

Those consultants recruited in the post-project phase will be trained by KIZ KAIZEN trainers. They will become certified KAIZEN consultants, when they fully meet requirements shown in Table 1.2.1-7.

The above-mentioned scheme allows a continuous training of KIZ-certified KAIZEN consultants in the post-project phase, ultimately achieving the project's objective to "establish a mechanism of which KIZ trains prospective consultants in a sustainable manner."

Table 1.2.1-7 Requirements for KAIZEN Consultants Certification

1. Skill level	A minimum passing scores of 65 in a written examination A minimum average passing scores of 3.5 or higher for 10 assessment items
2. Consulting practices	Number of enterprises consulted: 8 enterprises or more Number of visits to pilot enterprises (accompanied by a Japanese expert, and will be accompanied by KIZ KAIZEN trainers in the post-project phase): 80% (a visit made by a candidate consultant unaided) Once a month or more Submission of corporate visit reports: 100% Submission of case sheets*: More than a case sheet per enterprise
3. Other	Training period: 2 years (1 year for consultant candidates in the third year and thereafter) Rate of attendance in regular meetings with Japanese experts (KIZ KAIZEN trainers in the post-project phase): 70% or more Rate of attendance in lectures: 90%

*Case sheets: Summarizing processes and output of KAIZEN activities at pilot enterprises, case sheets cover a series of KAIZEN topics, key points in KAIZEN, visualized comparisons of 'before' and 'after' KAIZEN, and the major KAIZEN achievements. They are intended to be used by KAIZEN consultants in developing training materials and revising manuals.

1.2.1.2 Training of KAIZEN consultants and the output

(1) Selection of consultant candidates

Consultants who have undergone a technology transfer throughout the project are a total of 17, including seven participating from the first year, four from the second year, and six in the third year, respectively (see Table 1.2.1-9, 1.2.1-10, and 1.2.1-11. Names in bold letters refer to consultants employed by KIZ).

Illustrated with a case of the third year consultants, Table 1.2.1-8 below shows a recruitment timetable and a year-round training schedule after consultants are assigned.

Table 1.2.1-8 Recruitment of Consultants and a Training Schedule
 (in the First Year)

Step	2014												2015											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Selection of applicants																								
Finalization of applicants																								
Selection of pilot enterprises																								
Group training																								
Coordinator training																								
OJT																								
Written examination																								
Skill level assessment																								
Certification																								

(In the Second Year)

Step	2015												2016											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Invitation announcement																								
Interview																								
Finalization of applicants																								
Selection of pilot enterprises																								
Group training																								
Coordinator training																								
OJT																								
Written examination																								
Skill level assessment																								
Certification																								

(In the Third Year)

Step	2016												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	
Application invitation		(2/18) ▼											
Interview			→										
Finalization of applicants			▼										
Selection of pilot enterprises				▼									
Group training		Step 1 (4/7- 4/22)				Step 2 (6/20 -6/27)							
OJT					→								
Written exam.									(10/19)	▼			
Skill level assessment		Initial evaluation (4/7) ▼								▼ Final evaluation			
Certification (expected)											(12/15)	▼	

Table 1.2.1-9 First Year Consultants

No	Name	Age	Previous position/organizations	Highest educational qualification	Certified KAIZEN consultant
1	Ms. Peggy Kaunda Chituta*	45	Metrology Manager, Zambia Bureau of Standards (ZABS)	B.Sc. Chemistry Univ. of Zambia	○
2	Mr. Bernard Wamundila (KIZ employee)	51	Quality Assurance Manager, Northern Technical College (NORTEC)	B.A. Literacy and Policy Zambian Open Univ.	○
3	Mr. Dismas Chilenga Chapula	37	Economist - Industrial Monitoring & Evaluation, Ministry of Commerce, Trade and Industry (MCTI)	B.Sc. Production Management Copperbelt Univ.	○
4	Mr. Gabriel Musentekwa	50	Academy Coordinator, Zambia Development Agency (ZDA)	MBA Management College of South Africa	○
5	Mr. John Kapenda	44	Senior Manager Monitoring & Evaluation, Road Development Agency (RDA)	B.Sc. Building Science Copperbelt Univ.	○
6	Ms. Muchemwa Siame	30	Senior Productivity Measurement Officer, National Productivity Development Department (NPDD)	B.A. Development Studies Univ. of Zambia	○
7	Mr. Malioty Kaimba	33	Occupational Assistance Officer, National Productivity Development Department (NPDD)	Diploma HRD Evelyn Hone College	Not Qualified (Returned to NPDD)

* Having serving as a consulting manager, Ms. Peggy K. Chituta returned her original workplace at ZABS on August 1, 2015, and attended OJT of which she was in charge thereafter.

Table 1.2.1-10 Second Year Consultants

No	Name	Age	Previous position/organizations	Highest educational qualification	Certified KAIZEN consultant
1	Ms. Monica Mitti Mwiche (KIZ employee)	43	Quality Control Manager, Kafubu Water and Sewerage Company	BSc Chemistry & Biology MSc Environmental Sc.	○
2	Mr. Howard Musonda (KIZ employee)	40	Manager Peri Urban, Mulonga Water and Sewerage Co	BEng Chemical Engineering MBA	○
3	Ms. Sarah Shawa (KIZ employee)	34	Senior Inspector – IQMS, Zambia Bureau of Standards	BSc Chemistry & Biology	○
4	Mr. Fred Sichikolo (KIZ employee)	29	Transport engineer, Self employed	BA Development Studies & Economics	○

Table 1.2.1-11 Third Year Consultants

No	Name	Age	Previous position/organizations	Highest educational qualification	Certified KAIZEN consultant
1	Mr. Voster Nkukumbani	27	Trainee Planning Officer, Chikankata District Council	BA Development Studies Univ. of Zambia	To be certified in December 2016
2	Ms. Praise Luwaile	25	Assistant Registration Officer, Electoral Commission of Zambia	BSc Univ. of Zambia	To be certified in December 2016
3	Ms. Bwalya Mwansa Tembo	30	Fisheries & Livestock Senior Livestock Production Officer, Ministry of Agriculture	BSc-Agriculture Univ. of Zambia	To be certified in December 2016
4	Mr. Aaron Magwenzi	24	Graduated in 2015	BSc Production Mgt Copperbelt Univ.	To be certified in December 2016
5	Ms. Vasumathi Vriddhagiri	42	Iyso Consultant-Lusaka	Bachelor of Commerce Bharathidasan Univ. India	To be certified in December 2016
6	Mr. Gilbert Kiprios	23	Operations and Marketing Exec., Optimus Building and Civil Constructions	BSc Production Mgt Copperbelt Univ.	To be certified in December 2016

[The process of selecting consultants for the first year]

Although originally intended to allocate three consultants seconded from ministries, the plan was modified to employ two of them from other organizations, except for one consultant from ZABS (Ms. Peggy Kaunda Chituta). The selection was expected to complete by no later than April 20, 2014. However, the selection process took time, except for the appointment of Ms. Chituta. The project sent a letter (dated on April 30) in the name of the Chief Representative of JICA Zambia Office to the Deputy Director of MCTI, notifying that “if three consultants are not appointed by May 7, the training schedule will entail a change, which will require the experts to return to Japan for the time being.” In response to this, the KIZ Board Chairman (Dr. Msiska) decided to accept three consultants on May 6, namely Ms. Peggy Kaunda Chituta, Mr. Bernard Wamundila and Mr. McLean Sakala.

Having been accepted, however, these three consultants did not arrive at KIZ immediately, making it unforeseeable when the project could start the group training. Therefore, the Chief Representative of JICA Zambia Office sent again a letter (dated on May 12) addressed to Mr. Mwitwa to inform that “if these three consultants were not prepared to engage in the training on a full-time basis before May 19, the schedule should be modified to request the experts to leave Zambia.” Upon this notification, the said three consultants finally assumed their positions at KIZ on May 19, and the group training was ready to start. Seconded from ministries and public agencies, six consultants arrived sequentially to participate in the project. The total number of consultants turned out to be nine for the first year of the project.

Of these consultants, however, Mr. Ndiwa Mutelo seconded from RDA returned to his original place of work to serve as a KAIZEN coordinator after his completion of the group training. Moreover, Mr. McLean Sakala, who was a prospective KIZ employee, had not been participating in the project since the end of June 2014, though completed the group training (and the training program in Japan). At the outset of the second year, he formally withdrew from the project, and this eventually resulted in seven consultants assigned for the first year. It should be noted that KIZ has employed one of these seven consultants, namely, Mr. Bernard Wamundila.



From left, Mr. Chapula, Ms. Siame, Mr. Wamundila, Mr. Musentekwa, Ms. Chituta, Mr. Kapenda, and Mr. Kaimba
The First Year Consultants

Note that Ms. Peggy Chituta, a Consulting Manager seconded from ZABS, was discharged from her position assigned at KIZ on August 1, 2015. As a result, she participated exclusively in OJT, and therefore a Consulting Manager position has been vacant since the middle of the second year.

[The process of selecting consultants for the second year]

Of 18 persons applied in response to a newspaper advertisement, 15 applicants were interviewed by Ms. Chituta, Mr. Chapula, and Mr. Musentekwa, who were qualified in terms of academic backgrounds. Nine finalists were offered consultant positions for the second year. However, one of them withdrew from the position for personal reasons prior to the group

training, and another could not obtain the consent of the workplace at ZABS, eventually unable to participate in the project. Therefore, a vacancy position was granted to one of the alternative interviewees, resulting in the acceptance of eight applicants in the end. Subsequently, a consultant (seconded from Kafue Water and Sewerage Company) withdrew from the project for a work-related reason upon completion of the fifth field activity. Thus, consultants and consultant candidates were 14 in total at the beginning of OJT, consisting of seven second year consultants and seven first year consultants. Notably, unlike the first year consultants, all the second year consultants have voluntarily engaged in the project.

Drawing on a consultation with the experts, KIZ offered three employment positions to Ms. Monica M. Mwiche, Mr. Howard Musonda, and Ms. Sarah Shawa, selecting from the second year consultants. The institution subsequently employed Mr. Fred Sichikolo for its staff position. KIZ thus employs five consultants in total, including Mr. Bernard Wamundila employed from the first year. The original plan has satisfied the number of consultants, which was intended to employ a total of five consultants including three in the first year and two in the second year.

After the OJT started, three second year consultants, Mr. John Hikanyemu, Ms. Mutale C. Sichone, Mr. Mambo Chiluwe, withdrew from the project. Accordingly the number of KIZ KAIZEN consultants at the end of the seventh field activity are 11 in total, including seven first year consultants and four second year consultants.



From left, Mr. Sichikolo, Ms. Mwiche, Mr. Musonda, and Ms. Shawa
The Second Year Consultants

[The process of selecting the third year consultants]

A selection of the third year consultants was initiated with posting a recruitment advertisement in Zambia Times, a national newspaper, on February 18, 2016.

In addition to the previous qualifications such as “three years of working experiences in a post-graduate period,” this advertisement specified two more conditions for entry that “salaries in a training period from April through December 2016 must be paid by the present employer of the accepted applicant,” and that “the accepted applicant must pay 2,700 kwacha (approximately

28,000 yen) for KIZ as training fees.” Namely, this offer for entry was advertised for inviting participants in a consultant training, rather than hiring KIZ employees.

KIZ consultants had interviews with 11 persons who met academic and other qualifications, among 13 applicants, resulting in 10 successful finalists selected therefrom. To learn as new and prospective consultants, eight of the ten finalists attended lectures started on April 7, whereas the remaining two were absent for such reason as a remote residential location. The eight third-year consultants include the equal ratio of men to women, with an average age of 30. While two of them are on temporary leave and sent from their workplaces (Ministry of Agriculture, Fisheries and Livestock and Konkola Copper Mine), six other consultants are not receiving compensations from their organizations they work for.

After the launch of OJT, Ms. Febby Msango was employed by the Ministry of Labour, and therefore withdrew herself from the project at the end of May. Also, Mr. Webster C. Hamoonga, a participant who was taking a leave of absence from his work at Konkola Copper Mine, was ordered to return to his workplace in the middle of June. He has therefore suspended his attendance in the training since then. As a consequence, the third year consultants turned out to be six eventually.



From left, Ms. Tembo, Mr. Kiprios, Mr. Nkukumbani, Ms. Vriddhagiri, Ms. Luwaile, and Mr. Magwenzi
The Third Year Consultants

Table 1.2.1-12 shows results of consultant candidate selections in the three project years.

Table 1.2.1-12 Selection Results of KAIZEN Consultant Trainees in the Three Project Years

	2014 Trainees	2015 Trainees	2016 Trainees
Number of applicants	9	18	13
Successful candidates of paper screening	9	9	10
Number of training participants withdrawn from the training course	2	5	4
Number of participants who completed the training	7	4	6
Number of certified consultants	6	4	6 (to be certified in December 2016)

(2) Selection of pilot enterprises

Pilot enterprises are a venue for which the consultants acquire an ability to manage their knowledge on KAIZEN gained in the group training as well as where they demonstrate that KAIZEN is a viable method in Zambia.

Selected pilot enterprises are 18 in the first year, 19 in the second year, and 16 in the third year, respectively. A list of the pilot enterprises selected for these years is provided in Appendix 3 (1) through (3).

The first KAIZEN consulting in the country dates back to 2008. The project has selected some pilot enterprises from those prominent enterprises and public agencies which had received a KAIZEN training since the initial stage. Working with these enterprises has been the key to the successful implementation of OJT. Such cases include, namely, AFIL Engineering Ltd., Lusaka Water & Sewerage Co., and ZESCO. Furthermore, another successful factor was Japanese-affiliated enterprises operating in Zambia, such as Hitachi Construction Machinery Zambia, targeted to host OJT.

In the third year, in addition to selecting pilot enterprises for OJT, the project planned a follow-up training for sustaining and promoting KAIZEN activities at the enterprises which hosted OJT in the preceding two years. Accordingly, 16 enterprises were selected for the follow-up targets (hereinafter referred to as the “FU enterprises”).

[The process of selecting pilot enterprises for the first year]

The JICA expert team had not obtained preliminary information on potential pilot enterprises. Thus, during the first field activity prior to the consultant training, it made a request to the following organizations to prepare a list of candidate enterprises, as they were familiar with situations of the Zambian corporate entities.

- ZACCI (Zambia Chamber of Commerce and Industry)

- ZAM (Zambia Association of Manufacturers)
- ZCSMBA (Zambia Chamber of Small and Medium Business Associations)
- TEVETA (Technical Education, Vocational and Entrepreneurship Training Authority)

Upon their arrival in Zambia, JICA experts visited 56 candidate enterprises, covering the information provided by the above organizations and KIZ, the public-sector agencies recommended by MCTI, and presenters in the KAIZEN conference in 2013. Eighteen pilot enterprises were selected eventually in consultation with KIZ (Mr. Mwitwa and Ms. Chituta).

Based on a Pilot Enterprise Assessment Sheet shown in Appendix 4, pilot enterprises were selected from those that marked higher total scores for 10 elements assessed on a scale of five points, which includes “commitment of top management,” “aspiration of top management for KAIZEN,” “leadership of top management,” “experiences in KAIZEN,” “expected outcomes,” “leadership experiences of coordinator,” “coordinator’s aspiration,” “coordinator’s experiences in KAIZEN,” “availability of meeting venues,” and “team members.” These benchmarks have been set out in consultation with KIZ, while also incorporating the past experiences of the expert team.

Selection of pilot organizations in the public sector had undergone the same procedures. To select six pilot enterprises, sixteen candidates were all relevant. The project decided to accept all these organizations, taking KIZ’s opinion into consideration.

The allocation of the pilot enterprises and public-sector organizations was eight manufacturing companies, four non-manufacturing companies, and six public organizations, as initially agreed with MCTI.

[The process of selecting pilot enterprises for the second year]

In order to utilize local knowledge of the consultants about Zambian enterprises, a working group was organized to select pilot enterprises during the fourth field activity (consisting of Mr. Musentekwa as a leader, Mr. Chapula, Mr. Kapenda, Project Expert Amagai, and Project Adviser Moriyama). The working group selected pilot enterprises from preliminarily screened 76 organizations, whereby the experts and consultants visited for interviews with the executives and on-site diagnosis. The selection criteria are same as in the first year.

In the second year, the project planned to allocate additional nine consultants and select a total of 24 enterprises for which each consultant team would work in two groups. In the absence of the experts, however, it was difficult to arrange a vehicle to visit these enterprises. This was likely to restrict activities of a team if working in two groups, and eventually 19 pilot enterprises were selected. Also, the proportion of the pilot enterprises was originally planned to be 50% for the manufacturing industry, 25% for the non-manufacturing industry, and 25% for the public sector. In practice, it turned out to be challenging to find relevant manufacturing subsectors, and thus resulted in selecting 5 manufacturing companies, 4 non-manufacturing companies, and 10 organizations in the public sector, accounting for the larger portion of the pilot enterprises.

Moreover, in the second year, enterprises in Copperbelt Province were excluded because of the limited KIZ budget.

[The process of selecting pilot enterprises for the third year]

In the third year, there have been two Japanese experts available for instructing and training consultants. Thus, four teams have been organized for which one Japanese expert supervise two teams respectively. This has led to a selection of 16 pilot enterprises.

In pursuit of more advanced KAIZEN activities, the project selected the third year pilot enterprises to partly incorporate a training continued for those enterprises where OJT was conducted in the first and second year. As a result, eight of the said 16 organizations were selected from those pilot enterprises targeted in these first two years.

To begin with, led by KIZ staff members, a selection process long-listed 70 potential enterprises. They originally expected to select about 20 to 25 enterprises in advance from these 70 prescreened enterprises, visiting for interviews with their executives and on-site diagnoses, preceding the tenth field activity. Then, the JICA team and the KIZ consultant team were supposed to conduct on-site surveys for a final selection of 16 enterprises. In practice, the KIZ consultant team had not pursued such preliminary screening, and thus the JICA team and the KIZ consultant team jointly carried out on-site surveys and a selection of enterprises in the tenth field activity.

As in the first and second year, the pilot enterprises were selected from those that marked total scores of 35 or higher for 10 elements assessed on a scale of five points, which includes “commitment of top management,” “leadership of top management,” and “coordinator’s aspiration.”

The selected pilot enterprises are 16 organizations, which include six manufacturing companies, three non-manufacturing companies, and seven public organizations. Six out of these 16 enterprises are the same pilot organizations targeted in the first and second years.

As mentioned above, furthermore, the third year project planned to undertake OJT provided regularly in the pilot enterprises as well as a follow-up training for sustaining and promoting KAIZEN activities at the enterprises where OJT was conducted in the preceding two years. Accordingly, 16 enterprises were selected for the follow-up targets. As a consequence, the project has targeted 32 organizations in total, covering both the pilot enterprises and FU enterprises, to implement KAIZEN OJT.

Furthermore, KIZ has initiated a fee-based training from the third year. Mr. Ashaari, a Malaysian expert who has joined the JICA team, has started to instruct a TQM-related subject for Road Development Agency (RDA).

Table 1.2.1-13 shows results of pilot enterprise selections in the three project years.

Table 1.2.1-13 Selection Results of Pilot Enterprises in the Three Project Years

	2014	2015	2016
Manufacturing sector	8	5	6
Non-manufacturing sector	4	4	3
Public sector	6	10	7
(Follow up)	-	-	(16)
Total	18	19	16 + (16)

(3) Implementation of the first year group training

The group training implemented in the first year is indicated in Table 1.2.1-14.

Table 1.2.1-14 The Group Training Implemented in the First Year

No.	Date	Morning (9:30-12:00)	Afternoon (13:30-16:00)
1	May 19 (Mon), 2014	Productivity & Quality (Instructor: Tsuchiya)	Productivity & Quality (Instructor: Tsuchiya)
2	May 20 (Tue)	KAIZEN, 5S, Visual Control (Ito)	KAIZEN, 5S, Visual Control (Ito)
3	May 21 (Wed)	Basic Production Management (Tsuchiya)	Basic Production Management (Tsuchiya)
4	May 22 (Thu)	Method Study (Tsuchiya)	Work Measurement (Tsuchiya)
5	May 23 (Fri)	Work Sampling (Moriyama)	Layout (Moriyama)
6	May 27 (Tue)	Line Balance (Moriyama)	Inventory Control (Moriyama)
7	May 28 (Wed)	QCC (Ito)	SQC (Ito)
8	May 29 (Thu)	7 QC Tools (Ito)	7 QC Tools (Ito)
9	June 2 (Mon)	Cost Management (Ito)	Lean Production (Moriyama)
10	June 3 (Tue)	TPM (Ito)	TQM, ISO (Tsuchiya)
11	Dec. 5 (Fri)	KAIZEN Consulting (Tsuchiya) Muda-dori (Ito)	
Total		11days (52.5 hours)	

Since some of the consultants had been delayed to join the project, the first year group training started in a venue leased from ZDA a week later than originally planned. While the curriculum described in the Inception Report was approved by KIZ, the project elaborated further on QCC, considering the fact that KIZ considered it important.

As mentioned above, other than those three who assumed their positions on May 19, the consultants joined in the project after the group training started. It was only one consultant (Mr. McLean Sakala) who was able to fully attend the subjects assigned. The consultants who had missed part of the group training were required to attend the corresponding lectures provided in the second year. As a consequence, the first year consultants completed all the subjects assigned for the group training.

The implemented group training had mostly covered a range of key components of KAIZEN consulting, whereby the consultants obtained knowledge essential to instruct KAIZEN

at the enterprises. The lectures delivered new contents, except for some consultants, leading to robust questions and discussions.



The group training (Instructor: Ito)

(4) Implementation of the second year group training

The group training implemented in the second year is indicated in Table 1.2.1-15.

Table 1.2.1-15 The Group Training Implemented in the Second Year

No.	Date	Morning (9:30-12:00)	Afternoon (13:30-16:00)
1	April 20 (Mon), 2015	Basic Production Mgt.(Mr. Chapula)	Productivity and Quality (Mr. Chapula)
2	April 21 (Tue)	KAIZEN (Mr. Wamundila)	5S, Visual Control (Mr. Musentekwa)
3	April 22 (Wed)	Muda-dori (Mr. Kaimba)	Method Study (Mr. Musentekwa)
4	April 23 (Thu)	Work Measurement (Ms. Chituta)	Work Sampling (Ms. Chituta)
5	April 24 (Fri)	Line Balance (Mr. Kapenda)	Layout (implemented on May 6)
6	April 27 (Mon)	Inventory Control (Mr. Musentekwa)	QCC/Team Work (Mr. Wamundila)
7	April 28 (Tue)	QCC/Team Work (Mr. Wamundila)	Cancelled due to power outage
8	April 29 (Wed)	SQC (Mr. Chapula)	7QC Tools (Mr. Musentekwa)
9	April 30 (Thu)	Cost Management (Mr. Kapenda)	Lean Production (Mr. Chapula)
10	May 4 (Mon)	TPM (Mr. Wamundila)	TQM (Mr. Kapenda)
11	May 5 (Tue)	ISO (Ms. Chituta)	ISO (Ms. Chituta)
12	May 6 (Wed)	ISO (Ms. Chituta)	Layout (Ms Chituta)
13	May 7 (Thu)	Problem Solving (Mr. Kapenda)	Problem Solving (Mr Kapenda)
14	May 8 (Fri)	KAIZEN Consulting (Mr. Musentekwa)	Standardization (Ms. Chituta)
Total		14 days (65 hours)	

By reviewing the first year group training, the project extended lectures in the second years from 52.5 hours to 65 hours (Originally planned for 75 hours, the lectures were cut by 10 hours due to revision of the course contents in Problem Solving and Standardization, an instructor's absence, and power outage).

As mentioned above, the first year consultants fully instructed the second year group training. By November 2014, they were assigned with their specific subjects to instruct. Although this allowed them to have sufficient time to prepare for the training thereon, their

training operations were not entirely successful for such reasons as inadequate preparation of handouts, a last-minute change of instructors, and a class cancellation due to power outage. Nonetheless, it is noteworthy that the consultants carried through the group training in pursuant to the plan without the experts' intervention. They have gained confidence with this experience.

Regarding the attendance in the second year group training, four out of the eight consultants fully received all the prescribed lectures (the average attendance rate of 81.2%). This turned out to be better than in the first year where one out of the eight consultants (the average attendance rate of 76.1%) completed them. As mentioned above, those who had missed part of the group training in the first year were required to attend the corresponding lectures in the second year.



IE exercise, simulating with LEGO® blocks



Lecture instructed by the first year consultant

(5) Implementation of the third year group training

The group training implemented in the third year is indicated in Table 1.2.1-16.

Table 1.2.1-16 The Group Training Implemented in the Third Year

No.	Date of training	a.m. (9:00-12:00)	p.m. (13:00-16:00)
1	April 7 (Thu), 2016	Productivity & Quality (Mr. Tsuchiya)	Productivity & Quality (Mr. Tsuchiya)
2	8 (Fri)	QCC/Team Work (Mr. Ashaari) (○)	QCC/Team Work (Mr. Ashaari) (○)
3	11 (Mon)	Basic Production Management (Mr. Chapula)	Basic Production Management (Mr. Chapula)
4	12 (Tue)	KAIZEN (Mr. Tsuchiya) (○)	KAIZEN (Mr. Tsuchiya) (○)
5	13 (Wed)	5S (Ms. Mwiche) (○)	Visual Control (Ms. Mwiche) (○)
6	14 (Thu)	Layout (Mr. Wamundila) (○)	Method Study (Mr. Sichikolo)
7	15 (Fri)	Method Study (Mr. Sichikolo)	Work Measurement (Mr. Musonda) (○)
8	18 (Mon)	Work Sampling (Mr. Musentekwa)	Inventory Control (Mr. Musentekwa) (○)
9	19 (Tue)	Muda-dori (Mr. Moriyama) (○)	7 QC Tools (Mr. Sichikolo) (○)
10	20 (Wed)	7 QC Tools (Mr. Sichikolo) (○)	7 QC Tools (Mr. Sichikolo) (○)
11	21 (Thu)	TQM (Mr. Fujita) (○)	TQM (Mr. Fujita) (○)
12	22 (Fri)	KAIZEN Consulting (Mr. Wamundila) (○)	KAIZEN Consulting (Mr. Wamundila) (○)

No.	Date of training	a.m. (9:00-12:00)	p.m. (13:00-16:00)
13	June 20 (Mon)	SQC (Mr. Ashaari)	SQC (Mr. Ashaari)
14	21 (Tue)	Problem Solving (Mr. Kapenda)	Line Balance (Mr. Kapenda)
15	22 (Wed)	Lean Production (Mr. Wamundila)	Standardization (QMS& ISO) (Ms. Shawa)
16	23 (Thu)	Standardization (QMS& ISO) (Ms. Shawa)	Standardization (QMS& ISO) (Ms. Shawa)
17	27 (Mon)	TQM (Mr. Ashaari) (○)	Cost management (Mr. Moriyama)
18	September 19 (Mon)	TPM (Mr. Ashaari) (○)	
Total		18 days (105 hours)	

(Subjects also learned in OJT are marked with circles.)

As mentioned earlier, the third year group training has been extended to a total of 102 hours from 65 hours, as a result of reviewing the second year curriculum. Among 22 subjects, 15 basic topics (72 hours) had been taught from April 7 to 22, preceding a commencement of OJT, which was the first step of the training. Leading to the second step, more advanced 7 subjects had been taught from June 20 to 27. However, a supplementary TQM session was additionally instructed by Mr. Ashaari, and therefore TPM was not taught as scheduled in the timetable. This was delivered on September 19 instead, resulting in 105 hours spent for the entire group training.

Although the third year consultants are younger on average than the first- and second-year consultants, and therefore have limited practical experiences, they are deeply committed to learning. Due to such modest career background, many of these consultants remained silent at first in the training. Gradually, however, they came to ask questions and join in discussions robustly in the latter half of the lecture sessions, beyond the scheduled class hours.

The group training for consultants was instructed by the Japanese experts, the first- and second-year consultants as assigned respectively. However, most of the six first-year consultants have already returned to their original workplaces in the government agencies. Also, two consultants, namely, Ms. Peggy Chituta and Ms. Muchemwa Siame, were unable to instruct appointed lectures for their busy duties. Therefore, the expert Mr. Tsuchiya, and Mr. Wamundila, the first year consultant, took a lectureship in lieu of them. On the other hand, the second year consultants were well prepared for giving lectures, delivering lessons in their own words. This will foster their confidence for the future.

As for the attendance rate of the group training, it turned out to be 92% in the end, due to a withdrawal of Ms. Febby Msango and Mr. Webster C. Hamoonga at the half stage. Nonetheless, it increased from 81.2% in the second year. Four out of eight consultants fully attended the training, which was same as in the previous year. Those second year consultants who missed part of the group training provided in the second year received the corresponding lectures offered this year.



Lecture instructed by the expert



Lecture instructed by the first year consultant

The group training is intended to obtain wide-ranging knowledge of KAIZEN required for KAIZEN consultants to engage in consulting at client enterprises.

Learning materials used in the group training are as described in section 1.2.1.4. Consultants are acquainted not only with essential knowledge of KAIZEN and industrial engineering (IE), but also with advanced disciplines such as TQM and ISO, in the group training covering 22 subjects (instructed for nearly 100 hours in total).

In practice, however, consultants are often unable to guide on-site consultation solely relying on the know-how learned in lectures. Therefore, when they practice and experience hands-on application of their essential knowledge of KAIZEN activities at pilot enterprises, their competency will be further developed.

(6) The first year OJT at the pilot enterprises

1) Scheduling a start of OJT

To prepare for OJT, the project needed a working space suitable for accommodating team meetings, making e-mail correspondence with the pilot enterprises, and pursuing other administrative works associated with it. A KIZ office, however, had not been completed by the time it was needed, and it was unforeseeable when the office would be available. Under such a circumstance, the project team discussed over whether it should suspend training of the consultants upon completion of the group training, sending the experts back to Japan for the time being. As a result of consulting with the JICA Zambia Office, the project team decided to launch OJT, albeit against various inconvenience. The said office approved this conclusion. The major reasons for the decision to carry out OJT were as follows.

- Suspending OJT at this timing was likely to undermine the morale of the consultants which had been enhanced by the group training.
- Selected pilot enterprises were seeking to carry out OJT whenever possible.
- If the project suspended OJT, the consultants would not have alternative duties specifically assigned, which might result in their return to the positions at their original organizations.

2) Formation of the consulting teams

With as many as nine consultants available, the project worked on a team basis, consisting of an expert and three consultants respectively as indicated in Table 1.2.1-17. To assign the three teams for 18 pilot enterprises, each team was responsible for six organizations. Each pilot enterprise was allocated with a consultant leader selected from the team members, and each leader was responsible for two pilot enterprises.

Table 1.2.1-17 Formation of the First Year Consulting Team

Team	Team A	Team B	Team C
Expert	Shigeki Tsuchiya	Kunihiro Ito	Kanici Moriyama
Trainee (First year consultant)	Ms. Peggy Chituta	Mr. Bernard Wamundila	(Mr. McLean Sakala)
	Mr. John Kapenda	Mr. Dismas Chapula	Mr. Gabriel Musentekwa
	Mr. Malioty Kaimba		Ms. Muchemwa Siame
Pilot enterprises	1. HCMZ (Hitachi Construction Machinery Zambia) 2. ZAMBIKES 3. Specialized Systems 4. Ministry of Local Government and Housing	1. ZAMEFA (Zambia Metal Fabrication) 2. SCAW Ltd 3. AFIL Engineering Ltd. 4. ZNBC	1. ZAM Leather 2. Lumuno Organic Farms 3. NAC2000 4. ZESCO

Primary roles of leader include:

- Communication with the pilot enterprises
- Writing consulting reports
- Writing case sheets

3) Implementation of OJT

Sometimes, OJT is wrongly understood that one should only memorize what an expert is instructing for an enterprise, observing side by side. The objective is, however, to develop his or her practical skills for applying knowledge learned from the expert to his or her on-site consulting.

The Project took the following steps for its OJT. Once in two weeks as a rule, the consultant teams visited the pilot enterprises to guide KAIZEN practices through which they had meetings and worksite tours primarily with KAIZEN coordinators and employees leading QCC groups. Followed by what they had been instructed, the KAIZEN coordinators directed further internalization of KAIZEN practices in the pilot enterprises.

While the experts were away from Zambia, the consultants visited on site with the same frequency, and the experts guided them as much as possible, corresponding with e-mail. Counted according to the calendar, the total number of visits was planned 13 for the first year,

including eight by the experts and consultants and five by the consultants alone. Table 1.2.1-18 shows a typical consulting schedule.

Table 1.2.1-18 Typical Consulting Schedule

Month	May	Jun	Jul	Aug	Sep	Oct	Nov						
Activities/No. of visit	0	1	2	3	4	5	6	7	8	9	10	11	12
Get information of enterprise	—												
Assign KAIZEN coordinator	—												
Train KAIZEN coordinator	—												
Train employees	—												
Form QCC		—											
Set theme & action plan			—	—	—								
Decide base line						—							
Official launching						→							
Implement KAIZEN										—	—		
Confirm the result											—	—	
Standardized modified method													—
Make a presentation at a KAIZEN conference													
Others													



OJT at Hitachi Construction (Team A)



OJT at AFIL Engineering (Team B)



OJT at Lumuno Organic Farms (Team C)

Appendix 5 shows overall KAIZEN achievements obtained at the first year pilot enterprises, Appendix 6, the work progress (example), and Appendix 11, KAIZEN achievements, respectively. Appendix 11 presents achievements obtained at the pilot enterprises in the three project years. The first year enterprises are indicated with 2014 in the right column of Appendix 11, showing the starting year of their project involvement.

OJT at the first year pilot enterprises had been carried out from June through December 2014. Three organizations had to terminate receiving consulting halfway (SAFINTRA, ZNBC, and the Ministry of Local Government & Housing). The remaining 15 enterprises completed their consulting sessions mostly as scheduled.

It should be noted that the project made visits to these 15 pilot enterprises to conduct interviews in August 2015, followed by the completion of training in December 2014. In these occasions, the progress of KAIZEN activities was checked to ensure that those enterprises would continue their efforts.

In the third year, furthermore, two enterprises have been selected from the above-mentioned 15 enterprises again for pilot enterprises to receive consulting. The project has provided other five enterprises with a follow-up consultation on a monthly basis. Appendix 11 shows the resulting achievements made at the final stage of the above activities.

To note, three pilot enterprises consulted by Team B (Metal Fabricators of Zambia, SCAW Ltd., and Northern Technical College) are located in Copperbelt Province about 400 km away from Lusaka. The team thus visited there to provide them with consulting in the following tight schedule.

Day	Route	Enterprise for OJT
Day 1 (Sun)	Lusaka→Ndola (by airplane*)	(45 minutes)
	Ndola→Kitwe (overnight stay)	(65 km)
Day 2 (Mon)	Kitwe	a.m. SCAW
	Kitwe→Ndola	p.m. NORTEC
	Ndola→Kitwe (overnight stay)	
Day 3 (Tue)	Kitwe→Luanshya	(40 km) a.m. ZAMEFA
	Luanshya→Ndola	(30 km)
	Ndola→Lusaka (by airplane*)	(45 minutes)

*An air route in case the experts move from Lusaka to Ndola.

Having engaged in OJT in these pilot enterprises, the consultants developed practical consulting skills by which they applied the know-how learned in the group training to workplace activities and gained first-hand experiences.

Note that most of the consultants have become capable of instructing the pilot enterprises to implement basic techniques such as KAIZEN, 5S, QCC, and visual control, without relying on the Japanese experts. However, they require further practices on such disciplines as SQC, TQM, and ISO that they exercised less frequently in OJT.

Section 1.2.2 below describes in detail about the practical consulting skills that the consultants trained in years 1-3 had obtained by the completion of the training.

(7) The second year OJT at pilot enterprises

Table 1.2.1-19 shows formation of consulting teams for the second year. As in the group training, the first year consultants instructed their second year counterparts, with assistance from the experts. The peer pairs of the experts and the first year consultants remained the same so as to maintain the consistent partnerships. Each team was in charge of six enterprises as the OJT in the first year.

Table 1.2.1-19 Formation of the Second Year Consulting Teams

Team	A	B	C
Expert	Shigeki Tsuchiya	Kunihiro Ito	Kanichi Moriyama
Instructor (First year consultant)	Ms. Peggy Chituta Mr. John Kapenda Mr. Malioty Kaimba	Mr. Bernard Wamundila Mr. Dismas Chapula	Mr. Gabriel Musentekwa Ms. Muchemwa Siame
Trainee (Second year consultant)	Ms. Monica Mwiche (Mr. John Hikanyemu)	Mr. Howard Musonda Mr. Fred Sichikolo	Ms. Sarah Shawa (Mr. Mambo Chiluwe) (Ms. Mutale C. Sichome)
Pilot enterprises	1. Varun Beverage (Z) Ltd. 2. Royal International Development Agency 3. Rural Electrification Authority	1. AFIL Engineering 2. Class Econ 3. Agro Fuel Invest. 4. ZDA 5. TEVETA	1. Capital Fisheries Limited. 2. COMACO 3. Taj Pamodzi Hotel 4. Kafue Gorge Regional

Team	A	B	C
Expert	Shigeki Tsuchiya	Kunihiro Ito	Kanichi Moriyama
	4. Lusaka Water & Sewerage Co. 5. Public Service Management Division (PSMD) -DHRD 6. Lusaka Business & Technical College	6. MCTI 7. Chongwe District Hospital	Training Center (KGRTC) 5. University of Zambia (UNZA) 6. Industrial Training Center

As in the first year, the teams visited the pilot enterprises once in two weeks, as a rule, to provide them with KAIZEN consulting. Excluding such events as a KAIZEN conference, the visits were to be made 12 times, according to the calendar.



OJT at Varun Beverage (Team A)



OJT at Class Econ Roofing (Team B)



OJT at Kafue Gorge Regional Training Center (Team C)

Appendix 7 shows overall KAIZEN achievements obtained at the second year pilot enterprises, Appendix 8, the work progress (example), and Appendix 11, KAIZEN achievements, respectively.

In one of the nineteen enterprises (Lusaka Business & Technical College), the consulting team had to terminate halfway, owing to the internal circumstance therein. OJT was completed in the remaining 18 mostly as scheduled.

(8) The third year OJT at pilot enterprises

Table 1.2.1-20 shows formation of consulting teams and a list of pilot enterprises in the third year where these teams carry out OJT. This year, four second-year consultants and eight third-year consultants (at the outset of OJT), totaling 12, undertake OJT. The optimal number of OJT trainees is three persons per team, and there are two Japanese experts available for their instructors. Thus, four teams are organized for which one Japanese expert supervises two teams respectively. Each team is responsible for consulting four pilot enterprises and four FU enterprises.

OJT is implemented in the same way as the second year in which the second year consultants instruct the third year counterparts, provided with backup support of the Japanese experts.

As mentioned in 1.2.1.2, however, two third year consultants left the project in June, and thus the remaining pair of consultants in Team A1 and A2 respectively delivered their on-site consulting sessions.

Table 1.2.1-20 Formation of the Third Year Consulting Team

Team	A1	A2
Expert	Moriyama	Moriyama
Instructor (Second year consultant)	Ms. Monica Mwiche	Mr. Howard Musonda
Trainees (Third year consultant)	Mr. Voster Nkukumbani (Ms. Febby Msango)	(Mr. Webster Hamoonga) Ms. Bwalya Tembo
Pilot enterprise	1. Varun Beverage (Z) Ltd. 2. Rural Electrification Authority (REA) 3. Beja Enterprises Ltd. 4. Mojo Media Agency	1. Astro Holdings 2. Universal Mining and Chemical Ind. Ltd. 3. Nangongwe Health Centre 4. Public Service Management Division (PSMD)-HRIP
FU enterprise	1. HCMZ (Hitachi Construction Machinery Zambia) 2. Specialized Systems 3. Lusaka Water & Sewerage Company 4. Zambia Bureau of Standard (ZABS)	1. Agro Fuel Investment 2. Class Econ 3. TEVETA 4. Public Service Management Division-HRIP

Team	B1	B2
Expert	Fujita	Fujita
Instructor (Second year consultant)	Ms. Sarah Shawa	Mr. Fred Sichikolo
Trainees (Third year consultant)	Ms. Praise Luwaile Mr. Aaron Magwenzi	Mr. Gilbert Kiprios Ms. Vasumathi Vriddhagiri

Team	B1	B2
Expert	Fujita	Fujita
Pilot enterprise	1. Taj Pamodzi Hotel 2. ZALCO 3. Kabwe Institute of Technology (KIT) 4. Wanzana Processing	1. Chongwe District Hospital 2. ZAM Leather 3. Ministry of Local Government & Housing 4. Lukanga Water & Sewerage
FU enterprise	1. Capital Fisheries 2. University of Zambia 3. Ind. Training Center 4. Kafue Gorge Regional Training Center	1. AFIL Engineering 2. Hi-Communications 3. ZESCO 4. Zambia Development Agency (ZDA)

Names in parentheses indicate those who quit before completion

As in the first and second year, the consulting teams visited the pilot enterprises once in two weeks to instruct KAIZEN. They also visited the FU enterprises once a month to ensure internalized KAIZEN activities and consult for further promotion. Except for periods of a presidential election in August and JICA's training program in Japan, the visits to pilot enterprises were likely eight to nine times, according to the calendar (of these occasions, the Japanese experts accompany on site for sessions No. 1, 2, 5, 6, 8, and 9). OJT at FU enterprises have been scheduled eight times per enterprise to be provided until December.



Instructing at Varun Beverage(Z), Ltd. (Team A1)



Instructing at UMCIL (Team A2)



Instructing at ZALCO (Team B1)



Instructing at Zam Leather (Team B2)

Appendix 9 shows overall KAIZEN achievements obtained at the third year pilot enterprises, Appendix 10, the work progress (example), and Appendix 11, KAIZEN achievements, respectively.

While two out of 16 third-year pilot enterprises (Beja Enterprise and Nangongwe Health Center) terminated receiving consulting, owing to their circumstances, the remaining 14 have been provided with consulting mostly as scheduled.

Among these 14 enterprises, Chongwe District Hospital (Team B2), though having created a QCC group, postponed a consulting session several times, owing to the pressure of business. Consequently, the QCC activities have been implemented only partly, unable to generate actual KAIZEN output. A new attempt in the third year is a pilot enterprise selected from a hospital and medical institution. Generally speaking, that type of organization is relatively less committed to OJT. This is probably because the work volume is substantial, pursued on a non-routine basis. Also, the institution tends to be less customer (patient)-centered in its mindset. Therefore, KIZ will need to broaden promotional activities to gain more understanding on KAIZEN from top management of such institution. In many cases, KAIZEN coordinators and QCC leaders in the public sector as well as in hospitals and medical institutions are occupied with their original duties and often away for official trips. Accordingly, KAIZEN consultants have fewer chances to visit them on site than in private enterprises. The resulting KAIZEN efforts are likely to lag behind.

With a view to the above, hands-on training through consulting exercises carried out at the pilot enterprises for the three project years has been a central pillar of developing human resources who serve as consultants and enhancing their capacities. The initial objectives have been to obtain an “ability to identify problems related to quality and productivity of enterprises,” “ability to propose feasible solutions to the identified problems,” and “competence to instruct their KAIZEN solutions, applying their knowledge and skills obtained.” In Zambia, learning is generally considered to be achieved through in-class studies. Trainees therefore tend to think they have gained abilities, as long as they learn in a classroom. In practice, it is rather difficult to provide in-depth instructions on site when learned only in a classroom. To cope with this problem, the project has included a unique OJT component that is integral to gain first-hand experiences.

Specific elements of OJT are “application of knowledge obtained in the group training to the on-site business environments,” “training of KAIZEN coordinators,” and “suggestion of KAIZEN solutions for the pilot enterprises, followed by directing their implementation.” The KAIZEN activities in the project have achieved quality and productivity improvement at the pilot enterprises, which is demonstrating that KAIZEN in Japan is a viable tool in Zambia.

While KAIZEN can be implemented in a variety of means such as through managerial decision-making, a committee, a task force and a small-group activity, a participatory approach has been uniquely pursued in Zambia, which involves all the employees of the organizations. Having implemented to change the mindset of employees, a small group activity (QCC) has contributed to foundation building for KAIZEN.

At the same time, however, it should be noted that QCC is again a tool for implementing KAIZEN, not KAIZEN itself. Moreover, because QCC is not a method to solve problems by itself, KAIZEN requires relevant knowledge and skills for the successful implementation, supported by QCC.

The project is featured by developing problem-solving skills based on Industrial Engineering (IE), with conventional QCC to build practical foundation for KAIZEN. For instance, JICA's Project on Quality/Productivity Improvement in Tunisia represents one of the good-practice models that demonstrate potentials of IE-based KAIZEN that may achieve a range of significant outcomes not only in Japan but also globally, including developing countries. In the process in which Zambia's industries, economies and society develop for the future, KAIZEN will certainly gain more importance, particularly through IE-based problem solving underpinned by QCC efforts.

As described later, furthermore, a vigorous training of KAIZEN coordinators is the major feature of this project, nurturing leaders of KAIZEN activities in their enterprises. The first-year training program inspired KAIZEN coordinators working for their enterprises to form a KAIZEN club, which is facilitating intercorporate interaction and communication to share about KAIZEN practice. These efforts will contribute to expand KAIZEN in the public and private sectors in Zambia.

(9) Regular OJT training

For follow-up work of OJT, it is obviously desirable to have meetings before and after corporate visits. In the first year, however, a team meeting venue had been unavailable as the KIZ office had not been completed before the project started. Also, the consultants seconded from other organizations often engaged in duties at their original workplace, except during OJT at the pilot enterprises. Thus, the project could not provide adequate follow-ups of OJT, albeit regrettably, because it was virtually difficult to call for all the team members under these circumstances.

In the second year, each team included a KIZ-employed consultant, and the project has been pursued whereby the experts and counterparts meet regularly, as expected initially. Regular follow-ups have been thus better managed, compared with the first year. Supposedly, this is also because the first year consultants are more aware of their responsibility to serve as instructors.

In the third year, the second year consultants, all employed full-time by KIZ, largely involve themselves in providing a training for their third year counterparts. Furthermore, KAIZEN consultants and candidates are actively learning one another, significantly improving the previous situation mentioned above.

(10) Consulting components guided by the consultants during their OJT

As mentioned earlier, the key objective of OJT is the nurturing of consultants' practical abilities through which they apply knowledge obtained in lectures to their consulting work in

client enterprises. As a rule, the consulting teams visit pilot enterprises once in two weeks and have meetings and on-site rounds to guide their KAIZEN practices led by their coordinators and QCC leaders. KAIZEN coordinators in the pilot enterprises then undertook KAIZEN activities at their initiatives, based on what they were instructed.

After the consultants' visits to the pilot enterprises that they were in charge, they prepared consulting reports on KAIZEN components they instructed and any resulting output. These reports were sent to KAIZEN coordinators and top management in the pilot enterprises to cross-check the working progress and inform the next activity.

The consulting reports are filled out with contents added on each visit. These present stages of the consultants' progresses in guiding their client enterprises. Appendix 12 (1) to (3) shows a sample report prepared at the final step of OJT.

The consulting reports chiefly describe the following components.

- Selection of consulting theme(s)
At the first onset of their consulting, consultants grasp present situations of a given enterprise. Then, they propose the targets and technical levels of KAIZEN activities that may be feasible for the enterprise, and decide upon reaching a mutual consensus.
- Details of KAIZEN consulting made for pilot enterprises
Consultants fill out in a successive manner what they instructed from the beginning to the end of each visit. They check the work progress in comparison with KAIZEN being implemented. Description of their consulting activities is added on so as to make all the details known.
- Achievements resulting from KAIZEN implemented by the pilot enterprises
Description of KAIZEN activities and achievements at the pilot enterprises, made from the onset to the completion of KAIZEN, based on the consultants' instructions.
- Activities pursued during the visit
- Comments on the enterprises' KAIZEN activities pursued during the visit
- Consulting work to be proposed in the next visit

A case sheet is a record for which successful output of the KAIZEN activities is highlighted, attained through KAIZEN consulting at the pilot enterprises engaged for more than half a year. One of the objectives is to facilitate the consultants' better understandings of KAIZEN approach through which they outline their consulting process and the achievements. Another is to make a portfolio of good practices applicable to future consulting work. Good practices in a case sheet are shown in the last page of Appendix 12 (1) to (3).

(11) Specific KAIZEN activities pursued at the pilot enterprises

The two objectives of OJT are the nurturing of consultants' skills in hands-on application of knowledge obtained the group training and the institutionalization of KAIZEN pursued by the pilot enterprises through OJT sessions.

KAIZEN achievements of the pilot enterprises are as outlined in the attached supplementary references, “Highlights of KAIZEN Achievements” (Appendix 5, 7, and 9) and “Output of KAIZEN Activities” (Appendix 11).

As mentioned in the preceding section, there have been some enterprises successfully internalizing KAIZEN in each project year, while others delayed in implementing their KAIZEN for the internal reasons, eventually unable to continue their efforts.

Those pilot enterprises successfully internalizing KAIZEN are primarily underpinned by firm leadership of top management, uninterrupted backup for the intended efforts, and KAIZEN- coordinators’ commitment and hands-on initiatives.

Successful models of KAIZEN internalization in large-scale enterprises have a marked impact on the Zambian industries, which promotes broader KAIZEN practices. Appendix 13 shows detailed KAIZEN practices undertaken in the major local enterprises.

(12) A training program in Japan (the first year consultants: October 12 to 26, 2014)

1) Outline of the training program in Japan

Carried out from October 12 to 26, 2014, a two-week training program in Japan was intended to provide an opportunity to learn about KAIZEN activities in the different sectors and organizational management of relevant institutions committed to broaden these activities, particularly in relation to quality and productivity solutions. A total of eight participants, including seven first year consultants and interim CEO (collectively referred to as the “trainees”), had attended this program (Ms. Peggy Chituta also participated in the training program for small and medium enterprises provided by JICA Chubu International Center).

2) Contents of the training program

[Training themes and program]

Themes and specific contents of the training program are provided in Table 1.2.1-21. In addition to the manufacturing sector, it covered non-profit institutions such as a hospital and a municipal office in different areas, including the east, central and west regions in Japan.

Table 1.2.1-21 Themes of the Training Program for 1st Training Program in Japan

Objectives	Training Items	Curriculum
1. To deepen expertise on techniques of quality & productivity improvement (KAIZEN), and to develop competence as a trainer of KAIZEN in Zambia	1. History of development on productivity movement in Japan, consulting practice and work on management of productivity and quality 2. 5S movement in small- and medium-sized manufacturers (SME) 3. KAIZEN in the service sector 4. Toyota Production System 5. KAIZEN in SME, ISO 6. Improvement of quality in the public sector 7. Preparation and presentation of action plans to be engaged by trainees	1 Japan Productivity Center (JPC) 2. Yamada Manufacturing Co., Ltd. 3. Kyoto Takeda Hospital 4. Toyota Motor Corporation, Motomachi Plant 5. Fuji Seira Co., Ltd 6. Machida City Council

Objectives	Training Items	Curriculum
2. To learn management of Japanese organizations which work for improvement of quality and productivity, and utilize learned know-how in developing KIZ's plans as well as explore possible means of expanding KIZ's services across Zambia	1. Consulting service and training of consultants provided by JPC and its certification system 2. Organizations and services of local Productivity Centers 3. Organization and service of quality management institutions	1. Japan Productivity Center 2. Central Japan Industrial Association (Chu San Ren) 3. Japan Standards Association 4. Union of Japanese Scientists and Engineers
3. To develop liaisons and networks with organizations and practitioners of quality and productivity improvement (KAIZEN) by way of participating in the International Conference on Quality and visiting related organizations.	Develop liaisons and networks related to quality and production improvement (KAIZEN)	1. Asian Productivity Organization 2. International Conference on Quality, 2014 (ICQ'14)

3) Implementation and evaluation of the training program

[Lectures]

Using this training opportunity in Japan, the trainees attended a lecture titled a “History of Development of Productivity Movement in Japan” to explore implications relevant to institutional development of KIZ in the future. They learned about organizations related to quality and productivity improvement that have been dedicated to expand KAIZEN activities in Japan, covering their roles, functions, strength, tools and the application to specific industrial sectors. The trainees also learned about schemes to train consultants and a concrete consulting process in the lectures titled “Consulting work of Japan Productivity Center” and “Practical consulting work for management of quality and productivity.” They asked a range of questions, particularly about a relevant method of providing an orientation and evaluation techniques, as well as how to respond to clients who are unwilling to disclose the necessary data.

Through these lectures, furthermore, the trainees had discussed very seriously about the technical level of which KIZ and consultants should attain by the end of the project and how KIZ should train consultants in the future. While lecture materials were prepared in a form of handouts, many of the trainees sought for a soft copy and reference books on KAIZEN.

[Site tours]

As the project implements KAIZEN in a wide range of organizations and enterprises including the service industry, the public sector as well as the manufacturing sector, the training program included site tours to see these sectors in Japan engaging in quality and productivity improvement according to the type and scale of business, management resources and the maturity of management. In a small and medium enterprise, the director described the importance of 5S for the trainees. They were impressed by the fact that his enterprise had successfully increased orders and sales, resulting directly from practicing 5S.

In the site tours at a hospital in Kyoto and a city council of Machida city in Tokyo, the trainees had a chance to specifically think about importance of implementing KAIZEN in the service and public sectors to increase productivity. In Toyota Motor Corporation where the site tour was offered with other groups of visitors, the trainees did not have an opportunity to talk individually with the corporate representatives or receive a lecture related to the facilities. While most of them pointed out this might be improved, they were observing intently automation (jidouka) and the Just-in-Time systems operated on site.

Each trainee was dedicated to gain knowledge and techniques from the Japanese practices, which they thought were necessary for their consulting work to improve productivity of the pilot enterprises. Therefore, many of the trainees sought to have more time to obtain practical experiences and knowledge applicable to Zambia, such as formation, management and expansion of QCC, asking to simplify the explanation of the machines and facilities during the site tour. Also, it was pointed out the training program might be extended to three weeks to have more site tours.



Yamada Manufacturing Co., Ltd.
Training program in Japan



Fuji Seira Co., Ltd.
Training program in Japan

[Training output and the application]

A questionnaire survey of the training program indicates mostly satisfactory results. In the initial evaluation on a five-point scale, whereas all the trainees rated 1 or 2 for the degree of their achieving each of three training objectives, they rated 4 or 5 after the program. Throughout the program, many of the trainees were satisfied with the site tours that provided hands-on experiences and discussions with representatives of the hosting organizations. They requested soft copies of the training materials and reference books that they could bring back to Zambia. They had particular interests in such occasions and resources that they could gain knowledge and experiences practicable in the country. Incorporating relevant lectures and site tours, a future training program in Japan should be designed to facilitate transfer of knowledge and techniques readily applicable to local practices in Zambia.

Furthermore, the trainees visited five organizations (namely, Japan Productivity Center (JPC), Central Japan Industrial Association (Chu San Ren), Japan Standards Association (JSA), Asian Productivity Organization (APO), and Union of Japanese Scientists and Engineers (JUSET)). The learning experiences of the organizational management and operations would be

valuable input for institutional development and strategic planning of KIZ in the future. In particular, some trainees mentioned that their experiences at these organizations offered a useful tip to create a synergetic alliance between KIZ and a National Productivity Center (NPC) which will be established under the Ministry of Labor and Social Security (MLSS).

The trainees learned about a range of first-hand activities, including 5S, QCC and a small group activity in the Japanese enterprises and organizations. They will utilize the leaned techniques of improving quality and productivity (KAIZEN) to KAIZEN OJT at the pilot enterprises back in Zambia.



A closing ceremony of the training program in Japan

(13) Training program in Japan (for the second year consultants: August 27-September 4, 2016)

1) Outline of the training program

Carried out for nine days in Japan from August 27 to September 4, 2016, a training program was attended by four second year consultants (collectively referred to as the “trainees”) with an objective of learning organizational management related to quality and productivity as well as KAIZEN efforts in various sectors.

Preceding the training program in Japan, the trainees participated in the International Convention on quality Control Circles (ICQCC) held in Bangkok from August 22 to 26 where they developed a contact network with participating local and international organizations and representatives related to the particular theme. They also had an opportunity to learn about management of the conference.

2) Contents of the training program

[Training themes and program components]

The training themes and specific program components are as provided in Table 1.2.1-22. As in the training program undertaken in 2014, the third-year program covered the public sector including a hospital and a municipal office as well as the manufacturing sector, arranged across the regions such as in east, central, and west parts of Japan.

Table 1.2.1-22 Themes of the Training Program for 2nd Training Program in Japan

Objectives	Training Items	Curriculum
1. To deepen expertise on techniques of quality & productivity improvement (KAIZEN), and to develop competence as a trainer of KAIZEN in Zambia	1. Importance of quality & productivity improvement in the Japanese industries 2. Approach to consulting for production and quality control 3. History and development of production movement in Japan	[Lectures] • Japan Productivity Center • Central Japan Industrial Association (Chu San Ren) • Union of Japanese Scientists and Engineers
	1. 5S and KAIZEN movement in small- and medium- sized manufacturers 2. KAIZEN in the small- and medium-sized service industries 3. Toyota Production System 4. KAIZEN in public sector 5. KAIZEN in the health sector	[Site tours] • Yamada Manufacturing Co., Ltd. • Musashino Co., Ltd. • Kyoto Takeda Hospital • Toyota Motor Corporation, Motomachi Plant • Saitama City
2. To learn management of Japanese organizations which work for improvement of quality and productivity, and utilize learned know-how in developing KIZ's plans as well as explore possible means of expanding KIZ's services across Zambia	1. Practical consulting work and exercise of productivity and quality control 2. Consulting services and a consultant training/certification system 3. Efforts for improving quality in various organizations 4. Principles of ISO and TQM 5. Outline of managing Deming Prize and Japan Quality Awards	[Lectures] • Japan Productivity Center • Central Japan Industrial Association (Chu San Ren) • Union of Japanese Scientists and Engineers
	1. Practical method of implementing institutional efforts for KAIZEN	[Site tours] • Saitama City • Kyoto Takeda Hospital
3. To develop liaisons and networks with organizations and practitioners of quality and productivity improvement (KAIZEN) by way of participating in the International Conference on Quality and visiting related organizations.	1. Develop liaisons and networks related to quality and production improvement (KAIZEN)	[Lectures] • Japan Productivity Center • Central Japan Industrial Association (Chu San Ren) • Union of Japanese Scientists and Engineers
	2. Develop liaisons and networks related to quality and production improvement (KAIZEN)	[Participation in an international conference] ICQCC2016 Bangkok, Thailand

3) Implementation and evaluation of the training program

[Lectures]

Primarily working for the above objectives 1 and 2, lectures were given at three hosting organizations (Japan Productivity Center, Central Japan Industrial Association, and Union of Japanese Scientists and Engineers).

To begin with, the trainees learned a historical path of productivity movements in Japan, which enhanced their understanding on the development of efforts to improve productivity and quality. Having learned lessons from Japanese past experiences in national growth, the trainees envisioned potential increases in productivity in Zambia, which will be achieved through its industrial promotion.

Furthermore, given the circumstances under which KIZ is currently at the stage of designing its concrete consulting services, the trainees asked many detailed and practical questions about ranging explanations offered by the three hosting organizations. Particularly, they sought for more elaboration on consulting service management of these organizations, for instance, the intended clients and sectors, the number of consultants employed, and a financial system including fee collection.

The hosting organizations lectured the trainees on principles of ISO, TQM, Japanese-style management, and KAIZEN as well as linkages of them. This helped them obtain their better understanding of how productivity and quality improvement has been sought in Japan.

[Site tours]

On-site tours spurred the trainees where they observed practical application of what they had learned in lectures and textbooks in Zambia. They served as valuable experiences for them to deepen their understanding and broaden first-hand knowledge.

In particular, during a site tour to learn workplace practices in a Japanese small- and medium-sized enterprise, the president Yamada at Yamada Manufacturing Co., Ltd. presented details of how his company eventually succeeded after overcoming many hardships and what made 3S fully enforced today. This real and successful scenario was deeply etched into the minds of consultants.

In the service sector, Musashino Co., Ltd. (DUSKIN home cleaning services) introduced its unique wide-ranging efforts which were well visualized for the audience. It brought about a positive impact whereby the consultants actually looked at what were practiced and felt a corporate atmosphere in which the staff members worked.

In the health sector, Kyoto Takeda Hospital presented its practice to broadly understand and materialize what patients, users, and others may think. This offered concrete ideas for consulting feasible in a medical institution in Zambia.

Also in Saitama City where the trainees visited to see good practices in a public agency, they observed institutional efforts for KAIZEN collectively implemented by more than 9,000 staff members. These were underpinned by reshaping their mind-set and inventing various schemes. The visit provided quite beneficial implications for consulting in the public sector in Zambia.



Site tour (Yamada Manufacturing Co., Ltd.)



Site tour (Musashino Co., Ltd.)

[Training output and the application]

The trainees had opportunities to be guided on the corporate sites and know about practices of KAIZEN methods and the resulting achievements explained by the implementers, which they had learned only from written materials and pictures given in the lectures. Thus, such opportunities largely helped the consultants gain first-hand understanding on KAIZEN know-how and strategic quality and productivity improvement. Zambia is currently making sophisticated production improvement efforts such as TQM only in the limited industrial sectors. The trainees could envision KIZ's strategies for more advanced KAIZEN consulting to be pursued in the future, as they learned through their lectures and site tours about how productivity and quality improvement had been advanced and internalized in the process of Japanese industrial development.

The training program was designed to include diverse site tours in such areas as the manufacturing, service, health, and public sectors where the pilot enterprises are working and engaging in KIZ's OJT. These tours were also guided in Japanese companies and organizations representing good practices in these sectors. This resulted in a rewarding training that provided practical know-how applicable to corporate consulting back in Zambia.

Furthermore, lectured by three organizations with extensive consulting and training experiences on productivity and quality improvement, the trainees gained valuable tips therefrom about how KIZ would deliver fee-based consulting services to shift itself to a financially independent institution. In addition, they were advised on management and screening procedures related to an award system, which was actually practicable in a KAIZEN conference under planning of KIZ.

1.2.2 Evaluation and feedback of trained consultants

Capacities of the consultants have been assessed by skill mapping to evaluate their practical competencies (skill level) and a written examination to screen their knowledge and experiences required for KAIZEN.

The skill mapping is the five grade evaluation system for degree of skills of each tool necessary for consulting for quality and productivity improvement as well as management level of KAIZEN practice at an enterprise.

- Level 5: Able to render consulting by himself/herself and to train junior consultants
- Level 4: Able to render consulting without expert's guidance
- Level 3: Able to render consulting with an expert's guidance in some cases
- Level 2: Have necessary knowledge and skills, but no experience of consulting
- Level 1: Do not have necessary knowledge and skills

An example of a skill mapping is shown in Table 1.2.2-1.

Table 1.2.2-1 Sample of Skill Map

Name Knowledge & Skills for KAIZEN	Mr.														
	Initial stage (30/05/2014)					Interim stage (10/12/2014)					Final stage (02/11/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X							X							X
Basic production mgt.	X							X							X
KAIZEN	X								X						X
5S	X								X						X
Visual control	X							X							X
Method study	X							X						X	
Work measurement	X							X						X	
Work sampling	X							X						X	
Layout	X						X						X		
Line balance	X						X						X		
Inventory ctrl.	X							X							X
QCC	X								X						X
SQC	X							X							X
7 QC tools	X							X							X
Cost mgt.	X						X						X		
Lean production	X						X						X		
TPM	X						X						X		
TQM	X							X					X		
ISO			X							X					X
Management of KAIZEN Practice	X								X						X
Average level	12/10=1.2					36/10=3.6					47/10=4.7				

*The average level is calculated based on 10 core skills indicated in bold letters.

(1) Evaluation of the skill levels of the first year consultants

Using a skill map, the project assessed capacities of the first year consultants at three different stages that included an initial evaluation (May, 2014), an interim evaluation (Dec. 2014) and a final evaluation (Nov. 2015). The resulting average skill level is shown in Table 1.2.2-2.

Furthermore, skill level of each consultant is shown in Appendix 14. It indicates his or her post-training adequacy of learned techniques and tools that can be implemented for a client.

Table 1.2.2-2 Skill Level of the First Year Consultants

	Initial evaluation	Interim evaluation	Final evaluation
	(May 2014)	(December 2014)	(November 2015)
First year consultants	1.73	3.38	4.73

The initial evaluation was self-rated, where the average score of the nine consultants was 1.73.

In the interim evaluation, the consultants first made a self-rated appraisal, and then discussed with their counterpart experts to determine their final scores. As a result, the average scores of the eight consultants including Mr. McLean Sakala were 3.38. Five out of these eight consultants achieved more than 3.5, which was required for certification of a consultant. The remaining three consultants needed further training to attain 3.5 or above in the second year. The evaluation objectively and reasonably reflects abilities and performances that respective consultants demonstrated in their OJT sessions.

In the final evaluation, six out of the seven first year consultants, excluding the one who did not attend the evaluation session (Mr. Malioty Kaimba sent from NPDD), all achieved the average scores of 4.73, largely exceeding 3.5 required to be certified for consultants.

(2) Written examination for the first year consultants

The project conducted a written examination outlined below to assess knowledge and experiences gained in the group training.

Outline of the written examination

Date and time:	9:00-12:00 (3 hours), Monday, October 19, 2015
Prepared by:	Project experts
Scope of examination:	KAIZEN, 5S, Visual control, Work sampling, Inventory control, QCC, 7QC Tools, TQM, ISO, KAIZEN consulting, Practice at OJT
The minimum passing score:	65 or higher out of 100

As indicated in Table 1.2.2-3, the results revealed that among seven first-year consultants, all the six successfully passed the examination, except for a consultant who did not take an examination, namely, Mr. Malioty Kaimba sent by NPDD. The average scores were 87.1 out of 100.

The serious attitude of the six successful consultants toward the examination as well as their results were more than the project had expected, which demonstrated that they had potential abilities to be developed as long as they try.

Table 1.2.2-3 Result of the Written Examination

Examination Candidate		Problem 1		Problem 2				Problem 3			Total	Pass
		(1)	(2)	(1)	(2)	(3)	(4)	(1)	(2)	(3)		
No	Marks allocation	10	20	8	7	7	8	10	15	15	100	Yes/No
1	Ms. Peggy Chituta	6	18	7	7	6	8	6	13	14	85	Yes
2	Mr. Bernard Wamundila	6	18	8	7	6	6	10	10	15	86	Yes
3	Mr. Dismas Chapula	10	16	8	7	7	8	9	13	12	90	Yes
4	Mr. Gabriel Musentekwa	5	14	7	7	7	7	7	14	10	78	Yes
5	Ms. Muchemwa Siame	8	18	8	7	7	8	10	12	14	92	Yes
6	Mr. John Kapenda	6	18	7	7	6	8	10	15	15	92	Yes
7	Mr. Malioty Kaibba	-	-	-	-	-	-	-	-	-	-	No
Average											87.1	



Consultants Taking a Written Examination (First Year Consultants)

(3) Certification of the first year consultants

The project has certified KIZ consultants for those six who have met the requirements shown in Table 1.2.2-4. The certified KIZ consultants are listed in Table 1.2.2-5.

Table 1.2.2-4 Certification Requirements for KIZ Consultants

1. Period participated in the project	Two years
2. Rate of attendance in the group training	90% or more
3. Record of consulting practices	(1) Consulting practice: 8 enterprises or more (2) Corporate visits: 8 times or more, in principle (3) Report submission: 100% (4) Case sheet submission: more than one sheet (for an enterprise involved as a leading consultant)
4. Skill level	3.5 points or more on average
5. Written Examination	65% or more

Table 1.2.2-5 KIZ-Certified Consultants (First Year Consultants)

No	Name	Age	Previous organization	Previous position	Highest educational qualification
1	Ms. Peggy Kaunda Chituta*	45	Metrology Manager, Zambia Bureau of Standards (ZABS)	B.Sc. Chemistry Univ. of Zambia	○
2	Mr. Bernard Wamundila (KIZ employee)	51	Quality Assurance Manager, Northern Technical College (NORTEC)	B.A. Literacy and Policy Zambian Open Univ.	○
3	Mr. Dismas Chilenga Chapula	37	Economist - Industrial Monitoring & Evaluation, Ministry of Commerce, Trade and Industry (MCTI)	B.Sc. Production Management Copperbelt Univ.	○
4	Mr. Gabriel Musentekwa	50	Academy Coordinator, Zambia Development Agency (ZDA)	MBA Management College of South Africa	○
5	Mr. John Kapenda	44	Senior Manager Monitoring & Evaluation, Road Development Agency (RDA)	B.Sc. Building Science Copperbelt Univ.	○
6	Ms. Muchemwa Siame	30	Senior Productivity Measurement Officer, National Productivity Development Department (NPDD)	B.A. Development studies Univ. of Zambia	○

The above-mentioned six consultants have also satisfied a requirement for KAIZEN trainers who are “consultants completed a two-year training instructed by JICA experts,” and therefore have obtained certification thereof.

(4) Evaluation of skill levels of the second- and third- year consultants

As in the case of the first year consultants, the project assessed capacities of the second year consultants at three different stages, using a skill map, that included an initial evaluation (May, 2015), an interim evaluation (Oct. 2015) and a final evaluation (Oct. 2016). The resulting average skill level is as shown in Table 1.2.2-6, the average scores are 1.41, 3.80, and 4.80 in the respective stages. In the final evaluation, all the four consultants achieved the scores of 3.5 required to be certified for consultants.

This is primarily because the second year consultants, when initially assessed, had no experiences in corporate consulting, unlike the first year consultants. As for the interim

evaluation, their skill level on average showed higher than that of the first year consultants. The reason is considered because the evaluation was made for only four capable KIZ consultants.

The third year consultants were initially assessed in May 2016. Having reduced their training period to one year, the project did not place an interim evaluation, and undertook the final evaluation together with the second year consultants at the same occasion (October 2016). The results are 1.63 and 4.30 at these two stages respectively, leading to all the six consultants satisfying the scores required for certification.

Skill level of each consultant is shown in Appendix 14. It indicates his or her post-training adequacy of learned techniques and tools that can be implemented for a client.

Table 1.2.2-6 Skill Levels of the Second- and Third-Year Consultants

	Initial evaluation	Interim evaluation	Final evaluation
Second year consultants	May 2015 1.41	October 2015 3.80	October 2016 4.80
Third year consultants	May 2016 1.63	-	October 2016 4.30

(5) Written examination for the second- and third-year consultants

As undertaken for the first year consultants, a written examination took place on October 19 in 2016 to assess knowledge and experiences obtained in the lectures. The project took the same procedures as in the previous year, including the coverage of the examination and passing scores. All the expecting consultants (four second year-consultants and six third-year consultants) took the examination. The results are indicated in Table 1.2.2-7.

All those consultants who took the examination successfully obtained the passing scores of 65 or over. The average scores were 85.8 for the second year consultants, and 80.8 for the third year counterparts, respectively. They demonstrated fairly good performances, despite the fact that the examination contained much more questions than in the first year (the average scores in the first year were 87.1). Although occupied with receiving OJT and organizing the upcoming KAIZEN conference, the consultants managed to prepare themselves adequately for the examination. Such attitude is noteworthy.

Table 1.2.2-7 Written Examination Results (Second and Third Year Consultants)

Examination Candidate		Problem 1					Problem 2					Problem 3										Total	Pass		
		(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)				
No	Marks allocation	7	4	3	3	3	7	3	5	10	15	3	3	3	3	3	3	3	3	3	3	8	8	100	Yes/No
Second year Consultant																									
1	Ms. Monica M. Mwiche	7	4	3	3	3	7	3	5	9	15	2	3	3	3	3	3	2	2	5	4	89	Yes		
2	M.r Howard Musonda	7	4	3	3	3	7	3	4	10	14	2	2	1	2	2	2	2	2	8	5	86	Yes		
3	Ms. Sarah Shawa	7	4	3	3	3	7	3	5	9	11	3	2	3	3	3	3	2	2	5	8	89	Yes		
4	Mr. Fred Sichikolo	7	3	2	2	3	7	3	5	10	13	2	1	1	0	3	3	2	2	3	7	79	Yes		
																						Average	85.8		
Third year Consultant																									
5	Mr. Voster Nkukumbani	7	4	3	3	3	7	2	3	8	13	1	1	2	3	3	2	2	3	1	4	75	Yes		
6	Ms. Praise Luwaile	6	4	3	3	3	7	3	5	10	13	3	2	1	2	2	2	2	1	5	6	83	Yes		
7	Ms. Bwalya Tembo	6	3	3	3	3	7	3	4	10	15	2	1	1	2	3	2	3	2	8	3	84	Yes		
8	Mr. Aaron Magwenzi	7	4	2	3	3	7	3	5	10	15	2	2	2	3	3	3	2	2	5	7	90	Yes		
9	Ms. Vasumathi Vriddhagiri	4	2	1	2	3	7	3	2	10	12	2	1	2	3	3	3	2	2	0	3	67	Yes		
10	Mr. Gilbert Kiprios	7	4	3	3	3	7	3	5	10	13	1	1	2	3	3	3	3	2	3	7	86	Yes		
																						Average	80.8		
																						Average in all	82.8		



Consultants Taking a Written Examination (Second and Third Year Consultants)

(6) Certification of the second and third year consultants

Those four second-year consultants who have satisfied certification requirements indicated in Table 1.2.2-4 are certified for KIZ consultants. The certified consultants are as listed in Table 1.2.2-8.

As for the third year consultants, the project decides on their certification upon completion of OJT at the FU enterprises to be continued until December, assessing prepared

consulting reports and case sheets. Accordingly, eventual certification is not yet awarded as of October 2016.

Table 1.2.2-8 KIZ Certified Consultants (Second Year Consultants)

No	Name	Age	Previous organization and position	Highest educational qualification	Certified KAIZEN consultant
1	Ms. Monica Mitti Mwiche (KIZ employee)	43	Quality Control Manager, Kafubu Water and Sewerage Company	BSc Chemistry & Biology MSc Environmental Science	○
2	Mr. Howard Musonda (KIZ employee)	40	Manager Peri Urban, Mulonga Water and Sewerage Co	BEng Chemical Engineering MBA	○
3	Ms. Sarah Shawa (KIZ employee)	34	Senior Inspector – IQMS, Zambia Bureau of Standards	BSc Chemistry & Biology	○
4	Mr. Fred Sichikolo (KIZ employee)	29	Transport engineer, Self employed	BA Development Studies & Economics	○

Table 1.2.2-9 shows the number of KAIZEN consultants trained and certified from 2014 through the end of October, 2016. Consultants trained in 2014 and 2015 were 10, compared with 8 planned originally, while consultants employed by the KIZ were five, as planned. Both turned out to satisfy the plans.

Table 1.2.2-9 KIZ-Certified Consultants (2014 -2016)

	First year consultants	Second year consultants	Third year consultants
Number of consultants to be trained	3	2 plus α	Approximately 5
Number of trained consultants	7	4	6
Number of certified consultants	6	4	6 (to be certified in December 2016)
Number of consultants employed at KIZ	1	4	5 (to be appointed in January 2017)

1.2.3 Implementation of the KAIZEN Coordinator Training

1.2.3.1 Planning of the KAIZEN coordinator training

- (1) Roles and functional position assigned for KAIZEN coordinators

The definition and roles of KAIZEN coordinators are as provided in Table 1.2.3-1.

Table 1.2.3-1 Definition and Roles of KAIZEN Coordinator

	KAIZEN coordinator
Definition	A staff member of an enterprise or a public agency who initiates and implements KAIZEN activities. A KAIZEN coordinator is trained directly by the Japanese experts or KAIZEN consultants, and plays a leading role in hosting a KAIZEN OJT in a pilot enterprise.
Selection criteria	A person who is recommended and assigned by the top management to be appropriate to serve as a KAIZEN coordinator (1) A working leader or group leader with hands-on knowledge and experiences, who are able to demonstrate a leadership for guiding employees at a workplace. (2) The KAIZEN coordinator may be selected from circle leaders, if any QCC activities are already in practice.
Duties	Play a leading role to carry out KAIZEN proposed by the Japanese expert or a KAIZEN consultant. KAIZEN activities are carried out through QCC.
Training scheme	OJT and a Quality and Productivity Improvement Training for KAIZEN coordinators instructed by KAIZEN consultants
Evaluation and certification	Japanese experts and KAIZEN consultants evaluate coordinators based on their efforts and achievements of KAIZEN activities, presentations made at a KAIZEN conference, attendance in prescribed lectures, etc. Grading scale and criteria for certification will be decided in consultations with KIZ.

The project appoints KAIZEN coordinators to direct KAIZEN activities at the pilot enterprises. They are certified by the project when meeting the specific requirements. This is a first-of-its-kind scheme unique to this project.

Specific roles of KAIZEN coordinators include the followings:

- 1) A leader of implementing KAIZEN activities at enterprises under the supervision of KIZ consultants
 - Organize QCC
 - Facilitate selection of a QCC leader
 - Prepare a logotype, posters and brochures to campaign KAIZEN activities
 - Instruct QCC members, providing knowledge and skills required for KAIZEN activities, such as 7 QC tools and problem-solving approaches
 - Promote KAIZEN activities and assistance for a QCC team to catch up with its planned activities, where delayed
- 2) A liaison between top management and QCC
- 3) Report to top management on the progress of KAIZEN activities
- 4) Record KAIZEN activities
- 5) Presentation at the KAIZEN Conference

A functional position of a KAIZEN coordinator in pursuing KAIZEN activities is illustrated in Fig. 1.2.3-1.

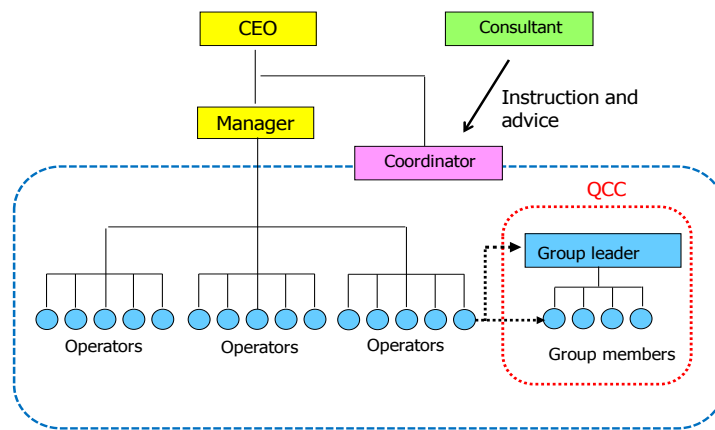


Fig. 1.2.3-1 A Functional Position of a KAIZEN Coordinator

(2) Training scheme of KAIZEN coordinators

KAIZEN coordinators are trained through the following activities.

- OJT provided at the pilot enterprises where they work to develop hands-on KAIZEN skills and capabilities in instructing QCC.
- Making a portfolio of output achieved by the QCC to present in a KAIZEN conference
- Receiving “Quality and Productivity (KAIZEN) Training” designed for KAIZEN coordinators by which KIZ KAIZEN consultants train them to obtain capabilities in instructing QCC teams

(3) Certification of KAIZEN coordinators

When KIZ accredits those who have such knowledge and experiences indicated below required for KAIZEN coordinators, they are qualified as “KIZ-certified KAIZEN coordinators.”

- Commitment to and achievement of KAIZEN activities at his or her workplace in the pilot enterprise
- Presentation made in a KAIZEN conference(s)
- Completion of the “Quality and Productivity (KAIZEN) Training” designed for KAIZEN coordinators, which is instructed by KIZ KAIZEN consultants
- KAIZEN achievements

1.2.3.2 KAIZEN coordinator training and achievements

(1) The group training for the first year KAIZEN coordinators

The original plan intended to implement a joint group training for the first and second year coordinators during the sixth project activity (planned from June to July 2015). However, the group training for the first year coordinators was started earlier to ensure their proper assistance for QCC groups in the enterprises. Due to an intense OJT schedule to follow, the

duration of the training was changed to two consecutive days from the originally planned five days.

The training is outlined as below.

Date and time: Thursday, August 28, and Friday, August 29, 2014

Venue: National Science Center, Ministry of Education, Science, Vocational Training, and Early Education (introduced by JICA Zambia Office)

Number of participating enterprises: 15 (of 17 enterprises invited by the project)

Number of participants: 18 on August 28 and 19 on August 29

Program: See Table 1.2.3-2

Table 1.2.3-2 The Group Training for the Second Year KAIZEN Coordinators

Date and time		Program	Duration (hours)
August 28 (Thu)	9:00-9:30	Opening speech (Mr. Mwitwa)	0.5
	9:30-11:00	KAIZEN (Tsuchiya)	1.5
	11:00-12:30	5S (Tsuchiya)	1.5
	13:30-15:00	Muda-dori (Moriyama)	1.5
	15:00-16:00	Group discussion	1.0
August 29 (Fri)	9:30-11:30	QCC • Teamwork (Ito)	2.0
	11:30-12:30	7QC Tools (Ito)	2.5
	13:30-15:00	7QC Tools (Ito)	
	15:00-16:00	Work sampling (Moriyama)	1.0
Total hours			11.5

(Hours indicated above include intermissions once in the morning and afternoon respectively.)

The participants rated 4.05 for this training program on a five-point scale. The coordinator training was successful, as indicated in their favorable responses. The majority of the pilot enterprises attended the program, and they sought to extend the program period. Also, the group discussion was robust in sharing various opinions, and the participants showed their interest in organizing an inter-corporate KAIZEN community, inspired by this training program.

It is noteworthy that the chief operating officer participated from ZAMEFA on behalf of his enterprise, directing other participants in a group discussion where he offered broad experience. This revealed that he and corporate executives in Zambia were hoping that the project would succeed, and that it was on the right track to proceed.



Participants in the coordinator training (the first year)



The group training (the first year)

(2) The group training for the second year KAIZEN coordinators

The group training for the second year KAIZEN coordinators is outlined as below.

Date and time: Four days from Monday, May 4, 2015 through Thursday, May 7, 2015

Venue: National Science Center, Ministry of Education, Science, Vocational Training, and Early Education (same as the first year)

Number of participating enterprises: 19

Number of participants: 28

Program: See Table 1.2.3-3

Table 1.2.3-3 The Group Training for the Second Year KAIZEN Coordinators

Date and time		Program (lecturer)	Duration (hours)
May 4 (Mon)	9:00-9:30	Opening Speech (Mr. Mwitwa)	0.5
	9:30-10:00	Duty of KAIZEN Coordinators (Mr. Sakala)	0.5
	10:00-12:30	KAIZEN, 5S (Mr. Ito)	2.5
	13:30-15:00	Muda-dori (Ms. Chituta)	1.5
	15:00-16:00	Group Discussion (Ms. Chituta)	1.0
May 5 (Tue)	9:30-12:30	QCC/Team Work (Mr. Kapenda)	3.0
	13:30-16:30	Work Sampling (Mr. Musentekwa)	3.0
May 6 (Wed)	9:30-12:30	7 QC Tools (Mr. Ito)	3.0
	13:30-16:30	7 QC Tools (Mr. Ito)	3.0
May 7 (Thu)	9:30-12:30	Problem Solving (Mr. Kapenda)	2.0
	13:30-15:30	Standardization	2.0
	15:30-15:45	Training course evaluation	0.25
	15:45-16:00	Guest Speech and Remarks from KAIZEN Club Chairperson (Mr. KJ/Mr. Rajan)	0.25
Total			23.5

(Hours indicated above include intermissions once in the morning and afternoon respectively.)

Responding to a strong request in the first year to cover more the program contents and extend the training period, the group training in the second year had been modified as below.

- The group training for coordinators was provided before starting KAIZEN activities at pilot enterprises.
 - The program was extended from two to four days to cover more subjects.
 - One of the four days was exclusively spent on learning on seven QC tools.
- Lectures were added for Duty of KAIZEN Coordinators, Problem Solving and Standardization.

As in the group training for the second year consultants, the first year consultants instructed the group training for the second year KAIZEN coordinators, except where the Japanese expert had to give lectures in place of a consultant who was absent on the day of the program.

Despite the initial concern a four-day training program might be lengthy for in-service KAIZEN coordinators, it hosted 28 participants from 19 enterprises, which exceeded the previous year. Their evaluation on the program was 3.23 on a four-point scale (equivalent to 81% in the first year evaluation). Throughout the program, the participants had shown a clear commitment in their learning, posing questions and opinions robustly. The program had been mostly successful, notably featuring a lecture on standardization provided by interim CEO of KIZ, Mr. Mwitwa, participation of a manager of the Cabinet Office and a hospital director, and a guest speech by CEO of the pilot enterprise (Specialized Systems and AFIL Engineering). On the other hand, the participants noted that “time management should be improved,” “understanding the details of the subjects needs more time,” “more exercises may be included,” and “a classroom is small.” These were valuable lessons learned for KIZ to organize a future program, including timely preparation of handouts, strict time management, and appropriate response to unexpected events such as a last-minute change of instructors.

To note, three first year KAIZEN coordinators who had not yet attended the group training participated in this year’s program. Accordingly, two of them were certified as KIZ KAIZEN coordinators.



Participants in the coordinator training (the second year)



The group training (the second year)

(3) The group training for the third year KAIZEN coordinators

The group training for the third year KAIZEN coordinators is outlined as below.

Date and time: Four days from Monday, April 25 through Thursday April 28, 2016

Venue: National Science Center, Ministry of Education, Science, Vocational Training, and Early Education (same as the first and second year)

Number of participating enterprises: 21

(Classification: 13 pilot enterprises, 4 FU enterprises, and 4 enterprises provided with fee based training)

Number of participants: 39

Program: See Table 1.2.3-4

Table 1.2.3-4 The Group Training for Third Year KAIZEN Coordinators

Date and time		Program (Instructor)	Duration (hours)
April 25 (Mon)	08:30-09:00	Opening Speech (Mr. Mwitwa)	0.5
	09:00-12:00	KAIZEN (Ms. Mwiche)	3.0
	13:00-16:00	Duty of KAIZEN Coordinators (Ms. Mwiche)	3.0
26 (Tue)	09:00-12:00	Muda-dori (Mr. Sichikolo)	3.0
	13:00-16:00	QCC/Team Work (Mr. Musonda)	3.0
27 (Wed)	09:00-11:00	5S & Visual Control (Ms. Mwiche)	2.0
	11:00-16:00	7 QC Tools (Mr. Sichikolo)	4.0
28 (Thu)	09:00-12:00	Inventory Control (Mr. Musonda)	3.0
	13:00-15:00	Layout (Mr. Sichikolo)	2.0
	15:00-15:20	Policy Deployment (Mr. Fujita)	0.3
	15:20-15:40	Remarks from Mr. Miller (VSO of UK)	0.3
	15:40-16:40	Quality Culture (KAIZEN Club Chairperson, Mr. KJ)	1.0
	16:40-17:00	Closing Remarks (Mr. Mwitwa)	0.3
Total hours			25.4

(Hours indicated above include intermissions once in the morning and afternoon respectively.)

Previously, the coordinator training received 19 participants (in two days) in the first year, and 28 (in four days) in the second years, respectively. In the third year training, the project initially anticipated 30 participants. However, there were more applicants than expected and eventually 39 participants were accepted for the training, considering the venue capacity. While all these in-service participants were in pivotal positions in their enterprises, 30 participants fully attended the four-day group lectures, resulting in as high as 93% of the average attendance rate. Though sometimes late for the start of a morning lecture, the participants were highly motivated, taking notes attentively and engaging themselves in a robust question and answer session. This demonstrated their purposeful learning and commitment.

Lectures lasted from 9:00 a.m. through 4:00 p.m. every day, instructed by the respective second year consultants. The total lecture hours are 25.5, increased from 23.5 hours in the

previous year. The training hours were extended on the closing day, where the expert Mr. Fujita instructed “Policy Deployment” as a part of effort to enhance basic TQM skills. In addition, the chairperson of the Kaizen Club of Zambia, Mr. K.J. offered a special lecture and presentation on activities of the Club.

The project has identified such challenges that (1) the training venue was not enough to accommodate the participants, unable to meet the capacity of 30 people that should have been adjusted in advance (some participants had no desks available to write on), and that (2) preparation of lecture materials took time, and as a consequence, the Japanese experts could not check them thoroughly. Photocopying the materials also required much labor. An evaluation from the participants made on the last day of the training included such comments that “it is desirable to extend a training period,” “a sector-based training will be useful, if possible,” and “toilet facilities were not sufficient.” As a whole, however, the evaluation marked as high as 3.45 on a four-point scale (equivalent to 86%) (Compared with 81% in the first and second years), revealing success of the training. The training successfully facilitated knowledge absorption and enhanced motivation for KAIZEN coordinators.

Many of the second year consultants who served as instructors noted in their post-training evaluation and follow-up session that giving lectures in the training was a valuable experience, and that they became more confident to direct a training in the future. In fact, after this coordinator training, the second year consultants appear to be engaged in instructing their third year counterparts in more self-assured manner.

It should be noted, however, that preparing lecture materials took too much time in an effort to refine the contents, which were submitted just before the start of the lecture. Although those materials are generally well organized, time management needs to be improved henceforth in terms of overall training management.



Mr. Mwitwa, interim CEO of KIZ,
delivering an address



Lecture instructed by a second year consultant



The group training



Participants in the training

(4) KAIZEN coordinator trained through OJT

In this project, training of KAIZEN coordinators has been one of the underlying policies to implement KAIZEN instructed at the pilot enterprises. The coordinators' commitment and enthusiasm are indispensable for promotion of KAIZEN activities thereof. In light of this, in the process of assigning pilot enterprises, the project sought to obtain their written appointment of KAIZEN coordinator to foster the understanding of the top management on his or her important roles. It also encourages them to provide reliable assistance that allows their KAIZEN coordinators to fully exercise a leadership in their consulting tasks. To respond to these requests, the top management has been cooperating with respect to the followings:

- Notify the employees that a KAIZEN coordinator is officially appointed;
- Attendance of OJT by the top management whenever possible;
- Allow the coordinator to undertake KAIZEN activities during working hours; and
- Offer indirect support for the coordinator's activities.

As a rule, the consulting teams visit pilot enterprises once in two weeks and have meetings and on-site rounds to guide their KAIZEN practices led by their coordinators and QCC leaders. In the pilot enterprises, KAIZEN coordinators then undertook KAIZEN activities at their initiatives, based on what they were instructed. Furthermore, the project encouraged consulting teams to prepare reports on what they instructed for KAIZEN tasks, and sent to the pilot enterprises. This was intended to help KAIZEN coordinators lead QCC and share the work progress with corporate executives and managers.

The key determinants of success in OJT input are a KAIZEN coordinator's initiative and dedication in guiding workplace practices, as well as a firm executive leadership of top management and its commitment to KAIZEN in the target pilot enterprise. Where these two conditions are met, the pilot enterprises have achieved good results. On the other hand, those pilot enterprises led by less dedicated coordinators have not obtained achievements as much as expected, even if they have a strong executive interest. Having pursuing three years of OJT consulting, the project has recognized that a selection of coordinator is critical in making KAIZEN efforts in a given enterprise. Success in KAIZEN activities in a workplace requires

appointment of a committed and competent coordinator with a leadership, and top management that enables the decision making.

(5) Certification of KAIZEN coordinators

For those who have met requirements for KAIZEN coordinators prescribed in chapter 1.2.3.1 (3) KIZ has certified 13 trained in the first year, 22 in the second year, and 21 in the third year, respectively. Table 1.2.3-5, 1.2.3-6, and 1.2.3-7 provide lists of the certified KAIZEN coordinators. Eventually, the project has 54 KAIZEN coordinators in total in three years of implementation.

Table 1.2.3-5 KIZ KAIZEN Coordinators Certified in the First Year

No.	Organization	Name	Work position
1	Hitachi Construction Machinery Zambia. Co., Ltd.	Mr. Michael Simpasa	Workshop Supervisor - Mechanical
2	Road Development Agency	Mr. Ndiwa Mutelo	Monitoring and Evaluation Officer
3	ZAMBIKES	Mr. Paul Mulenga	Assistant Managing Director
4	AFIL Engineering Ltd.	Mr. Vishal Kumar Shetty	Manager production
5	Metal Fabricators of Zambia PLC	Mr. David Marshall	Chief Operations Officer
6	Metal Fabricators of Zambia PLC	Mr. Lusale Simbao	Lean Manufacturing Manager
7	Metal Fabricators of Zambia PLC	Mr. Chibisa Charles	Training Coordinator
8	Northern Technical College	Ms. Jacqueline B. Mulenga	Head of Quality Assurance Management
9	Northern Technical College	Mr. Wamunyima Kangumu	Head of Applied Management
10	Lumuno Organic Farms	Ms. Jacqueline B. Mulenga	Director
11	Nac2000 Corporation Ltd.	Mr. Norman Lewis	Projects Manager
12	Real Time Zambia	Ms. Rachel Zimba	Service Delivery Manager
13	Zambia Bureau of Standards	Ms. Given Kalonga	Quality Assurance Officer

Table 1.2.3-6 KIZ KAIZEN Coordinators Certified in the Second Year

No.	Organization	Name	Work position
1	AFIL Engineering Ltd	Mr. Jasiel Thawete	KAIZEN Coordinator
2	AFIL Engineering Ltd	Mr. Vishal Shetty	Production Manager
3	Class Econ Roofing	Mr. Mphamba Mbewe	Production Manager
4	Class Econ Roofing	Mr. Austin Milimo	Dispatch Manager
5	Ministry of Commerce, Trade and Industry	Mr. Samuel Nkowane	Senior HR Officer

No.	Organization	Name	Work position
6	Lusaka Water and Sewerage Company	Mr. David Ngenda	General Manager Kafue Plant
7	TEVETA	Mr. Cleophas Takaiza	Director Training Standards Division
8	TEVETA	Mr. Duncan Mushala	Manager for the provider Support Services Unit
9	Rural Electrification Authority	Mr. Maxwell Phiri	Director HD Officer
10	Capital Fisheries	Ms. Siphwiwe Bili	HRD Officer
11	Kafue Gorge Regional Training Center	Mr. Dean L Musukwa	Lecturer -Mechanical Engineering
12	Varun Beverages Ltd	Mr. Mumba Sydney	Maintenance-Electrical
13	Varun Beverages Ltd	Mr. P.K. Tripathy	Maintenance manager
14	Chongwe District Hospital	Job Mwanza	Medical Officer
15	Chongwe District Hospital	Ms. Mulumbenji K. Malijani	Hospital Administrator
16	Industrial Training Center	Mr. Llyod Mbasela	Training Manager
17	Public Service Management Division, Cabinet Office	Mr. Lubasi Sakwiba	Director for Human Resources Information & Planning
18	Public Service Management Division, Cabinet Office	Mr. Kusobile Kamwambi	Assistant Director for Performance Systems Monitoring
19	University of Zambia	Mr. Edward Lusambo	Director, Quality Assurance Unit
20	NAC2000 Corporation Ltd	Ms. Maala M.Muuka	Marketing & Sales Officer
21	NAC2000 Corporation Ltd	Mr. Christian M.Kumbe	Senior Security Officer
22	Specialised Systems	Ms. Nyuma Lungu	Quality Coordinator for Value Chain & Management Representative

Table 1.2.3-7 KIZ KAIZEN Coordinators Certified in the Third Year

No.	Organization	Name	Work position
1	Agro Fuel Investments ltd	Mr. John Ntalasha	Safety Manager
2	Astro Holdings ltd	Mr. Henry Kaunda	Assistant Manager
3	Astro Holdings ltd	Ms. Nellie Doogan	Show room manager
4	HITACHI Construction Machinery Company ltd	Mr. Kennedy Samutumwa	Assistant Reman Coordinator
5	Kabwe Institute of Technology (KIT)	Mr. Conrad M. Mwela	Head of Department
6	Universal mining and chemicals industries ltd (Kafue steels)	Mr. Henry Mfula	Executive Assistant
7	Lukanga Water & Sewerage company ltd	Mr. Nangoma Twaambo	Internal Auditor
8	Lusaka Water & Sewerage Company ltd	Mr. Mutunda Malichi	Plant operator

No.	Organization	Name	Work position
9	Lusaka Water & Sewerage company ltd	Ms. Linda Kalunga	Plant operator
10	Public Service Management (PSMD)	Ms. Annie Munsaka	Programmer / Analyst
11	Public Service Management (PSMD)	Mr. Benard Jere	Chief Human resource development
12	Rural Electrification Authority (REA)	Mr. Bright Chifulo	Systems analyst
13	Specialised Systems ltd	Ms. Elina Banda	SALES EXECUTIVE
14	Specialised Systems ltd	Ms. Netra Malambo	Service Support Executive
15	Taj Pamodzi Hotel	Mr. Bwalya Sichangwa	Learning & Development Manager
16	Varun Beverage Zambia ltd	Mr. Moses R. Phiri	Lab chemist
17	Varun Beverage Zambia ltd	Mr. Oliver Mweemba	Labeller technician
18	ZAM Leather ltd	Mr. Richard Mulenga	Shoe Designer
19	Road Development Agency	Mr. Joseph Mwingwa	Regional Manager

The number of KAIZEN coordinators certified in a period from 2014 to 2016 is shown in Table 1.2.3-8.

Table 1.2.3-8 KIZ KAIZEN Coordinators Certified from 2014 to 2016

	2014	2015	2016
Number of participants in the group training	19	28	39
Number of certified coordinators	13	22	19

By certifying KIZ KAIZEN coordinators for those who have led KAIZEN activities at the pilot enterprises, the project has successfully motivated them and their organizations. They far exceeded the expectations of the Japanese-expert team in terms of their dedicated learning attitudes and commitment during the group training as well as their enterprises' enthusiasm and willingness that allowed their employees to attend the in-service group training for 4 days (second and third year).

At the initial stage, the project had relatively more engaged in the training for the consultants than for the coordinators. However, to fulfill the expectation of enterprises and keen interests of KAIZEN practitioners, KIZ needs to provide more focused training to coordinators in the future. A group training program may be extended to five days as originally planned by the project.

1.2.4 Preparation of the training curriculum and learning materials

1.2.4.1 Training curriculum and learning materials for consultants

A group training is provided prior to OJT so that consultants can obtain knowledge necessary for KAIZEN consulting. The learning subjects and materials dealt in this training are indicated in Table 1.2.4-1 (Although the Inception Report stated that the project would prepare a set of two separate manuals for training of trainers and OJT respectively, this turned out to be practically difficult, and they were combined in a single form).

Table 1.2.4-1 Learning Subjects and Materials for the Consultant Group Training

No.	Contents	Format	No of slides	Writer	Reviewed for Y2015 by	Reviewed for Y2016 by
1	Productivity & Quality	Power point	120	Mr. Tsuchiya	Mr. Chapula	Mr. Tsuchiya
2	Basic Production Management	Power point	78	Mr. Tsuchiya	Mr. Chapula	Mr. Chapula
3	KAIZEN	Power point	60	Mr. Ito	Mr. Wamundila	Mr. Tsuchiya
4	5S	Power point	80	Mr. Ito	Mr. Kaimba	Ms. Mwiche
5	Visual Control	Power point	40	Mr. Ito	Mr. Kaimba	Ms. Mwiche
6	Muda-dori	Power point	53	Mr. Ito	Mr. Kaimba	Mr. Moriyama
7	Method Study	Power point	125	Mr. Tsuchiya	Mr. Musentekwa	Mr. Sichikolo
8	Work Measurement	Power point	51	Mr. Tsuchiya	Ms. Chituta	Mr. Musonda
9	Work Sampling	Power point	55	Mr. Moriyama	Mr. Musentekwa	Mr. Musentekwa
10	Layout	Power point	52	Mr. Moriyama	Ms. Chituta	Mr. Wamundila
11	Line Balance	Power point	32	Mr. Moriyama	Mr. Kapenda	Mr. Kapenda
12	Inventory Control	Power point	73	Mr. Moriyama	Mr. Musentekwa	Mr. Musentekwa
13	QCC/Team Work	Power point	48	Mr. Ito	Mr. Wamundila	Mr. Ashaari
14	SQC	Power point	102	Mr. Ito	Mr. Chapula	Mr. Ashaari
15	7 QC Tools	Power point	165	Mr. Ito	Ms. Siame	Mr. Sichikolo
16	Cost Management	Power point	76	Mr. Ito	Mr. Kapenda	Mr. Moriyama
17	Lean Production	Power point	104	Mr. Moriyama	Mr. Chapula	Mr. Wamundila
18	TPM	Power point	82	Mr. Ito	Mr. Wamundila	Mr. Ashaari
19	TQM	Power point	74	Mr. Tsuchiya	Mr. Kapenda	Mr. Fujita
20	ISO*****	Power point	45	Mr. Tsuchiya	Ms. Chituta	Ms. Shawa
21	KAIZEN Consulting	Power point	88	Mr. Tsuchiya	Mr. Musenrekwa	Mr. Wamundila
22	Problem Solving Technique***	Power point	56	Mr. Kapenda	Mr. Kapenda	Mr. Kapenda
23	Standardization***	Power point	64	Ms. Chituta****	Ms. Chituta	Ms. Shawa
Total			1,723			

* A review for the second year group training

** A review for the third year group training

*** Subjects added to the curriculum of the second year group training

**** Utilized the material for the training program for small and medium enterprises provided by JICA Chubu International Center in Sep.-Oct. 2014 in which Ms. Peggy Chituta participated.

***** Subject integrated into Standardization in the third year

One of the project's underlying policies is to enhance capacities of the first year consultants through which they instruct their second year consultants. To this end, a working group for the second year group training (Ms. Chituta, Mr. Musentekwa, Mr. Chapula, and a Japanese expert acting as an adviser) was organized as a part of the fourth field activity to elaborate the curriculum and assign instructors for each subject for that year. Also, the working group encouraged the consultants to review course materials from the first year which were prepared by the experts. As a consequence, the consultants revised the contents of TPM and TQM materials, preparing two additional subjects on Problem Solving and Standardization for the second year.

In developing the third year lecture curriculum, two underlying principles were set out to incorporate revisions. Specifically, the first year consultants and the JICA team assume a shared role in reviewing learning materials and teaching lectures. Also, a training program must be designed to have approximately 100 hours in 17 days to deliver in-depth lecture contents.

Also, the lecture curriculum of the third year is featured by Total Quality Management (TQM) extended from previous three hours to six hours, with an objective of enhancing essential knowledge of that subject. In the course of reviewing the existing learning materials, moreover, it was recognized that "ISO" would be better understood when incorporated in "Standardization." Accordingly, the total number of subjects is 22 for the third year by which "ISO" is integrated in "Standardization."

The consultants are expected to make learning materials tailored appropriately to Zambia on a regular basis, incorporating such practical experiences as their on-site trainings of pilot enterprises,

1.2.4.2 Curriculum and learning materials for the coordinator training

The group training for coordinators is provided so that they can obtain knowledge necessary to give guidance to QCC at their own workplaces in the pilot enterprises. The learning subjects and materials are indicated in Table 1.2.4-2.

Table 1.2.4-2 Learning Subjects and Materials for the Coordinator Group Training

No.	Contents	Format	No. of slides	Writer	Reviewed for Y2015 by	Reviewed for Y2016 by
1	KAIZEN	Power point	43	Mr. Tsuchiya	Mrs. Chituta	Ms. Mwiche
2	Duty of KAIZEN Coordinators*	Power point	56	Mr. Tsuchiya	Mrs. Chituta	Ms. Shawa
3	Muda-dori	Power point	44	Mr. Moriyama	Mr. Ito	Mr. Sichikolo
4	QCC	Power point	50	Mr. Ito	Mr. Kapenda	Mr. Musonda
5	5S & Visual Control	Power point	40	Mr. Ito	Mr. Ito	Ms. Mwiche
6	7 QC Tools	Power point	56	Mr. Ito	Ms. Siame	Mr. Sichikolo
7	Work Sampling	Power point	43	Mr. Moriyama	Mr. Msentikwa	N/A
8	Problem Solving Technique*	Power point	56	Kapenda		N/A
9	Standardization*	Power point	64	Chituta***		N/A
10	Inventory Control**	Power point	56	Mr. Musonda	N/A	
11	Layout**	Power point	59	Mr. Sichikolo	N/A	

* Subjects added in the second year group training

** Subjects added in the third year group training

*** Utilized the material for the training program for small and medium enterprises provided by JICA Chubu International Center in Sep.-Oct. 2014 in which Ms. Peggy Chituta participated.

Learning materials in the group training for the first year coordinators were prepared by the project experts, who also instructed their lectures.

In the group training for the second year coordinators, the first year consultants were to instruct lectures, and thus the project experts encouraged those consultants to review and update the learning materials suitable for local contexts in Zambia. Furthermore, the second year training was added by “Duty of KAIZEN Coordinators,” “Problem Solving Technique,” and “Standardization.”

In the group training for the third year coordinators, the second year consultants served as their instructors in the same pattern as above. The learning materials were reviewed and developed by the second year consultants. Drawing on a lesson from the second year OJT, the curriculum in the third year excluded “Work Sampling,” “Problem Solving Technique,” and “Standardization,” revised with a view to whether it contains practicable techniques at present work site of Zambian enterprises. On the other hands, two subjects, namely “Inventory Control” and “Layout,” have been added.

Notably, some Zambian enterprises seek for a group training that covers more advanced techniques. KIZ is therefore planning to provide an advanced course on an on-demand basis. To do so, KIZ will need to assign the instructors from the first year consultants so that a technical transfer for the second year consultants from the JICA team will not be interrupted. Led by Mr. Wamundila, KIZ will elaborate on the curriculum and time allotment of the advanced course, considering the needs of enterprises. This advanced course will be possibly on a chargeable basis, as intended by KIZ.

1.2.5 Lessons Learned and Challenges Ahead in the Training of KAIZEN Consultants and Coordinators

As an underlying pillar for institutional building that facilitates KAIZEN, a sustainable and enabling training system for KAIZEN consultants and coordinators has a paramount importance, through which they can develop their capacities. The past three years of the project's core efforts have got mostly on the right track, establishing a training cycle of recruiting and selecting consultant candidates in public offering by KIZ once a year, their initial skill assessment, a nine-month training that includes more than 100 hours of lectures to master an essential KAIZEN concept and technical expertise, and finally a six-month OJT for practices of KAIZEN consulting.

Furthermore, to train KAIZEN coordinators who play a pivotal role in their workplaces, the project has institutionalized a four-day group training and OJT together with KIZ consultants so that those coordinators become capable of leading KAIZEN activities therein. These training schemes are now effectively working, resulting in active involvement of 46 organization in the private and public sectors that have successfully achieved their KAIZEN (see KAIZEN Achievements (from the first through third project years) in Appendix No. 11).

Five first and second year consultants employed by KIZ currently serve as instructors of lectures given for their third year counterparts, committed to leading KAIZEN practices during OJT sessions at the pilot enterprises. They work for developing KAIZEN skills of junior consultant candidates, while also dedicating themselves in enhancing their own instructional capabilities necessary for KAIZEN consultants. It should be also noted that the second year consultants are now able to instruct KAIZEN promotional seminars held in Kabwe, which demonstrates one of these successful training outcomes. With a view to such a progress, this effectively working consultant training system should be continuously developed, incorporating more technical components as Zambia achieves its industrial advancement in the future.

Note also that consulting provided by KIZ today remains an essential level required for exercises during OJT. KIZ needs to address a further challenge in transforming its training to what will lead to "economically viable consulting services." In other words, while continuing the present training system, KIZ should develop consultants' competencies enough to gain their financial independence. In the light of the above, the next phase of the ongoing efforts calls for lessons learned and issues identified in the present consultant training as well as a strategy for the next step.

- (1) Challenges for professional consultants in handling clients' problems and circumstances and managing their consulting processes

Almost all of the KIZ consultants are college graduates, and conceivably have no problems in their potential dispositions. As described earlier, the first and second year consultants, having participating in the third year, have become capable of instructing their third year counterparts and the pilot enterprises to a fairly appropriate degree.

Nonetheless, some of the pilot enterprises encounter difficult circumstances to continue KAIZEN for ranging reasons, consequently giving it up. Due to lack of their experiences, the first and second year consultants have been sometimes unable to appropriately deal with these enterprises, for instance, proposing relevant solutions or assisting them to tide over their critical situation. Eventually, the consultants discontinued the intended activities in some cases. When the client has a problem, a professional consultant must be competent enough to take the possible alternatives and lead its KAIZEN in a coherent manner. This necessitates enhancement of the consultant's capabilities to respond flexibly to the client's various business conditions, through which more practical experiences are gained under a proper trainer.

As a matter of course, moreover, consulting should achieve expected outcomes on a limited time scale. However, the first and second year consultants are obviously not yet disciplined in their planning of a consulting process, instructional abilities, and time management. They still rely on advice and instruction from Japanese experts occasionally. To deliver a consulting service paid by the client in the future, a professional consultant should essentially achieve the expected results in the agreed timeframe. Apart from refining KAIZEN consulting skills, future efforts must be made for fostering professionalism in resolving the client's problems and controlling step-wise consulting tasks.

(2) Challenges in recruitment of prospective consultants

The majority of the first year consultants of KIZ were those who had been delegated from the government agencies. Therefore, they returned their original workplaces upon the completion of training. Only Mr. Wamundela has been in service as a KIZ consultant.

On the other hand, the second year consultants have voluntarily applied to participate in the project. Notably, four of them have been employed by KIZ. They are thus relatively committed to pursuing their work, playing pivotal roles in KIZ. They can be the driving force in facilitating institutional development in the future.

The third year consultants also voluntarily applied to the public recruitment posted in February, 2016. Six candidates are all highly motivated and serious to learn. However, the project recruited the third year consultant candidates requiring to pay KIZ their training fees. Such requirement, although having improved a financial balance of KIZ moderately, supposedly resulted in a small number of applications received from those who had extensive practical experiences.

If KIZ broadens its consulting services on a full scale, it is obviously indispensable to increase a pool of competent and experienced consultants. Thus, a public recruitment on an annual basis should be posted earlier than before. Also, KIZ may seek for cooperation from related organizations to invite applications more broadly. Throughout the year, a KAIZEN conference and local seminars can be an opportunity to announce a recruitment of consultants. Furthermore, if consultant candidates are required to pay a training fee in order to apply KIZ's

recruitment, as in the third year, outstanding candidates may be provided with their expenses to help them bear the training fees. KIZ's recruiting activities, when pursued throughout the year, will open the way for a greater number of potential applicants, which will then allow a selection of talented consultant candidates. While KIZ currently posts the public recruitment only once a year, midcareer recruiting may be undertaken all year around to invite those competent candidates with practical experiences. In this case, KIZ needs to deliberate on a screening criteria because they may be eventually certified by other requirements than completion of the prescribed lectures and OJT.

(3) Reorienting KAIZEN mind of Zambian enterprises and identifying pilot enterprises

The key objective of OJT is the nurturing of competent consultants through which they develop skills of applying their knowledge obtained in a group training to workplaces of the clients. Pilot enterprises in turn learn hands-on KAIZEN practices and the resulting effects through OJT sessions, where they identify the needs for continuous KAIZEN. To achieve this, it is crucial to find enterprises that understand KAIZEN generally and is willing to cooperate with KIZ to pursue the intended activities. In practice, however, spotting such KAIZEN-minded pilot enterprises has been quite a challenge. One of the two major reasons is a lack of understanding on the principles of KAIZEN among top management and the employees of the pilot enterprises.

Accordingly, KIZ needs to identify pilot enterprises that are willing to cooperate with KIZ, offering a valuable training venue for its consultants. Then, the institution should explain top management and the employees on various occasions about their needs for KAIZEN and the resulting outcomes, seeking for their better understanding. There are several strategies associated with the above efforts. For instance, KIZ can broadly publicize its KAIZEN consulting for corporate entities in Zambia, using the media and website on a regular basis. Also, KIZ may make a list of potential pilot enterprises that are interested in KAIZEN, when conducting preliminary briefing seminars on KAIZEN OJT in the major cities, KAIZEN seminars outreaching local provinces, sector-based briefing sessions, and KAIZEN conferences. KIZ can then contact with corporate executives of the listed enterprises, asking if they are available for its on-site activities. It is thus important to link these KIZ's daily operations with spotting potential pilot enterprises.

As for another reason mentioned above, consulting OJT is financially feasible only in and around Lusaka, because of KIZ's budgetary limitation. It is thus economically difficult for KIZ to implement it in Copperbelt at present. Potential pilot enterprises, however, may be identified there and in other provinces, hopefully when KIZ's budgetary restriction is resolved. Where more pilot enterprises are available, OJT can be broadened and deepened, fostering better trained consultants.

(4) Challenges in developing consultants' skills

In the nearly three years since the launch of the project, Zambian enterprises are gradually pressing more sophisticated consulting. Previously, their requests were very often KAIZEN of work practices, including 5S and defect reduction. Growing needs are advanced consulting services in an attempt to boost productivity and enhance customer satisfaction. KIZ consultants are now competent to instruct a QCC-based approach to effective KAIZEN, linking 5S and KAIZEN efforts to the concrete output, and procedural KAIZEN by the use of 'QC tools in workplaces. As of today, on the other hand, consulting on advanced thematic issues remains quite challenging for them to manage adequately. Successful institutionalization of such high-level practice as TQM in a given enterprise entails inclusive KAIZEN efforts involving top management. A KIZ consultant must then obtain a higher management ability and skills of consulting than before. In fact, the project had meetings recently with the second and third year consultants and found that they wanted a further learning to refine their skills and OJT to practice them at first hand, because they understood the above-mentioned challenge and their limited abilities to provide higher-level consulting. KIZ-consultants' acquisition of abilities to manage higher-level consulting aligns with KIZ's institutional goal of achieving its economic independence. Particular skills to be upgraded include:

- [1] Cost management (analysis and gradual diminution of product cost, labor cost, and material cost)
- [2] Inventory control, production progress management, and delivery control
- [3] Enhanced implementation of standardization, SQC, in-process QC
- [4] Increase in a rate of facility operation, lead-time reduction, and improvement of production processes
- [5] Enhanced customer satisfaction (i.e. reducing a complaint rate and wait time)

To work on any of them, consultants learn through lectures about data-based analytical skills and tips to find waste, followed by OJT to gain hands-on experiences. Skill upgrading training covering the above areas will help consultants to generate significant outcomes in client enterprises. An enabling training modality will necessitate a combination of lectures with OJT sessions, as learned in the project experiences so far. Such training needs will be rising, as the Zambian economy develops along with industrial advancement. Notably, those enterprises with specialized consulting needs are most likely potential clients of fee-based consulting services. Therefore, KIZ should work for training of consultants who are capable of handling high-level KAIZEN objectives.

(5) Refining and expanding a KAIZEN coordinator training and partnering with KIZ

KAIZEN coordinators are those who are assigned from leading managerial positions in their workplaces, and thus are aware of work responsibilities, and capable of pursuing their duties. Their commitment should be rated highly. Without a support of the coordinators, any pilot enterprises have been so successful in promoting their intended activities and achieving the outcomes. Therefore, KIZ needs to fully understand roles and importance of KAIZEN

coordinators, making this system being more elaborated and sustainable. Moreover, the business needs will be increasingly complex and diverse in the course of Zambia's industrial advancement. This will call for a KAIZEN coordinator training to deal with refined components. Specific proposals include a skill-up training program, apart from the original training scheme, and an increase in the present in-take capacity that accommodates approximately 35 coordinators. Where necessary, furthermore, KIZ may request pilot enterprises to bear a part of training expenses in an attempt to foster their consistent engagement.

Another institutional effort required for KIZ is to build a cooperative framework for which pilot enterprises allow their trained KAIZEN coordinators to serve as KIZ partner consultants who will deliver some of its services.

(6) Future training of human resources

1) Certification and employment of KAIZEN trainers

The project initially planned that KIZ consultants, having completed a two-year training instructed by the experts, would serve as trainers of junior consultants. While six consultants certified in the first year are eligible, only Mr. Bernard Wamundila can actually train junior consultants, when excluding those who originally belong to external organizations.

Given that the project has been extended for one year, four KIZ consultants employed since the second year (Ms. Monica Mwiche, Mr. Howard Musonda, Ms. Sarah Shawa, and Mr. Fred Sichikolo) were able to receive a two-year training from the experts. They have been thus certified as trainers. Five consultant trainers are available at KIZ.

KAIZEN trainers play a pivotal role in reproducing KIZ consultants. They must also refresh themselves through taking active part in consulting projects for client enterprises. Furthermore, those KIZ consultants who have trained their junior counterparts may be upgraded to KAIZEN trainers. The possibility of such upgrading scheme needs to be examined. For instance, KIZ may appoint senior consultants to trainers. Those senior consultants are proposed in the overarching master plan.

2) KAIZEN consultant training

Upon a strong request of KIZ, a third year KAIZEN consultant training was scheduled and implemented for one year. This time, the project has made a provisional adjustment that allows a transition period in which FU enterprises have been included to undertake OJT sessions. In the future, however, the one-year training may be alternatively divided in the first and second terms where OJT sessions are provided in four enterprises per term, totaling at least eight. When OJT takes place at each pilot enterprise once in two weeks, consultants visit two enterprises every week. This will allow the consultants to have time for a review before and after their on-site visits. An entire training period will entail 11 months, including nine months of OJT, one month of lectures, and another one month of instructing coordinator training sessions and seminars. In this case, a training must be launched in January or February each

year, and thus all the new consultant candidates need to be ready in January. To do so, a selection of the prospective consultants must be completed at the end of the preceding year, so that they can all start the new training year immediately as scheduled. A recruitment should be therefore scheduled well in advance. In addition, the project proposes a scheme that prospective consultants should be paid with their training expenses.

1.3 Project Activities and Results Related to Output 3

1.3.1 Activity Strategy and Development of Organizations and Systems for Propagation of KIZ Information

1.3.1.1 Positioning of information dissemination activity

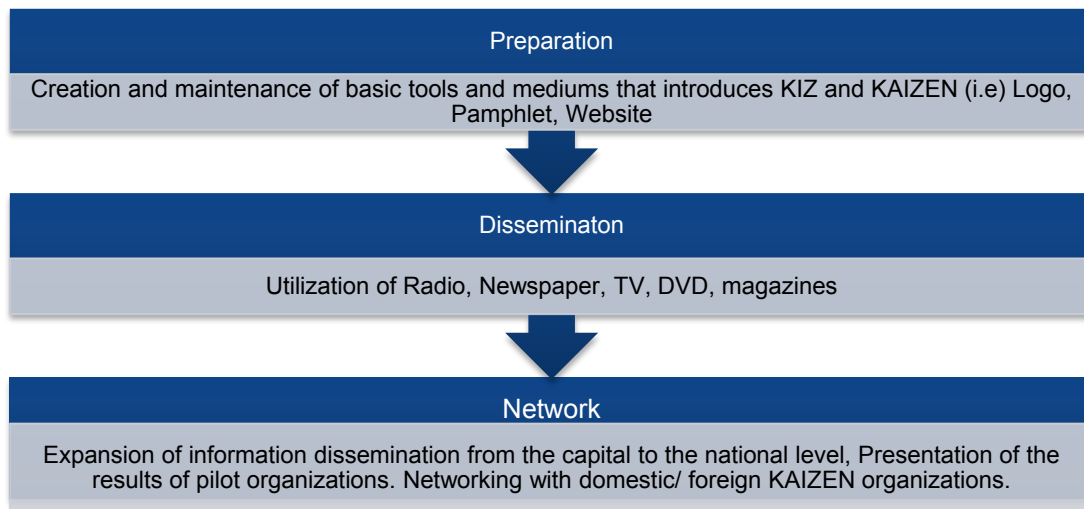
Output 3 under the Project is designed to upgrade KIZ' information dissemination capability for the purpose of promoting and stimulating general interest in KAIZEN activity throughout the country. Generally speaking, once an organization has been established, it is very important to conduct well-designed, strategic information dissemination activity in each stage of its development. Outputs obtained from activities 3-1 through 3-6 with regard to the development of information dissemination organizations and systems are discussed below. Meanwhile, it takes a few years for KIZ to become capable of conducting its own, strategic information dissemination activity because it has still to deal with many issues relating to the full-scale establishment of its own organization and system. Under the Project, activities have been carried out with focus on construction of KIZ's good foundation after the completion of the project with view to build good relationship with society, while effectively deploying KAIZEN activity, by undertaking a broad range of PR activities, which should not be limited to one-sided transmission of KIZ's PR information.

1.3.1.2 Current state of organizations and systems relating to KIZ's information dissemination activity

KAIZEN-related information dissemination has been listed in the prospectus as KIZ's key role, and the first board meeting has confirmed that it will be joint responsibility of Administration Planning Manager and IT and Tools Functions Manager. At the same time, it was decided that Mr. Mwitwa will also serve as Administration and Planning Manager, while IT and Tools Functions Manager will be appointed toward the end of 2014. In reality, however, as the startup of KIZ has been delayed due to the delay in budget disbursement and other reasons, positions of IT and Tools Functions Manager and IT/PR personnel are still vacant as of October 2016. Information dissemination activity is actually conducted by KIZ consultants, resulting in unclear presence of responsibility and the failure to meet deadline for day-to-day tasks. Furthermore, KIZ consultants are unable to have sufficient time to perform their own duties because they are required to handle other tasks, as seen in the above case, it will take some more time to establish KIZ's information dissemination capacity as organization, albeit it is expected to build the basic foundation within the project period.

1.3.1.3 Strategy for information dissemination activity

To start up information dissemination activities, it is proposed that KIZ takes the following steps.



To launch full-fledged information dissemination, it is necessary to make firstly a solid base of dissemination that serves as a point of transmission using basic mediums such as an organizational logo, pamphlet, and website which represent and explain the organization. After that, the information dissemination activities should be extended as linearly and spatially via major commercial media such as television, radio, and newspaper. At the extended stage, information should be exchanged with domestic and foreign KAIZEN related organizations.

The degree of interaction should be also strengthened at this stage.

Purpose
The primary purposes of the information dissemination strategy are to disseminate information about KIZ in- and outside of Zambia, raise awareness and recognition of KIZ, and promote understanding of activities for improvement of quality and productivity (KAIZEN). In addition, this strategy aims to disseminate information with regard to the KIZ and KAIZEN activities extensively, effectively, and continuously to make KAIZEN as a national movement.
Basic Principal of Information Dissemination Activities
To achieve the purposes above, information dissemination activities are implemented under basic principles as follows.
<p>1) Dissemination of information through ways and means that focus on impacts and effects</p> <p>For raising brand image of KIZ and KAIZEN, information dissemination should be promoted through a variety of measures which have substantial impacts and effects. For instance, such measures include the showcasing of implementation of KAIZEN in and outside Zambia, public display of the results of KAIZEN activities as well as measures to acquire international competitiveness by showing pictures and data before/after of KAIZEN. Also, KIZ should maintain uniformity of its image through presentations in various events, pamphlets, posters, and custom-designed novelties, so that the image of KIZ will be strongly associated with KAIZEN.</p> <p>2) Utilization of free publicity</p> <p>KIZ should utilize mass media in a way as less costly as possible, so that KIZ can disseminate information</p>

nationwide. The mass media should be the ones which have wide outreach and relatively large impact, including digital media such as Zambia National Broadcasting Corporation (ZNBC), Muvi TV, Radio Phoenix, Q-FM, Joy FM, and print media including The Daily Mail, Times of Zambia, Post, and Daily Nation. For communicating to the public, KIZ should issue press releases, reports, articles and adverts. Private radio stations and other community radio stations will also be utilized for dissemination of the KAIZEN concept and activity at provincial and district levels.

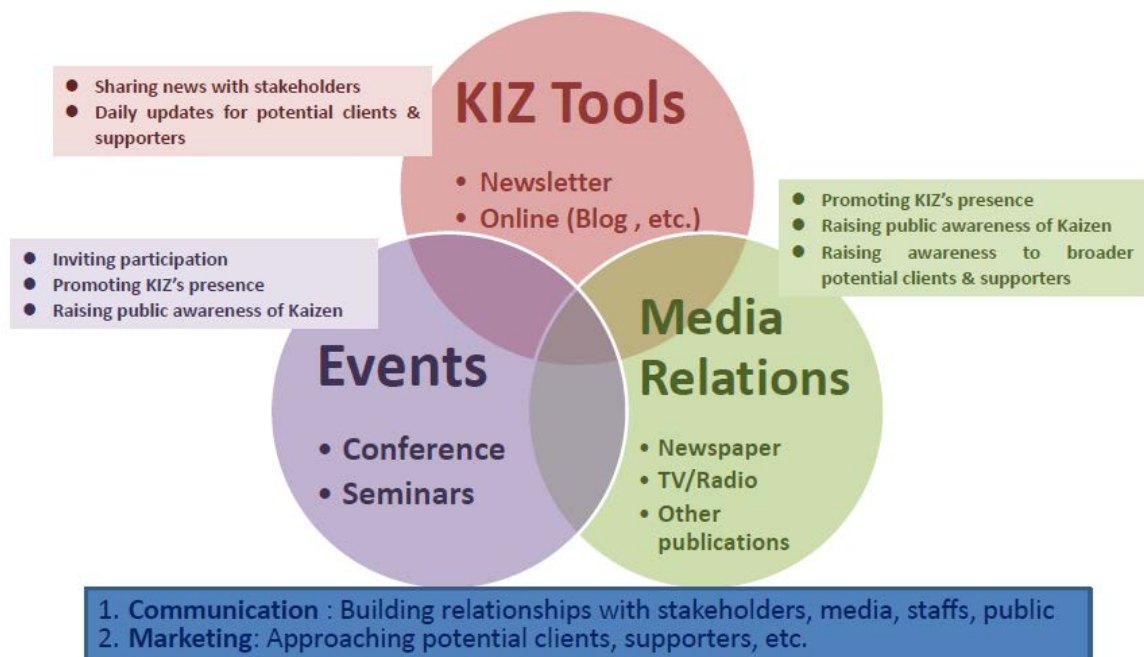
3) Information dissemination to members of business associations and chambers of commerce and industry by sharing information on KAIZEN

KIZ should collaborate with various business organizations such as Zambia Chamber of Commerce and Industry (ZACCI), Zambia Association of Manufacturers (ZAM) and Zambia Chamber of Small & Medium Business Associations (ZCSMBA) to establish an environment where the exchange of information can be done easily and frequently. In addition, KIZ needs to develop the means to distribute information of KIZ to members of these business organizations through their head offices and district offices. Not only disseminating information from KIZ, KIZ efforts to let information flow from both KIZ and members of those organizations though utilizing seminars and meetings.

4) Utilization of original mediums of KIZ such as Website and Newsletters

KIZ will establish a website and disseminate information on its organization and KAIZEN activities as well as open an inquiry counter for corporate and individual clients. Also, KIZ issues quarterly newsletters and publicizes them through above business chambers, associations, media and governmental organizations such as of one stop shop or registry office, and efforts to disseminate information about KIZ and KAIZEN.

KIZ’s information dissemination and public relations activities have been based on the following concept. The contents and result of each activity will be shown.



Source: JICA Project Team

1.3.2 Development of PR activity tools

In six months after the start of the Project, based on the basic information dissemination strategies above, the JICA project team developed tools during the period of initial six months after the commencement of the project. Those tools are supposed to be necessary for KIZ's information dissemination.

1.3.2.1 KIZ Logo, Pamphlet, and Newsletters

(1) KIZ Logo



The JICA Project Team developed the basic logo of KIZ and utilizes it. In addition, the team also developed the water mark.

(2) KIZ letterhead



Based on the logo design above, the following letterhead design has been developed. The letterhead is now used in all letters which KIZ publishes.

(3) KIZ's pamphlet

For the launching ceremony of KIZ (19th June, 2014) and participation in the African Public Service Day (18th to 20th of June, 2014) sponsored by the Zambian government (the Cabinet Office), the KIZ's pamphlet was produced in 1,000 copies. In the A4 size form (color, fold in three), the pamphlet's design which includes writings and photos, was developed and proposed by the project team, which was then finalized in consultation with KIZ. In addition to two events above, the pamphlet was distributed to the participants at the KAIZEN forum in 2014, KAIZEN Conference in 2015 and 2016.

The pamphlet is also kept by the JICA Zambia office, the Cabinet Office, ZDA, and other related organizations for free distribution to visitors. In addition, the project team and KIZ made a pamphlet to introduce KIZ and KAIZEN at the occasion of local KAIZEN seminar and various events.

(4) KIZ Poster

The following poster was prepared and presented in the KIZ's booth for the African Public Service Day during 18th to 20th of June, 2014, which is showing the scenes of company visits during the OJT Program for pilot organizations. In order to create this poster, JICA project team needed to lead the work on behalf of KIZ, in collaboration with Public Relations personnel, since Mr. Mwitwa was dealing with preparation of the KIZ launching ceremony during the same period.



Source: JICA Project Team

(5) KIZ banners

The following three banners were produced for the launching ceremony of KIZ. At present, these banners are exhibited at the KIZ office in the Kwacha House Annex, while they are also used in various events. In and after 2016, KIZ plans to establish street banners alongside with the main roads in Zambia. It was suggested that KIZ should also place the banners for advertisement within premises of schools, organizations, etc., in order to reduce advertising cost. This has not been realized yet as of October 2016.



Source: JICA Project Team

(6) Creation and Publishing of KIZ Newsletters

JICA project team supported creation and publishing of KIZ Newsletter from No.1, which was published in August 2014. The target readers of KIZ Newsletter are KIZ related

governmental organizations as well as general public. It aims at gaining better understandings by governmental organization, and raising public awareness and understanding of KIZ's existence and its activities. Furthermore, since Newsletter can publish an article up to certain length, it can create general KAIZEN topics other than news or other, and it can contribute to deepen readers understanding and knowledge on KAIZEN and KIZ.

Until June 2016, the Newsletter No.1 to No.4 was published supported by the project team. The KIZ Newsletter were distributed to KIZ board member and pilot organizations, as well as eight major media houses (ZNBC, ZANIS, NAIS, Times, Post, Daily Mail, Q-FM, 5-FM). While the newsletters were originally planned to be published on a quarterly basis, actual publication is significantly delayed due to the shortage of personnel and the lack of experience. The main topics featured on the Newsletters were as follows:

The main topics of KIZ Newsletter

No. 1	August 2014	<ul style="list-style-type: none"> • Remarks by CEO on launching of KIZ • Address by JICA Project Team • Training of KAIZEN Consultants • KAIZEN Column by JICA Expert
No. 2	November 2015	<ul style="list-style-type: none"> • Participation in ICQ 2014 • KAIZEN training in Japan • Testimonies from KIZ Consultants • KAIZEN Column by JICA Expert
No. 3	May 2015	<ul style="list-style-type: none"> • Progress of Training for KAIZEN Consultants • Column by KAIZEN Consultant • KAIZEN DVD & Events • KAIZEN Column by JICA Expert
No. 4	June 2016	<ul style="list-style-type: none"> • Forward by CEO • Report on KAIZEN Seminars • Report on KAIZEN Conference 2015 • KAIZEN Column • 2016 KAIZEN Consultant Training Updates

The Newsletters are good communication tools to introduce KIZ's activities to related organizations as well as OJT pilot companies.

However, in particular, KIZ's personnel does not have sufficient knowledge and experience relating to information dissemination, preventing KIZ from preparing and implementing a feasible schedule for newsletter production and editing, together with work allocation. Also, while writing is assigned to staff members, most of them are unable to write articles due to the lack of experience. The situation is also seen in editing tasks, which take considerable time, failing to meet deadline.

While KIZ proceeds with the production process significantly behind the schedule, the JICA project team has been providing technical support in various areas, including selection and edition of articles and layout design, while respecting KIZ's ownership. It appears to take fairly long time to develop KIZ's own capability.



Source: JICA Project Team

To produce the newsletters that are effective and impacts, it is important to clearly decide on editing policy, theme, purpose and target readers. This can only be achieved by having an appropriate organization and system for newsletter publication. Also, it is essential to learn writing and editing skills and methods, including selection of themes, through practical experience. Furthermore, it is desirable to digitize the publication process, including transmission of articles to and from related organizations and web publication, which will enable significant cost reduction and expansion of information dissemination in a geographical range. In this perspective, the JICA project team has proposed to develop an efficient publication system including a

significant change in the publication form. Finally, in light of the fact that publication frequency fails to increase according to the plan, it is imperative for KIZ to develop a more effective approach with the need to reduce workload in mind.

At present, KIZ is a small organization, but it should give consideration to internal public relations by using its own media from the viewpoint of unifying the organizational purpose and intention and improving work efficiency.

1.3.3 Information dissemination through mass media and the web site

1.3.3.1 Information dissemination through a variety of media

In holding a local seminar, policy should be made to take action to promote effective propagation of relevant information through mass media, such as the issuance of press releases (invitation of media coverage by newspapers, TV and radio stations) and the arrangement of personal interviews. In the case of a seminar, efforts should be made to arrange a press conference jointly with other organizers (such as ZACCI and local chamber of commerce and industry) Also, the KAIZEN conference should be widely covered by actively approaching the

media, so that it should be reported by news programs and magazines. The record of media coverages are as follows:

(1) TV	<ul style="list-style-type: none"> • Report on KAIZEN events (News programme) • Awareness raising on KAIZEN and promotion of KIZ (featured programme) • Topics on KAIZEN (featured programme)
(2) Internet	<ul style="list-style-type: none"> • Re-posting TV programme • Posting KIZ DVD
(3) Radio	<ul style="list-style-type: none"> • Awareness raising on KAIZEN and promotion of KIZ (featured programme)
(4) Newspaper	<ul style="list-style-type: none"> • Awareness raising on KAIZEN and promotion of KIZ (special column) • Topics on KAIZEN (special column) • Announcement of KAIZEN events, and other recruitments

While it is difficult to measure direct impacts of media coverage accurately, the increase in reach-out would be highly effective in raising public awareness. The next challenge is to increase interest in KAIZEN as a general, while expanding service supply capacity to meet demand so that potential users can receive KIZ's service before actual introduction of KAIZEN.

Keeping in mind the above policies, results of PR activities to this date are summarized as follows.

(1) Information Dissemination through TV and video

In cooperation with KIZ, the project team conducted the information dissemination activity of KAIZEN by utilizing following TV programs. Also, KAIZEN Conference and Seminars were featured in several news programmes. Though the extent of effects of video published in internet is not sufficiently grasped, the effects of TV are apparently big and it is needed to utilize it more effectively in accordance with the organization development of KIZ.

Table 1.3.3-1 Appearance in the TV program

Program date	TV Station	Content
24th November, 2014	ZNBC	Live 30 minutes of interview to KIZ CEO, Mr. Mwitwa's on KIZ and KAIZEN activities.
End of March, 2015	CBC Television	Interview to KIZ CEO on the activities of KIZ and the concept of KAIZEN.
14th April, 2015	CBC Television	A sequel to the previous interview. One of the project members, Mr. Ito also attended this program.
25th June, 2015	CBC Television	A digest of the Kabwe KAIZEN Seminar held on 24th June, 2015. (3 minutes)
1st August, 2015	ZNBC (Lusaka)	The president of Malawi visited KIZ's booth in the Agricultural Commercial Show and this was featured by ZNBC's news.

Program date	TV Station	Content
20th August, 2015	ZNBC (Livingstone)	A digest of the Livingstone KAIZEN Seminar.
20th August, 2015	Muvi TV	A digest of the Livingstone KAIZEN Seminar.
26 October, 2016	ZNBC	6 th National KAIZEN Conference featured in Main News

Source: JICA Project Team

(2) Published Videos in Internet

The following videos have been acquired from respective organizations and been uploaded on the JICA Zambia office's YouTube account.

Table 1.3.3-2 Published Videos in Internet

Source of Video	Time of filming	Content
CBC Television	March, 2015	Interview on KIZ and KAIZEN < https://www.youtube.com/watch?v=Vyz7WbRyRQU >
CBC Television	April, 2015	Interview on KIZ and KAIZEN < https://www.youtube.com/watch?v=n9Hm_bXvK8U >
JICA Project Team	During 2014	KAIZEN Training DVD< https://www.youtube.com/watch?v=Kqm4mcvBaek >
JICA Zambia	November 2015	Livingstone Seminar < https://www.youtube.com/watch?v=1dkRom4xILY >

Source: JICA Project Team

(3) Information Dissemination through Newspaper

Partly due to the approach by KIZ and the JICA project team, two of the three major newspapers – Zambia Daily Mail and Times of Zambia – have published the following articles. In particular, a good relationship has been established with Times of Zambia, which gives a favorable treatment such as the publication of KAIZEN-related articles concurrently with a related advertisement. It is desirable for KIZ to maintain and develop good relationship with Times of Zambia and other media. Also, KIZ should make steady efforts to provide news media with information on its events by visiting and distributing reference materials.

Newspapers can publish a certain length of columns and it contributes to awareness rising of KAIZEN and can receive more feedbacks.

Table 1.3.3-3 Coverage by Newspaper articles



Newspaper	Date	Content
Zambia Daily Mail	25th August, 2014	The establishment of KIZ.
Zambia Daily Mail	29th July, 2015	Advertisement for upcoming Livingstone KAIZEN Seminar.
Zambia Daily Mail	19th September, 2015	President speeches on KIZ and KAIZEN.
Times of Zambia	22nd September, 2015	Introduction of KIZ and advertisement for the National KAIZEN Conference.
Zambia Daily Mail	30th September, 2015	Following the president speech, a column for KAIZEN has been started.
Zambia Daily Mail	7th October, 2015	Following the article on the previous week, the column for KAIZEN featured KIZ and KAIZEN.
Zambia Daily Mail	3rd August, 2016	Interview with JICA experts and introduction on KAIZEN toward TICAD VI
Times of Zambia	7th September, 2015	Advertisement to invite participation in the KAIZEN Conference, including introduction on KAIZEN 
Zambia Daily Mail	28th October, 2016	Introduction on KAIZEN and KIZ. Topics on possibilities of KAIZEN introduction and business improvement within Zambia's industries.

Source: JICA Project Team

(4) Information Dissemination through Radio

Appearances in the radio programs are as follows (see Table 1.3.3-4). KIZ has been utilizing radio programmes for information dissemination on general KAIZEN topics. Compared with TV programmes and ads, radio can be utilized with reasonable costs and it is also effective to consider spot advertising or event announcement during commuting hours in mornings / evenings.

Table 1.3.3-4 Appearance in the Radio Programs


Radio Station	Date	Content
Radio Phoenix (Lusaka)	12th December, 2014	<p>KAIZEN Consultants, Mr. Bernared Wamundila and Mr. Dismas Chapula, and a project member, Mr. Amagai attended the live radio program and promoted the KIZ and KAIZEN activities for 30 minutes. (Appearance in the Radio Phoenix program)</p> 
Falls FM (Livingstone)	18th August, 2015	<p>KIZ CEO, KAIZEN Consultant attended in this live program and promoted KIZ, KAIZEN activities, and Livingstone KAIZEN Seminar.</p>  <p>(Appearance in the Falls FM program)</p>

Source: JICA Project Team

(5) Information Dissemination through Organizational Magazines

The JICA project team supported KIZ to write articles on the introduction of the concept of KAIZEN to major organization’s magazine in Zambia. Though there are cases which incur cost, but targeted groups of KIZ’s service are member companies of those organizations. In that sense, finding new clients through organizational magazine is one of important measures of information dissemination. Organizational Magazines are the tools to effectively promote not only KAIZEN concepts but also to introduce more practical and detailed good KAIZEN practices as well as to proactively suggest possibilities of utilization of KAIZEN. By doing so, KIZ can approach potential clients, thus it is an effective public relations tool for KIZ. Therefore, it is required that KIZ should suggest in-depth contents for such organizational magazines.

Table 1.3.3-5 Articles on Organizational Magazine

Source of the Magazine	Publishing date	Content
Zambia Association of Manufacturers (ZAM)	June, 2015	Introduction of basic KAIZEN concept and technique. Exemplification of 5S.  (ZAM's bulletin)
Zambia on Zambia Chamber of Commerce and Industry (ZACCI)	December 2015	Volume 4, Issue 4, December 2015 The history of KAIZEN implementation in Zambia

Source: JICA Project Team

1.3.3.2 Production of information dissemination tools by KIZ

(1) Completion of Promotional DVD for KAIZEN

In this project, a DVD for KAIZEN training of KIZ has been created for the promotion of KAIZEN activities in the future. The JICA project team discussed and agreed with KIZ on the contents and outline of the DVD. The specific scenario was developed by the JICA project team and the DVD was made with support from a local media company. The completed DVD is consisting of following composition.

- | |
|--|
| <ol style="list-style-type: none"> a. Message from Dr. Msiska, the secretary to the cabinet office, and comments from KIZ-CEO, Mr. Mwitwa, about the necessity of KAIZEN Project and summary of the activities. b. KAIZEN implementations in pilot organizations for the first year, as well as situations and conditions before and after KAIZEN. c. Interview to KAIZEN coordinators of pilot organizations, about the merits of KAIZEN d. Interview to CEO of pilot companies/institutions, about the implementation of KAIZEN and future plans. e. Classroom lecture training for KAIZEN coordinators and the KAIZEN Forum. |
|--|

The DVD introduces specific KAIZEN practices by video so that it is easier to grasp practical images of KAIZEN.

The DVD was completed in April 2015, under the title of “Training of Japanese Quality and Productivity Improvement in Zambia” and utilized in various occasions such as of KAIZEN Coordinator Training in May 2015, Introduction of KIZ within OJT, and local KAIZEN seminars. The DVD was also distributed to KIZ related organizations mainly board member (10

organizations), pilot organization in OJT (about 37 organizations in 2015, 32 organizations in 2016). Hereafter the DVD will be utilized in KIZ's seminars and various events.



DVD "Training of Japanese Quality and Product Improvement in Zambia"

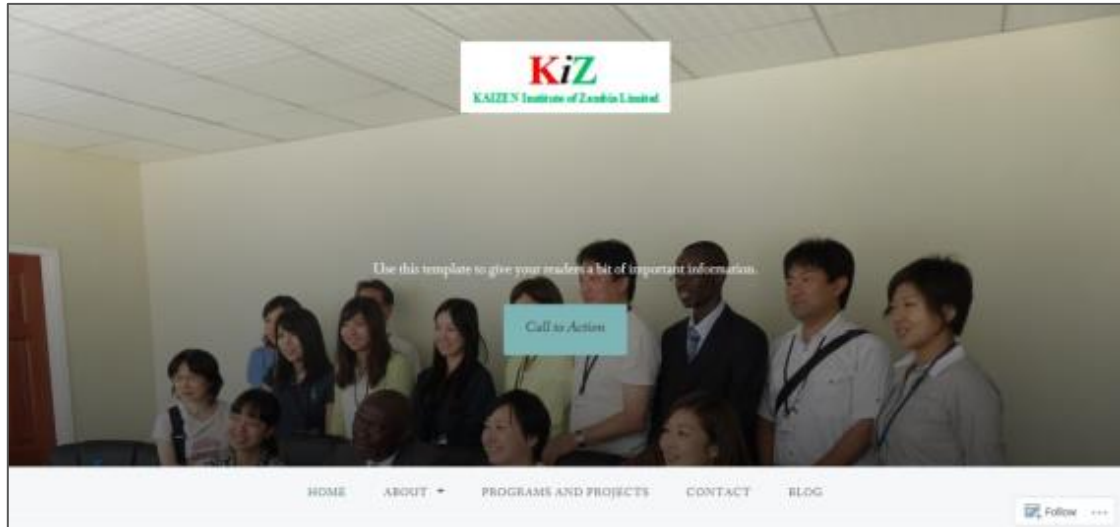
(2) Set-up of KIZ's blog and Facebook page

The advantage of internet is that the information dissemination can reach broader layers of readers. The contents can also be very wide; such as announcement of KAIZEN events, other KAIZEN topics, report on events and daily updates.

Since the beginning of the Project, KIZ had plans to establish its own web site, which were deadlocked due to the absence of IT/PR personnel and difficulty in budget outlook. In 2015, KIZ established a pilot site for its own web site but failed to make further progress due to no prospect in terms of operation cost and work sharing. Although KIZ obtained cost estimates from three companies specialized in web site building and management, they exceeded KIZ's budget (e.g., 9,500ZMW per month for maintenance cost (95,000 yen as of October 2016). Thus, KIZ has still to set up its own web site.

Meanwhile, there are a variety of web services that can be used with free of charge (excepting a fee for a domain name and a server use), such as online web space and SNS and other web services. Their potential use was evaluated by KIZ consultants, and it was decided to set up KIZ's web site using a free open source web space, WordPress, which was established in June 2016¹.

¹ <http://kaizenzambia.wordpress.com/>



KIZ WordPress site as of September 24, 2016

Although KIZ's consultants have been working to update the web site, the absence of personnel who has experience in blog-based PR activity results in beginner's level publication without attractive features or impacts due to the lack of basic knowledge on user-friendly design, presentation of information in readable forms including easy-to-read writing, protection of rights of privacy and publicity, and techniques to lead users and increase access by link.

Nevertheless, it is also the fact that KIZ consultants have successfully set up the blog site without a fee on their own after more than two years of the standstill during which KIZ was unable to make a move due to budget constraint, despite they obtained estimates from web design companies and KIZ personnel suggested the need to ask the JICA project team for financial help. The blog site has already uploaded newsletters and notification on the KAIZEN conference by KIZ's own effort.

As the new blog site can be used as the basis of KIZ's information dissemination by establishing linkage with various SNS accounts, such as Facebook and Twitter, which are expected to produce the synergistic effect, it is now to take further steps. In fact, the Facebook account has already been opened on a trial basis.

Online service usages by major Zambian government organizations, with regard to Facebook, are listed below (see Table 1.3.3-6).

Table 1.3.3-6 Main Online Service Usages by Zambian Government

No.	Organization	Category	Facebook (Likes)
1	Zambia Development Agency	Government	7,864
2	Zambia Information and Communications Technology Authority (ZICTA)	Other organization	12,883
3	Ministry of Health Zambia	Government	18,887
4	Agricultural and Commercial Society of Zambia 2016	Other organization	3,606
5	Zambia Institute of Banking & Financial Services (ZIBFS)	Other organization	3,799
6	Zambia Bureau of Standards - ZABS	Government	7,706
7	Zambiatourism.com	Other organization	17,086
8	Electoral Commission of Zambia	Government	33,462
9	Zambia JICA Fellowship Association - Zajifa	Other organization	104
10	Zambia Chamber of Commerce and Industry-ZACCI	Other organization	2,603
11	Zambia Revenue Authority	Government	17,500

(Prepared by the JICA project team, as of May 23, 2016)

Major advantages of SNS and its use are summarized as follows.

- Free of charge
- Ease of updating
- Ease of work sharing in terms of updating
- Immediacy
- Unlimited reach-out and ability to promote share count by followers
- Wide reach of event notification
- Daily transmission to make followers feel close to KIZ and KAIZEN
- Ease of visual promotion using photos and videos

It is for a long time since Facebook has become an essential tool for PR activity by

worldwide public organizations, including those in Zambia, while it requires users to have sufficient knowledge on security, risk management and other web literacy. It is also important for users to have in-depth legal knowledge including publicity right and an allowable range of information disclosure. It is therefore important for KIZ to develop and improve basic system management rules and methods that fit its operating environment by learning as to what policy governments in advanced countries have established and by collecting information on future world standards. Also, as actual operating know-how can only be obtained through day-to-day experience and lead to the use with sufficient impacts, the current use is mostly limited to that under the JICA project team. It is thus important for KIZ to



Source: JICA Project Team

learn from experience and know-how by its intensive efforts. The JICA project team has proposed a management policy to KIZ.

1.3.4 Local Deployment of Information Dissemination Activity

1.3.4.1 Local KAIZEN Seminar

For KIZ that does not have a local agency, a local seminar is considered important as an information dissemination tool. It is basically held jointly with local chamber of commerce and industry and designed for local companies. In 2015 and 2016, the following three seminars were held.

(1) Kabwe Seminar (June 2015)

KIZ and the JICA project team held the first local KAIZEN seminar in Kabwe on June 24, 2015. The preparation for the seminar was made mainly by KIZ consultants, with the support from the secretariat of the Kabwe Chamber of Commerce and Industry (KCCI). JICA project team advised KIZ for management of the seminar, preparation of the program, and the selection of the participants. In principal, this seminar was held with emphasizing following two points; (i) the seminar functions as not only promotional activity for KAIZEN but also for KIZ; (ii) persons with experiences of KAIZEN should be selected as lecturers and they are supposed to talk about their own experiences of KAIZEN.

On the seminar day, 76 participants from Kabwe area and 8 KIZ staffs including lecturer, participated in the seminar. The seminar started at 9:00 and ended at 14:00, and three KIZ consultants stayed at Kabwe on the previous day of the seminar. The seminar resulted in great success and there were a lot of inquiries even after the end of the seminar. The seminar program began with the viewing of KAIZEN DVD, which lasted for 15 minutes. By showing this DVD which introduced the intension of the Zambian government and KIZ for implementation of KAIZEN and explained about the example of KAIZEN practice, the KIZ could attract participants' attention. In following program, officials from two Zambian private companies explained about their cases of KAIZEN implementation. Consequently, it worked well for raising participants' awareness toward KAIZEN because actual testimonials were followed soon after the DVD viewing. In the Q & A sessions at the end of the program, there were more than 10 questions and the master of the ceremony had to bring the session to an end.



A scene of the lecture



Scene of another lecture

(2) Livingstone Seminar (August 2015)

KIZ held the second local KAIZEN seminar in the city of Livingstone in the South province on August 19, 2015. In the same way as the first local seminar in Kabwe, the preparation for the seminar was made mainly by KIZ consultants, with support from the secretariat of the Livingstone Chamber of Commerce and Industry (LIVCCI).

On the seminar day, officials from MCTI, NPDD, District Commissioner, Provincial Commissioner, about 90 participants under LIVCCI membership, 5 KIZ staffs, 2 JICA project team members, 1 official from JICA Zambia, 1 Japan Overseas Cooperation Volunteers (JOCV), 2 JICA senior volunteers, officials from media houses such as ZNBC, Muvi TV, and newspaper companies participated in the seminar. The seminar started at 8:30 and ended at 13:00. Same as the previous seminar, the seminar program began with the viewing of KAIZEN DVD, which lasted for 15 minutes. By showing this DVD which introduced the intension of the Zambian government and KIZ for implementation of KAIZEN and explained about the example of KAIZEN practice, the KIZ could attract participants' attention. The program followed smoothly by speeches of Mr. Tobias Mulimbika of MCTI, and lecture of productivity by NPDD without delay. The lecture of Mr. Cyprian Mayamaba of NPDD was concise and clear, especially the last message, "You can improve only things that can be measured", attracted attention of audiences. After this, the introduction of KAIZEN activity by a private company, NAC 2000

Livingstone, followed. The official from NAC 2000 presented the implementation of 5S, First-In First-Out (FIFO), and Layout Control in Lusaka and Livingstone. Consequently, audiences could have concrete image of KAIZEN effect. In the Q & A session, the main theme of discussion in the house focused on "How KAIZEN can be utilized for the development of local and national economy". Including audiences and lecturers, the entire participants could discuss on this theme actively. This seminar was also broadcasted by Muvi TV's news program on 20th August, 2015.



The venue of the seminar

(3) Kabwe seminar (October 2016)

On October 7, 2016, the second KAIZEN seminar was held at the Kabwe chamber of commerce and industry under participation of 18 persons including 5 members of the chamber of commerce and industry. It was designed to provide one-day lecture on KAIZEN practice and introduction, which took a step forward from an introductory course for general public. It consisted of lectures on basic 5S, 3M and QCC by KIZ consultants and a lecture on TQM by Mr. Fujita of the Japanese project team.

The lecture started with a KIZ consultant's question, "why Zambia needs KAIZEN?" And many participated raised a question on the relationship between a country and KAIZEN. Then, as the lecturer talked about the history of KAIZEN in Japan and Asia, many participants began to understand the meaning and significance of thinking about KAIZEN from the perspective of their own companies and themselves. As they felt KAIZEN as a practical matter, the seminar turned to a workshop; a study session where one KAIZEN technique after another was discussed enthusiastically. At present, there seems to be high demand for lecture relating to beginner's level of KAIZEN, so that it is desirable to conduct a future seminar in Kabwe by designing lecture on TQM according to various steps.



A scene of the lecture



A group photo of the participants

(4) Key issues relating to the KAIZEN seminar

In 2016, it was planned to hold a Kitwe KAIZEN seminar – the first time in Copperbelt – jointly with the Kitwe and the District Chamber of Commerce and Industry (KDCCI). However, as the seminar scheduled in May did not gather sufficient registration and was postponed twice to July and September, with registration amounting to 2-4 companies and 10 persons at maximum. As of October 2016, there is no prospect for holding the seminar and it was decided to change a basic seminar plan and design. The seminar was originally designed to introduce KAIZEN to local companies by inviting companies that have successful KAIZEN experience as guest speakers. The failure to obtain a sufficient number of participants seems to be caused by the following three factors.

1) Delay in administrative procedures

Recruitment of seminar participants starts with the mailing of an invitation letter by KDCCI, on the basis of seminar content decided by KIZ, to member companies. In practice, however, a delay in paperwork at KIZ has caused a delay in sending of the invitation letter until shortly before the seminar date.

2) Overlapping of schedule with other events

Each of the three seminars was scheduled on the same day or the day close to other events, which were held in Copperbelt, such as the Mining Fair, thus preventing many companies from participating in the KAZEN seminar.

3) Collection of the participation fee

It was decided to collect a participation fee (around 40ZMW per person), for the first time, upon KIZ proposal, but this is not the case in the country for seminars designed for companies to increase recognition of KAIZEN, further raising the hurdles for participation.

In consideration of these factors, efforts should be made to revise and improve seminar design and procedures by KIZ, including no fee to be collected. The present problems seem to come from not only KIZ's insufficient capability with regard to seminar management, but also from the lack of communication between KDCCI and KIZ and insufficient cooperation in the absence of the JICA project team. To promote KIZ's ownership and leadership in the future seminar program, discussion was made between KIZ and the JICA project team with regard to the improvement of seminar management.

(5) The impact of local KAIZEN seminars

The major features of KAIZEN seminar is that it can directly reach companies, mainly the members of the Chambers, in cooperation with the Chambers in order to enhance local development. The participants have limited knowledge of KAIZEN most of the times, so the seminar starts from introducing basic KAIZEN concepts. However, most of the participants are attending the seminar voluntarily and have strong interest and are highly motivated.

The 1st Kabwe seminar (May 2015) was a good success with participants' enthusiasm and lively discussion. This seminar raised motivation within the Chambers and this lead the board members themselves to request KIZ to give lectures on KAIZEN, and the 2nd seminar was realized. Also, a lecturer from Mulungushi University attended the seminar seeking for the possibility of introducing KAIZEN into their curriculum in the future. This shows a wide spread of the impact of seminar result. In addition, there were requests from companies that they are willing to becoming OJT pilot companies for KAIZEN Consultant training. Although the knowledge level of the participants on KAIZEN was very basic, there were strong requests by the participating companies to incorporate KAIZEN practically. This shows the impact of local KAIZEN seminar.

1.3.4.2 Information Dissemination to Provincial and District Levels

In the long run, KIZ will disseminate KAIZEN information not only in Lusaka but also at the provincial and district levels so that a nationwide outreach of its service can be achieved. For the time being, however, KIZ's information dissemination is only based in Lusaka and the establishment of its regional branches is not planned. Thus, as mentioned in the basic principles, it is indispensable for KIZ to cooperate with regional administrative bodies and public institutions to disseminate information. For instance, there are branches of District Chambers of Commerce (DCC) under ZACCI, District Business Associations (DBA) under ZCSMBA, training institutions under TEVETA, and all those providing service to local communities in each district.

However, the operational capacity of these organizations is sometimes insufficient, and it may require some time to result in an effective collaboration. At present, apart from the co-organization of local seminars with the Chambers, it is recommended to start from very basic collaborative work such as publishing KAIZEN article series on their organizational magazines.

KIZ seeks for extension of KAIZEN by collaborating with these organizations to hold seminars and to identify target companies for KAIZEN in local communities. (Please also refer to Table 1.3.4-1).

Table 1.3.4-1 Example of Collaboration with Public Institutions at Provincial / District Level

Partner	Proposed collaboration
DCC, DBA, MLGH Office	Center for information dissemination, and venue for seminar
Village Industrial Service (VIS)	Provision of technical training to local community
Community Radio Stations	Utilization of local language radio program for dissemination of KAIZEN
OVOP	Provision of publications of KIZ to local communities and holding events
TEVETA	Provision of information / technical training at schools under TEVETA

Source: JICA Project Team

1.3.5 National KAIZEN Conference

In Zambia, KAIZEN has been promoted and disseminated to certain extent through support by JICA senior volunteers since March 2008 and QCC activities of local companies. Thanks to these precedent efforts, the National KAIZEN Conference, in which KAIZEN practitioners compete for results of KAIZEN, has been held for four times in total so far (please refer to the table 1.3.5-1).

Table 1.3.5-1 Summary of Past National KAIZEN Conferences

	Date of Function	No.of QCC	No.of Presentation	Venue
The First	12-13, February, 2010	9	6	Mulungushi ICC
The Second	18-19, February, 2011	44	16	Mulungushi ICC
The Third	17-18, February, 2012	85	25	Mulungushi ICC
The Fourth	14-15, February, 2013	131	37	Mulungushi ICC
*The Fifth	3-4, November, 2015	22	22	Mulungushi ICC

*The conference held during the project period
 Source: JICA Project Team

1.3.5.1 First KAIZEN Forum (November 2014)

The National KAIZEN Conference is usually held in February every year but it was anticipated that the holding the KAIZEN Conference within the year of 2014 would be difficult due to delay in development of KIZ's organization and capacity. Meanwhile, the KAIZEN Conference is a unique feature of KAIZEN in Zambia and the holding of it was expected by both private and public sectors. Therefore, the JICA project team and KIZ invested much effort to hold the event. As a result, it was decided that the event would differ from the previous conferences which emphasized competition. Rather, the event was planned to be an opportunity for KAIZEN practitioners to share information through presentation of their activities and results as well as an opportunity for awarding of KAIZEN coordinators.

On 27th of November 2014, the KAIZEN Forum was held at the Mulungushi International Conference Center, the center formerly used as a venue for the National KAIZEN Conference. Despite the short preparatory period of less than one month, the forum could secure about 140 participants including participants as far as from the Copperbelt province, and active presentations and exchange of opinions took place. On the other hand, there was delay in sending of invitation letters to participants, as well as delay in coordination for participation of high profile guests, such as the minister of MCTI, and the director of ZDA. In addition, the forum did not have a competition among presenters and thus KIZ did not rate them. As a result, KIZ did not invite foreign judges who had been planned to be invited at the beginning of the planning. Instead, KIZ awarded a certificate to KAIZEN Coordinators, who worked for KAIZEN and met the criteria of certification in 2014. KIZ also awarded a certificate of attendance to all the companies whose representatives did presentation in the forum. Moreover, JICA President Awards were awarded to the permanent secretary of MCTI and to the director of ZDA for contribution to the ToH project.



(Venue)



(Presentation-ZESCO)



(Presentation-HCMZ)



(Lecture by
Mr. Tsuchiya, JICA Experts)



(JICA President Award)



(Certification of KAIZEN
Coordinators and Attendance)

Compared with the preliminary plan, the size of the event was modified to be smaller than the original plan and the nature of the event was changed from the conference to the forum. Yet, through the preparation and operation of the forum, the KAIZEN Conference Committee (KCC) members learned the management of the KAIZEN conference, and it contributed to the improved recognition of KIZ. Also, the event contributed to the establishment of networks among KAIZEN practitioners. It can be said that the event substantially helped the preparation for implementation of KAIZEN conferences in the following years.

1.3.5.2 Fifth National KAIZEN Conference (November 2015)

The Fifth National KAIZEN Conference was held at Mulungushi International Conference Hall on November 3-4, 2015, for the first time in two years. It was the first conference organized and managed by KIZ. KIZ established a preparatory committee for the purpose in charge of planning and management. Participants totaled around 250, mainly consisting of pilot companies and organizations in the FY2015 OJT program.

While the previous conference was held in the form of a KAIZEN forum, the fifth conference was returned to a conference style adopted in third and before conferences under CEO's policy, and the preparatory committee was organized to achieve the purpose. Mr. Amagai, coordinator of the JICA project team, participate in the committee, while the project team provided technical assistance in preparation of documents on OJT companies.

At the fifth conference, a total of 22 companies and organizations reported their activities and results. With main guests including Vice Secretary Peter L Kasanda (on behalf of Secretary of the Cabinet, Dr. Roland Msiska), Japanese Ambassador Oinuma, and Mr. Noda (chief of JICA Zambia office), around 200 persons participated. Also, Mr. Getahun, Director of Ethiopia

KAIZEN Institute, was invited. Participation of the MCTI Director was requested but not realized.

Presentation was made by three divisions: a) non-manufacturing sector; b) manufacturing sector; and c) public sector. For each division, three prizes – gold, silver and bronze – were offered. Then, the grand champion prize was selected for the best presentation through all the divisions. For presentations that did not receive any of the prizes, a certificate of participation award was given.

Presentations were judged by three juries, namely Ms. Katembu Kaumba of the former NPDD KAIZEN team leader, Mr. Shaharum Ashaari (expert invited from Malaysia), and Mr. Ito, who served as the chief judge. Although preparation on the TQM field was called for, no entry was made, suggesting that there are few companies that have implemented TQM.



Overview of the conference venue



From left side, Mr. Mwitwa, Ambassador Koinuma, Mr. L. Kasanda



Remarks from the main guest (Mr. Peter L. Kasandra)



Special guest lecture (Mrs. Seblewongel Haregewein, Director Ethiopian KAIZEN Institute)

A list of prize-winning companies and organizations is shown below.

Table 1.3.5-2 List of Companies that Won Prizes in the 2015 KAIZEN Conference

Sector	Prize	Company name
Non-manufacturing	Gold	Taj Pamodzi Hotel *
	Silver	Kafue Gorge Regional Training Center *
	Bronze	Lusaka Water and Sewerage Company
Manufacturing	Gold	Strongpak Ltd
	Silver	AFIL Engineering Ltd
	Bronze	Capital Fisheries *
Public organizations	Best award	Public Service Management Division *
	Silver prize	Road Development Agency
	Bronze prize	Chongwe District Hospital *

* Companies that participated for the first time in 2015

Most of the companies that made presentation were pilot companies in the past two years, while two companies made entry at the invitation of Interim CEO Mr. Mwitwa. Many of them were not accustomed to preparation of presentation materials, so that technical assistance was provided by visiting them or inviting them to KIZ for around one week before the conference. Only two 2015 pilot companies did not made presentation (not including one for which technical guidance was canceled) due to inactiveness or an organizational reform immediately before the conference.

Despite a relatively short period of time for preparation, all the companies have made presentation at a generally acceptable level. Also, larger participation than the previous year resulted in active sessions of questions and answers. Thus, the conference livened up. Also thanks to media coverage, the conference became a very good event to help promote KAIZEN activity widely.

The issue to be concerned in the future is the complaint by companies that were not able to receive any award or prize. It may be necessary to consider some measures to create a sense of fairness, such as prior notification of evaluation items, evaluation of transparency, use of the forum system, or prizing of all participants.



Judges



Presentation of the awards given from Mr. Noda, JICA Resident Representative

Also, case studies were reported at the conference. Finally, the “Certificate of KIZ KAIZEN Coordinator” was given to 22 coordinators who had satisfied the certification requirements. As a result, a total of 35 KAIZEN coordinators were certified in two years, including 13 persons certified in 2014.

1.3.5.3 Sixth National KAIZEN Conference (October 2016)

The Sixth National KAIZEN Conference was held for two days, on October 26 and 27, 2016.

On September 7, the Call for Paper to invite participants was published in Times of Zambia, while a similar invitation was made earlier to OJT-related pilot companies and follow-up companies. Meanwhile, KIZ pointed out that the JICA project team should be responsible for costs relating to the invitation of adequate judges to the KAIZEN conference, including accommodation and other costs. However, it is difficult to accept it because KIZ is a hosting organization for the conference while the JICA team only provides necessary support. After repeated discussions, it was agreed to hold the conference as a place for presentation of KAIZEN results, without ranking, rather than a competitive form inviting official judges.

Call for Paper (Invitation to the Six National KAIZEN Conference)

Call for Paper
The 2016 National KAIZEN Conference
Theme: Transforming Zambia through Quality and Productivity Improvement for Business Excellence

The KAIZEN Institute of Zambia Limited (KIZ), in collaboration with JICA, is calling for papers to be presented at the 6th National KAIZEN Conference to be held at Milungushi International Conference Center on 26th and 27th October 2016. All “KAIZEN” practicing Organizations/teams in Zambia, regardless of the type of business or size of operation, are free to participate. The effect of “KAIZEN” activities are enormous in terms of human resource development, utilization of business operations and problem solving of any critical cases.

In addition, the KIZ would like to call for paper on Total Quality Management (TQM) from managements who have something to share in a way of encouraging “KAIZEN” teams and providing steering secure management control and promoting management innovation in their entire organizations.

Presentations Stream

- The conference is arranged in three (3) Sessions according to Sectors of
 - Manufacturing Sector
 - Non-Manufacturing Sector
 - Public Sector
- There will also be a session for Total Quality Management (TQM).
- After each session, participating teams will be given souvenirs for their participation.
- At the end of the conference the awards of Gold, Silver and Bronze will be presented accordingly to the teams participating.
- The following awards will also be presented to the teams
 - “Excellent Team Work Award” shall be given to the team selected from among all participating teams for team cohesion and team work.
 - “Excellent Management Award” shall be given to the manager(s) selected among all participating managers for managing and supporting Quality Control Circles (QCC’s).
 - “Grand Champions” shall be given to the Champion selected from the 3 Gold awarded teams.

Paper Application stream

- Each organization wishing to present at the conference will only be allowed two paper presentations. It is recommended that the two papers be selected after internal competition if the organization has more than 3 “KAIZEN” teams.
- The paper should be in a soft copy of Power Point (97-2003) file. Presentation time is within 15 minutes.
- The paper should be submitted to the “2016 KAIZEN Conference Secretariat” not later than 15th October 2016.
- The secretariat shall confirm receipt of your paper once received.

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Official Program for the Six National KAIZEN Conference (it will be revised)

DAY ONE

TIME	ACTIVITY		FACILITATOR
08:00-08:30	Registration of participants		KiZ
08:30-08:40	Welcome remarks, introductions and overview of conference objectives by the Chief Executive Officer, KAIZEN Institute of Zambia; Mr. Chola Mwitwa.		Programme Director.
08:40-09:00	Statement from Secretary to Cabinet and Board chairperson; Dr Roland Msiska.		KIZ CEO
09:00-09:10	Official opening by Minister of Commerce, Trade and Industry(MCTI); Hon. Margaret Mwanakatwe.		KIZ CEO
09:10-09:20	Statement from the Japanese Ambassador to Zambia		KIZ CEO
09:20-10:00	Presentation by Guest speaker, Former Director General-Ethiopian KAIZEN Institute, Mr. Getahum Taddse on KAIZEN as a key driver for Ethiopian growth and transformation agenda.		Programme Director
10:00-10:20	TEA BREAK		
PRESENTATIONS BY TEAMS FROM NON-MANUFACTURING SECTOR			
10:20-10:40	Lukanga Water & Sewerage Company Ltd	Mr. Mushani	Programme Director
10:40-11:00	Lukanga Water & Sewerage Company Ltd	Fredrick Lutangu, Patrick Chipola & Sharon Mulenga	Programme Director
11:00-11:20	Lukanga Water & Sewerage Company Ltd	Loyd Siwale & Brenda Nkole	Programme Director
11:20-11:40	Road Development Agency (RDA)		Programme Director
11:40-12:00	Lusaka Water & Sewerage Company Ltd	Ponga Michael	Programme Director
12:00-13:00	LUNCH		
13:00-13:20	Lusaka Water & Sewerage Company	Gershom Sinsungwe	Programme Director
13:20-13:40	Specialized Systems Ltd	Elina Banda	Programme Director
13:40-14:00	Taj Pamodzi Hotel	Bwalya Sichangwa & Anthon Maketo	Programme Director
14:00-14:20	Kafue Gorge Regional Training Center	Leevan Mukonka.	Programme Director
14:20-14:40	Kafue Gorge Regional Training Center	Oliver Liyungu	Programme Director
14:40-15:00	Grandma School		Programme Director
15:00-15:20	ZESCO LTD	Chanda Mweemba	Programme Director
15:20-15:40	TEA BREAK		
15:40-16:00	Astro Holdings Ltd	Henry Kaunda	Programme Director
16:00-16:20	Agro Fuel Investments Ltd	John Ntalasha	Programme Director
PRESENTATIONS BY TEAMS FROM MANUFACTURING SECTOR			
16:20-16:40	ZAM Leather Ltd	B. Mwale and Gerald Mulenga	Programme Director
16:40-17:00	ZAM Leather Ltd	Joshua Sichivule and George Kashalah	Programme Director
17:00-17:05	Closing Remarks for the 1 st day	Master of Ceremony	
DAY ONE END OF THE PROGRAM			

DAY TWO

TIME	ACTIVITY	BY WHO	FACILITATOR
08:00-08:30	Registration of participants	KIZ Secretariat	KiZ
08:30-08:40	Opening Remarks	Programme Director	
08:40-09:00	ZALCO Ltd	Niza Sikwese	Programme Director
09:00-09:20	Varun Beverages Zambia Ltd	Oliver Mweemba	Programme Director
09:20-09:40	Varun Beverages Zambia Ltd	Bryan Chilufya	Programme Director
09:40-10:00	Universal Mining and Chemicals Industries Ltd (Kafue steels)		Programme Director
10:00-10:20	TEA BREAK		Programme Director
10:20-10:40	Universal Mining and Chemicals Industries Ltd (Kafue steels)		Programme Director
10:40-11:00	AFIL Engineering Ltd	Mickson Chisanga & Daniel Kapumpu	Programme Director
11:00-11:20	HITACHI Construction Machinery Company Ltd	Anastaysia Hunter Nkana	Programme Director
11:20-11:40	HITACHI Construction Machinery Company Ltd	Andrew Mushinko	Programme Director
11:40-12:00	Konkola Copper Mines		Programme Director
12:00-13:00	LUNCH		
13:00-13:20	ClassEcon		Programme Director
PRESENTATIONS BY TEAMS FROM PUBLIC SECTOR			
13:20-13:40	Kabwe Institute of Technology (KIT)		Programme Director
13:40-14:00	Ministry of Local Government & Housing (MLGH)		Programme Director
14:00-14:20	UNZA-Marshlands	Dr. E. Lusambo	Programme Director
14:20-14:50	Special speech “ KAIZEN and Africa-How to apply KAIZEN methodology”	Mr. Getahum Tadesse Former Director general of Ehiopian KAIZEN Instityue	Programme Director
14:50-15:20	Special speech “KAIZEN Zambia- Looking back and Expectation of KAIZEN in Zambia”	Mr. Shigeki Tsuchiya JICA Expert	Programme Director
15:20-15:40	TEA BREAK		
15:40-16:10	Review comments	Guest reviewers (4)	Programme Director
16:10-16:20	Official Closing Remarks	JICA Resident Representative	Programme Director
16:10-16:40	Awarding of Participation certificates and Certificate to KAIZEN Coordinators	JICA Resident Representative	Programme Director
16:40-17:00	Photo session		
END OF THE PROGRAM			

The number of companies and organizations that participated in the conference totaled 19, mainly companies participated in the OJT program, and the number of participating teams was 28. The number of participants on 26th October was 172 and 153 on 27th. As guests of honor, the conference received participation of Dr. Roland Msiska, Secretary to Cabinet of the Republic of

Zambia, Hon. Margaret Mwanakatwe, Minister of Commerce, Trade and Industry, Ms. Kayula Siame, Permanent Secretary of MCTI, Mr. Sakakibara, Charge d'Affaires ad interim of Embassy of Japan, Mr. Hisanao Noda, Resident Representative of JICA Zambia Office, and Mr. Getahun Tadesse Mekonen, Former Director General of Ethiopian KAIZEN Institute, and remarks were presented respectively. Also, Mr. Getahun gave his presentation titled “KAIZEN as a key driver for Ethiopian growth and transformation agenda”, and Mr. Tsuchiya gave his presentation titled “Looking back and Expectations of KAIZEN in Zambia”.

In preparation of the conference, KIZ and JICA project team launched a preparation committee in July, and held preparation meeting proactively. The meeting has been held once a week from late September. Although the conference was not perfectly well prepared, the regular committee encouraged KIZ consultants’ initiatives in many ways, such as in division of roles, preparation until the day of the conference, and practical operation of the function, compared to the former conferences.

On the other hand, the initial plan of holding competition by inviting judges was rejected by KIZ due to the reason that there are no qualified judges of international standards, according to KIZ. Therefore, the conference which initially included a competition was changed into forum style without a competition. Due to this situation, initial 3 candidates of judges, Mr. Cyprian Mayamba (NPDD), Mr. Sawamura, JICA Senior Volunteer (ZDA Business Advisor), and Mr. Tsuchiya, JICA Expert, and also Mr. Moriyama and Mr. Fujita participated the conference as commentators.

The discussion between KIZ and JICA Project Team has been continuing until the last minute, which resulted in JICA Project Team to provide awards in regard to the consideration of hard effort of the participating teams with intentions to achieve prizes. Under the name of the JICA Project Team award, the JICA Project Team selected 4 teams and provided specially ordered gifts.

The awards and successful teams are as follows:

Table 1.3.5-3 List of the awarded teams (JICA Project Team Award)

Award	Team
The Most Impressive Team	Lusaka Water & Sewerage Company
The Most Unique Team	Grandma School
Good Achievement Team	Varun Beverages (Zambia) Ltd.
The Best Team Work	Lukanga Water & Sewerage Company Ltd.

The largest argument point was on judging the participating teams (selection criteria of judges, judging criteria, etc.), concerning the conference, and it continued until the day of the function. In result, JICA Project Team has decided to provide above awards just before the

conference. However, regardless of KIZ’s intentions to make KAIZEN conference collaborative with ICQCC and receive qualified judges of an international standard, there is no clear solution to KIZ’s limited capacity including financial, and to the fact that the participating companies are mostly conducting only very basic KAIZEN activities. This remains as KIZ’s challenges towards the future KAIZEN Conference operation.

In addition, it was planned that the certificates for “KAIZEN Coordinators” to be given at the conference, as done in the previous year. However, the question was raised from KIZ whether those coordinators are qualified as “KAIZEN Coordinator” the discussion of which continued until the day of the conference, resulting that no coordinators received certificate on this day.



The group photo of participants with Hon. Mwanakatwe, The Minister of MCTI, and Ms. Siame, Permanent Secretary MCTI (2016 the 6th National KAIZEN Conference)



Presentation by participants



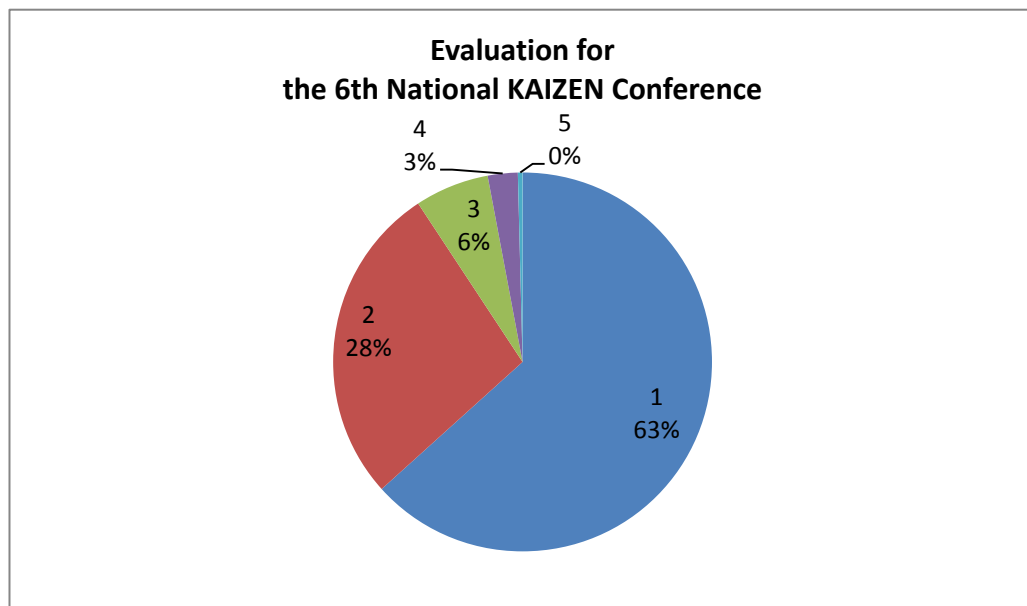
Remarks by Dr. Msiska, Secretary to Cabinet



Award ceremony by JICA Project Team

The summary of the evaluation of the 6th National KAIZEN Conference by participants is as follows.

No.	Items	Good			Poor	
		5	4	3	2	1
1	Content of the Conference	49	18	1		
2	Order of the programme	31	20	7	1	
3	Duration of the overall programme	22	20	7	1	1
4	Usefulness of information /knowledge gained	46	18			
5	Setting of the room	43	8	1		
6	Time management	19	16	8	10	1
7	Quality of staff's work	34	18	2		
8	Appropriateness of the venue	47	11	2	1	
9	Food & Beverages	30	10	4		
Total number of questionnaire collected: 70		321	139	32	13	2



The response by participants was relatively high and many requested for longer time schedule in order to discuss and share more information.

1.3.6 Launching and Activity of KAIZEN Club of Zambia

In 2014, the KAIZEN Club of Zambia (KCZ), whose members are mainly pilot organizations of OJT for this project in 2014, was established as a group for social gathering, information sharing, and mutual learning.

The KAIZEN Club held the first meeting in December, 2014. The CEO of Specialised Systems, Mr. Krishan Jadagheeshwaran (so called Mr. KJ) was elected as the chairman of the club and the articles of incorporation of KCZ, as well as activities of KCZ were decided.

The club's activity is expanding owing to the active contribution by Mr. KJ. The club held the first quarterly meeting in February 2015, and the basic management principal of the club was discussed. Also, the site visits among member companies were carried out; a site visit was held at AFIL Engineering Ltd on 15th April, 2015, while another site visit was held at the Specialised Systems on 19th May, 2015. Moreover, Mr. KJ attended the closing ceremony of the KAIZEN Coordinator Training in May, 2015. He invited new pilot companies to participate in the club. He also attended the Third Country Training Program (TCTP) in Ethiopia in June, 2015. In addition to these events of the club, a blog was established in December, 2014 to share experiences and knowledge of KAIZEN in and outside of the club². This blog is principally maintained and updated by Mr. KJ.

On 20th June 2015, Mr. KJ, who came from India, invited the club members to participate in the online seminar which was held by the Federation of the Indian Industries (FII). In this seminar, Mr. Murungesan, who provides counselling service for clients with regard to improved competitiveness of SMEs, taught the concept of KAIZEN and its practice to the audiences. The seminar lasted two hours and members of KAIZEN club also participated in this seminar. On Thursday, 17th September 2015 the KAIZEN Club held the first seminar with KIZ at the KIZ office. About 15 people participated in this seminar and learned the basic concept and technique of KAIZEN such as of 5S and red tag. It is also planned that KAIZEN Club will hold a seminar regularly.

As is seen above, the activities of KAIZEN Club is independently developing led by the chairman and it is supposed that KIZ's active support to KAIZEN Club such as of provision of venue and information, and coexisting with the club will lead to effective dissemination of KAIZEN.

In May 2016, the KAIZEN Club held a meeting in Kitwe under participation of nine companies, with active exchange of opinions. Among other things, it was proposed to conduct a KAIZEN coordinator training program, which had been previously held in Lusaka, in Copperbelt where a large number of manufacturers were located. At present, various follow-up activities have been conducted as continuation of the training program, including field tours and study groups.

Mr. KJ plays a central role in the KAIZEN Club activity, especially taking leadership in management of study group meetings by proposing and planning various meetings and encouraging participation. In particular, the exchange of opinions among persons who are involved in the KAIZEN process in the field is considered to be very valuable and productive, which is expected to grow to higher levels.

At present, however, there is no special collaboration mechanism to propose and promote relevant programs jointly with KIZ. Effective collaboration initiatives are expected to help

² <http://kaizenclubzambia.blog.com/>

improve KAIZEN's public recognition greatly, such as KIZ's support for the KAIZEN Clubs and participation of KAIZEN consultants in related events. Also from the viewpoint of information dissemination, collaboration with the KAIZEN Club will enable KIZ to directly reach companies that are implementing KAIZEN, thus justifying the reinforcement of the collaboration system with an aim to create the synergistic effect.

1.3.7 Formation of an International KAIZEN Network

1.3.7.1 Participation in the KAIZEN Knowledge Sharing Seminar in Ethiopia

During the period between March 23 and 25, 2016, the KAIZEN Knowledge Sharing Seminar was held in EKI, Ethiopia, at which KIZ's Mwitwa (Interim CEO) and Mr. Wamundila attended. The seminar was a very valuable and meaningful place for sharing of knowledge and experience in KAIZEN. The participants from Zambia learned and acquired numerous knowledge and exchanged with a number of participants, which are expected to become great assets. A meeting to report on the seminar was held within KIZ in early April, under participation of a large number of personnel including the first year consultants.

1.3.7.2 Participation in International Conference on Quality Control Circle (Bangkok, Thailand)

KIZ's Interim CEO, Mr. Mwitwa, and four trainees participated in the International Conference on Quality Control Circle (ICQCC), which was held in Bangkok, Thailand, for the period between August 23 and 25, 2016, for the purpose of strengthening the interchange with related organizations and persons and forming human network consisting of persons relating to quality control/productivity management (KAIZEN) by taking an opportunity provided by the international conference. The participation was planned concurrently with the 2016 KAIZEN training program in Japan (participated by the four consultants of 2015). ICQCC is a very large conference participated by around 1,500 persons mainly from Asian countries. There were a number of reports made in a variety of fields, mainly productivity improvement, QCC activity, TQM, Six Sigma, TPM, KAIZEN, lean management, and knowledge management, and the KIZ consultants actively participated in reporting and presentation sessions under various themes. Also, field tours were conducted in Thailand, and the KIZ participants visited Siam Toyota Manufacturing Co., Ltd. (Toyota's engine manufacturer in Thailand) and Sunny Bangchak Renewable Energy Learning Center, company specialized in solar power generation. Participation in ICQCC 2016 did not only deepen relationship with representatives of various countries but also provided a good opportunity to acquire practical knowledge in actual fields. Also, the Zambian delegates were able to learn knowhow on future organization of KAIZEN conference in the country.

Finally, after ICQCC 2016, the Zambian consultants participated in the KAIZEN training program that was held for the period between August 27 and September 4 in Japan, as mentioned earlier.

1.3.8 Issues relating to Dissemination of Information on KAIZEN Activity and Lessons Learned

- (1) KIZ's policy direction and attitude with regard to budget constraint on information dissemination

Budget constraint is considered to be the largest bottleneck to KIZ's activity, in addition to information dissemination. As KIZ's budget is mostly spent on the operation and management of the organization, while limited portions are allocated to information dissemination and PR activities. As the budget shortfall has negative impacts on KIZ's overall activity, preventing effective implementation of its programs and projects. While the Project helps make some progress, it is reasonable to expect that considerable time will be required to build up an organization and system to provide consulting service at levels that allow KIZ to become financially independent. It is therefore imperative to develop and plan measures to maintain its activity with stable financing.

Meanwhile, a direct challenge is seen in KIZ's attitude toward budget constraint, which is seen in its activities; it often voices expectation on JICA's continuous financial assistance as the counterpart to jointly conduct day-to-day project activities. Occasionally, it highhandedly demands the JICA project team to bear KIZ's operational costs on the basis of misunderstanding.

This indicates that KIZ lacks the intent to operate independently, e.g., by searching an alternative financial source, which is reflected in the mindset of most staff members relating to the formation and operation of KIZ's organization and system, thus presenting a major problem in terms of organizational management.

In particular, KIZ continues to be highly dependent on the JICA project team, since the very beginning of the Project, in most areas ranging from overall management to information dissemination and event management; KIZ seems to believe that the JICA project team has the ownership of the Project and thus waits for instruction and financing (or makes excuse for failure to do an activity because of the absence of instruction or financing), without adequate explanation or understanding within the organization. The situation has not changed largely despite extensive discussion, explanation or negotiation being held to this date.

In consideration of the fact that the shortages of fund and human resource are directly linked to stagnation of KIZ's work in every aspect, which leads to the deterioration of KIZ's overall management capacity, it is desirable to make the following efforts on a daily basis: (1) to devise and select a less costly alternative, method or option; and (2) to contrive a means that produces the maximum result with the minimum manpower (time/work load). In addition, it is critical to raise awareness toward the goals.

While the level of understanding on cost is fairly low among many staff members, a few express opinions based on high cost awareness as well as the sense of ownership. To maintain

spontaneous activities of KIZ staff members, the JICA project team tries to promote understanding through tenacious communication. As KIZ moves toward a self-supporting system, it is imperative to grow out of present dependence in an attempt to establish a work system where all the staff members share a sense of ownership and leadership as led by those who have a higher level of awareness.

To do so, it is desirable for KIZ to learn basic knowledge on operation and management of information dissemination tools from day-to-day practice shared by the JICA project team.

Meanwhile, it is feasible to devise a method to reduce workload and increase effect by innovative use of the available tools. In this connection, KIZ consultants should be encouraged to shift their thought from financial dependence on JICA and other external sources to the use of existing resources as well as free resources. This may take some time, but the accumulation of knowledge and experience by KIZ consultants is essential to full-fledged development of KIZ and its activity.

(2) Issues relating to organizational role sharing on PR and information dissemination activities

Due to the absence of personnel in charge of PR and IT, KIZ consultants need to be engaged in these activities in addition to their regular work, and web site management, newsletter publication, and seminar preparation tend to be delayed. While an annual schedule for each activity item has been prepared and shared by all the consultants, it is far from accomplishing most tasks according to the schedule.

At the same time, most consultants do not seem to have a good sense of responsibility for PR, IT and information dissemination activities, leading to a significant delay in key tasks. This is partly because the absence of manager-class personnel disturbs with overall business management, thus preventing line personnel from being fully engaged in monitoring and management of an individual task and its progress.

Under these circumstances, the second-year and third-year consultants agreed to cooperate in improving the conditions and started in June 2016 to establish a QCC voluntarily to improve business within KIZ. Originally, at least one QCC focused on information and awareness with five members being selected after election. Possible themes for QCC included day-to-day information dissemination using web site and SNS, planning and management seminars and KAIZEN conferences, and publication of newsletters, and it was scheduled to hold the first preparatory meeting in July to decide on work sharing and schedule. While it is considered to be a good move to start up the QCC, the initiative came to standstill as of October 2016 because the KAIZEN consultants were busy with their own tasks and overall responsibility was not clearly defined.

In summary, the problem comes from the following causes: (1) lack of sense of responsibility for necessary roles shared by individuals (as no one feels responsibility to deal with any delay in work, the organization does not have awareness of the need for disciplined

work management by means of work sharing and team-based progress monitoring, and it becomes a trend to leave the delay as it is; (2) constraint created by inevitable time allocation to other works; and (3) the lack of understanding on significance and importance of information dissemination activity.

To form a strategic PR plan, monitoring by personnel in charge of IT/PR is critical. At present, the lack of elaborate planning including an overall image seems to be a factor for slow progress. In particular, clear definition of an overall image, including the purpose, the target group, timing, and content, can lead to more effective information dissemination activity.

Planning and implementation of a strategic PR plan as part of the Project is considered to be important for expansion of KIZ's organizational management capacity. While PR and information dissemination activities are often delayed due to the fact that they need to be carried out by consultants on a work sharing basis, rather than full-time personnel in charge, the QCC initiative is expected to invigorate the activities.

To this date, most tasks relating to PR and information dissemination have been left intact or abandoned due to unclear responsibility, including work sharing, i.e., which work should be done by whom or by when.

Based on this understanding, the first step is to understand an overall image of PR and information dissemination activities by all the staff members, including their importance and significance. The JICA project team presented an overall image of PR and information dissemination and supported KIZ consultants to formulate strategy under their own leadership. Based on the understanding of the overall image by all the staff members, and with the assignment of personnel in charge of PR and information dissemination, work sharing/flow and division of responsibility will be clearly defined, thus building up a work basis to ensure smooth operation in the area of PR and information dissemination

(3) Issue relating to the lack of knowledge and experience on PR and information dissemination activities

The Project was started with development of KIZ's proprietary tools (logo, banner, pamphlet and DVD), followed by dissemination channels and tools (local seminars, KAIZEN conference, and publication of newsletters). Then, the JICA project team positioned the tools and media channels in terms of target and purpose.

In practice, however, necessary administrative work and preparatory procedures did not progress very well and were significantly delayed in many cases. The lack of knowledge and experience seems to be a major factor for the delay.

As a result, the development of the tools as well as event planning and implementation are carried out under substantial support by the JICA project team, which are occasionally required

to take over most tasks. This seems to come from not only the lack of sense of crisis or responsibility, but also the lack of knowledge and experience on what should be done until when, and how.

The most critical problem is, as pointed out in (2), that many of the members do not have a sense of responsibility and leaves a work undone if he cannot do it due to the lack of knowledge or experience. Most personnel lack awareness and attitude toward the work by consulting and sharing with colleagues or the JICA project when any problem or setback is encountered. They have no guilty feeling for leaving the problem because they cannot find a solution and no intention to accomplish the task by means of inquiry and consultation with other persons. For them, there is nothing for it if a task cannot be completed by the deadline due to the lack of knowledge or experience. Some even try to make it attributable to the JICA project team. Such attitude constitutes a major cause to prevent smooth implementation of KIZ's work and is clearly related to the mindset.

To cope with work delay due to the lack of knowledge and experience, the JICA project team has been making efforts to encourage KIZ's initiative, while teaching basic knowledge that can be used in the coming years. Specifically, KIZ is expected to learn daily use of various tools that have been acquired through the Project, including proper selection according to use, and to gain experience through practical application. In this connection, the JICA project team has clarified basic use of relevant tools, the difference in purpose, and daily application with an aim to let KIZ have ownership and interest. However, it may require a great deal of effort and time for KIZ to achieve this level.

In future, it is important for KIZ to increase knowledge through experience in using new tools and managing events under its leadership, while dealing with problems relating to work sharing and responsibility as discussed in (2) above. To back up such efforts, it is desirable that each personnel assumes an appropriate role, which is then combined to ensure smooth project management under overall control of personnel in charge of PR and information dissemination.

(4) Issue relating to expansion of KIZ's outreach

The KAIZEN Club is fairly active with a high overall need including the requests for seminars in Copperbelt and other regions. If consulting service can be expanded on a pay basis, such needs generate high potential for KIZ service expansion. Demand for KAIZEN consulting service from various organizations is on the rise, indicating a rising need thanks to an increase in public recognition of KAIZEN from previous activities. On the other hand, KIZ's capacity is limited in terms of ability to provide service that meets the need, far from responding to all the potential needs. Also, while the KAIZEN Club is very active, it is not effectively used for KIZ's dissemination activity by means of coordinated cooperation. Finally, collaboration with the chamber of commerce and industry – implementation of KAIZEN seminars - needs to be improved to generate a sufficient synergetic effect.

At present, the largest problem lies in insufficient capacity of KIZ in relation to service delivery (consulting service's level and field, and human resource). After 2017, as the second-year consultant program is completed with certification of consultants, more time can be allocated to service delivery – mainly pay service – and organizational management. If five consultants in the third-year program are hired by KIZ as planned, they will be able to support service delivery and share administrative tasks, thus reducing workload and facilitating KIZ's management.

Furthermore, collaboration with other organizations needs to be strengthened. Local KAIZEN seminars serve as a tool for KIZ without local office to reach out potential clients in various regions broadly by cosponsoring with ZACCI that have extensive local networks. To promote KAIZEN networking on a regional basis, it is important to collaborate with organizations having nationwide networks. At the same time, careful consideration is required with regard to a collaboration method by taking into account the characteristics of relevant organizations.

Note that KIZ has made request for cooperation to the following organizations with regard to selection of pilot companies and other purposes.

- ZACCI
- ZAM
- ZCSMBA
- TEVETA

However, as mentioned in 1.3.4.2, it is preferable to start from small scale collaboration such as co-organizing local seminars and publishing articles on organizational magazines. Through this basic collaboration, KIZ might be able to form a good collaboration with other organizations to provide continuous consulting services.

Also, it is recommended to develop an organization and system to cooperate with the KAIZEN Club and other initiatives for the purpose of collecting information on clients' needs and conditions, while building relationship to make KIZ's consulting service closer to as many companies and organizations as possible.

Apart from the collaboration with KAIZEN Club or other organizations, it is recommended to hold a small seminar or introductory public events at KIZ boardroom or any other venue on regular basis. By continuing such kinds of activities, even though it won't be a short term profit to KIZ, it may result in creating network with companies that are implementing or having interest in KAIZEN. In addition to information dissemination, such kinds of small and steady activities will help KIZ to acquire trust and familiarity which may result in building awareness on KAIZEN. Through these activities shared with public, utilizing information dissemination tools, KIZ is requested to recognize that this generates a synergistic effect and it will lead to the creation of network with future clients and supporters. In consideration of the

organizations operational capacity, JICA Project Team suggested KIZ to promote such steady activities as a part of its public relations / information dissemination.

(5) PR side approach to overall KAIZEN needs

Now that there are generally strong needs for KAIZEN with increasing demand for consulting service, as discussed earlier, it seems that a solid foundation has been built to raise general recognition of KAIZEN through PR and other activities during the project period. To further increase the recognition, an effective approach should be devised to be suitable for the following groups: (1) a group that does not know about KAIZEN; (2) a group that knows about KAIZEN and its general concept, but has still to implement it; and (3) a group that has good understanding of KAIZEN and implements it.

For group (1), efforts should be made to focus on introduction of KAIZEN concept through seminars, newsletters and web site (participatory events are expected to promote more interest and understanding); for group (2), training courses and seminars for KAIZEN coordinators; and for group (3), participation in actual consulting activity and the KAIZEN Club.

(6) Lessons learned with regard to comprehensive information dissemination strategy

Under the Project, the startup of KIZ's organization and development of basic information dissemination tools have been followed by the launching of various tools and events for information dissemination, including newsletters, web site, seminars, and KAIZEN conference. At present, information dissemination is limited to accumulation of KIZ's activity record, but the activity should evolve to a broader and strategy PR activity, which goes beyond information service, thus contributing to the building of a good relationship between KIZ and society, and a productive relationship between KIZ and stakeholders in social perspectives. Furthermore, it is important to establish and implement a PR strategy that could have large impacts on society's interest in KAIZEN activity.

Toward the goal, it is desirable that KIZ's personnel will assume the role of PR person within KIZ's organization by using available resources for the purpose of establishing the organization's PR policy and accumulating collective experience.

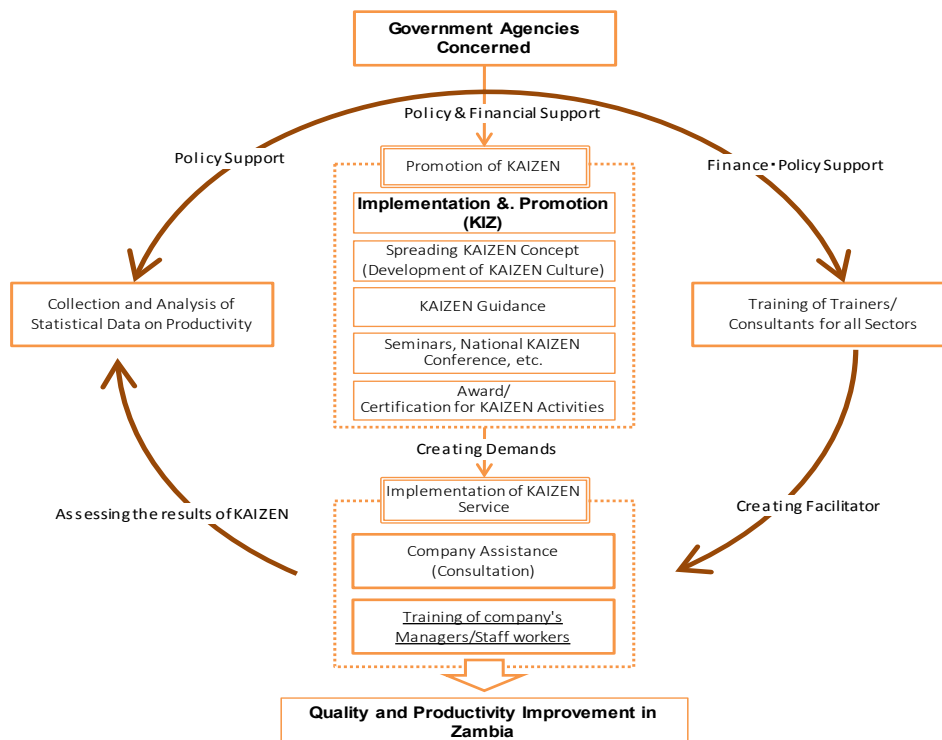
Chapter 2

Comprehensive Master Plan Proposal

Chapter 2 Comprehensive Master Plan Proposal

2.1 Objective and Basic Structure of a Comprehensive Master Plan

This comprehensive master plan proposal aims to outline systems and organizations for dissemination of quality and productivity improvement (KAIZEN) activity in Zambia to be established and operated after the end of the Project, including a basic mechanism and methodology for KAIZEN dissemination. KAIZEN - an initiative focusing on improvement of quality and productivity originated in Japan – has been adopted in Asia, Europe, Latin America, and then Africa, and Zambia is the eighth country in the continent to implement a KAIZEN project under JICA’s support. A basic design and framework for KAIZEN dissemination activity has common elements applicable to all the countries in the world, as summarized in Fig. 2.1-1. Each country strives to build up such basic system and framework while ensuring sustainability within its own environment. This system and framework is applicable to Zambia, which has just started to build up its own foundation for future KAIZEN dissemination since 2014. “The proposed comprehensive master plan for quality and productivity improvement in Zambia” therefore presents a set of proposals for efficient and effective operation and management of the basic system and framework. It is intended for all the stakeholders in Zambia, not only KIZ that serves as core organization for KAIZEN dissemination and deployment, but also the Zambian government as a whole and other local stakeholders.



Source: JICA Project Team

Fig. 2.1-1 Key Activity Elements for KAIZEN Promotion

“Government agencies concerned” in Fig. 2.1-1 refer to the Zambian government ministries and agencies including the Cabinet Office, Office of The President and MCTI (which constitute the members of the National KAIZEN Committee proposed under the Master Plan), and Kaizen implementation and promotion organizations to KAIZEN Institute of Zambia (KIZ).

The proposed comprehensive master plan consists of the following elements:

- Objective and Basic Structure of a Comprehensive Master Plan
- Basic KAIZEN Concept and Techniques to be deployed in Zambia and their Applications
- KAIZEN Dissemination Systems, Organizations and Budget Development Strategy
- KAIZEN Consultants and Coordinators Training Strategy
- Development Strategy for KAIZEN Dissemination Network
- Proposals for Materialization and Embodiment of the Comprehensive Master Plan

2.2 Basic KAIZEN Concept and Techniques to be deployed in Zambia and Their Applications

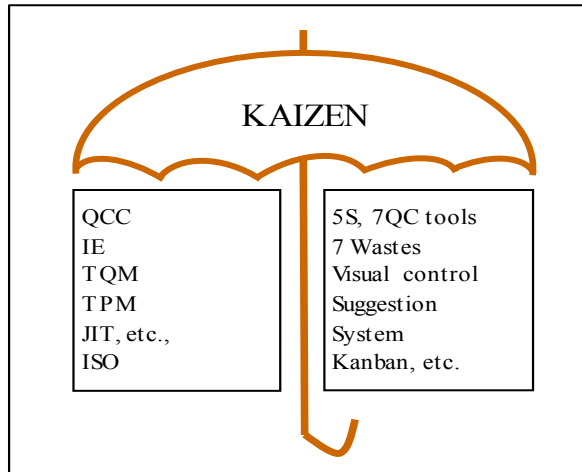
2.2.1 Basic concept of KAIZEN to be deployed in Zambia

① Basic concept and techniques of quality and productivity improvement (KAIZEN) to be disseminated and deployed in Zambia should be founded upon QCC, Standardization, and TQM, and with an primary aim to establish indigenous techniques adapted to Zambia's conditions under KIZ's leadership.

Mr. Masaaki Imai, known as the pioneer in disseminating “KAIZEN” as the most important concept of Japanese management, defines KAIZEN as a mindset in his book “KAIZEN – The Key to Japan’s Competitive Success” published in 1986. More precisely, KAIZEN can be expressed as “not be satisfied with the current state and think and act to pursue a better method (= keep such awareness and attitude all the time). At the same time, Mr. Imai points out a major difference in KAIZEN concept between Japan and other advanced countries as follows: “KAIZEN strategy used in Japanese management has two major characteristics. One is customer-oriented philosophy in terms of use quality, cost, delivery and other elements to serve customers’ needs, for which KAIZEN (everyday effort) should be made. Another characteristic is an emphasis on the KAIZEN process. Japanese companies generally approach KAIZEN without spending excessive costs and by racking brains instead. Gemba KAIZEN (initiated and led by field workforce) and TQM are primary examples. On the other hand, western countries focus on capital investment, thus considered to be an “innovation” approach. Thus, while Japanese companies focuses on KAIZEN as a continuous process, American and European companies prioritize innovation and outcome.¹

A very important concept of “KAIZEN” is defined as “continuous improvement,” regardless of organizations that adopt and implement it, including companies, government offices, and households, and it should be linked to the “mindset.” Management practices adopted by many Japanese companies after the war, such as productivity improvement, TQC (TQM), and small group activity, can be embraced in this concept. Key methods and techniques that belong to the Japanese KAIZEN concept are summarized as “umbrella concept” in Fig. 2.2-1.

¹ Writings of Mr. Imai quoted here are transferred (and reedited) from introduction and Chapter 1 (What is KAIZEN?) of his book “KAIZEN Reprinted Version” (October 25, 2010, McGraw-Hill Education), up to page 61.

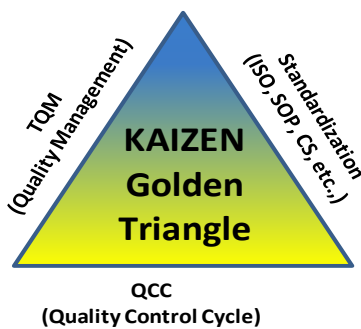


Source: 「KAIZEN」 Masaaki IMAI, McGraw-Hill Education

Fig. 2.2-1 KAIZEN Umbrella Concept

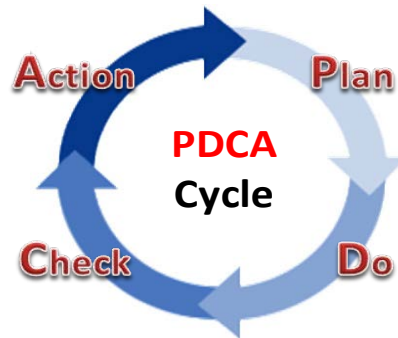
When the basic concept of KAIZEN to be disseminated in Zambia is assumed to be based on QCC, standardization, and TQM, the basic approach to KAIZEN practice should be based on PDCA deployment.

In other words, priority is placed on the instillation of the basic KAIZEN process and philosophy (problem identification → goal setting → problem analysis → planning and implementation of corrective measures → verification of effect → standardization and fixation: QC-based problem solving steps i.e., QC story + deployment of PDCA) in a company and other organization. In the process, efforts are to be made to implement practical techniques and skills, such as 5S and 7 QC tools. Effectiveness of this procedure has been verified through the three-year experience in the Project.



Source: KIZ

Fig. 2.2-2 Basic KAIZEN Concept



Source: www.google.com

Fig. 2.2-3 Basic KAIZEN Processes

After the KAIZEN process and QC circle activity have been firmly adopted, KAIZEN activity will be further upgraded to advanced levels, such as application of IE, promotion of standardization, and pursuit of TQM (Total Quality Management), followed by the strengthening of a comprehensive operation and management mechanism. The proposed comprehensive master

plan assumes this approach to KAIZEN dissemination constitutes the basic concept and techniques for KAIZEN dissemination in Zambia.

2.2.2 Primary target of KAIZEN dissemination and deployment in Zambia and the basic approach

② KAIZEN dissemination and deployment to be carried out under the proposed comprehensive master plan will cover the entire country and all the sectors in Zambia.

To this date, KAIZEN dissemination activity conducted in Zambia under JICA’s support has primarily covered Lusaka and its vicinities and Copperbelt Province. These two areas have the country’s major industrial concentrations and are thus expected to remain central areas for KAIZEN activity. At the same time, KAIZEN seminars held in Kabwe and Livingstone during the project period receive a good response from local companies, and many expressed the interest in receiving KAIZEN guidance service as early as possible. This strongly suggests presence of a high demand for KAIZEN dissemination project in rural regions. Therefore, the proposed comprehensive master plan assumes that KIZ’s KAIZEN dissemination and deployment activity covers the entire country, although an actual process will take multiple stages. As KIZ is required to develop and strengthen its organization and resources, its activity base will be retained in Lusaka for the next 4-5 years, from where KAIZEN consultants and coordinators will be dispatched to various regions for the purpose of training KIZ consultants and accumulating organizational experience. Then, in 2020 and after, the establishment of KIZ local offices will be started.

Sector-wise, KAIZEN initiative has expanded from manufacturing to non-manufacturing and public sector, latter of which include government organizations, such as ministries and agencies of the central government. Therefore, for nationwide KAIZEN dissemination, it is desirable to promote activities in all the sectors, regardless of type and size.

In fact, KAIZEN initiative has been deployed in a variety of sectors since the initial stage of JICA support. It is therefore planned to provide technical guidance with care to produce tangible results for a specific sector, while taking into account the nature of each sector (or type of industry or service and not changing the content of KAIZEN teaching (in terms of concept and techniques) that has been provided to this date. For instance, the service industry’s notable characteristics are “human mobility,” “diversity of work,” “the inability to catch up with the need for human resource development,” and “intangible (invisible) output.” Similarly, public organizations are characterized by, in addition to intangible output, “difficulty in goal setting,” “need for documentation and sharing of manuals,” “need to store documents in large volumes,” and “tendency in total optimization affected by circumstances.” At the same time, however, basic universality of KAIZEN techniques under the above approach has been widely proven in a number of countries and sectors, strongly suggesting that KAIZEN techniques fostered in the

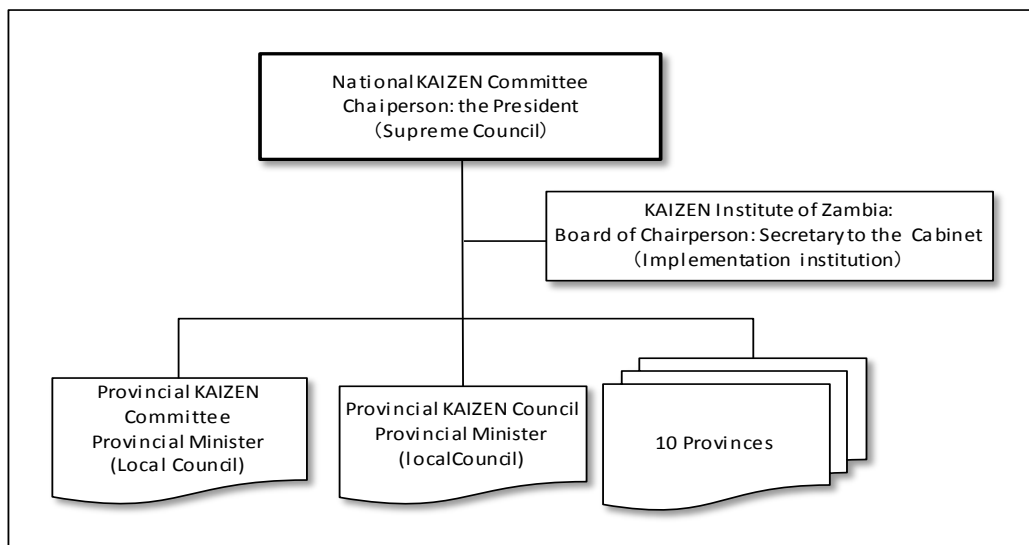
manufacturing sector are applicable to a wide variety of industries and sectors in Zambia. It is therefore highly feasible to make KAIZEN produce tangible results in non-manufacturing industries including retailing and restaurants, as well as the public sector including governments, educational institutions and medical organizations, provided that their nature and characteristics are sufficiently taken into account. Note that KAIZEN guidance in each sector or industry will be effectively customized while using available tools, such as “visualization,” “5S,” “7 QC tools,” and “key performance indicator (KPI)” as far as applicable.

2.3 KAIZEN Dissemination Systems, Organizations and Budget Development Strategy

2.3.1 National KAIZEN dissemination system and organization

③ National KAIZEN Committee will be established as the supreme council for KAIZEN dissemination in Zambia, chaired by the Vice President, and to clearly make it national policy to deploy KAIZEN as a national program.

At present, KIZ has a supervisory and decision-making body (KIZ management board) that consist representatives of six ministries, two public organizations, and one private organization, chaired by the Secretary to the Cabinet. While the National KAIZEN Committee is assumed to have a similar organization with members reflecting its position, it should be empowered to establish general direction of KAIZEN dissemination in the entire country and national KAIZEN strategy at a higher political (cabinet) level, while discussing key matters such as evaluation of KIZ’s activity and the reviewing of its policy. The committee will have its secretariat within the Office of The President, Cabinet Office and will convene twice annually (January and July).



Source: JICA Project Team

Fig. 2.3-1 Organization of the National KAIZEN Committee

The similar framework will be set up for local deployment purposes. A provincial KAIZEN committee will be established as the executive body at provincial administration (PDCC) level. Its members will include representatives of district administrations (DDCC) and the chamber of commerce and industry. In addition, if it is more desirable to establish a KAIZEN committee covering adjacent areas, as in the case of a Kabwe chamber of commerce and industry becoming a central one in province, it should be permitted to allow integration according to local

conditions. Note that the provincial KAIZEN committee will be established under supervision of the national committee. (see Fig. 2.3-1)

2.3.2 Development of KAIZEN networks

④ KIZ will serve as the core organization of KAIZEN dissemination in Zambia, under the supervision of the National KAIZEN Committee, and to lead KAIZEN dissemination and deployment in line with national KAIZEN development strategy.

The KAIZEN dissemination network in Zambia will be established to embody “Key Activity Elements for KAIZEN Promotion” shown in Fig. 2.1-1, through promoting the KAIZEN system. The National KAIZEN Committee will be in charge of overall deployment and dissemination strategy, and KIZ will play a central role in driving deployment and dissemination.

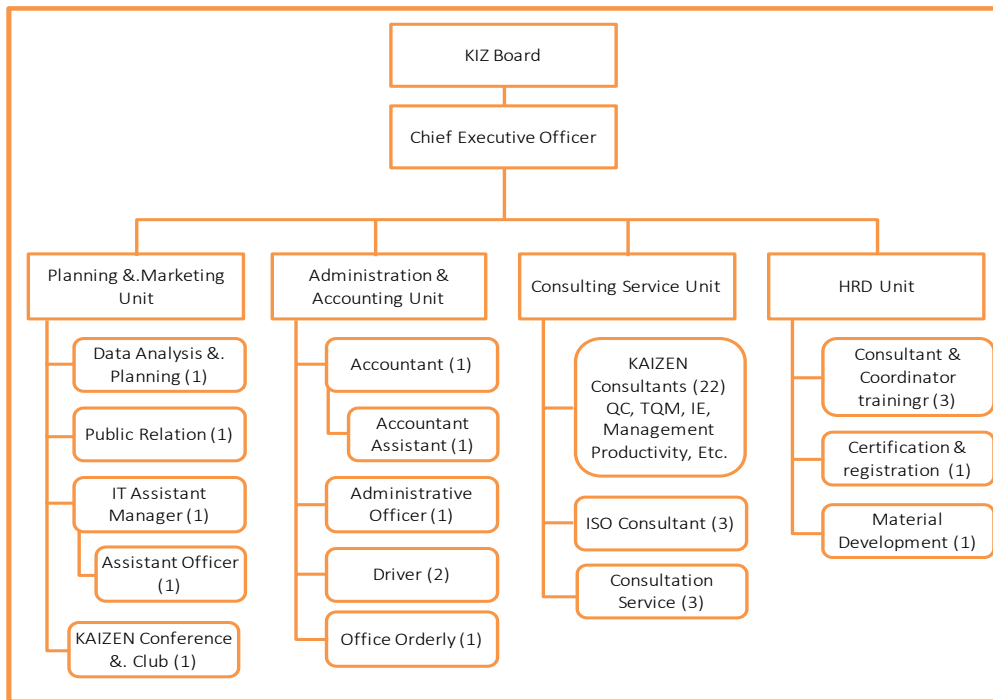
(1) Establishment of a formal organization under the KIZ Act

The KIZ Act will be enacted to establish KIZ as a formal, national organization and will clearly define KIZ’s vision, mission, goal and objectives (or reviewing the existing vision and mission).

(2) KIZ’s organization in 2020

KIZ is expected to have an organization in 2020 as illustrated in Fig. 2.3-2. It will consist of the following four units up to 2020, totaling around 50 staff members including CEO (which is estimated at present and may increase or decrease to reflect an actual plan and budget).

- | | |
|-------------------------------------|------------------------|
| - Consulting Service Unit | 29 including a manager |
| - HRD Unit | 6 including a manger |
| - Planning &. Marketing Unit | 6 including a manger |
| - Administration &. Accounting Unit | 7 including a manager |



Source: JICA Project Team

Fig. 2.3-2 KIZ's new organizational chart by 2020

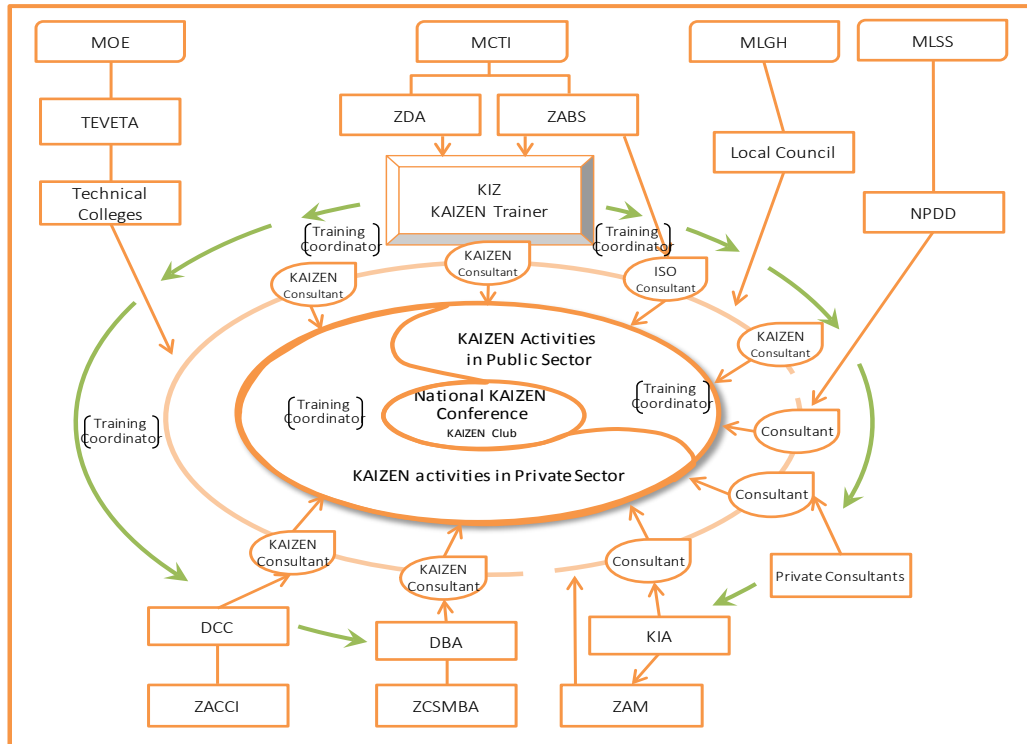
Note that all the personnel of Consulting Service Unit and HRD Unit will serve as or are certified as KAIZEN consultants, having completed a designated training program and passed a formal KAIZEN consultant test. As a result, around 35 KIZ consultants will be certified by 2020. See chapter 2.4 for KIZ's consultant training strategy.

(3) Use of seconded KAIZEN consultants

At present, there are seven persons who have participated in the KAIZEN consultant training program, in a secondment status, and have obtained a certification of consultant (five from the first year and two from the third year). After completion of the Project, they are expected to return to their original organizations. However, in consideration of the fact that KIZ generally lacks staff who is qualified to serve as trainers for KAIZEN consultants and coordinators, while fulfilling other functions that require consultant knowledge and skills, it is desirable to use them as instructors for KIZ's own human resource development program. Also, if they serve as KIZ consultants to provide consulting service for client companies, they will be highly helpful for KIZ in its startup period. Thus, it is highly appropriate for KIZ to maintain a good relationship with the seconded consultants and to let them work as KIZ's key personnel in the next few years if feasible. In this connection, it is important to make necessary arrangement for cost sharing relating to the seconded consultants with their own organizations, e.g., while salary will be paid by the parent organization, daily allowance, accommodation and other expenses relating to consultant's activity by KIZ, which thus should request a necessary budget to cover such expenses.

(4) Cooperation with related organizations in and outside the country

1) Cooperation with related organizations in Zambia



Source: JICA Project Team

Fig. 2.3-3 Potential KAIZEN Promotion Network in Zambia

Fig. 2.3-3 shows conceivable KAIZEN networks with related organizations that can be connected with KIZ in future. Among them, four organizations – MCTI, ZDA, ZABS and NPDD – have sent their staff members on a secondment basis to KIZ and participate in the KAIZEN consultant training program. On the other hand, MLGH, ZABS, NORTEC, MCTI, and TEVETA receive technical support in relation to KAIZEN coordinator training and on-site KAIZEN initiatives, as model organizations for KIZ’s OJT program. It is therefore important to make effective use of human networks with these organizations for KIZ’s future KAIZEN dissemination activity. As discussed earlier, request should be made as to renewed secondment of the seconded personnel, who have been certified as KAIZEN consultant. If they are not able to work for KIZ on a long-term secondment basis, they can still act as instructors for the consultant training program and can be used to make significant contribution in consideration of JICA’s and KIZ’s support provided for them to become KAIZEN consultants.

The organizations that are named to compose the national network will play an auxiliary role in KAIZEN dissemination and deployment by performing their own functions. For instance, the following activities will contribute to KAIZEN dissemination on a national basis.

Middle schools and TEVETA under the Ministry of Education incorporate KAIZEN into their educational programs as a key subject in the form of introduction courses to teach, among other things, the basic concept of KAIZEN and 5S. In addition, TEVETA will establish a variety of courses to teach a wide range of KAIZEN techniques, data management, and on-site KAIZEN training. These courses will thus represent the educational institute's contribution to KAIZEN promotion. Note that organizations that will engage in such educational initiatives will include NORTEC and Kafue Gorge Regional Training Center, which have received the OJT-related consulting program under the Project.

NPDD under the MLSS will continue to perform its present function relating to the measurement of national productivity and productivity improvement promotion activity. In this connection, NPDD will conduct productivity study and analysis by obtaining information and data on consulting service clients from KIZ.

The most important potential partners for KIZ within the country include government organizations such as ZDA and ZABS, and business organizations such as ZAM and ZACCI, as KIZ promotes KAIZEN activity to industries and companies. At the same time, dissemination of KAIZEN led by KIZ is expected to produce significant benefits for these organizations, so that it is feasible to seek for such mutual beneficial relationship.

Thus, the collaboration with the above organizations within the country should be designed and implemented from the viewpoint of disseminating KAIZEN concept and techniques nationwide in such manner to ensure their effective application to everyday economic and social life.

2) Local collaboration

A key issue that will likely face KIZ in the near future is to deploy KAIZEN dissemination activity effectively and efficiently in rural regions. As MCTI and other organizations in Zambia do not have their own provincial offices excepting ZABS, KIZ's KAIZEN dissemination and deployment activity needs to be undertaken by using local organizations that have their own activity base as far as possible, including the establishment of an effective partnership. Candidate organizations include local chambers of commerce and industry under supervision of ZACCI, local business associations under ZCSMBA, and ZAM. The proposed comprehensive master plan assumes that private consultants and staff members of these organizations will be trained as KAIZEN consultants and will then act as local facilitators for KAIZEN dissemination. KIZ will take a lead in promoting effective networking by taking into account the original roles of the partner organizations.

As for the national network, it is important to maintain and expand KAIZEN Club activity that has started after the end of the KAIZEN Forum in 2014. It is formally recognized as it

became registered as a NGO organization in October 2015. It is recommended to appoint KIZ's staff (part-time basis) to support the club's activity so as to ensure its functioning as a PR arm for KAIZEN dissemination. KAIZEN Club is organized by owners and managers of companies that have implemented or are implementing KAIZEN activity, together with KAIZEN coordinators, so that it is considered to constitute an essential part of KIZ's network to gather and make use of opinions and knowledge of persons who have good experience in KAIZEN activity.

3) Cooperation with foreign KAIZEN organizations

As for cooperation with KAIZEN organizations in other countries, networking will be promoted with potential partners such as productivity promotion organizations in African countries, which receive JICA's technical support in different projects, as well as the Pan-African Productivity Association (PAPA) and the Asian Productivity Organization (APO). For instance, KIZ has developed a good relationship with the Ethiopian KAIZEN Institute (EKI), which served as the host institute for the KAIZEN training programs conducted in Ethiopia in June and November 2015. Also, KIZ has invited KAIZEN experts from Malaysia and Ethiopia as guest speakers and judges of the 2015 KAIZEN Conference (those from Ethiopia will also be invited in 2016). It is therefore important to seize such opportunities to strengthen the relationship with counterpart organizations in various countries. In the future, activities should be expanded to periodical interchanges with the organizations and mutual visits of KAIZEN consultants in the form of training programs, thereby to develop KIZ's overseas networks.

2.3.3 Securing of Financial Resources for KIZ

⑤ To ensure prompt establishment of self-supporting financial capability for KIZ, possibly on the basis of KIZ's own revenues

One of the most difficult challenges for KIZ is to secure a stable financial source to support its activity. While the government budget is expected to constitute the largest revenue source for the time being, KIZ's board members hope to expand KIZ's own revenue-generating activity and become self-supporting as early as possible. For example, ZABS may serve as a model to follow, i.e., having its own revenue source to mostly fund its operational budget. In reality, however, it is difficult to follow ZABS's model by means of KAIZEN consulting and human resource services alone². On the other hand, ZDA relies on government budget for most of its activity costs and expenses, except for some training programs (such as entrepreneurship development). It is therefore reasonable to expect that KIZ's financial system will be positioned in between those of ZABS and ZDA. In consequence, it is recommended to build up a hybrid system having

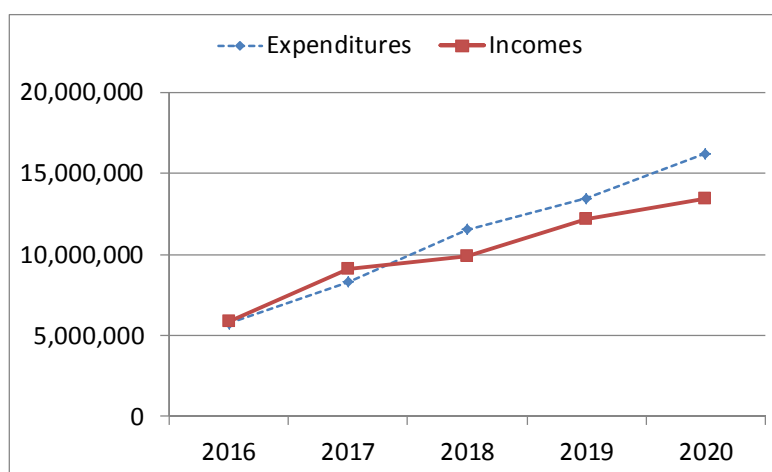
² ZABS is said to more or less finance its operation with its own revenue.

sustainable revenue sources, while securing government support that funds ordinary operational expenses.

The major revenue source can be secured by establishing a fee-paying system for all of KIZ's services, which will be essential to ensure reliable operation and management of its future activity. All of KIZ's services mean consultation, on-site diagnosis and guidance, training programs and seminars, and management of a certification system. In future, collection of a participation fee for KAIZEN conferences and similar meetings should be considered. While the fee-paying system should be expanded step by step, after being initially introduced to on-site diagnosis and guidance (consultation) service as well as training service.

Table 2.3-1 summarizes estimates of KIZ's revenues and expenditures in the next four years, which are based on the assumption that KIZ's organizational structure and service content are formalized as set forth in the master plan proposal. KIZ's FY2015 budget amounts to 2 million Kwacha. On the other hand, its FY2017 and FY2020 budgets are estimated to be 8,273,850 Kwacha and 16,240,000 Kwacha respectively, as shown in Table 2.3-1. These budgets are entirely financed by the Ministry of Finance, not including financial assistance from MCTI and Cabinet Office. Also, revenues from KIZ's own activity, albeit very small, are included.

KIZ has submitted to MOF a FY2016 budget request amounting to 10,145,944 Kwacha. Regarding to the request, MOF approved approximately 6.1 million Kwacha as the 2016 KIZ budget. Meanwhile, it is critical to secure at least 6,000,000 Kwacha if KIZ's budget plan in 2016 is to be fully implemented, so that an approved budget amount can reach an acceptable level even though folding the national finances are tight. (See Table 2.3-1)



Source: JICA Project Team

Fig. 2.3-4 KIZ Income and Expenditure for the Next Five Years

Table 2.3-1 first covers costs and expenses required for KIZ's business plan, including labor and indirect costs, with addition of the program budget. On the other hand, its revenues cover the

amount required for implementation of the same business plan and are divided into the government budget and own revenues. In total, the budget is more or less balanced in terms of revenues and expenditures (see Fig. 2.3-4). The business plan aims to develop and maintain KIZ's organization and capability, including functional expansion, according to the medium- and long-term plans described earlier. It covers four years between 2017 and 2020 and incorporates essential elements to build its KAIZEN dissemination system and organization on a nationwide basis.

For KIZ, how it increases its own revenue sources constitutes a critical factor for its organizational sustainability. It should be noted that the government budget in Zambia is not necessarily disbursed according to MIF's approval due to the lack of stability in government revenues. Meanwhile, each ministry's budget is generally dominated by fixed costs (such as labor), 70-80% of the total, leaving a fairly small amount to program implementation. Thus, it is highly desirable for government organizations, including KIZ, to finance the program budget required to perform their function by their own revenue sources. KIZ should therefore formulate its future business plans by taking full consideration to the present revenue condition and restraint.

Table 2.3-1 KIZ Budget Plan (2017-2020)

Expenditure for 2017 - 2020					
	Details	Amounts (Number of persons) per a year			
	(year)	2017	2018	2019	2020
A	Personal Emoluments				
A-1	Chief Executive Officer	38,850 (1)	38,850 (1)	40,790 (1)	40,790 (1)
A-2	Manager, Consulting Service	29,400 (1)	29,400 (1)	30,870 (1)	30,870 (1)
A-3	Manager, HRD		27,000 (1)	27,000 (1)	28,350 (1)
A-4	Manager, Planning & Marketing		27,000 (1)	27,000 (1)	28,350 (1)
A-5	Manager, Admi. & Accounting	27,000 (1)	27,000 (1)	28,350 (1)	28,350 (1)
A-6	Assistant-Manager, IT	23,100 (1)	23,100 (1)	24,000 (1)	24,000 (1)
A-7	Principle Consultants	22,000 (1)	44,000 (2)	46,200 (2)	92,400 (4)
A-8	Consultants	299,000 (15)	399,000 (20)	498,000 (25)	577,100 (29)
A-9	Office Staffs (university graduate)	10,500 (1)	10,500 (1)	22,000 (2)	33,000 (3)
A-10	Office Staffs (others)	11,000 (2)	16,500 (3)	17,300 (3)	17,300 (3)
	x12 months (year)	5,518,200 (23)	7,708,200 (32)	9,138,120 (38)	11,146,320 (45)
A-11	Provision for leave pay (a month)	551,000 (23)	770,000 (32)	913,000 (38)	1,114,000 (45)
A-12	Provision for gratuity	551,000 (23)	770,000 (32)	913,000 (38)	1,114,000 (45)
	Sub-total	7,081,050	9,890,550	11,725,630	14,274,830
B	Administrative Expenses				
B-1	Fuel for KIZ vehicles	158,400 (K3,300x4 x 12)	129,600 (K3,600x4x12)	129,600 (K3,600x4x12)	192,000 (K4,000x4x12)
B-2	Maintenance & Insurance for vehicles	20,000 (K5,000 x 4)	22,000 (K5,500 x 4)	22,000 (K5,500 x 4)	24,000 (K6,000 x 4)
B-3	Rent-a-cars for Managers	240,000 (K10,000x 2x 12)	528,000 (K11,000x4x12)	528,000 (K11,000x4x12)	576,000 (K12,000x4x12)
B-4	Fuel for rent-a-cars	52,800 (K2,200 x 2 x 12)	110,400 (K2,300 x 4 x 12)	110,400 (K2,300 x 4 x 12)	112,800 (K2,350 x 4 x 12)
B-5	Office utilities electricity, water, etc.	72,000 (K6,000 x 12)	84,000 (K7,000 x 12)	84,000 (K7,000 x 12)	84,000 (K7,000 x 12)
B-6	Maintenance of copying machines	16,000 (K1,000x4x4)	16,000 (K1,000x4x4)	35,200 (K1,100 x 8 x 4)	35,200 (K1,100 x 8 x 4)
B-7	Telephones including airtime	36,000 (K300 x 10 x 12)	36,000 (K300 x 10 x 12)	72,000 (K300 x 20 x 12)	108,000 (K300 x 30 x 12)
B-8	Stationery (papers and others)	4,800 (K200 x 2 x 12)	10,560 (K220 x 4 x 12)	10,560 (K220 x 4 x 12)	10,560 (K220 x 4 x 12)
B-9	Office furniture & equipment	33,000 (K6600 x 5)	66,000 (K6,600 x 10)	33,000 (K6600 x 5)	66,000 (K6600 x 10)
B-10	Purchasing books & Info. Materials	10,000 (K2,000 x 5)	10,000 (K2,000 x 5)	10,000 (K2,000 x 5)	10,000 (K2,000 x 5)
B-11	Medical Allowance & Insurance	13,800 (K600 x 23)	19,200 (K600 x 32)	22,800 (K600 x 38)	27,000 (K600 x 45)
	Sub-total	656,800	1,031,760	1,057,560	1,245,560
C	Program Expenses				
C-1	Training Program (Texts, water, etc.)	30,000 (K5,000 x 6)	36,000 (K6,000 x 6)	36,000 (K6,000 x 6)	42,000 (K7,000 x 6)
C-2	KIZ staffs Training	120,000 (lump-sum)	120,000 (lump-sum)	120,000 (lump-sum)	120,000 (lump-sum)
C-3	Consultant allowances & Accomo.	112,000 (K800 x 140)	144,000 (K900 x 160)	180,000 (K900 x 200)	190,000 (K950 x 200)
C-4	KAIZEN Conference (package)	200,000 (package)	220,000 (x1.1)	242,000 (x1.1)	266,200 (x1.1)
C-5	Seminars & Fairs	50,000 (K15,000x3+K10,000x2)	71,500 (K16,500x3+11,000x2)	71,500 (K16,500x3+11,000x2)	71,500 (K16,500x3+11,000x2)
C-6	Other Marketing & PR programs	24,000 (K4,000 x 6)	30,000 (K5,000 x 6)	30,000 (K5,000 x 6)	30,000 (K5,000 x 6)
	Sub-total	536,000	621,500	679,500	719,700
	Total	8,273,850	11,543,810	13,462,690	16,240,090

Income for 2017 - 2020						
	Details	Amounts (Number of persons) per a year				
		(year)	2017	2018	2019	2020
E	Zambia Government					
E-1	Ministry of Finance		7,000,000	9,000,000	11,000,000	12,000,000
E-2	Ministry of Commerce Trade &. Commerce		700,000	(in kind)		
E-3	Office of the President Cabinet Office		700,000	(in kind)		
	Sub-total		8,400,000	9,000,000	11,000,000	12,000,000
F	Own revenues					
F-1	KAIZEN Consulting Service		220,000 (K2,200/dayx100)	308,000 (K2,200/dayx140)	480,000 (K2,400 x 200)	600,000 (K2,400 x 250)
F-2	KAIZEN Consultant Training Course		100,000 (K20,000/coursex5 persons)	100,000 (K20,000/coursex5 persons)	220,000 (K22,000/coursex10 persons)	220,000 (K22,000/coursex10 persons)
F-3	KAIZEN Coordinator Training Course		350,000 (K10,000/coursex35 persons)	480,000 (K12,000/coursex40 persons)	480,000 (K12,000/coursex40 persons)	600,000 (K12,000/coursex50 persons)
F-4	Publications/DVD Sales			6,000 (K150 x 40)	12,000 (K150 x 80)	30,000 (K150 x 200)
	Sub-total		670,000	894,000	1,192,000	1,450,000
	Total		9,070,000	9,894,000	12,192,000	13,450,000

Remarks:

1. KIZ will have a new office in 2017 under support of MCTI and Cabinet Office.
2. The second phase for capacity development of KIZ will be from 2016 to 2017 and the third phase (to start full-scale service) will be after 2018.
3. KIZ will develop local office on and after 2021 (in Ndola, Kabwe and Livingstone).
4. Consulting service fee for 2016 is at K1,100 per a consultants per day. This is 50% discount from a normal rate at 2,200/day.

2.4 KAIZEN Consultant and Coordinator Training Strategy

2.4.1 KAIZEN consultant training system

(1) Consultant training process

- ⑥ The proposed KAIZEN consultant training course will be a one-year program consisting of lecture, OJT, and certification test.

The KAIZEN consultant training program provided by KIZ will consist of two courses; a one-year course and a six-month course designed to meet the needs and working styles of potential trainees. While the one-year course serves as a basic course for KAIZEN consultant training (to be a consultant), the six-month course will be offered for persons who are unable to participate in the one-year course due to time constraint or similar reasons. More precisely, persons who participate in the six-month course (one term) are required to take it twice within a specific period of time (e.g., twice within three years) if they are to satisfy KAIZEN consultant certification requirements.

Trainees (both in the one-year and six-month courses) are required to have graduated from a college or have an equivalent educational background, with three years or longer of professional experience. A training process for the one-year course is shown in Fig. 2.4-1.

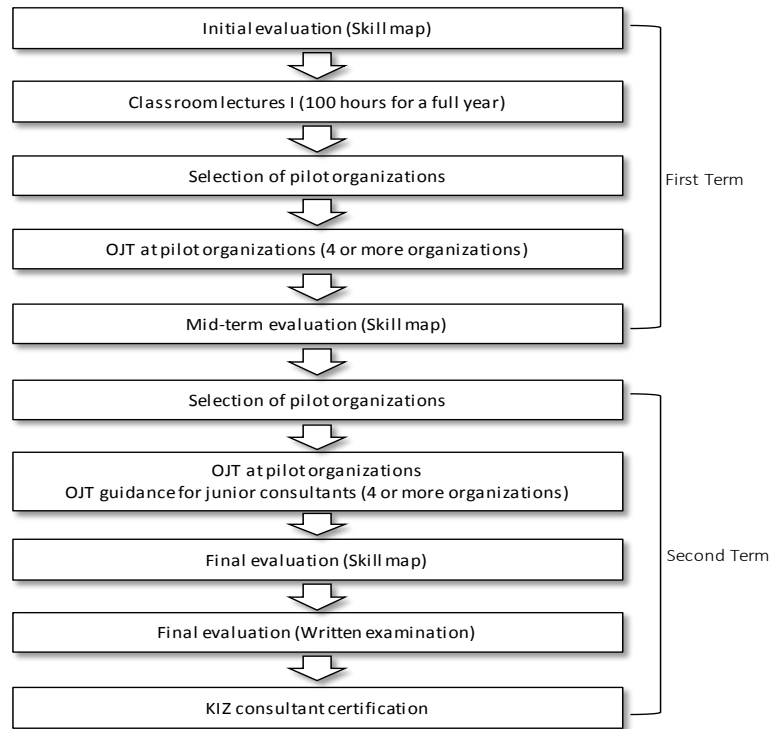


Fig. 2.4-1 Consultant Training Process for the One-year Course

The one-year course will be conducted for effectively 11 months as one cycle, of which lecture courses will amount to 1.5 months, OJT 9 months, and others (as a lecturer at seminars) 0.5 month, while it is needless to say that the one-year program is not sufficient to train professional KAIZEN consultants, who are thus expected to make continuous efforts to upgrade their skills. Notably, the most important thing is that they learn on a spontaneous basis through practical experience at client companies, who are considered to be the best teacher and to provide the best on-site experience. It is therefore critical to create opportunity to experience consulting service at clients in a variety of industries.

The corporate OJT course will start with selection of companies to be served, and each trainee is expected to make at least eight visits to each client company (as a pilot company). Trainees are expected to learn simplified diagnosis techniques required for actual consulting activity. Furthermore, trainees will visit pilot companies that have shown excellent records in the past consulting service as an essential part of the OJT element.

Finally, a curriculum for the one-year training course for KAIZEN consultants will become a formal, national curriculum, including textbooks, upon the approval of the Zambia National KAIZEN Committee. Meanwhile, lecture sessions to provide collective education will total 100 hours for each term, while they will not be conducted intensively within a specific period but will be provided concurrently with OJT elements.

On the other hand, the six-month course will be offered in two parts, consecutively over one year, which are equivalent to the first and second halves of the one-year course (one term) and require more or less the same subjects to be covered, thus not causing any change in conditions and requirements for KAIZEN consultant.

(2) Human resource development for effective training of KAIZEN consultants

It is expected that persons who have been certified as KIZ KAIZEN consultant by 2015 play a leading role in KIZ KAIZEN consultant training after 2016. At present, there are ten persons qualified as KAIZEN consultant, but KIZ has only five persons (Mr. Bernard Wamundila and the certified consultants in 2017), while three other persons are seconded from other organizations. To increase potential human resources for KAIZEN consultant training, it is recommended to develop a framework to allow the five seconded persons (Ms. Peggy Chituta, Mr. Dismas Chapula, Mr. Gabriel Musentekwa, Ms. Muchemwa Siame and Mr. John Kapenda) to teach trainees in the KIZ training program, and efforts will be made to make a formal arrangement with their original organizations.

Furthermore, additional four persons who are hired as KIZ consultants in 2015 (Ms. Monica M. Mwiche, Mr. Howard Musonda, Ms. Sarah Shawa, and Mr. Fred Sichikoto) will be

certified as trainers after two-year training, so that they will teach KAIZEN trainees after 2017. As a result, KIZ is expected to have a total of nine KAIZEN consultants and trainers after 2017.

2.4.2 Training of KAIZEN coordinators

⑦ KIZ will start a basic KAIZEN course for KAIZEN coordinators and the general public on a fee basis.

(1) KAIZEN coordinator training process

Under the JICA project, a KAIZEN coordinator is defined as a person who plays a central role in KAIZEN activity at companies and other organizations that are covered by the OJT course for KAIZEN consultants and who is qualified after participation in a lecture course for a specific period of time. In practice, KAIZEN coordinators learn methodology and techniques for KAIZEN activity at their workplace under technical assistance of Japanese experts or KIZ consultants. Thus, KAIZEN coordinator's ability is expected to be obtained through a combination of lecture and on-site guidance and the learning process is considered as a simplified version of KAIZEN consultant training (note that the OJT process required for KAIZEN consultant training is not included in the KAIZEN coordinator training process).

In reality, however, these KAIZEN coordinators may conduct activity within their organizations after the end of the JICA project, without KIZ's technical guidance, or may participate in a KAIZEN training course in order to upgrade skills. To meet these needs, it is proposed that KIZ will conduct a KAIZEN coordinator training course to teach basic knowledge and practical skills to KAIZEN coordinators and other people who are interested in KAIZEN activity, which will primarily consist of lectures (including practical training in a classroom) and will be held for one month (20 days).

(2) Basic KAIZEN course for the general public

This will be a training program of around five days, designed to raise awareness of KAIZEN in the general public and disseminate basic KAIZEN techniques, including 5S and 7 QC tools. It will not require any qualification for participation but collect a fee.

(3) Human resource development for training of KAIZEN coordinators

KIZ's consultants and trainers are expected to serve as the formal trainers of KAIZEN coordinators. In addition, staff members of the pilot companies, who have received technical guidance of Japanese experts and serve as KAIZEN specialist within their companies, will be selected to serve as instructors of KAIZEN coordinator training. The basic KAIZEN course for the general public will be taught by KAIZEN consultants.

2.4.3 Development of a formal mechanism for KAIZEN consultant evaluation and a consultant certification system

(1) Certification of KIZ KAIZEN consultants

Under this project, the following criteria are adopted for certification of KIZ KAIZEN consultants.

KIZ KAIZEN Consultant Certification Criteria

- ① Training period: One year
- ② Attendance rate for collective education: 90% (120 hours)
- ③ Skill map level: 3.5 or higher on average
- ④ OJT record: 8 or more companies
- ⑤ Written examination record: 65 or higher out of 100 points
- ⑥ The number of case sheets prepared: One sheet or more per company for which the trainee has served as the leader

For those who have passed the written examination and have satisfied other certification criteria, a certificate for KAIZEN consultant is issued by the National KAIZEN Committee. This certification is thus considered as a national license. In addition, KIZ consultants who have participated in the KAIZEN consultant training course for one year and have passed the examination are also certified as KAIZEN consultant. They must meet KIZ's requirements, however, if they are to be called "KIZ KAIZEN consultant."

(2) Evaluation of KIZ consultants and the formal certification system

Organizations that provide professional consulting service generally evaluate and recognize the ability of their consultants by using a variety of indices including: (a) years of work experience; (b) the number of contracts won; (c) the value of contracts; (d) achievements at clients; (e) evaluation by clients; (f) ability to find new clients; and (g) ability to train junior consultants. On the other hand, KIZ is an organization which purpose is not limited to the provision of commercial consulting service – albeit it is required to establish self-sustainability, and rather it is expected to take a lead in KAIZEN dissemination and promotion in the entire country. In consideration of these factors, therefore, it seems to be appropriate to apply the following indices to evaluation of "KIZ consultants":

- ① Eagerness and willingness to make contribution to Zambia's economic development through the KIZ KAIZEN consultant's activity;
- ② Years of experience;
- ③ Level of commitment to and involvement in standardization of the consulting process (such as standardization of the training curriculum and development of textbooks);
- ④ Teaching ability as consultant;
- ⑤ Achievements at clients;
- ⑥ Evaluation by clients; and

- ⑦ Achievements in KAIZEN dissemination and promotion
 - Development of dissemination and promotion tools
 - Planning and organization of KAIZEN conferences and seminars

In future, the following indices will be taken into account to become a senior KAIZEN consultant:

- ⑧ The number of consulting contracts won
- ⑨ The value of consulting contracts

(3) A structured system for KIZ KAIZEN consultant certification and career path

In Japan, the Japan Productivity Center (JPC), which conducts consulting business in the areas of quality control, production management and business administration, has been rating consultants according to their post/ rank (JUSE does not train consultants). As a result, high ranking consultants are widely recognized as those having high skills and rich experience and can gain confidence of clients and junior consultants. As KIZ has certified a fairly small number of consultants who have relatively short experience, it does not need to have a complex certification system. Instead, a relatively simplified version as shown in Fig. 2.4-2 below is proposed.

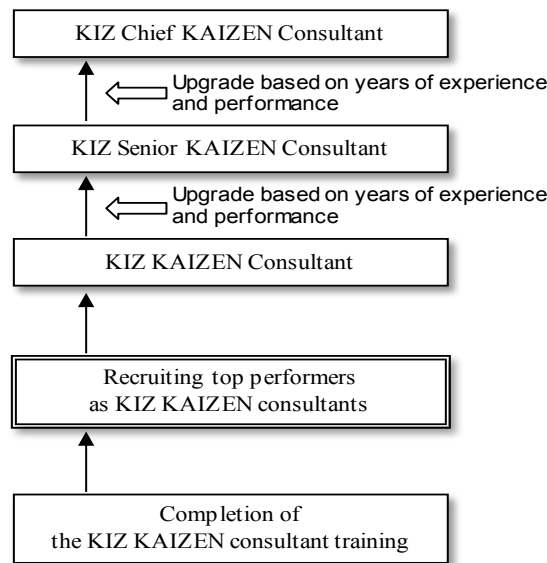


Fig. 2.4-2 Example of Consultant Certification Process (KIZ)

2.5 Environmental Improvement for KAIZEN Dissemination

2.5.1 Consulting Services provided by KIZ

⑧ An effort should be made for continuous improvement with care to ensure consulting service in content and methodology that meets client (market) needs.

KIZ's consulting service will be expanded step by step in terms of level and extent over the next ten years, according to the development of KIZ's service delivery organization and system. In the first step (2017 – 2019), KIZ will primarily provide consulting services in the categories from a) to e) below.

- a) Work KAIZEN support
- b) On-site KAIZEN support (such as 5S)
- c) Service sector KAIZEN support (including medical institutes)
- d) Work standardization support (including consulting service relating to ISO9001 certification)
- e) Support for installation of cost management system

In the subsequent step (2020 – 2022), the following service menu will be added.

- f) Support for management diagnosis and business planning
- g) Support for development of HR system
- h) Support for marketing and branding
- i) Support for total quality management
- j) Customer satisfaction survey

In 2022 and onward, consulting services covering all the categories from (a) to (j) will be offered and provided.

Under the Memorandum of Understanding between ZDA and ZABS concerning the plan for the establishment of KIZ in 2013, KIZ's business scope consisted of education and training, human resource development, and consulting. The proposed comprehensive master plan continues to position them as KIZ's three key roles. In particular, consulting service occupies the most important place as it constitutes a key driving force for dissemination of KAIZEN concept and techniques. It is therefore important for KIZ to expand and enhance its consulting service by fully taking into account the market needs.

2.5.2 Strategy for Public Relations and Information Dissemination Activities

⑨ Public relations and information dissemination activities will be conducted to spur a smooth business flow of information dissemination/finding of clients (beneficiaries) by seminars and other means – simplified diagnosis – providing consulting service with an ultimate goal to develop KAIZEN as a national movement.

(1) Basic activity policy

1) Use of an information dissemination method emphasizing on past KAIZEN activity results

In KAIZEN-related advertisement and promotion activities, the most important perspective is to communicate the results of KAIZEN activity in an effective and accurate manner. Actual cases in and outside the country, visible results, methods taken to improve international competitiveness, and other relevant information should be presented in a manner to impress receivers, including the use of photo and data. While there is often a tendency to show quantitative results in a rather exaggerated form, qualitative assessment should be presented in a tangible and objective way because the most important accomplishment of KAIZEN activity is a change in mindset and attitude of working people. Effort should be made to convey a clear message - in actual voices of field workers - that the most productive result of KAIZEN activity is to produce workers with vigor and commitment. In this sense, a seminar focusing on case studies of companies in the same industry is considered to create the strongest impacts.

2) Utilization of a more effective means of publicity

Publicity closely associated with business people, both electronic and print, should be used as far as possible, because KAIZEN activity will primarily target business enterprises and public organizations for a while. While Ethiopia shows a move to introduce KAIZEN into primary education in an attempt to develop KAIZEN as a national movement, Zambia has still to reach such stage. While ZABS uses a variety of media to promote consumer education and attention, KIZ should focus on business community and people for the time being. It appears that the most effective media is a TV spot commercial; it is sufficient to show 30-second commercials during a prime time program or daily news program on a regular basis. As discussed earlier, the spot commercial should feature a person(s) who give an account of his or her experience relating to KAIZEN training or activity. In the future, it should be considered to expand PR activity on TV to a program introducing KAIZEN on the educational channel.

3) Information dissemination through information sharing with industrial organizations

Collaboration should be made with industrial organizations such as Zambia Association of Chamber of Commerce and Industry (ZACCI), Zambia Association of Manufacturers (ZAM), and Zambia Chamber of Small and Medium Association Businesses (ZCSMBA), to make broad penetration into a number of companies through the organizational networks. In particular, organizational efforts should be directed to dissemination of KIZ's information to their

members, which should be edited in such manner to appeal to a different type of companies in terms of nature and size.

(2) Use of effective publicity channels

Information dissemination can be made by using the media listed below. As pointed out earlier, appropriate media should be chosen on the basis of target selection and in consideration of cost effectiveness. Also, it is important to maintain continuity of information delivery. KIZ should appoint full-time personnel in charge of publicity and information dissemination other than IT personnel, together with appropriate resources to support the personnel's task.

Table 2.5-1 Medium of Information Dissemination

Medium	Concept
TV, Radio spot & program	Utilization of appropriate TV/radio spot commercials and programs. Major programs such as ZNBC, Radio Phoenix, 5 FM Radio, Q FM, and Zambezi FM will be used.
Newspaper advert & Article	Publication of articles and advertisements on KAIZEN in newspapers. Major papers such as The Post News Paper, Times of Zambia, and Zambia Daily Mail will be utilized.
Newsletter & Periodicals/Web site	Sending of news and periodical reports to the companies registering with KIZ to regularly share information, as well as use of KIZ's web publication
Magazine & Journal	Publication of articles on KAIZEN on the bulletin of ZAM and ZACCI to enhance recognition of KIZ and KAIZEN
Videos and DVD	Creation and publication of videos and a DVD which shows the KAIZEN activities.

Source: JICA Project Team

2.5.3 Methodology for Monitoring and Evaluation

⑩ Evaluation of productivity improvement on a national basis will be conducted by NPDD, and assessment of KAIZEN effects at individual companies and other organizations by KIZ.

To measure effectiveness of KAIZEN activity accurately is considered to be very difficult, even in a country where quantitative management has reached relatively high levels. In particular, comparison before and after implementation of KAIZEN activity is hard to do because a change observed cannot be solely attributable to KAIZEN activity, i.e., it may be caused by other factors. In Zambia, therefore, qualitative evaluation using proper indices will be performed, while widely used production management indices are applied where possible.

In addition to the measurement of labor productivity of added value made by NPDD on a national level, KIZ will focus on assessment of KAIZEN effects within individual companies and other organizations. For the manufacturing sector, in particular, a methodology to measure the embodiment of KAIZEN effect in each production process or step will be used (in each service section in the case of the service industry). The basic principle is to make overall evaluation of KAIZEN activity on the basis of indices relating to quality/production management, rather than

management indices such as sales, the overall rate of return, the total asset turnover. For instance, the following indicators will be used for manufacturing companies.

Table 2.5-2 Evaluation Criteria for KAIZEN Activity (Manufacturing Industry)

1. Quality	1.1 Yield percentage
	1.2 Number of customer complaints
2. Cost	2.1 Unit cost
	2.2 Direct labor cost
	2.3 Number of man-hours eliminated
3. Delivery schedule	3.1 Number of delayed deliveries
	3.2 Number of customer complaints for delivery
4. Safety	4.1 Improvement in storage and maintenance of equipment and tools
	4.2 Number of workers' accidents
5. Productivity	5.1 Capacity utilization rate
	5.2 Lead-time
	5.3 In-process inventory
	5.4 Number of unnecessary man-hours eliminated (floor, movement)
6. Morale	6.1 Number of suggestions made per worker
	6.2 Rate of absence without notice

Source: JICA Project Team

Furthermore, evaluation of KAIZEN activity in the service and public sectors will be made using both qualitative and quantitative criteria to assess KAIZEN effect for each section or department, rather than the entire organization. In this connection, it is very important to pay particular attention to three key aspects, namely “specific,” “measurable,” and “result-oriented.”

2.5.4 National KAIZEN Conference

⑪ The National KAIZEN Conference will be organized and operated by KIZ annually as a national event linked to the International Conference on Quality Control Circles (ICQCC) by using a mechanism to enable autonomous management.

Zambia is a pioneer among African countries in holding a national event to present reports on KAIZEN activity. The National KAIZEN Conference has already been held six times and is increasingly recognized by industries and sectors. Preparation for the KAIZEN Conference in 2016 is made under the leadership of KIZ consultants, including trainees in the third-year program. At the same time, however, the six conferences held so far have received JICA's financial assistance with regard to the costs relating to facility and judges of the contest, while the JICA project team has been involved in technical guidance and advice for companies and organizations

and preparation of presentation materials. Also, while KIZ consultants are allowed to act more their initiative, there is more room for improvement in terms of proper event management.

Meanwhile, it is recommended to link the KAIZEN conference to ISQCC for the purpose of invigorating the event further and upgrading the levels of reports made by participants. For instance, the KAIZEN conference can be positioned as a preliminary contest in Zambia for the ICQCC by offering a prize to companies that have made excellent reports, which allows them to participate in the ICQCC (including financial support to cover participation costs). This is expected to provide great incentive for Zambian companies, while ensuring further improvement of KAIZEN levels in the country as valuable experience in the international conference benefits many companies and persons engaged in KAIZEN activity.

At present, it is possible to organize and manage the National KAIZEN Conference in Zambia under the leadership of KIZ, while the proper financing of implementation costs presents a problem, as pointed out earlier. Furthermore, additional cost requirements need to be addressed, such as participation in the ICQCC. It is therefore imperative to consider an organization plan for the convention in 2017 and after to find sponsors and finance the cost by donation. In fact, the ICQCC is held in different countries each year, is supported by sponsors, and collect a registration fee from participants including those making reports. It has firmly established a mechanism to finance operating expenses with its own revenues.

As a valuable source for reference and advice on future conferences, a manual for organization and management of the KAIZEN conference is attached to this report.

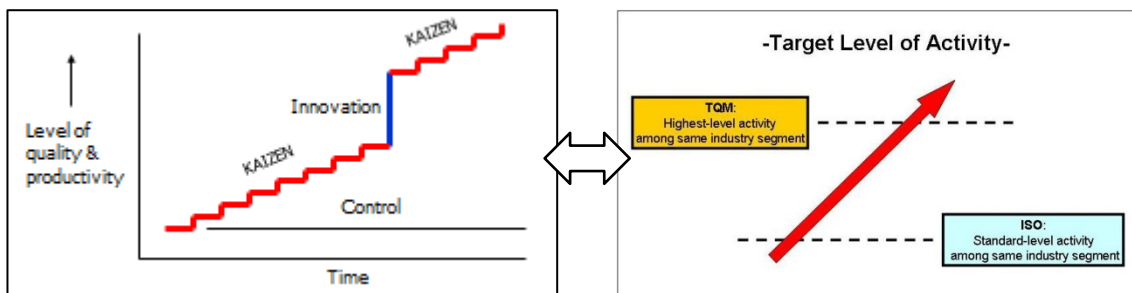
2.6 Embodiment of the Proposed Comprehensive Master Plan

2.6.1 Direction of KIZ's organization and system development

KIZ is undoubtedly assuming the central role in driving KAIZEN dissemination and deployment activities in Zambia. After the launching ceremony in June 2014, KIZ has been building its organizational strength and capability, including resources. Yet, partly due to the standstill that lasted one year after the startup, KIZ is still far from having an organization, system and resources that are expected for a national organization to promote KAIZEN dissemination after the lapse of two years and half. At the same time, KIZ has not established clear images of KAIZEN concept, methodology and future vision to be widely adopted in Zambia, although a variety of efforts have been made during the three-year project period.

The JICA project team has presented the basic concept of KAIZEN in Zambia in the beginning of the proposed comprehensive master plan and has been discussing extensively with KIZ. As a result, a general agreement has reached with KIZ and other counterpart organizations, and the basic concept will be applied to future KAIZEN dissemination and deployment activities in the country. On the other hand, various ideas are proposed and discussed with regard to the development of KIZ's organization and system and the direction of human resource development. Thus, key proposals in the comprehensive master plan, i.e., "KAIZEN consultant and coordinator training strategy," "a consultant rating mechanism and certification system," and "KAIZEN consulting service to be provided by KIZ," are basically positioned as proposals made by the JICA project team to the Zambian government.

The apparent lack of a clear direction in KIZ's organization and system development, together with human resource development policy, seems to come from the fact that the Zambian counterpart has not properly understood on KIZ's basic line (i.e., the JPC approach or the JUSE approach), as discussed in "7 (2) Issues and Lessons Learned," Introduction of this report." While there is no difference between the two approaches as they aim for quality and productivity improvement with a final goal of TQM, except for actual items or steps undertaken in the KAIZEN implementation process, as shown in the following images that represent KAIZEN processes materialized by the two approaches.



KAIZEN process under the JPC approach

KAIZEN process under the JUSE approach

Source: PowerPoint presentations made by Mr. Tsuchiya (JPC) and Mr. Takatori (JUSE)

The both approaches are founded upon KAIZEN process thought (QC story and deployment of PDCA). Yet, the JPC approach emphasizes step-by-step buildup from basic elements by using 5S and 7 QC tools, whereas the JUSE approach first sets standards, from which TQM is to be achieved by using QCC and other tools. Also, there is significant difference between the two organizations in the area of KAIZEN dissemination, specifically with regard to human resource development and consulting service delivery. For instance, JPC trains consultants to provide full-fledged KAIZEN consultation service for companies and organizations and currently employs around 40 consultants. On the other hand, JUSE does to train KAIZEN consultants and is instead primarily engaged in human resource development relating to organizational QC activity, which is similar, in terms of role and responsibility, to KAIZEN coordinators under this project. Thus, JUSE only partially meets consulting service demand by using its staff, which is thus not its main business. Similarly, JPC's human resource development service, positioned as training business, covers all the areas of corporate management (including production management, quality control, HR management, financial management, and marketing), while JUSE is virtually specialized in human resource development relating to quality control. Major differences between JPC and JUSE in terms of role, training and seminar programs, consulting business, commendation and educational services, are summarized in the table in Appendix 2.

It is important for KIZ to develop its organization and system as a unique organization to promote quality and productivity improvement by incorporating relevant characteristics of both JPC and JUSE. For instance, if consulting business is to make KIZ's key activity, it needs to have a training program to foster consultant's capability and skills. On the other hand, a short-term course may be sufficient for training of QC facilitators within companies. As the basic policy and concept with regard to KIZ's desirable activity areas and required core capacity has been presented (Chapter 1.1.1.4), KIZ's future organization and system development needs to be planned and implemented in line with the policy and concept, which would constitute the first step to implement the comprehensive master plan.

2.6.2 Conditions required for embodiment of the proposed comprehensive master plan and roles of relevant organizations

2.6.2.1 Presentation of government policy and leadership for KAIZEN movement

Zambia is one of the advanced countries in Africa with regard to public recognition and understanding of "Japanese KAIZEN," mainly KAIZEN activity primarily driven by small group (QC circle) activity. In particular, Zambia is characterized by KAIZEN activity targeting all the sectors, going beyond the manufacturing sector, and the organization of the national KAIZEN convention, as clearly distinguished from KAIZEN dissemination activities undertaken in other African countries. While these environmental conditions seem to ensure smooth implementation of KAIZEN dissemination activity in the countries, many companies do not understand the

concept and methodology for quality/productivity improvement (KAIZEN), as revealed in local KAIZEN seminars conducted since 2015. If the service and agricultural sectors are included, the level of recognition of KAIZEN would be very low.

In Japan, a desperate need to restore industry after the Second World War, in the midst of resource shortage, has led to the establishment of JUSE and JPC as organizations consisting of representatives of companies, labor unions and universities to learn quality and productivity improvement techniques in the West. Later in the early 1970s, Prime Minister Lee Kuan Yew of Singapore – an island country in Asia – directed his attention to the productivity improvement movement in Japan and established the Agency of Productivity Improvement. Then, the productivity improvement movement launched in Singapore was raised to a national movement, triggering impressive economic development.

Around 40 years later, Ethiopia has been engaged in KAIZEN movement since 2009 under the leadership of the former Prime Minister Meles who was strongly interested in significant development of East Asian countries, and JICA has been providing extensive support. These examples testify that dissemination and deployment of KAIZEN as national movement cannot be accomplished without government's strong commitment and initiative. Zambia is no exception to this. It is very important for the Zambian government to issue a strong message that it is ready to promote KAIZEN by establishing the national KAIZEN committee headed by Vice President, which is imperative to make organizational commitment and to embody the comprehensive master plan.

At the same time, strong political leadership is essential in effective dissemination of KAIZEN. Typical examples are Singapore and Ethiopia. JICA has been providing support for introduction and dissemination of Japanese-style KAIZEN in eight African countries. In each country, the first step taken was to strengthen organization and capacity of a core organization in charge of KAIZEN dissemination. From experience in these countries, several issues and challenges were identified, including a limited number of personnel in the counterpart and budget constraint. To proceed with a KAIZEN project under these circumstances, a key success factor is the presence of a politician or a high government official who is willing to and capable of providing strong support under political leadership. In this respect, Dr. Roland Msiska, Secretary to the Cabinet effectively plays the leadership role and serves as a strong driver for KAIZEN dissemination in Zambia. Furthermore, MCTI is expected to play an important role in promotion of KAIZEN dissemination in industrial sectors, MLGH in dissemination in rural regions, and TEVETA in human resource development for industrial sectors.

2.6.2.2 Dissemination and deployment at national level and in all sectors

The comprehensive master plan proposes to expand coverage of KAIZEN dissemination to the entire country and all sectors. The first step toward the goal is the communication of a

strong message by the government that KAIZEN is part of national policy, as discussed in 2.6.2.1.

A firm policy message is to develop national KAIZEN strategy and have the cabinet approve it. Promotion of KAIZEN dissemination and deployment by linking it to industrial policy or SME promotion policy is rather a standard political approach taken in various countries. In Zambia, the approach should be advanced by one step further, i.e., to incorporate KAIZEN into national policy and communicate its political importance to population at large. In this connection, it is recommended to set a simple slogan to express the country's commitment to KAIZEN, e.g., "KAIZEN for One Zambia," "KAIZEN for Zambian Life," or "KAIZEN for Business Excellence." Conceivably, MCTI will develop a draft national KAIZEN strategy on the basis of the proposal in the comprehensive master plan, which will then be submitted to the cabinet for formal approval.

Meanwhile, KIZ needs to initiate activities in three areas. The first area is to develop human resource networks to provide technical guidance for KAIZEN activity, together with data management; data on KAIZEN consultants and coordinators are managed in an integrated system to build a nationwide human resource network. Also, to provide service for a variety of sectors, collaboration with local chambers of commerce and industry and various associations and unions plays a key role. Networking with these organizations is very important. The second area of KIZ's activities is nationwide deployment of educational and information dissemination activities. For KIZ, educational activity works to raise public awareness and leads to market development to search new clients. KIZ's educational activity ranges from small group meetings to the national KAIZEN convention. Also, as discussed in the section on information dissemination strategy in this report, mass media including TV, radio and newspaper as well as the internet should be actively used. Finally, it is important to secure a reliable budget to finance these activities, which is discussed in the following section.

2.6.2.3 KIZ's effort toward self-support and the government's continuous support

KIZ, while expected to serve as the core organization in charge of KAIZEN dissemination, has been recently established and is still in the stage of organizational building. Although training of KAIZEN consultants is in a steady progress, financial vulnerability continues to be KIZ's weakness.

In promoting KAIZEN dissemination and deployment nationwide, the government's commitment and financial support until the full-fledged development of the dissemination system are essential requirements. As clearly seen in KIZ's conditions in the past three years, it faces difficult conditions including budget constraint, which delays organizational buildup and capacity development by employment of personnel, thus preventing it from making a general progress in its business activity. In principle, the organization should aim to build capacity and

resources capable of supporting future development and maintenance of KAIZEN dissemination activity by itself. For a certain period of time, however, it is essential to secure a steady stream of budget from the government, which thus should bear it as social cost. All in all, strong government commitment, together with a clear message by political leaders, should include an appeal to consistent financial support.

At the same time, KIZ must take steps toward the establishment of a self-support system by means of a pay service. In addition to the revenue collected from direct beneficiaries, KIZ needs to use support programs provided by international donor organizations, together with related subsidiary programs of government and industry organizations.

2.6.2.4 Timetable for KIZ activity strategy

Finally, the proposals made in the comprehensive master plan are divided into those that can be immediately started, those that have to go through legal procedures, and those that have to be secured by a program or budget. While all of them have to be launched by the Zambia government, KIZ as the core organization should make steady steps toward its organization and capacity development and implementation of activity plans. KIZ's activity strategy for the time being is shown below.

Table 2.6-1 Timetable for KIZ Activities

Activities	2017	2018	2019	2020
1. KIZ's organizational and resource development				
1-1 Adjustment of KIZ's activity plan and budget plan	-	-	-	-
1-2 Hiring of consultants and managers	—		-	-
1-3 Reviewing and modification of KIZ's functional and appointment of key personnel and development of office regulation	—		—	
1-4 Procurement of office equipment and motor vehicles, training facility	—	—		
1-5 Development of database on KAIZEN consultants and coordinators		—	—	—
1-6 Preparation and submission of KIZ's activity report			-	-
2. Strengthening of KIZ's core capacity				
2-1 Assessment of the training program	—		—	—
2-2 Preparation and implementation of the consultant training program	—	—	—	—
2-3 Enhancement of training programs on TQM,QCC,ISO	—	—	—	—
2-4 Assessment of consultant performance and feedback		-	-	-
2-5 Establishment of a self-sufficient, sustainable mechanism for consultant training	—	—	—	—
2-6 Implementation of information providing activities	—	—	—	—
2-7 Development of KIZ's Web site	—			
2-8 Planning and management of the National KAIZEN conference		-	-	-
2-9 Management of the KAIZEN Club and Implementing of related events		-	-	-
2-10 Preparation of a Study tour on KAIZEN organizations in other African countries and network development	—	—	—	—
3. Preparation for introduction of a pay service system				
3-1 Applying a fee-based services		—	—	—
3-2 Preliminary study on feasibility of the pay service system		—		—
3-3 Action to comply with government-related procedures required for fee collection service	—			-
3-4 Preliminary study on introduction of a consultant certification system		—	—	
4. Development of the environment to promote KAIZEN in rural regions				
4-1 Information sharing with local CCI and trade organizations	—	—	—	—
4-2 Technology transfer to technical education institutions		—	—	—
4-3 Training of KAIZEN coordinators (class-room training)	—			
4-4 Planning and implementation of KIZ training seminar		-	-	

Source: JICA Project Team

Appendix

Appendix 1	Project Team Members and Assignment Schedule
Appendix 2	Comparison of JPC and JUSE
Appendix 3	List of the pilot enterprises/public sectors
Appendix 4	Pilot enterprise evaluation sheet
Appendix 5	Summary of the result of KAIZEN practice at the first year pilot enterprises/public sectors
Appendix 6	KAIZEN practice in the first year (example)
Appendix 7	Summary of the result of KAIZEN practice at the second year pilot enterprises/public sectors
Appendix 8	KAIZEN practice in the second year (example)
Appendix 9	Summary of the result of KAIZEN practice at the third year pilot enterprises/public sectors
Appendix 10	KAIZEN practice in the third year (example)
Appendix 11	Achievements of KAIZEN Activities (2014-2016)
Appendix 12	Consulting Report
Appendix 13	KAIZEN Consulting for Companies/Organization in the OJT Program Case
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Appendix 15	Schedule of KAIZEN Training Program in Japan
Appendix 16	List of Equipment for the Project

Project Team Members and Assignment Schedule

National KAIZEN Project in the Republic of Zambia

Assignment	Name	Employment	Grading	2014												2015												2016												Total of days	MM								
				1st Year						Training in Japan						2nd Year						3rd year						Total days	F	H																			
				JCC 1						KAIZEN Forum						Training in the third countries						5th KAIZEN Conference									KAIZEN Knowledge Sharing Seminar in Ethiopia						Training in Japan						6th KAIZEN Conference						
				2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1				2	3	4	5	6	7	8	9	10		11	12							
Fieldwork	Team Leader/ Institutional Development	Yoji WATANABE	UNICO International Corp.	2	16-8	21	6-1	26	4-28	25	30	45	28	10-11	47	13	14	13	5-28	24	7	24	26	10-12	48	6-13	8	17-27	11	6	21-26	3-1	29	8-28	51	27	30	34	451	15.03									
	KAIZEN Expert 1	Shigeki TSUCHIYA (Predecessor)	Japan Productivity Center	3	16-8	21	20	21	3-13	42	26	13	49	5-23	49	12	22	27	14	6-13	8	4-21	48	25	31	37	18	29	34	8	442	14.73																	
		Kanichi MORIYAMA		3	20	27	4-12	40	26	7	43	6-23	48	12	22	24	14	52	4-21	48	21	25	31	37	18	29	34	8	414	13.80																			
	KAIZEN Expert 2	Kunihiko ITO (Predecessor)	Japan Productivity Center	3	20	27	4-12	40	26	7	43	6-23	48	12	22	24	14	52	4-21	48	21	25	31	37	18	29	34	8	414	13.80																			
		Yoshiaki FUJITA		3	20	27	4-12	40	26	7	43	6-23	48	12	22	24	14	52	4-21	48	21	25	31	37	18	29	34	8	307	10.23																			
	KAIZEN Expert 3	Kanichi MORIYAMA (Predecessor)	Japan Productivity Center	3	20	27	4-12	40	26	7	43	6-23	48	12	22	24	14	52	4-21	48	21	25	31	37	18	29	34	8	59	1.97																			
Shigeki TSUCHIYA		3		4-16	13	6-20	15	(8)	(1)	11-25	11	15-29	15	59	1.97																																		
KAIZEN Expert 4 (QCC)	SHAHARUM ASHAARI	Synergy Assimilation of Knowledge Resources (SAKR)	3	16-8	21	27	21	3-13	42	26	13	49	5-23	49	12	22	23	14	1-9	9	21-27	7	4-21	48	19	7	31	36	6	18	29	29	312	10.40															
Coordinator / P.R. & Training Management	Kazuhiko AMAGAI (Predecessor)	UNICO International Corp.	6	16-8	21	27	21	3-13	42	26	13	49	5-23	49	12	22	23	14	1-9	9	21-27	7	4-21	48	19	7	31	36	6	18	29	29	113	3.77															
	Hitomi YOKOYAMA		5	ICQCC 2016 in Bangkok 8/22-27	6	29	29	113	3.77																																								
				Total of Fieldwork																																				2,098	69.93								
Home-office work	Team Leader/ Institutional Development	Yoji WATANABE	UNICO International Corp.	2	3-5	3	1-3	3	14	0.70																																							
	KAIZEN Expert 1	Shigeki TSUCHIYA (Predecessor)	Japan Productivity Center	3	3-5	3	1-4	4	7	0.35																																							
	KAIZEN Expert 2	Kunihiko ITO (Predecessor)	Japan Productivity Center	3	1-4	4	4	4	0.20																																								
	KAIZEN Expert 3	Kanichi MORIYAMA (Predecessor)	Japan Productivity Center	3	1-4	4	4	4	0.20																																								
	Coordinator / P.R. & Training Management	Kazuhiko AMAGAI (Predecessor)	UNICO International Corp.	6	1-4	4	16-17	2	6	0.30																																							
				Total of Home-office work																																				35	1.75								
Submission of reports				IC/R	PR/R1	IT/R	PR/R2	PR/R3	PR/R4	DF/R	F/R	Grand Total	71.68																																				

Note: Home-office work Field work

Comparison of JPC and JUSE

Japan Productivity Center (JPC)	Union of Japanese Scientists and Engineers (JUSE)
1. Profile and Business Activities	
<p>Japan Productivity Center (JPC) is an organization established in March 1955 (then became a public service foundation in March 2010) for the primary purpose of promoting productivity improvement through investigation, research and educational activities with regard to socioeconomic systems and productivity, implementation of study groups, training programs and seminars, and human resource development, thereby contributing to the development of the Japanese economy and industry, the improvement of the people’s living, and the serving for the international society.</p> <p>Generally speaking, “productivity” means an indicator to express the relationship between output and input, and in industrial circles, it is used to measure efficiency in a broad sense. It was first used in the economic reconstruction process in West European countries after the Second World War, and was later introduced to Japan. In the dissemination process, the following concept was set forth by the European Productivity Agency (later integrated into OECD) and has been referred as the three principles of productivity or the principles for productivity movement, as follows.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Productivity is, above all, a state of mind-set. It is an attitude that seeks the continuous improvement of what exist. It is a conviction that one can do better today than yesterday, and that tomorrow will be better than today. Furthermore, it requires constant efforts to adapt economic activities to ever-changing conditions, and the application of new theories and methods. It is a firm belief in the progress of humanity (from a report on the Productivity Committee of the European Productivity Agency at Rome Conference in March 1959).</p> </div> <p>This concept is considered to have a direct linkage to the English interpretations of the “KAIZEN (quality/productivity improvement)” concept used in this JICA project, i.e., “change for the better” and “continuous improvement.” The embodiment and dissemination of this concept throughout Japan is the primary role assumed by JPC, which is currently promoting</p>	<p>Union of Japanese Scientists and Engineers (JUSE) was established shortly after the Second World War – in May 1946 – to carry out projects and programs focusing on human resource development and quality improvement required for development of science and technology as well as management technology, with an aim for restoration and growth of the postwar Japan. In April 1962, JUSE was authorized to become a foundation under the Science and Technology Agency (later became the Ministry of Education and Science). In April 2012, it became a general foundation as a result of the program to reform the public corporation system.</p> <p>One of JUSE’s key activity areas is management technology, especially Total Quality Management (TQM) which dissemination, progress and development are set forth as central goals. TQM was originated, as a ramification of QC, which was initiated during the postwar restoration period to improve product quality of Japanese companies, to create and promote efforts to improve key elements of QC, such as “logical thinking,” “quality-comes-first philosophy,” “statistics-based analysis and management techniques, “problem-solving methodology,” and “systems, mechanisms and know-how” to utilize and promote them effectively. Then, these QC activities have been applied to companies in all categories under the belief that companywide efforts are required to make products with quality that satisfies customers and have been called “total quality control (TQC),” which are now called TQM to incorporate the word “management” as a general reference to broad business activities. It should be noted, however, that TQM is positioned as a “tool or instrument” to upgrade management, so that the clear understanding on what to do as part of TQM is considered to be critical if TQM is to show its maximum effect.</p> <p>For promotion and dissemination of quality management, JUSE conducts a variety of activities, not only education and training programs that constitute its core activities, but also technical guidance and advice on QC circle activity, the</p>

productivity improvement in a variety of fields through business activities, including training and seminar programs, consulting service, and research and study activities including the development of proposals.	planning and management of QC conferences, symposiums and forums, management of QC-related awards, ISO accreditation and registration, publication, and international cooperation activities.																																												
2. Jurisdiction Ministry																																													
1955 – 2010: Ministry of Economy, Trade and Industry: METI 2010 – present: Cabinet Office (due to transformation to a public service foundation)	1962 – 2012: Ministry of Education, Culture, Sports, Science and Technology: MEXT 2012 – present: Cabinet Office (as a public service corporation)																																												
3. Training and Seminar Programs for Productivity and Quality Improvement																																													
JPC gives priority to human resource development as a key part of its business of disseminating productivity and has been conducting a large number of training and seminar programs throughout the year, generally on a fixed fee basis. Among them, training and seminar programs that are considered to be directly linked to “KAIZEN” are conducted in two areas outlined below (FY2016).	JUSE, since its establishment, has been putting particular emphasis on education and training projects to develop human resources capable of supporting quality management. JUSE have been conducting diverse training and seminar programs on a fee basis, which have the following common elements: (1) basic requirements for quality control in general; (2) knowhow on practical implementation of quality control techniques; and (3) methodology for problem solving and accomplishment of issues. The typical training courses relating to TQM and QCC are summarized below (FY2016).																																												
<p>Quality control and improvement courses</p> <table border="1"> <tr> <td colspan="2">Program title: Concept of Failure Free Quality Control and Its Effective Implementation</td> </tr> <tr> <td>Target persons: field workers, staff members, and managers</td> <td>Duration: One day</td> </tr> <tr> <td colspan="2">Program content:</td> </tr> <tr> <td>1. Concept of practical quality control and its effective implementation</td> <td>5. Appropriate implementation of small group activity and QC activity, and key points relating to day-to-day practice</td> </tr> <tr> <td>2. Mechanism to build quality into own process</td> <td>6. Effective control measures on human errors</td> </tr> <tr> <td>3. Effective inspection in a cell / individual process and checkpoints</td> <td></td> </tr> <tr> <td>4. Strategic method for reduction of defects on outsourced products</td> <td></td> </tr> <tr> <td colspan="2">Program title: Quality built-in to be assured in the own process</td> </tr> <tr> <td>Target persons: Supervisors, staff members, and KAIZEN promoters</td> <td>Duration: One day</td> </tr> <tr> <td colspan="2">Program content:</td> </tr> <tr> <td>1. What is total quality assurance in the</td> <td>③Raising the level of standard operation</td> </tr> </table>	Program title: Concept of Failure Free Quality Control and Its Effective Implementation		Target persons: field workers, staff members, and managers	Duration: One day	Program content:		1. Concept of practical quality control and its effective implementation	5. Appropriate implementation of small group activity and QC activity, and key points relating to day-to-day practice	2. Mechanism to build quality into own process	6. Effective control measures on human errors	3. Effective inspection in a cell / individual process and checkpoints		4. Strategic method for reduction of defects on outsourced products		Program title: Quality built-in to be assured in the own process		Target persons: Supervisors, staff members, and KAIZEN promoters	Duration: One day	Program content:		1. What is total quality assurance in the	③Raising the level of standard operation	<p>TQM/SQC related courses</p> <table border="1"> <tr> <td colspan="2">Program title: Quality management seminar for corporate executives</td> </tr> <tr> <td>Target persons: Corporate executive</td> <td>Duration: Two days</td> </tr> <tr> <td colspan="2">Program content:</td> </tr> <tr> <td>1. Lectures by university professors on quality management/TQM basics, their introduction and promotion, and roles of executives</td> <td>3. Group discussion and information exchange</td> </tr> <tr> <td>2. Lectures by executives on implementation of TQM</td> <td>4. Working with prescribed issues and overall compilation (Q&A)</td> </tr> <tr> <td></td> <td>5. Submission of proposed actions for own company’s management issues, followed by implementation</td> </tr> <tr> <td colspan="2">Program title: TQM seminar (introduction)</td> </tr> <tr> <td>Target persons: Managers, supervisors, staff members, and KAIZEN promoters</td> <td>Duration: Three days</td> </tr> <tr> <td colspan="2">Program content:</td> </tr> <tr> <td>1. Role of TQM in corporate management</td> <td>5. Case of TQM implementation (2)</td> </tr> <tr> <td>2. Customer satisfaction, quality</td> <td>(promoted by a department/division)</td> </tr> </table>	Program title: Quality management seminar for corporate executives		Target persons: Corporate executive	Duration: Two days	Program content:		1. Lectures by university professors on quality management/TQM basics, their introduction and promotion, and roles of executives	3. Group discussion and information exchange	2. Lectures by executives on implementation of TQM	4. Working with prescribed issues and overall compilation (Q&A)		5. Submission of proposed actions for own company’s management issues, followed by implementation	Program title: TQM seminar (introduction)		Target persons: Managers, supervisors, staff members, and KAIZEN promoters	Duration: Three days	Program content:		1. Role of TQM in corporate management	5. Case of TQM implementation (2)	2. Customer satisfaction, quality	(promoted by a department/division)
Program title: Concept of Failure Free Quality Control and Its Effective Implementation																																													
Target persons: field workers, staff members, and managers	Duration: One day																																												
Program content:																																													
1. Concept of practical quality control and its effective implementation	5. Appropriate implementation of small group activity and QC activity, and key points relating to day-to-day practice																																												
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2. Customer satisfaction, quality	(promoted by a department/division)																																												

<p>production process? ①Importance of quality assurance ②Quality assurance and quality control ③Total quality assurance in own process (strict enforcement of standard operations) 2. Exercise on quality built-in practice ① Monozukuri (creative manufacturing) without standard operation ② Monozukuri based on standard operation</p>	<p>• Reviewing and reconsideration of standard operation (adding key points) 3. Innovative efforts and keys to maximize the effect of quality built-in ① Establishment of the total quality assurance system for own process ② Effective implementation of quality improvement 4. Conclusion</p>	<p>insurance, and concept of quality 3. Case of TQM implementation (1) (promoted by an entire company) 4. KAIZEN activity in relation to TQM Method to evolve it to TQM after ISO certification</p>	<p>6. Basic concept of management and effective implementation 7. Understanding on TQM on a department/division basis 8. General questions and answers</p>
<p>Program title: Policy management seminar – practical course</p>			
<p>Program title: Preparation of standard work instructions and the establishment of standard time</p>		<p>Target persons: Supervisors and managers Duration: Two days</p>	
<p>Program content:</p>			
<p>1. Roles of the field work organization and supervisors 2. Establishment of standard work ①What is standard work? ②Four key elements of standard work Exercise: “work breakdown” 3. Preparation of work instructions ①Work steps and key points Exercise: “case study on labor intensive type work”</p>	<p>②Combination of man and machine Exercise: “man-machine type work” ③ Work requiring judgement and decision Exercise: “flowchart type work” 4. Method to establish standard time ①Measurement and PTS methods ②Establishment of standard time after KAIZEN Exercise: “analysis of element task, time measurement, and KAIZEN”</p>	<p>To learn about policy management, which is a practical management technique used to achieve management goals, from basic concept and outline to actual steps for implementation, and knowhow on introduction and promotion of policy management. 1. (Lecture) Fundamentals of policy management, and the establishment and deployment of actual policy</p>	<p>2. Case study (1) Deployment of actual policy 3. (Lecture) Implementation of policy, evaluation and corrective measures, introduction and promotion of policy management 4. Case study (2) Evaluation and corrective measures</p>
<p>Program title: Practical problem solving seminar: manager course</p>			
<p>Program title: Method for practical deployment of field innovation and KAIZEN through “genuine 5S” and “visualization”</p>		<p>Target persons: Supervisors Duration: Three days</p>	
<p>Program content:</p>			
<p>1. “Genuine 5S” for survival through competition 2. Stepwise introduction and incorporation of “genuine 5S” and “visualization” 3. Method for introduction of “genuine 5S” and “visualization” for the purpose of office innovation</p>	<p>5. Effective measures to prevent “genuine 5S” from stagnating and falling into mannerism 6. Streamlining of problem solving capability in the field organization by means of “visualization” 7. Method to deploy waste elimination practice through “genuine 5S” and</p>	<p>Program content: To learn about basics and practices of problem solving and goal achievement, together with the upgrading of personal capability as manager. 1. Quality assurance toward improvement of customer satisfaction 2. Policy management to achieve management goals and day-to-day management to achieve business objectives in an efficient manner</p>	<p>3. Group work “manager’s role” 4. Improvement of capability, as manager, for problem identification and solving, and goal achievement 5. Case study 6. Group study on problem solving and goal achievement</p>
<p>Program title: Quality assurance and quality management seminar for subsection chiefs</p>			
<p>Target persons: Supervisors, KAIZEN activity leaders Duration: One day</p>		<p>Target persons: Subsection chiefs and field group leaders Duration: Three days</p>	
<p>Program content:</p>			
<p>To learn three key points to assure smooth and safe field operation (quality assurance, quality management, promotion of</p>			

4. Practical method for reinforcement of KAIZEN power through “genuine 5S” and “visualization”	“visualization”	standardization, day-to-day management, and problem solving).	5. (Lecture) promotion of standardization and stabilization of day-to-day management
Program title: Practicing KAIZEN at “Ashikaga School”			
Target persons: Staff members and managers	Duration: Four days	1. (Lecture) quality assurance and quality management	6. (Exercise) Improvement of individual’s theme
Program content:		2. Problem solving (1) (factor analysis)	
【First class: Orientation】	【Third class: Factory exercise (2nd)】	3. Problem solving (2) (planning of countermeasures)	
1. Basic rules and key points in KAIZEN activity 2. Basic approach to KAIZEN 3. Description of KAIZEN needs and acquisition of KAIZEN knowledge 4. General outline of factories for practical exercise and KAIZEN themes	【Fourth class: Conclusion】 1. Results of KAIZEN after the exercise (two factories) 2. Future KAIZEN activities 3. Meeting to report KAIZEN results and evaluation 4. Advice for future activities	Program title: Introduction to seven tools for product planning seminar	
【Second class: Factory exercise (1st)】		Target persons: Staff members and managers	Duration: Two days
Program title: KAIZEN practice on field operation		Program content:	
Target persons: Supervisors, staff members, KAIZEN promoters	Duration: One day	Seven tools for product planning (exploration of hypothesis, idea finding method, interview survey, questionnaire survey, positioning analysis, con-joint analysis, and quality table)	
Program content:		1. Lecture on introduction	5. (Lecture/exercise) Questionnaire survey
1. Formation of an “ideal form” as the key to problem solving ① Not to produce defects ② To eliminate stock ③ To produce in the minimum number of steps ④ To create a workshop where employees can work safely and efficiently 2. Approach to a better work method ① Process improvement ② Route analysis ③ Motion improvement ④ Improvement of element tasks	3. Comprehensive exercise on KAIZEN methodology and steps ① Understanding of the present condition (confirmation on work description before introduction of KAIZEN) ② Identification and classification of problems by means of work analysis ③ Development of KAIZEN proposals using standard KAIZEN techniques ④ Estimation of expected results ⑤ Verification after KAIZEN implementation (comparison of the expected results and the actual ones)	2. (Lecture/exercise) Method to explore hypothesis	6. (Lecture/exercise) Positioning analysis
Program title: Analyzing and improving field layout		3. (Lecture/exercise) Method to come up with ideas	7. (Lecture/exercise) Con-joint analysis
Target persons: Staff members and managers	Duration: One day (10:00~17:00)	4. (Lecture/exercise) Interview survey	8. Presentations on group exercises and case studies, and overall question/answer and discussion
Program content:		QC Circle Activity (Small Group KAIZEN Activity) Course	
1. To promote field improvement by improving field layout [Exercise] To visualize waste that occurs in	4. Key points in the production system capable of improving flexibility and the improvement of field layout	Program title: QC Circle Training Course for Promoters	
		Target persons: Section chiefs, subsection chiefs, group leaders, and staff members in charge of QC circle promotion	Duration: Six days
		Program content:	
		1. Quality management and QC circle, purpose of QC circle activity, clarification of its rationale and need, preparation of promotion plans	4. Methodology for problem solving and goal achievement
		2. QC circle activity useful for field operation and management, and method to vitalize QC circle activity	To learn from field experience in QC circle activity
		3. QC techniques and their application, training, Q&A	5. Company-wide promotion of QC circle activity
		Exercise on method for guidance and instruction on QC circle activity	
		6. (Exercise) Methodology for guidance and instruction on QC circle	
		Overall questions and answers and	

<p>the field</p> <p>2. To promote layout improvement [Exercise] To determine a required area and develop and evaluate a layout plan</p> <p>3. Key points in the production system capable of reducing lead-time and the improvement of field layout [Exercise]Promotion of production line configuration that leads to reduction of balance loss</p>	<p>[Exercise] Production of similar products with different cycle times in the same line</p> <p>5. Field applicable practice of layout improvement</p> <p>6. Ways to convert field layout to profits [Exercise] To calculate gain and loss from investment in layout improvement</p>	<p>discussion (for persons who so request)</p>	
<p>Program title: Field (Gemba) innovation trainer</p>		<p>Program title: Certification of QC circle instructor</p>	
<p>Target persons: Field supervisors, leaders</p>	<p>Duration: Two days (one night) x one per month x six months</p>	<p>Target persons: Persons who have completed the QC circle promoter course or an equivalent course conducted by other organization</p>	<p>Duration: Six days</p>
<p>Program content:</p> <p>1. Motivation training/development of KAIZEN awareness (case study) • Basic attitude toward KAIZEN activity, KAIZEN awareness</p> <p>2. Analytical skills and KAIZEN designing capability</p> <p>• IE-based perspective and thinking, follow of goods and information, analytical skill, KAIZEN power</p> <p>3. Practical skills</p> <p>• Waste elimination practice, standard work, standardized production (JIT), improvement of work arrangement</p> <p>• Presentation skill and teamwork</p>		<p>Program content:</p> <p>To make persons, who have completed the JUSE QC Circle Promoter Course as well as lectures (three units) covering subjects desired by each person, prepare for the certification test.</p> <p>QC circle instructor is certified by JUSE with regard to capability to provide adequate guidance and training for QC circle activity at companies and other organizations. (started in 2000)</p>	
<p>Production Management and Cost Reduction Course</p>		<p>Program title: QC circle leader course</p>	
<p>Program title: Pursuit of an optimum production line</p>		<p>Target persons: Small group KAIZEN activity leaders</p>	
<p>Target persons: Supervisors, staff members, and KAIZEN promoters</p>		<p>Duration: Three days</p>	
<p>Program content:</p> <p>1. Monozukuri and IE</p> <p>① A mechanism for production and three key elements (production management, engineering, field management)</p> <p>② Desirable rules of conduct</p> <p>③ Standard practice in process improvement and key points (ECRS)</p> <p>④ Practical IE improvement techniques</p> <p>2. Approach to an “ideal form” of monozukuri</p> <p>3. A mechanism for production management that supports a production system</p> <p>① Manpower planning</p> <p>② Productivity management</p> <p>③ Work organization</p> <p>4. Conclusion</p>		<p>Program content:</p> <p>To learn the following subjects for the purpose of raising the level of QC circle leader candidates as well the current leaders.</p> <p>1. Improvement of leadership relating to QC circle activity and test on the level of understanding</p> <p>2. Upgrading of problem solving capability and QC techniques</p> <p>3. Tests to check the level of understanding on QC techniques used for problem solving and goal achievement</p> <p>4. Improvement of QC circle activity management capability and test to check the level of understanding</p> <p>Innovative means to vitalize QC circle activity</p> <p>Innovative efforts on management</p> <p>Group discussion on selected themes</p>	
<p>Program title: Upgrading of schedule control by means of production management and</p>		<p>Program title: Training of instructors to provide guidance and instruction for problem solving and QC techniques</p>	
<p>Target persons: Managers including section chiefs</p>		<p>Duration: One day (9:30 – 18:00)</p>	
<p>Program content:</p> <p>1. Role of QC circle instructor</p> <p>2. Key points in guidance relating to “implementation of the problem solving process”</p> <p>3. Key points in guidance relating to “methods to create and use QC techniques”</p> <p>4. Key points in guidance relating to “use of why-why analysis”</p> <p>5. Key points in teaching and training</p> <p>6. Key points in content and method relating to guidance</p> <p>7. Group exercise: Planning of training session and implementation of trial lecture</p>		<p>Program title: QC circle manager course</p>	
<p>Target persons: Managers including section chiefs</p>		<p>Duration: Two days</p>	

IE		Program content:	
Target persons: Staff members and managers	Duration: One day (10:00 – 17:00)	To learn about the methodology for guidance and support, as manager, for powerful QC circle activity (small group KAIZEN activity) contributing to corporate management.	5. Theme-based problem solving activity and role of manager
Program content:		1. Why is QC circle activity now?	6. Data evaluation methods and QC techniques
1. Establishment of in-house schedule, issuance of daily delay report, and introduction of a delay reporting system	3. Physical distribution based on bottleneck schedule and short schedule management as part of a process plan	2. Essence of QC circle activity	7. Workshop (2) Study on actual cases, and overall questions and answers
2. Planning of medium-term schedule by PERT method and promotion of progress control	4. Ideal delivery schedule management for subcontractors	3. Implementation steps for QC circle activity	8. Consultation for each participant
The PERT method is one of IE techniques	5. Method to shorten the production period by using the IE techniques	4. Workshop (1) analysis and evaluation of QC circle activity in the current state, problem identification, and information exchange	
Program title: Configuration of a short term delivery, flexible production system		Program title: Human development coaching seminar	
Target persons: Staff members and managers	Duration: One day (10:00 – 17:00)	Target persons: Staff members and managers	Duration: One day (9:00 – 17:00)
Program content:		Program content:	
1. Current issues facing companies and effective measures	5. Reforming of production management methods for shortening of the production period and inventory and cost reduction	1. Coaching for human development	3. Coaching practice and three important skills
2. Evaluation of companies' vitality by lead-time and inventory	6. Standardization and IT support system required for shortening of the production period and cost reduction	2. Exercises	4. Exercises
3. "Monozukuri innovation" for shortening of the production period and inventory	7. TOC and flexible production plan	① Richness of communication and self-discovery	① Listening skills
4. Flexible production and measures		② Rule of Albert Mehrabian and communication of my will	② Approving skills
		③ Basic stance of teaching to subordinates	③ Questioning skills
Program title: Inventory planning for the pull production system		5. GROW model and self-discovery	
Target persons: Staff members and managers	Duration: Two days (10:00 – 17:00)	6. Exercises	
Program content:		① Model for sales department	
<u>First step:</u> Outline of inventory theory	<u>Fourth step:</u> Supply and demand management	② Model for QC cycle	
<u>Second step:</u> Role of inventory planning and corporate management	<u>Fifth step:</u> Coupling point inventory plan		
<u>Third step:</u> Basics of ordering systems	<u>Sixth step:</u> Designing of introduction of coupling point inventory planning		
Program title: Pursuit of cost reduction for food factories			
Target persons: Staff members and managers	Duration: Two days (10:00 – 17:00)		
Program content:			
1. False information widely accepted in the food industry	4. Reliable method for production planning		
2. Reason for failing to increase productivity	5. Ways to promote KAIZEN activity at food factories		
3. Key points in innovation of food factories	6. Implementation steps for productivity innovation		

<p>Program title: Innovation of physical distribution for procurement to reduce the distribution cost</p> <p>Target persons: Staff members and managers Duration: Two days (10:00 – 17:00)</p> <p>Program content:</p> <table border="0"> <tr> <td>1. Learn about the current state of physical distribution in the manufacturing industry.</td> <td>3. Understand the role and value of physical distribution by suppliers.</td> </tr> <tr> <td>2. Physical distribution by suppliers and problems</td> <td>4. Key points in successful innovation of physical distribution by suppliers</td> </tr> <tr> <td></td> <td>5. Innovation steps for physical distribution by suppliers</td> </tr> </table>	1. Learn about the current state of physical distribution in the manufacturing industry.	3. Understand the role and value of physical distribution by suppliers.	2. Physical distribution by suppliers and problems	4. Key points in successful innovation of physical distribution by suppliers		5. Innovation steps for physical distribution by suppliers	
1. Learn about the current state of physical distribution in the manufacturing industry.	3. Understand the role and value of physical distribution by suppliers.						
2. Physical distribution by suppliers and problems	4. Key points in successful innovation of physical distribution by suppliers						
	5. Innovation steps for physical distribution by suppliers						
<p>4. Consulting Business</p>							
<p>(1) JPC's consulting business</p> <p>JPC has been focusing on management consulting business with an aim to help long-term development of all types of management organizations, including companies, hospitals, and public organizations. In addition to consulting service consisting of analysis of management organizations and their problems, and proposition and execution of policies and programs for management innovation, it has been conducting business on training and certification of professional business consultants since 1958. JPC's consulting service covers a whole range of subjects, from management consulting relating to general management problems, applicable to every department, to consulting service specialized in specific domain, such as human resource management and training, marketing, production management, quality management, cost control, ISO, and environmental management. Also, JPC conducts the following courses on consultant training:</p> <ul style="list-style-type: none"> ① Management consultant training program – SME diagnostic course (six months) ② Management consultant training program (three months) <p>Thus, JPC conducts its consulting business in two key elements: “training and certification of management consultants” and “deployment of management consulting business.”</p>	<p>(1) JUSE's consulting business</p> <p>JUSE does not actively conduct business to provide consulting service, while carrying out quality improvement-related research and study. Thus it does not have consultants as business resource. Meanwhile, its main task is to train consultants capable of providing guidance relating to QC circle.</p> <p>(2) Certification system</p> <p>JUSE certifies QC Circle Instructor who is qualified to provide guidance and training service for QC circle activity within companies and other organizations. The certification test has been conducted since April 2000, and approximately 2,000 persons have been certified.</p> <p>The QC Circle Instructor is capable of providing guidance and training relating to QC circle activity within JUSE and other organizations, together with lecturers and reviewers at QC circle conferences. In addition, QC Circle Instructors can be promoted to Senior QC Circle Instructor, when they meet the following three requirements: two or more years of professional experience; three or more times of participation in QC circle conference as reviewer; and recommendation by a Senior QC Circle Instructor.</p>						

<p>(2) In-house consultants JPC conducts its business by primarily relying on a core team of around 40 in-house management consultants, with use of outside consultants and other resources as required by certain types of projects. JPC's management consultants are classified into four stages according to capacity and experience, from Junior Management Consultant to Chief Executive Management Consultant.</p>	<p>(3) In-house consultants There are no certified consultants.</p>
<p>5. Awarding</p>	
<p>JPC gives two formal awards as follows.</p> <ul style="list-style-type: none"> • Japan Quality Award This award was created by JPC in 1995, modeling after the Malcom Baldrige Quality Award in the U.S. It recognizes companies having an outstanding management mechanisms based on customer value. Candidate companies are reviewed according to assessment criteria for Japan Quality Award, and awards are given in three stages, namely Japan Quality Award, Management Innovation Promotion Award, and Management Innovation Recommendation Award. JPC publishes the assessment criteria to allow self-assessment by companies and other organizations. • Nihon Service Award This award is to recognize service providers in all types (not including government service) on the basis of: (1) the level of achievement to expectation by service receivers; (2) a mechanism to create and deliver service; and (3) contribution to development of the service industry. It is awarded by Prime Minister of Japan. 	<p>JUSE has the following awards.</p> <ul style="list-style-type: none"> • Deming Prize, Deming Grand Prize, and Japan Quality Recognition Award The Deming Prize was created in 1951, taking an opportunity of contribution by late Dr. William Edwards Deming, who greatly helped dissemination of statistical quality management in postwar Japan, thus contributing greatly to quality improvement of Japanese products. JUSE has a nomination committee, which annually selects organizations that have implemented TQM in the most effective manner. In 2012, the Japan Quality Management Award was newly established as the highest award of Deming Prize and is given to organizations that have received the Deming Prize or Deming Grand Prize and have maintained the same TQM levels for three or more years. <p>Furthermore, in commemoration of JUSE's 50th anniversary, the Japan Quality Recognition Award was established and is now considered as a milestone for the Deming Prize.</p> <p>QC circle award program This is designed to help disseminate and promote QC circle activities (small group KAIZEN activity), together with their vitalization and upgrading. The QC circle awards include QC Circle Director Award, Executive Award, Kaoru Ishikawa Award, and Excellent Company/Business Establishment Award.</p>

6. Counterpart organizations in Asia	
India: National Productivity Council (NPC), Malaysia: Malaysia Productivity Corporation (MPC), Singapore: SPRING Singapore Thailand: Thailand Productivity Organization (APO) Indonesia: Asia: Asia Productivity Organization (APO)	India: Quality Forum of India (QCFI) Malaysia: Malaysia Productivity Center (MPC) Singapore: Singapore Productivity Association (SPA) Thailand: Association of QC Headquarters of Thailand (QCHQ) Indonesia: Indonesia Quality Management Association (IQMA)

List of the first year pilot enterprises/public sectors

Micro:10<, Small: 11-50, Medium: 51-100, Large: >101

No	Mfg., Non-mfg., Public	L/M/S	Name of organization	Product/Service	No of employee	Expected themes of KAIZEN (ref. only) (Hearing themes during company selection process)	Evaluation Point	Select
1	Manufacturing	Large	ZAMEFA(Zambia Metal Fabrication)	Copper cable	336	Under studying	-	Yes
2			SCAW Ltd	mining tools	400	(1) 5S (2) Plant layout (3) re-evaluate value of scrap, finished goods at all workshop	46	Yes
3			ZAM Leather	Leather and shoes manufacturing	167	(1) 5S, (2) Eliminate 7 Muda, (3) Production planning, (4) Production flow	45	Yes
4			HCMZ (Hitachi Construction Machinery Zambia)	Construction Machine (Maintenance)	120	(1) 5S, (2) Eliminate 7 Muda, (3) Production Plan	46	Yes
5			AFIL Engineering Ltd.	Metal frames, trailers	200	(1) 5S, (2) Production flow, (3) Labour productivity	46	Yes
6			SAFINTRA	Roof manufacturing	123	(1) 5S to have more space (2)Production plan (3) Moral-up	45	Yes
7		Small	ZAMBIKES	Bamboo frame bicycle	20	(1) 5S, (2) Storage control	41	Yes
8			Lumuno Organic Farms	Food processing	15	(1) Reduce defective product ratio and reduce production cost. (2) Reduce contamination risk for vegetable	39	Yes
9	Non-manufacturing	Large	ZNBC	Radio and TV broadcasting	450	(1) Reduce operational cost, eliminate the wastes. (2) Setting up teamwork mind. (3) Improve document controlling method etc.	41	Yes
10			NAC2000	Delivery of air cargo	160	(1) Reduction of delivery time (2)Strengthening of cooperation of departments	45	Yes
11		Medium	Specialised Systems	Medical equipment, Copying machine	60	(1) 5S, (2)Stock management	43	Yes
12			Hai Telecommunications	Communication and internet service	73	(1) Improve business process more in order to expand their business with current numbers of employees. (2) Improve service quality for customers	45	Yes
13	Public	Large	ZESCO	Electric power company	6,000	(1) Improvement of document management systems. (2) Risk management for safety issues.	45	Yes
14			RDA	Road construction	430	(1) 5S, (2) BPR, (3) Archive management	46	Yes
15			ZABS(Zambia Bureau of Standards)	Other Government Organization	165	(1) Inspection method. (2) Reduction of standard preparation. (3) Reduction of telephone cost, etc.	47	Yes
16			NORTEC (Northern Technical College)	Technical education	250	To be decided through discussion with the teams	-	Yes
17			MLGH(Ministry of Local Government and housing)	Ministry	200	To be decided through discussion with the teams	-	Yes
18		Medium	Zambia Cooperative Federation	Other Government Organization	52	To be decided through discussion with the teams	-	Yes

Note: KCM was once selected. But later the consulting period turned inconvenient and Metal Fabrication of Zambia (ZAMEFA) was selected as an alternative pilot enterprise.

List of the second year pilot enterprises/public sectors

Micro: 10<, Small: 11-50, Medium: 51-100, Large: >101

No	Mfg./Non-mfg./Public	L/M/S	Name of organization	Product/Service	No of employee	Expected themes of KAIZEN (ref. only) (Hearing themes during company selection process)	Evaluation Point	Select
1	Manufacturing	Large	Varun Beverage Ltd.	Food and Beverage (PEPSI)	380	1. Raise efficiency of PET bottling line 2. Customer complaints handling	44	Yes
2			AFIL Engineering	Manufacture Trailers & Tankers, Steel furniture and building fittings (window & door frames)	200	1. ISO 2. Work Measurement 3. Skill Development 4. Cost Measurement 5. 5S	46	Yes
3			Capital Fisheries Limited.	Fish processing	350	Under investigation	44	Yes
4			COMACO	Food processing (Organic food)	350	KAIZEN training for staff with new plant arriving in May, Warehouse management	45	Yes
5		Medium	Class Econ	Manufacturing roofing sheets and steel products marketing	65	1. Work measurement 2. Standard Operation procedure 3. Inventory control 4. 5S	33	Yes
6	Non-manufacturing	Large	Taj Pamodzi Hotel	Hospitality	300	Improve engineering area workforce and efficiency on housekeeping	47	Yes
7		Medium	Agro Fuel Invest.	Transportation, Logistics and Heavy Duty Track Repair	100	1. 5S 2. Stock control 3. Skills Development	41	Yes
8			Kafue Gorge Regional Training Center (KGRTC)	Industrial training	65	Under investigation	43	Yes
9		Small	Royal International Development Agency	Money loan	12	Under investigation	42	Yes
10	Public	Large	Rural Electrification Authority	Electricity supply to rural areas	148	Under investigation	45	Yes
11			Lusaka Water & Sewerage Co.	Public water supply & sanitation	700	1. Reduce high water loss 2. Reduce equipment downtime	44	Yes
12			Cabinet Office-Public Service Management Division (PSMD)-DHRIP	Management of public service	222	Under investigation	44	Yes
13			ZDA	GRZ Policy implementation for Enterprise & investment	150	1. Office 5S 2. Record Management 3. Mind set Change	33	Yes
14			TEVETA	Regulate Public & Private Technical Training Colleges	125	1. Standard Operating Procedures 2. Document Control & filling 3. Setting & meeting KPIs 4. Space management 5. Office 5S	37	Yes
15			MCTI	Government Policy Development for Commerce trade & industry	175	1. Document control 2. Record Management & Filling 3. Service lead time 4. Office 5S	30	Yes
16			Chongwe District Hospital	Public Medical Services	120	1. Labor Productivity 2. Records Management 3. Office 5S	37	Yes
17			University of Zambia (UNZA)	Accommodations, Restaurant (associated facilities of UNZA)	1,984	Improvement in Community Services Unitt;marshlands Village-Catring;UNZA Farm-Horticultural flower exports	42	Yes
18			Medium	Lusaka Business & Technical College	Public business & technical training	75	1. 5S 2. Standardization	39
19	Small	Industrial Training Center	Industrial training	36	Propose to start with 5S	43	Yes	

List of the third year pilot enterprises/public sectors

Micro: 10<, Small: 10-50, Medium: 51-100, Large: >101

No	Mfg./Non-mfg./Public	L/M/S	Name of organization	Product/Service	No of employee	Expected themes of KAIZEN (ref. only) (Hearing themes during company selection process)	Evaluation Point	Select
1	Manufacturing	Large	Varun Beverage (Z) Ltd.	Food and Beverage (PEPSI)	450	1. 5S 2. Improving efficiency of production lines	44	Yes
2			Universal Mining and Chemicals Industries Limited (UMCIL) (Kafue Steel)	Steel Manufacturing	800	1. Quality and safety improvement through 5S	45	Yes
3			ZALCO	1. Aluminum 2. Battery. 3. Carton paper 4. Rare material 5. Copper wire	400	1. Production Process 2. Work Measurement 3. Skill Development 4. Cost Measurement 5. 5S	46	Yes
4			Zam Leather	Leather products	170	1. 5S in manufacturing & warehouse 2. Reduce reject rate	43	Yes
5		Small	Beja Enterprises Ltd.	Furniture	10	1. 5S implementation 2. Visual control & Layout improvement	44	Yes
6			Wanzana Processing	Beverage	18	1. 5S in manufacturing and lobo	40	Yes
7	Non-manufacturing	Large	Taj Pamodzi Hotel	Hospitality	300	1. Customer satisfaction	47	Yes
8		Medium	ASTRO Holdings (Warehouse)	Furniture warehousing & Retailer shop	70	1. Inventory control & layout improvement 2. Communication improvement	35	Yes
9		Small	MOJO Media Agency	Production of Video, music	11	1. Improve work efficiency to keep deadline 2. Make operation procedure	44	Yes
10	Public	Large	Public Service Management Division (PSMD)-DHRD	Management of public service	185	1. 5S implementation 2. Improve efficiency in service delivery	38	Yes
11			Chongwe District Hospital	Health care, Public medical service	120	1. 5S in Stock room & layout improve 2. Improve D's working ratio	38	Yes
12			Ministry of Local Government & Housing (MLGH)	Management of public service	200	1. Communication improvement 2. Office 5S	42	Yes
13			Lukanga Water & sewerage	Public water supply & sanitation	247	1. Reduce high water loss 2. Reduce equipment downtime 3. Customer satisfaction	45	Yes
14		Medium	Rural Electrification Authority (REA)	Electricity supply to rural areas	68	1. 5S 2. Warehouse layout improvement 3. Improvement in record keeping	45	Yes
15			Kabwe Institute of Technology (KIT)	Vocational Training	80	1. Office 5S 2. Record Management 3. Mind set Change	40	Yes
16		Small	Nangongwe Health Center	Hospital	33	1. Possibility of implementation standard of 5S 2. Reduce document management	35	Yes

Pilot enterprise evaluation sheet

Name COMACO Visiting Date: 2015/04/15
 Enterprise/Public sector ; Manufacturing Industry Category or product; Food Processing and Conservation
 Numbers of employees ; 350

Item for selection		Contents of evaluation	Comments	Point	
Top management	1	Problem consciousness	Policy and numerical object	COMACO works with about 109,000 farmers across Zambia thus recognises the necessity for efficiency and quality improvement.	5
	2	Eagerness for KAIZEN	Plan, result and feedback(PDCA)	Management has a strong eagerness for the implementation of KAIZEN activities.	5
	3	Leadership	Can he visit the workshop and direct Kaizen activity to the member of team ? Monthly 5S patrol.	Well established leadership and ready to involve management to implement KAIZEN.	5
KAIZEN theme and level of challenge	4	Expected theme of KAIZEN	One theme is 5S. Other themes should be confirmed during interview.	Reduce production costs so as to avoid the break even point and to increase efficiency as they handle the wide base of local farmers.	5
	5	Implementation and Result	Introduction is simple, and result is easy to be given	Good results to be expected especially as the company plans to open another honey processing plant	4
KAIZEN coordinator	6	Experience as a leader	Example of output as a leader. What is difficulty for him ? What is strong point?	Has head about KAIZEN and is eager to commit himself and fellow managers to attend the coordinators course concerning KAIZEN activities.	5
	7	Eagerness for KAIZEN	What kind process, objective does he want to improve?	Very eager to improve efficiency, production and be competitive on the market. In the process reduce costs of production.	5
	8	Experience of KAIZEN	Have experience of e-mail, PowerPoint, Excel, Google search, and Camera	Yes	3
Kaizen team	9	Facilities for discussion	Meeting room, white board, projector, camera, Internet, and Employee noticeboard.	The warehouse meeting room can be arranged, camera, internet and employ notice board are available also, but KIZ team has to provide projector.	4
	10	Availability of team	Number of team and team member, How many hours per week do they spend for Kaizen job?	5-10 members will be assigned	4
Total point 50				45	
Selection: Yes/No				Yes	

Evaluation: 5 Excellent, 4 Good, 3 Normal, 2 Rather poor, 1 Poor

Summary of the result of KAIZEN practice at the first year pilot enterprises/public sectors



Result A: Tangible improvement was obtained
 B: KAIZEN activity was active but tangible improvement not yet
 C: KAIZEN activity was less active
 D: KAIZEN activity was stopped on the way





Micro: 10<, Small: 1-50, Medium: 51-100, Large: >101

No	Category	S/M/L	Name	Product/Service	No.of employee	Result of KAIZEN				Team
						A	B	C	D	
1	Manufacturing	L	ZAMEFA	Copper cable	336	X				B
2			SCAW Ltd.	Mining tools	400	X				B
3			ZAM Leather	leather and shoes manufacturing	167			X		C
4			Hitachi Construction Machinery Zambia	Maintenance of construction machine	120	X				A
5			AFIL Engineering	Metal frames, trailer	200	X				B
6			SAFINTRA	Roof manufacturing	123				X	A
7		S	ZAMBIKES	Bamboo frame bicycle	20	X				A
8			Lumuno Organic Farms	Food processing	15	X				C
9	Non-manufacturing	L	ZNBC	Radio and tv broadcasting	450				X	B
10			NAC2000	delivery of air cargo	160	X				C
11		M	Specialised Systems	Medical equipment, Copying machine	60	X				A
12			Hai Telecommunications	Internet communication	73	X				C
13	Public	L	ZESCO	Electric power company	6,000	X				C
14			RDA	Road construction	430	X				A
15			ZABS	National standard	165	X				C
16			NORTEC	technical education	250		X			B
17			Ministry of Local Government and Housing	Local government	200				X	A
18		M	Zambia Cooperative Federation	Agricultural association	52			X		B
Total						12	1	2	3	18

KAIZEN practice in the first year (Example)

As of 10/12/2014

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	After
Specialised Systems Limited	Medical Equipment, Copiers, Telecom, Powerware, IT solutions, Lighting, Agro Chemicals (60)	9	<p>1. There were 3 QCCs</p> <p>2. Work place was fairly organized but a number of items required attention, hence red tagging was being done - KAIZEN Theme 1 (Baseline: 5S score= 48)</p> <p style="text-align: center;">Cables put in disorder</p>  <p>3. Sorting was being done in most of the places visited, such as the service area and power management workshop, where maintenance, repair and after-sales service is provided, administration and accounts departments, including offices</p> <p>4. Customer complaints were being logged but response time not determined and delivery date on customer property not determined (Kaizen theme 2)</p> <p>5. No system of FIFO and stock poorly piled in the warehouse</p> <p>6. No team boards for displaying QCC activities</p> <p>7. Kaizen program not officially launched despite starting in January 2014</p>	<p>1. Three QCCs scaled down to two for more effective implementation.</p> <p>2. 5S continued to be implemented and current 5S score was yet to be taken and most of the red tagged items were moved to designated places or repair/replacement</p> <p style="text-align: center;">Cables stored in the box</p>  <p>3. Replacement of carpet floor with ceramic tiling in areas in Administration, Accounts, reception and showroom areas. Currently being extended to rest of the building</p> <ul style="list-style-type: none"> - Clean-up of garage and surrounding areas, landscaping started - Server room cleaned up and cables safely secured in cabinet - Broken chairs in boardroom and other areas repaired. - Recovery of telephone handsets from clients for use within the company <p>4. Complaints logging procedure developed and documented</p> <p>5. FIFO partly implemented, and stock reorganization in progress</p> <p>6. Two team boards set up in the canteen and QCC activities posted</p> <p>7. Official launch of Kaizen program at the company by the Managing Director on 16/09/14.</p>
NAC 2000 Corporation Ltd	The company is specialized in the aviation sector. Among the services offered are the following:	13	<p>1. There was no QCC.</p> <p>2. Most areas of the company were not compliant with 5S requirements. Especially the warehouse was not well organized. KAIZEN Theme 1. (Baseline: 30 score)</p>	<p>1. Two QCC were formed.</p> <p>2. 5S is implemented and improved 5S score is 70.</p>

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	After
	<ul style="list-style-type: none"> Aircraft ground handling Cargo clearing and forwarding Passenger handling Secure warehousing and cold storage Support services for ad hoc cargo and passenger aircraft in Zambia (160)		<p>Outside Storage Area (Before)</p>  <p>3. Lead time for cargo delivering need to be improvement. KAIZEN theme 2. (Baseline: There wasn't any documents outlining the lead time taken for service delivery)</p> <p>4 Internal Documentation Process. - KAIZEN Theme 3. (Baseline: challenges identification in documentation process)</p> <p>5. Warehouse management challenges.</p>	<p>Outside Storage Area (After)</p>  <p>3. The Gantt Chart showing Standard Vs Actual time taken in service delivery was prepared under instruction of KIZ team. In the process of consultations the actual time has been reduced to the standard time. (30% reduction)</p> <p>4. A new IT system called Galaxy is being implemented to facilitate the internal documentation system.</p> <p>5. A consultant has been engaged to design of shelf in warehouse. With sharing the ideas for warehouse improvement w/ KIZ team, company is in the process of purchasing the shelves in the warehouse. (will complete in Dec. 2014)</p>
AFIL Engineering Ltd.	Manufacturer of Trailers, Furniture building fittings. (200)	10	<p>1. Kaizen activities were introduced in 2012 but were no more by the first KIZ visit in June 2014.</p> <p>2. There was unused materials and obsolete machines in the workshops.</p> <p>3. The material storage was not organised. Some materials stocked were not on stores record.</p> <p>Stores shelves were out of order before</p> 	<p>1. Kaizen orientation by KIZ was organised and restarted with focus on Gemba instead of the previous focus on QCC class room theory.</p> <p>2. Unnecessary materials and machines were removed using red tag method.</p> <p>3. The team sorted and labelled materials. The team started the process of record confirmation of all materials in stock.</p> <p>Stores QC team sorted and labeled bays and bins</p> 

Summary of the result of KAIZEN practice at the second year enterprises/public sectors



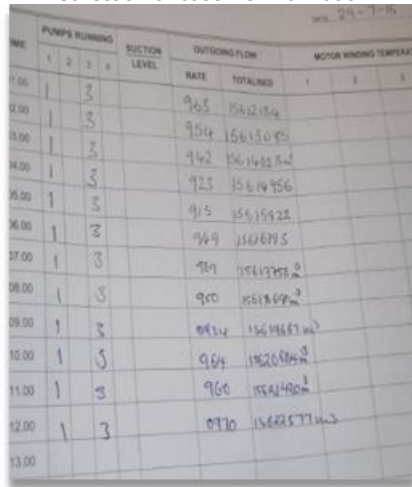
Result A: Tangible improvement was obtained.
 B: KAIZEN activity was active but tangible improvement not yet
 C: KAIZEN activity was less active
 D: KAIZEN activity was stopped on the way.

Micro: 10<, Small: 1-50, Medium: 51-100, Large: >101




No	Category	S/M/L	Name	Product/Service	No.of employees	Result of KAIZEN				Team
						A	B	C	D	
1	Manufacturing	L	Varun Beverage (Z) Ltd.	Soft drinks & Mineral water	380	X				A
2			AFIL Engineering	Manufacture Trailers & Tankers, Steel furniture and building fittings	200	X				B
3			Capital Fisheries Limited.	Fish processing	350	X				C
4			COMACO	Food processing (Organic food)	350		X			C
5		M	Class Econ	Manufacturing roofing sheets and steel products marketing	65	X				B
6	Non-manufacturing	L	Taj Pamodzi Hotel	Hotel	300	X				C
7		M	Agro Fuel Investment	Transportation, Logistics and Heavy Duty Track Repair	100	X				B
8			Kafue Gorge Regional Training Center (KGRTC)	Industrial training	65	X				C
9		S	Royal International Development Agency	Money loan	12			X		A
10	Public sector	L	Rural Electrification Authority	Electricity supply to rural areas	148		X			A
11			Lusaka Water & Sewerage Co.	Public water supply & sanitation	700	X				A
12			Public Service Management Division (PSMD)-DHRIP	Management of public service	222	X				A
13			ZDA	GRZ Policy implementation for Enterprise & investment	150	X				B
14			TEVETA	Regulate Public & Private Technical Training Colleges	125	X				B
15			MCTI	Government Policy Development for Commerce trade & industry	175	X				B
16			Chongwe District Hospital	Public Medical Services	120	X				B
17			University of Zambia (UNZA)	Accommodations, restaurant (associated facilities of UNZA)	1,984	X				C
18			M	Lusaka Business & Technical College	Public business & technical training	75				X
19		S	Industrial Training Center	Industrial training	36	X				C
Total						15	2	1	1	19





KAIZEN practice in the second year (Example)

As of 30/10/2015

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	After
Lusaka Water & Sewerage Company (LWSC-Kafue)	Provision of Water and Sanitation Services to urban and peri-urban areas (No. of staff: 700)	10	<ol style="list-style-type: none"> KAIZEN program was launched in 2012 and the Organisation had 22 KAIZEN teams. However, only three teams were active. KAIZEN activities had various themes that anchored on core responsibilities of the concerned section but 5S was not part of the activities  	<ol style="list-style-type: none"> Three (03) teams were selected for the JICA project 5S implemented by all teams and a visit was organized for two teams to visit VARUN Beverages to get better understanding of plant 5S Two teams are looking at reduction of Non-Revenue Water (NRW) while the third one is looking at increasing revenue collection Countermeasures for reducing NRW are already being implemented by one group and this will result into reduction of water losses along the rising main KAIZEN consultations were discontinued for the team with the theme "increasing revenue collection" because the team was busy with other challenges and hence unavailable for KAIZEN activities. <p>Collection of baseline information</p> 
Public Service Management Division (PSMD)-	The Public Service Management Division (PSMD) is a cardinal	9	<ol style="list-style-type: none"> No QCCs Files and other documents at work place not well organized Due to nature of work being handled where files have to be 	<ol style="list-style-type: none"> One QCC has been formed and comprises members from two departments The theme for the QCC is Office 5S

Appendix 8

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	After
DHRIP	wing of the government, and falls under the Office of the President. It has six departments: The Administration Dept., The Human Resource Development Dept., The Human Resources Information and Planning Dept., The Technical Service Dept., The Recruitment and Placement Dept.; and The Payroll Management and Establishment Dept. This government division focuses on management of civil servants and public service activities. (No. of staff:222)		<p>kept for a considerable long time, lack of storage space was identified as a critical challenge.</p> 	<ol style="list-style-type: none"> 3. 3S has been implemented but a comprehensive implementation awaits procurement of filing cabinets 4. The QCC visited Hitachi, a machine construction company to learn and appreciate good 5S 5. Expected key results: good record management, reduction in search and delays, enhanced document security, safe and tidy working environment leading to service efficiency  <p>QCC members at Hitachi listening to a presentation on how 5S was done, the challenges and solutions</p>  <p>PSMD held a launching ceremony, where PS of PSMD made a encouraging speech.</p>
VARUN Beverages (Z) Ltd.	Manufacture of soft drinks and mineral water (No. of staff: 380)	9	<ol style="list-style-type: none"> 1. Quality Management System for PEPSI was in place 2. FIFO was being practiced 3. There was awareness on 5S but not put into action 4. There were no QCCs 	<ol style="list-style-type: none"> 1. Three (3) QCCs were formed. 2. 5S implemented 3. Red tagging introduced 4. Glass line and PET line efficiencies increased to 80 – 92%

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	After
			<p>5. Work place was not very well organised (KAIZEN Theme 1)</p> <p>6. Efficiency of beverage production lines was at 72% for Glass and PET lines (KAIZEN Theme 2)</p> <p>7. Inadequate visual control in manufacturing area as well as other places</p> <div style="display: flex; flex-direction: column; align-items: center;">   </div>	<p>5. Other expected results: better visual control and sustained 3S</p> <p style="text-align: center;">5S implementation</p> <div style="display: flex; flex-direction: column; align-items: center;">   </div>

Summary of the result of KAIZEN practice at the third year enterprises/public sectors



Result A: Tangible improvement was obtained.
 B: KAIZEN activity was active but tangible improvement not yet
 C: KAIZEN activity was less active
 D: KAIZEN activity was stopped on the way.

Micro: 10<, Small: 1-50, Medium: 51-100, Large: >101

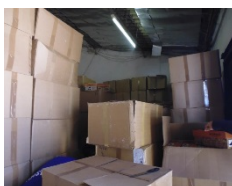
No	Category	S/M/L	Name	Product/Service	No.of employees	Result of KAIZEN				Team
						A	B	C	D	
1	Manufacturing	L	Varun Beverage (Z) Ltd.	Food and Beverage (PEPSI)	450	X				A1
2			Universal Mining and Chemicals Industries Limited (UMCIL) (Kafue Steel)	Steel Manufacturing	800	X				A2
3			ZALCO	1. Aluminum 2. Battery 3. Carton paper 4. Rare material 5. Copper wire	400	X				B1
4			Zam Leather	Leather products	170	X				B2
5		S	Beja Enterprises Ltd.	Furniture	10				X	A1
5			Wanzana Processing	Beverage	18	X				B1
6	Non-manufacturing	L	Taj Pamodzi Hotel	Hospitality	300	X				B1
7		M	ASTRO Holdings (Warehouse)	Furniture warehousing & Retailer shop	70	X				A2
8		S	MOJO Media Agency	Production of Video, music	11		X			A1
10	Public sector	L	Public Service Management Division (PSMD)-DHRD	Management of public service	185		X			A2
11			Chongwe District Hospital	Health care, Public medical service	120				X	B2
12			Ministry of Local Government & Housina (MLGH)	Management of public service	200		X			B2
13			Lukanga Water & Sewerage	Public water supply & sanitation	247	X				B2
14		M	Rural Electrification Authority (REA)	Electricity supply to rural areas	68		X			A1
15			Kabwe Institute of Technology (KIT)	Vocational Training	80		X			B1
16		S	Nangongwe Health Center	Hospital	33				X	A2
Total						8	5	0	3	16

KAIZEN practice in the third year (Example)

As of 15/10/2016

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	Progress as of 15 th Oct 2016
ASTRO Holdings (Warehouse)	Supplies household and office furniture to 8 retail outlets. Two in the Copperbelt and 6 in Lusaka. The warehouse 15 staff in total while the retail outlets has an average of 9 employees each. (No. of staff: 70)	10	<ol style="list-style-type: none"> 1. No QCCs 2. Goods not properly arranged 3. 5S not being practiced 4. Shelves not labelled 5. Problems with inventory control, ordering too many goods, damaged goods need to be disposed of. 6. Warehouse poorly lit. <p style="text-align: center;">Warehouse (Before)</p> 	<ol style="list-style-type: none"> 1. 10 visits have been made so far 2. 3 teams have been formed 3. KIZ team presented the principles and importance of 5S and visual control 4. Both teams confirmed that they will be implementing 5s and visual control. They are currently on the first S (sort) they have a lot of stock which is not recorded. They have made some progress in specific areas of the warehouse but still have a long way to go. 5. Baseline on 5S audit in the office and operation area done. 6. Value Stream Map established between the warehouse and the showrooms. 7. The current theme being worked on is "Work process improvement between the warehouse and retailers" <p>Fig. 1 Warehouse (after) Fig. 2 Value stream displayed on the wall</p>  <ol style="list-style-type: none"> 8. Practicing of the 3S has resulted in the Tangible benefits: <ol style="list-style-type: none"> a) 70 types of furniture identified and put into the database. b) 511.2m³ Volume of space which was occupied by damaged furniture has been cleared and available for storage of other items c) Floor space of 37.8m² has been created through rearrangement of items in the warehouse d) 750m² of space in walkway area has been cleared e) Reduction in Search time for various products: e.g Airport chairs from 30 minutes to 1 minute and set of chairs from 30 minutes to 2 minutes. This resulted reduced number of complaints from the Showrooms.

Enterprise	Product/Service (No. of employees)	No. of visit	Progress of KAIZEN	
			Before	Progress as of 15 th Oct 2016
				f) Damages to stock items caused within the warehouse has drastically reduced. g) Safety Improved (Hazard from falling objects reduced) h) Improved warehouse lighting i) The amount of dust accumulation in the warehouse has reduced significantly. Previously it was difficult for consultants to enter the warehouse without a gas mask.
ZAM Leather Ltd.	Leather and shoes manufacturing (170)	10	1. Top management are very enthusiastic and committed to improve KAIZEN in the organization. 2. We held KICK –OFF ceremony to make mutual understanding, and TOP management pronounced their commitment to KAIZEN implementation. 3. They have selected two teams and its themes 1 Quality improvement by team FIGHTERS 5S and safety by team EAGLES 4. Two teams started the activity, they did collect Base line date on current quality, 5S and safety level. 5. Quality team aimed at improvement of Shoe defect rate to 0.5% from existing 1.3% 6. 5S and safety team aimed at work shop areas improvement, time and productivity improvement through 5S.	1. Quality improvement team (FIGHTERS) Shoe Quality was improved to 0.2% as end of SEP, they could implement the KAIZEN , using by Pareto diagram, cause & effect diagram and Brain storming to find root cause and to make effective countermeasures. 2. Their countermeasures are re-operator training, Material selection, Appropriate inspection machine maintenance and communication improvement . 3. 5S & safety team (EAGLES) They did implemented 5S and safety, and challenged Time and productivity improvement. 4. As the result, the team completed their target, <ul style="list-style-type: none"> ● Cycle time reduction; producing 50pairs shoes from 25 before ● Leather material cost saving by cutting tool modification; K13.08 per pair ● Total productivity 22.6% improved for shoes production. ● Trough 5S, they did space creation and safety countermeasures.



Achievements of KAIZEN Activities (2014-2016)


As of Oct.01, 2016

Name of organization (Products/services, No. of employees)	Achievements in KAIZEN	Specific outputs	Start Year
Manufacturing (16 enterprises)			
ZAMEFA (Manufacturing of electric wire, with 80% for export, 336)	(1) Three QCCs were made. (2) Quality improvement: Previously, inadequate handling of plastic materials to coat electric wires had caused contamination, resulting in defective products. Buckets have been utilized to prevent the materials from being mixed in. (K 10,000/month -> K 5,000/month) (3) A revised layout: The stripping site of the defective electric wire located near the manufacturing line has been moved to a recycle shop to obtain more space for manufacturing. (4) A recycling site: Unsorted materials had been left in a heap in the site. The enterprise has employed a temporary employee to put them into three different storage spaces. (5) Tin alloy has been extracted from scrap. (6) ISO certification and promotion of lean manufacturing	K 5,000/month Additional space obtained: 50m ² Additional space obtained: 150m ² 844 kg	2014
SCAW Ltd, (Grinding balls for the mine industry, 400)	(1) 10QCCs were made. (2) Strengthened hardness of the grinding balls has reduced the amount of the balls used in the mill (from 20/1000 to 3/1000). Using a scatter plot among 7 QC tools, the enterprise analyzed the correlation between the hardness of the balls and other factors such as the temperature and time. (3) Using red tags to practice 5S, five old production machines have been disposed, while repairing four turning machines and three mill machines. (4) Scrap stored in the scrapyard for a long time has been sorted and used as raw materials. (The stock has been roughly reduced from 100,000 tons to 40,000 tons.) The enterprise has temporarily suspended purchase of scrap used as raw materials to produce the grinding balls. (5) Practice of 5S, in particular, the disposal of unnecessary production facilities and machines to make more space available (6) The enterprise provided free lunch meal to all the employees in 2014. In 2015, it awarded bonuses. (7) As a next step of practicing established 5S and QCC, CEO desires to implement more technical KAIZEN. (8) ISO is already certified.	The ball consumption has been reduced by 85%. Red tags have been placed on 12 machines. Raw materials have been saved by 60,000 tons. Additional space obtained: 850 m ²	2014

Zam Leather (Shoe making, 167)	<p>(1) Two QCCs were made, Team Fighters and Team Eagle</p> <p>(2) Themes were selected by management ;</p> <p>(i) Quality Improvement</p> <p>(ii) Workplace organization.</p> <p>(3) After they set up the defect rate KAIZEN, the number is significantly improved, because of awareness and some countermeasures.</p> <p>(4) The team made some changes to model 3423 on the cutting tool for the material, this has resulted in material saving.</p> <p>(5) 5S was conducted in the stores both raw material and finished goods, the team discovered dead stock shoes in stock. Unnecessary materials were removed and the raw materials were labeled.</p> <p>(6) Introduced a new container for flammable materials, previously all the materials was in one container for storing.</p> <p>(7) The team did a process flow map for customer' purchasing, it takes minimum 30 minutes for a customer to buy a pair of because of the distance problems between display shop and payment place. As countermeasure, minor construction modifications are ongoing to improve customer satisfaction.</p> <p>(8) Visual signage on safety has put in the production floor.</p> <p>(9) A new marketing scheme has been taken to increase sales, the QCC proposed to management to open up sales outlets to booster sales and advertise the products on the media.</p>	<p>1. Shoes Quality Defect rate reduction from 1.3% in May to 0.2% in September.</p> <p>2. Material cost saving K13.08 per pair</p> <p>3. Material productivity 28.14% improved</p> <p>4. Created more space in the stores.</p> <p>5. Increased safety</p> <p>6. customer satisfaction Customer's purchasing time (from 30min to 5~10).</p> <p>7 Health & Safety Visual signage, 5S, safety rule.</p>	2014
Hitachi Construction Machinery (Maintenance of the construction machinery, 120)	<p>(1) 5QCCs were made.</p> <p>(2) Revised layout in the workshop has provided a space available for machines to be relocated, albeit temporarily, from the site where an additional workshop will be constructed. This has helped advance the extension work of the workshop.</p> <p>(3) A safety coordinator has been assigned.</p> <p>(4) As a part of 5S practice in the office, a sliding shelf has been placed to store documents more efficiently.</p>	<p>About 100 m²</p> <p>Expansion of warehouse by 64.8 m²</p> <p>Expansion of workshop by 288 m²</p> <p>Employment of one additional person</p>	2014





<p>AFIL Engineering (Specialized large trucks, and housing materials including hospital facilities and window frames, 200)</p>	<p>(1) The number of QCC teams have increased: initially seven team in 2014, followed by additional five teams. Forming other two teams in 2015, the enterprise has been promoting the companywide KAIZEN activities.</p> <p>(2) Labelling of storages: labelling of 200 cabinets and 50 shelves has been completed.</p> <p>(3) Using additional space made available from proper rearrangements, the layout has been revised. A storage yard has been relocated within a working site (which reduced the distance).</p> <p>(4) Practice of 5S, in particular, the disposal of unnecessary production facilities and tools, have resulted in additional space.</p> <p>(5) Drinking fountains have been provided in the working site.</p> <p>(6) Preparation of measuring productivity with a performance indicator, using the standard time (ST)</p> <p><u>For the year 2016:</u></p> <p>(1) The total no. of QCC is 17 Kaizen activity have gained momentum especially in heavy engineering department. 1. At heavy engineering department, earlier people are rigid no interest in kaizen.</p> <p>(2) Safety has been a priority during 2016. The company created more awareness in the name of three types of snakes for employees to understand the importance.</p> <p>(3) Top management focus to reduce customer complaint by improve quality introduced a new improved standard at the heavy engineering department.</p> <p>(4) 5S is effectively managed at various levels also they extended this to their canteen and kitchen improved quality of food and cleanliness of the Kitchen & dining area.</p> <p>(5) Painting department focusing on improving quality.</p> <p>(6) Engineering department started collecting data by recording the various types of defects at each department.</p>	<p>1. Productivity improvement by layout change. Reduced distance from raw material storage to production area 300m to 5m. Saved six to two workers, two hours to 0.5 working time)</p> <p>2. Wide 5S Space created for sales department, storage area. organization, canteen and kitchen</p> <p>3. HS&E As result of 2016, ZERO heavy accident(only 5 minor), Cleanness of the kitchen, painting passage-way, visible sign, prepared three water drinking machine</p> <p>4. Customer satisfaction Design change to improve quality, improved new standard</p>	<p>2014</p>
<p>SAFINTRA (Metal roof panels, 123)</p>	<p>(1) No particular achievement. Difficult to cope with the changing business environment, the enterprise has suspended its KAIZEN activities.</p>		<p>2014</p>
<p>ZAMBIKES (Bamboo frame bicycles, 20)</p>	<p>(1) 2QCCs were made.</p> <p>(2) Productivity of manufacturing bicycles has been increased as a result of changing the work method.</p> <p>(3) KAIZEN activities have fostered the workers' attitudes towards the quality control whereby they sign their names as inspectors of the finished products. This has decreased customer complaints.</p> <p>(4) Improved corporate performance has led to an increase in salaries of the employees.</p> <p>(5) A new marketing scheme has been taken to increase sales, targeting procurement of emergency bicycles for which large-scale organizations as ZESCO, ZANACO, and Chipata Womens' Club donate to public entities.</p> <p>(6) The enterprise has employed a person in charge of KAIZEN.</p>	<p>The production capacity: 2 bicycles per day⇒4 bicycles per days Lead time 30 days⇒10 days 4 complaints per 40 products on average⇒1 complaint</p> <p>Ten percent increase in salaries Awarded a supply of 33 bicycles</p> <p>Employment of one additional person</p>	<p>2014</p>

Lumuno Organic Farms (Food processing: manufacturing of chili sauce, 15)	<ol style="list-style-type: none"> (1) One QCC was made. (2) 5S (improved 5S score points) (3) Reduced rate of the defective products in the manufacturing process from 20% to 2%. (4) The enterprise exhibited its products in a food fair in Japan (March 2015) (5) A new facilitation installation has increased the production capacity, while reducing the lead time. The production capacity has increased from 300 to 900 pieces per day. (6) With a support from a JICA senior volunteer, the enterprise has started to research on a quality product that can be exported to Japan. 	<p>65→80 points Reduced by 18%</p> <p>Production capacity has been increased three times.</p>	2014
VARUN Beverages (Z) Ltd. (Production and sale of beverages, 450)	<ol style="list-style-type: none"> (1) Formation of three QCCs (2) Problem solving activities has led to improvement in efficiency of beverage production lines (3) Implementation of 5S led to improvement in safety and reduction in employee fatigue: hot water pipes and fast running machine components were barricaded; a small pump was introduced instead of manual transfer of fuel for use in generator (4) Reduction in wastage of water by recycling (5) Reduction in wastage of preform bottles due to defects has led to efficient use of the material (6) Management constructed a new line for water disposal as well as for recycling system for the wasted water 	<ol style="list-style-type: none"> (1) Glass bottle line efficiency improved from 72 to 89% (2) Reduction in transfer time of fuel from 2 hours to 20 minutes (3) Preform bottle yield increase from 96.02% to 98.11% 	2105
Capital Fisheries (Distributor of Fresh Water Fish and Sea Food Products, 350)	<ol style="list-style-type: none"> (1) Three QCCs scaled up to Four QCCs, including their retail outlet, for more effective implementation as 2016 activity. (2) 5S continued to be implemented and current 5S situation has greatly improved. Layout improvements have been implemented as well in the production area and the retail shop. (3) The warehouse supervisors have engaged the drivers to count check loading of products and after dispatch to ensure accountability and traceability. (4) The farmer's market retail store was used for the big clean day and KAIZEN launch, and has since provided a clean and hygienic environment to promote customer satisfaction. Theme was selected as a result of KAIZEN activities and management's commitment to improving other sites where the produce is sold. (5) Official launch of Kaizen program at the company by the Managing Director on 30/06/15. Training for QCC members was conducted. 	<ol style="list-style-type: none"> 1. Wide 5S Additional space created, layout change, setting for clean day 2 Productivity Organized work places and layout change in the production area. 3. Standardization Developing standard procedures to enhance accountability and traceability for quality 4. Customer satisfaction complain was improved 30% as 2016 activity, as result of dispatch accuracy action and hygienic envelopment. 	2105
COMACO(Community Markets for Conservation) (Manufacturers of Rice ,Honey and Peanut Butter, 350)	<ol style="list-style-type: none"> (1) Four QCCs were formed (2) Warehouse QCC conducted big clean day activity (3) KAIZEN Activities did Not Progress Because The Institution Was Undergoing Top Management Change And New Management Did Not Have KAIZEN Plan 		2105

<p>CLASS ECON (Production of roof sheet & steel supply, 65)</p>	<p>(1) 4 QCCs have been formed (2) Improve productivity of the employees through reduced time for preparing an order</p>  <div style="border: 1px solid black; padding: 5px;"> <p>Samples of roofing in the sales hall (customers used to be taken into the factory to check the sample of the roofing type they wanted)</p> </div> <p>(3) Improved safety of the employees working in the factory by Creating space for walkways (4) Reduce generation of scrap (5) Efficient use of resources</p>	<p>30meters by 30meters of space was created in the Dispatch area Reduce generation of scrap by 80%</p>	<p>2105</p>
<p>Universal Mining and Chemicals Industries Limited (UMCIL) (Manufacture of Iron and steel products, 800)</p>	<p>(1) QCCs have been reconstituted into 9 teams and new leaders appointed (2) Themes confirmed. a. 5s and visual control b. Scrap reduction in the milling plant c. Work measurement to establish standard time in the workshop. d. Reduction of defects in the milling department. e. Measure product cycle time (3) Baseline on 5S audit in the office and operation area done (4) 5S being implemented. (5) Coordinator collects data from improvements in work processes.</p>	<p>1. 5S i. With 3s implementation in the safety officer's office 16m2 of space has been created by removing unnecessary items. ii. The walkways are free of trip hazards 2. Productivity i. cutting off billets have automated ii. Rolling mills have introduced a bypass in the circuit. Instead of CCM to storage, reheating furnace and then Rolling mills, the layout is CCM straight to the Rolling mills resulting is savings in use of Gas fuel and in process inventory</p>	<p>2016</p>

ZALCO (Manufacturing of Aluminum casting & cooking pot, lead material, copper cable, carton paper, battery, 400)	<ol style="list-style-type: none"> (1) Four (4) QCCs were formed (2) In terms of workplace organization (5S) more space has been created for passage ways and workstations. Sorting of finished pots, WIP pots and machine parts/tools in the plants has improved which has created more space in the plants and has reduced time spent on searching for machine parts/tools. (3) Audit of the cable plant was done to discover defect types, locations and occurrences. (4) The team identified root cause factors contributing to increase in rejected circles as a result of scratches and bubbles. Scratching of circles has reduced as a result of possible countermeasures that have been taken by the team. (5) KAIZEN has been rolled to other plants such as the Battery plant and Paper plant by the teams. Visible achievements in terms of visual control and safety signage's can be seen in the Battery plant (6) Projected Outputs are still challenging by 2017 march. Productivity & Quality Projected Outputs ⇒ Cable Plant QCC; Quality by 25%, Aluminum Plant QCC; productivity in the plant by 20% 	<p>1. 5S Space creation and labeling was improved (cable rolls, finished pots, semi-finished pots, WIP Aluminum circles, tools, and machine parts.)</p> <p>2. HS&E Safety signage as visual control signs and markings of passage ways are implemented in the battery and cable plants</p>	2016
Beja Enterprise Ltd (Sale of wooden furniture products, 10)	(1) NO OJT has been done due to company's operation stop with their financial problem.		2016
Wanzana Processing (Juice processing for drinking bottle, 18)	<ol style="list-style-type: none"> (1) 2 QCCs were made (2) Daily schedule for cleaning the offices and the production area practiced every day (3) Top management are very enthusiastic on implementing the Kaizen activities. (4) 5s is implemented in the Directors, Accounts office and also in the Laboratory. (5) The production capacity will be increased from producing 400 to 600 by end of November cordial drinks per day. (6) Delivery time will be improved from 5 to 3 days by end of November 	<p>1. Wide 5S Additional space is created: two office rooms (space with 23 sq. m)</p>	2016
Non-Manufacturing (10 enterprises)			
NAC 2000 Corporation Ltd. (Ground handling of air cargo, 160)	<ol style="list-style-type: none"> (1) 2QCCs were made. (2) 5S (improved 5S score points) (3) Reduced lead time in transporting import cargo to the customers (4) An introduction of a new IT system has led to streamlined internal-document processing. (5) An installation of shelves in storehouses has expanded a cargo space. "First-in, first-out (FIFO)" has been also practiced thoroughly. (6) A QCC team has been taking its initiatives in proposing and implementing KAIZEN schemes. (7) KAIZEN newsletters have been issued regularly. 	<p>30→80 points Reduced by 30%</p> <p>A store space has been expanded three times larger.</p> <p>Issued six times so far in total</p>	2014





Specialized Systems (Vendor of medical appliance, copying machines, telephone, 60)	<p>(1) Two QCCs were made.</p> <p>(2) As a result of practicing 5S and changing the layout, the office has obtained excess space of 788m². By making a lease agreement with other business entities, the enterprise has been able to collect the rent as a resource to increase corporate earnings on a long-term basis.</p> <p>(3) By sorting products in racks assigned for specific customers, time spent on finding parts has been reduced.</p> <p>(4) KAIZEN practices have led to an increase in the number of employees.</p> <p>(5) All the employees have been relocated to work together in a large room. This has enhanced their communication, reducing the distance between them.</p> <p>(6) KAIZEN activities have continued and the number of QCCs has increased from the initial two to four and other KAIZEN tools in addition to 5S are being used. The company is now looking at processes in order to reduce costs.</p> <p>(7) All teams have drawn work flow process chart</p> <p>(8) Teams have collected data to establish baseline</p>	<p>By renting 18 office rooms and a warehouse, the company gets 10,000US\$ per month.</p> <p>15 minutes⇒5 minutes</p> <p>Employment of five additional persons</p> <p>The distance between the manager and employees 25 m⇒5 m</p> <p>2 QCCs to 4 QCCs</p>	2014
Hai Telecommunications (Corporate name changed from Realtime Zambia Ltd.) (Internet and communication service provider, 73)	<p>(1) One QCC was made.</p> <p>(2) 5S (improved 5S score points) For a continuous practice of 5S, HR Department has defined and implemented an office policy to organize items over the desks.</p> <p>(3) Inter-department communication has been facilitated. Issue of a quarterly KAIZEN newsletter, and KAIZEN meetings attended by all the employees.</p> <p>(4) Reduced number of cases reported on fiber cable failure</p> <p>(5) Improved warehouse management, implementation of 5S and practice of “first-in, first-out”</p> <p>(6) Largely increased number of customers with application of a new technology (Fibroniks)</p> <p><u>Advanced step2016:</u> The company has undergone a business merger the organization is busy in completing business, legal and regulatory formalities, they are challenged with financial and re organization. so they have suspended the Kaizen activity for the year 2016 but will continue during 2017.</p>	<p>1.5S 60→85 points improved</p> <p>2. Quality Improved 25% for fiber cable failure</p> <p>3. Sales The number of customer was increased to 600 from 300.</p>	2014
ZNBC (Public broadcasting, 450)	<p>(1) Establishing QCCs was not implemented.</p> <p>(2) CEO who was interested in KAIZEN has been replaced, and the activities have been ceased thereafter.</p>	0%	2014

<p>Taj Pamodzi Hotel (Hospitality Service Industry. Services include; Accommodation, Food and Beverage, Laundry, Conference facilities, Gym, Pool and outdoor catering. 300)</p>	<p>(1) Two QCCs were formed (2) 5S is implemented. (3) Parts are now identified by labelling and shelves are separated based on product type (4) The laundry layout and work flow is has been improved. <u>Advancedstep2016</u> (1) Four (4) QCCs were formed (2) As a result of practicing 5S and performing 5S audit, more sorting and labeling of items in stores has created more space and has reduced the time to search the items. (3) To improve collection of customer voice, they started the double checking of the written email addresses when guests leave, they has increased the accuracy and number of emails captured. (4) To strengthen TPM, house keepers have been included to help with inspection and identification of faults. (5) The teams are able to brainstorm their problems and have brainstormed their themes using the basic 7QC tools</p>	<p>1. Continues 5S Layout change, labelling, space creation. Floor painted and gangways clearly marked 2. TPM activities Until now 65% from 60% score. still under going 3. Customer satisfaction Number of Emails captured has increased from 50% ⇒ 65%. (From January to August 2016.)</p>	<p>2015</p>
<p>Agro Fuel Invest. (Transport & logistics, 100)</p>	<p>(1) 4 QCCs have been formed (2) Improve productivity of the employees through reduced search time for tools and spares (3) Improved safety of the employees working in the stores (4) Reduced fatigue of the employees working in the stores (5) Creating space that was being occupied by materials that were unusable</p> <p style="text-align: center;"><u>After 2 months</u> <u>After 2 months</u></p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;"><u>After 4 months</u> <u>After 6 months</u></p> <div style="display: flex; justify-content: space-around;">   </div>	<p>Office space of 6 meters by 3 meters created for the Stores Officer</p>	<p>2015</p>

Kafue Gorge Regional Training Centre (Training Institution, 65)	<p>(1) Lead time reduction of processing “Training Charge Out List”/Invoices.</p> <p>(2) 5S in Offices and Operational Areas.</p> <p>(3) Process trail to show how long it takes an invoice to be prepared.</p> <p>(4) Invoices taking an average of 4 to 5 days to be prepared has reduced.</p> <p><u>Advancedstep2016</u></p> <p>(1) Five (5) QCCs were made.</p> <p>(2) As a result of practicing 5S, sorting and organization of items in the kitchen, chef office, and laundry store has being maintained</p> <p>(3) Visual control in terms of signage’s and safety signs has been established and more sign boards are in progress to be setup.</p> <p>(4) Most of the items in the junk yard have been sorted and organized. More space in the junk yard has been created.</p> <p>(5) Activity are continuing and will improve overtime reduction, cycle time reduction, more advanced 5S and safety countermeasures as 2016 activity.</p>	<p>1.Productivity Invoices taking an average of 1 days to be prepared after check out</p> <p>2.5S All facility was remarkably improved (stockyard labelling, junkyard 50% space reduction, clean cooking room, garden arrangement)</p> <p>3.HS &E About 65% percent of sign posts or visual control signs have been set up and created safety action (guard for parking lot, Solar light for garden path)</p>	2015
Royal International Development Agency (Financial intermediary with a core role of provision of funds to micro, small, and medium enterprises, 12)	<p>(1) Revitalization of the Enterprise’s QCC and recommencement of KAIZEN activities</p> <p>(2) Value-stream mapping of money lending process resulted in the elimination of non-value adding steps that lengthened the process</p>	<p>1. Reduced time for processing loans from 5 days to 2 days</p> <p>2. Increased number of clients from 7 to 15 per month</p>	2015
ASTRO Holdings (Warehouse) (Supplies household and office furniture to 8 retail outlets, 70)	<p>(1) 2 teams have been formed</p> <p>(2) Both teams confirmed that they will be implementing 5s and visual control. They are currently on the first S (sort) they have a lot of stock which is not recorded. They have made some progress in specific areas of the warehouse but still have a long way to go.</p> <p>(3) Baseline on 5S audit in the office and operation area done.</p> <p>(4) Value Stream Map established between the warehouse and the showrooms.</p> <p>(5) The current theme being worked on is “Work process improvement between the warehouse and retailers”</p>	<p>1. 70 types of furniture identified and put into the database.</p> <p>2. Vertical space created 511.2m²</p> <p>3. Floor space created 37.8m²</p> <p>4. 750m² walkway area cleared.</p> <p>5. Reduction in searching time for various products: Airport chairs 30 minutes to 1 minute and set of chairs from 30 minutes to 2 minutes. This resulted reduced number of complaints from the show rooms.</p> <p>6 Damages to stock items caused within the warehouse has drastically reduced.</p> <p>7. Safety Improved (Hazard from falling objects reduced)</p> <p>8. Improved warehouse lighting</p> <p>9. Amount of dust reduced significantly. Can go into the warehouse without a face mask.</p>	2016

MOJO Media Agency (Advertising creative agency involved in media service, documentaries, advertisements, short videos and live recording of music, 11)	<ol style="list-style-type: none"> (1) Introduction of small group activities through formation of two QCC teams for improvement projects (2) Use of company data for selection of areas of improvement (3) Selected themes: <ol style="list-style-type: none"> a. Increasing sales and b. Enhancing adherence to work procedures (4) Data collection and analysis for the above themes is in progress 		2016
Public sector (20 enterprises)			
ZESCO (Power generation and distribution, electric power supply, 6,000)	<ol style="list-style-type: none"> (1) 6QCCs were made. (2) 5S (improved 5S score points) (3) A daily and weekly cleaning has been practiced regularly in the workshops. (4) Practice of 5S and more detailed identification in material storehouses, improved inventory control by regular inventory taking (5) Top management has sustained keen interests in KAIZEN. (6) Spreading 5S to main district facilities. 	1. 5S Making 5S procedure” as Company standards, improved from 25→65 score in head office.	2014
Road Development Agency, RDA (Road construction and maintenance, 430)	<ol style="list-style-type: none"> (1) 17QCCs were reorganized into 9QCCs. (2) A revised work process has reduced the time required to issue an interim payment certificate (IPC). (3) In the Maintenance Department, errors have been decreased in the process of preparing IPC and invoices in. (4) By mandating all the employees to sign their score cards, they have fostered a sense of responsibilities. (5) A reception desk has restrained the access of customers to protect the security of confidential information. (6) An inspection manual is being prepared to standardize work processes. (7) Implementation of KAIZEN has been included in Key Performance Indicators (KPI) to assess the senior management once a year. (8) Embarked TQM implementation from April 2016 	19 business days⇒11 business days 50%⇒10%	2014
Zambia Bureau of Standards (ZABS) (National standardization of the products, the product quality certification, 165)	<ol style="list-style-type: none"> (1) 2QCCs were made. (2) 5S (improved 5S score points) (3) Regular cleaning twice per month and a monthly inspection patrol by the management (4) Issue of a brochure on 5S translated in the local language (5) Awareness seminar for managements was done for revitalizing the activity in July 2016. 	41→65 points Twice per month	2014
NORTEC (Industrial junior college, 250)	<ol style="list-style-type: none"> (1) QCCs were made in 2010, but the activity slowed down in 2013, Five QCCs were made again in 2014. (2) 5S: More office space has been made available (2 m² obtained out of 6 m²) (3) Repair of 30 drawing tools (of 200 requiring some repair) (4) More space has been obtained resulting from a revised layout of a practice room. (5) Although the staff members previously had various complaints against one another, they have been developing cooperative attitudes to promote KAIZEN. (6) Instructors started to use videotapes in their lectures. (7) The institution has been committed in developing a partnership with the private sector (for instance, SCAW and ZAMEFA). 	33% 15% 18m ²	2014

Ministry of Local Government and Housing (Supervision of the local governments, and infrastructure development, 200)	(1) As 2014 year, no particular achievements. Seven QCC formed in the agency, they could not decide what they should work on. No specific KAIZEN activity has been implemented. For year2016: (1) Conducted a seminar exclusively for MLGH employee. It created a kaizen awareness within the organization but it never have much bigger impact as top management not yet made a declaration. (2) After continuous follow up and few other presentation 3 QCC has been formed and the registry team did an effective 5S. (3) People become understanding the importance and impact of kaizen.	1.5S Just starting as main government office 2.Awareness training Implemented One week seminar in their training center and Special awareness training. Total50~60pepple(5days and 3times in each level)	2014
ZCF (Agricultural cooperatives, 52)	(1) Four QCCs were made. (2) The cooperatives have introduced 5S at the head office, branches in Lusaka province and Chongwe district as well as at the primary cooperatives (Although 5S in the head office is in progress, other sites have not yet started). (3) Covering a wider area, the large organization has a difficulty in access to the local sites.	25%	2014
Rural Electrification Authority (REA) (Provision of electricity infrastructure to rural areas using appropriate technologies, 148)	(1) Formation of two QCCs (2) Implementation of 5S led to improved record keeping, organized offices and clean surrounding (3) Review of process of paying contractors led to reduction in lead time	(1) Reduction of search time for files from 10 to 3 hours 5S score: 26 to 55 (2) Adherence to contract terms for payment: from 60 to 28 days	2015
Lusaka Water & Sewerage Company (LWSC) (Provision of Water and Sanitation Services to urban and peri-urban areas, 700)	(1) Formation of six QCCs at two Water Purification Plants (2) Introduction of KAIZEN led to employees' attitude change in taking responsibility over work challenges in their areas of operation as opposed to waiting for instructions from management (3) Utilization of KAIZEN QC tools for analysis of data gave clarity on problems and helped in tracking progress made through KAIZEN activities (4) The team embarked on renovating the mechanical workshop, improved sorting and visual control.	(1) Reduction in water losses from 7.8% to 3.6% at one Water Purification Plant i. \$329,480/half year saved in energy costs (one pump switched off due to increased water volume). ii. Reduced production costs from \$152,496 to \$32,524 per month iii. Increase in water production from 2, 893 000 to 3, 085 000 m ³ per month	2015

<p>Public Service Management Division (PSMD)-DHRIP (Human Resources Information and Planning of the Cabinet Office, 222)</p>	<p>(1) 4 QCCs have been formed (3 in DHRD and 1 DHRIP) (2) Improved office space and layout (3) Improved document retrieval leading to short lead times (4) Improved sanitation and work environment (5) Improved safety and morale of staff (6) Improved overall work efficiency</p> <p><u>Before</u></p>  <p><u>After</u></p> 	<p>Document retrieval Lead time from 30 minutes to 5 minutes</p>	<p>2015</p>
<p>ZDA (Facilitating investments, export and market development and enterprise development, 150)</p>	<p>(1) Introduction and implementation of 5S activities in offices under Investment directorate. (2) Introduced a document retention matrix to improve record management in offices and the library. (3) Outlined all the process in the investment department. (4) For 2016 the KAIZEN activities could not continue due to lack of Top management commitment.</p>	<p>1.5S Space creation and tidiness in offices 2.Standardization Process flow chart for Certificate of registration. 3.Productivity Established Lead time for each stage of the Investment Certification process.</p>	<p>2015</p>
<p>TEVETA (Regulate Technical education and administer examinations, 125)</p>	<p>(1) 4 QCCs have been formed (2) Creating space that was being occupied by documents that were unusable</p> <p><u>Before (mix of usable and unusable documents)</u></p>  <p><u>After (Disposed unusable and outdated documents)</u></p>  <p>(3) Reduction in duplication of work by introduction of standardization of work processes (4) Introduction of Document Retention Matrix and Disposal plan</p>		<p>2015</p>

MCTI (Public service to formulate & administer policy for commerce trade and industry sector, 175)	<ul style="list-style-type: none"> (1) Document categories were established and assign to specific registry clerks. Filing cabinets were rearranged and review of index. (2) Unused documents and files were removed from cabinets and stored at the basement (archive area) (3) Developed a Plan for staff orientation on subject file entries on ladder and use of transmittal sheets for document movement. (4) New layout were developed with support from KIZ; registry introduced work station and secured work area with cabinets. 3m x 2m space was created for clerks. Computer and power cables were secured. 		2015
Chongwe District Hospital (Providing health care service, 120)	<ul style="list-style-type: none"> (1) (1)4 KAIZEN Teams were formed to improve workplace organization, Improve Labor productivity, and reduce patient waiting time. (2) Sorting, setting in order of items and shining in the store and registry. (3) Visual management in the pharmacy, Dental, and the Wards. <p><u>Advancedstep2016</u></p> <ul style="list-style-type: none"> (1) For 2016, the KAIZEN activities could not continue as most team leaders, the KAIZEN coordinator and the chief medical officer went for long term studies. The KIZ team then decided to suspend to the visits to next year 2017. 	<ul style="list-style-type: none"> 1. Inventory management Introduced a log book which helped to reduce amount of drugs expiring in the pharmacy 2. Process management Registry method and visual control for drugs handling 3. 5S Well labeled surrounding which controlled the parking of vehicles by both visitors and staff. 	2015
University of Zambia (UNZA) - Marshlands Village (Public/Hospitality 1,984)	<ul style="list-style-type: none"> (1) Two (02) QCCs were formed and continue the activity. (2) 5S implementation has improved. (3) Marshlands general outlook has been improved. (4) There are improvements on signage at the entrance, car park areas, the entrance to eating area and signage leading to the hostels. (5) The KAIZEN team boards have been set up. (6) Sunk borehole set up, and using to the facility and garden. (7) Painting to outside of building to keep maintenance. 	<ul style="list-style-type: none"> 1. 5S Visual control in facility, including wall painting. 2. Cost reduction Sunk borehole will reduce the cost of paying for water bills of Marshlands about k200, 000 per year. 	2015
Lusaka Business & Technical College (Training for Business, Engineering, Construction and Hospitality, 75)	<ul style="list-style-type: none"> (1) Two QCCs were formed but there were no KAIZEN activities because of unexpected events at the Institution 		2015
Industrial Training Centre(ITC) (Driver Training and Vocational Training, 36)	<ul style="list-style-type: none"> (1) Two QCCs (02) were formed to deal with Enrollment, and the vehicle workshop area. (2) 5S situation improved in the workshop areas. Walkways are now clearly defined. (3) Reduction of downtime on repairs by 50% on training equipment. , this was not measured and exact information on downtime was not recorded by the QCC. (4) Increase enrolment numbers in all courses for short and long term students. <p><u>Advancedstep2016</u></p> <ul style="list-style-type: none"> (1) As 2016 activity, No particular achievements. But based on KIT advice, two QCC re-established in the Institute and they are still collecting baseline information for the two themes selected. 		2015

Public Service Management Division (PSMD)-DHRD (Development of Human Resource Dept. of Cabinet Office, 185)	<ol style="list-style-type: none"> (1) Three QCCs formed (2) Kaizen themes established. The implementation of corrective actions is very slow. The themes include: <ol style="list-style-type: none"> a. Print paper consumption reduction b. Document Management c. 5S d. Improved service delivery in the following work processes <ol style="list-style-type: none"> i. Authority to study ii. Circulation of scholarships iii. Circulation of training programmes iv. Feedback on training plans (3) Baseline on 5S audit in the office and operation area done. (4) Value Stream Mapping was demonstrated to help in service delivery focusing on “Authority to Study” work process (5) Re use of old paper folders in the registry (6) The registry team has started Weeding of files and introduced a systematic filing procedure. 	1. Draft memos are printed on reused paper. This has resulted in reduction in the paper consumption from 5reams/3 weeks to 5 reams/6weeks (50%)	2016
Lukanga Water & sewerage (Provision of Water and Sanitation Service to urban and peri-urban areas, 247)	<ol style="list-style-type: none"> (1) Nine QCC under 3 Different Themes as TQM activity. (2) Big kickoff ceremony done with involving TOP management and all employees. (3) Well Structured QCC 50% (90 people in head office of employees in the organization is part of Kaizen activity, with strong top management commitment. (4) Every QCC has a KPI with is attached to the Theme also contributing to the organization KPI. (5) Reducing non- revenue Water is one of the important Theme also reducing Customer complaints and satisfaction and improve revenue collection. (6) They teams has progressed in identifying many causes for various problems which are interlinked to each cause. As a measure the maintenance team has come out with action plan at various levels. (7) TQM activity will be continue by 2017 April. 		2016
Kabwe Institute of Technology(KIT) (Vocational training center and furniture manufacturing, 80)	<ol style="list-style-type: none"> (1) 7 QCCs were made. (2) Practice of 5S in 11 offices in particular, disposal of unnecessary documents and labelling of all the files. (3) The hostels team have been demarcated walkway identification and landscape 5S. (4) More space has been obtained resulting from a revised layout of the wood and Mechanical workshop, also safety signage was set up. (5) The management has continued to show keen interest in KAIZEN activities. (6) Identification signage has been put for the tools and equipment. 	1.5S The files are well labelled and put in categories, improved outlook and new signage, additional space obtained and tools and equipment can easily be accessed because of signage.	2016
Nangongwe Health Center (Public health Centre, 33)	<ol style="list-style-type: none"> (1) No particular achievement due to their busy daily work. OJT activity was recommended to be postponed to next year. 		2016

CONSULTING REPORT ON Hai-Telecommunications
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Company Name:	Hai-Telecommunications	Visit # :	No. 12
Date of visit	04/12/2014	Date of issue	08/12/14
Time of visit	10:30–12:30 Hours	Written by	Muchemwa Siame

Participants	Name	Position
Enterprise	Ms. Mable Chishimba	Director- Corporate Planning
	Ms. Rachel Zimba	Service Delivery Manager
	Ms. Moono Sindowe	Head- Human Resources
	Ms. Melissa M. Ross	Relationship Manager
	Mrs. Linda K. Njobvu	Human Resources Officer
Team	Ms. Muchemwa Siame	KIZ Consultant
	Mr. Kanichi Moriyama	JICA Expert

CONSULTING THEMES

(Theme 1.) 5S Improvement

(Theme 2.) Improve Communication Efficiency (for Customer Support Service)

ACHIEVED RESULTS UP TO THE CURRENT VISIT

1. Formed Sectional 5S teams and assigned 5S Facilitators to each team
2. Preliminary 5S Implementation steps already taken even at FINDECO, COMESA, Arcades and Kabulonga pops where SEIRI (sorting) has started
3. Announcement of 5S and KAIZEN by Managing Director on 15th July, 2014
4. Big Cleaning Day conducted on 18th July, 2014 and every Friday set as a cleaning day
5. Baseline data on Lead Time Improvement submitted and discussed
6. Company meetings for all employees are being held on the 15th day of every month, consequently, interaction between all employees is improving
7. One Newsletter has been published and plans are under way to have a monthly publication
8. The trained 5S Facilitators are doing well and reporting progress to Coordinator regularly (The Engineers' Office has seen tremendous improvement)
9. Lead Time Improvement is slowly beginning to take course, inaccurate records are being corrected to improve accuracy of data captured
10. Zero value items have been approved for disposal by Management
11. Held meeting with Cooperating Partners who have promised to help meet the SLA standard (of 4 hours as opposed to the 6 hours CLT had in mind)
12. Fibre break incidents have reduced by 20 and may reduce even further
13. Second Newsletter on KAIZEN performance has been published
14. Procured a new Generator to help reduce reported incidents at COMESA
15. Close monitoring of Lead Time statistics has compelled engineers to promptly close tickets

16. QCC teams have identified themes and are actively working on them (notable reports from Procurement, Networks and Infrastructure South)
17. Warehouse Layout Improvement underway- contractor on site
18. Networks implemented Raid on one of the servers
19. Kitwe Server Room cleaned up
20. September saw a reduction in repair time
21. Copperbelt Office conducted Big Cleaning Day with admirable results
22. Warehouse Layout Improvement complete (by at least 90% and FIFO partially introduced)
23. Third Newsletter on KAIZEN performance published on 29th October, 2014
24. Technical QCC cleaned up COMESA and cabling designs approved (installation scheduled for 1st quarter of 2015)
25. One QCC received recognition in form of a gift voucher
26. Trained half of the QCC members on KAIZEN

ACTIVITIES DURING THE CURRENT VISIT

1. Detailed discussion on sustaining KAIZEN activities
2. Tour of offices, warehouse and backyard

INSTRUCTIONS TO THE COMPANY

1. Attach timelines to the Incident Management Process Model with standard time versus actual time
2. Submit a detailed schedule of activities for 5S implementation
 - Official announcement by Managing Director on KAIZEN and 5S
 - Big Cleaning Day
3. Prepare a list of names of members in each 5S team
4. Present updates on 5S implementation in the next meeting
5. Set up information sharing system on KAIZEN activities
6. Submit filled in 5S Check Sheet
7. Justify the disparity of activities on the Incident Management Process by attaching the number of incidents on each activity
8. Collect pictures of before and after 5S implementation
9. Hold periodical meetings with Cooperating Partners to bring them up to speed with the need to promptly act on faults escalated to them
10. Present baseline data in form of a Gantt chart
11. Invite additional staff in related function to look into Lead Time Improvement
12. Quantify (approximately) space created as a result of implementing 5S
13. Prepare incident trend
14. Standardize general work processes so that different workers can achieve same results
15. Obtain drawings of network cables from CLT for onward submission to RDA (*pending*)
16. Each department to come up with standard work processes (Accounts department can use Auditors' report to set standards)
17. Take 'after' pictures of the 5S situation

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| <p>18. Present September statistics on Incident Management</p> <p>19. Prepare a warehouse layout improvement plan</p> <p>20. Present pictures of Copperbelt clean-up, and latest pictures from all departments especially Procurement</p> <p>21. Hold second meeting with CLT (<i>pending</i>)</p> <p>22. Review DVD on the 2013 KAIZEN Conference</p> <p>23. Prepare to wind up KAIZEN activities with consultants by presenting baseline data before and after KAIZEN implementation and show progress quantitatively</p> <p>24. Take ‘after pictures’ of COMESA and present them with the ‘before pictures’ (<i>pending</i>)</p> <p>25. Draft training plan for QCC activities</p> <p>26. Prepare presentation for the KAIZEN Forum</p> <p>27. Prepare Statistics for October (<i>pending</i>)</p> <p>28. Complete baseline study sheet (<i>pending</i>)</p> <p>29. Summarize KAIZEN activities from June to November (<i>pending</i>)</p> <p>30. Draft long term KAIZEN action Plan (<i>pending</i>)</p> |
|--|

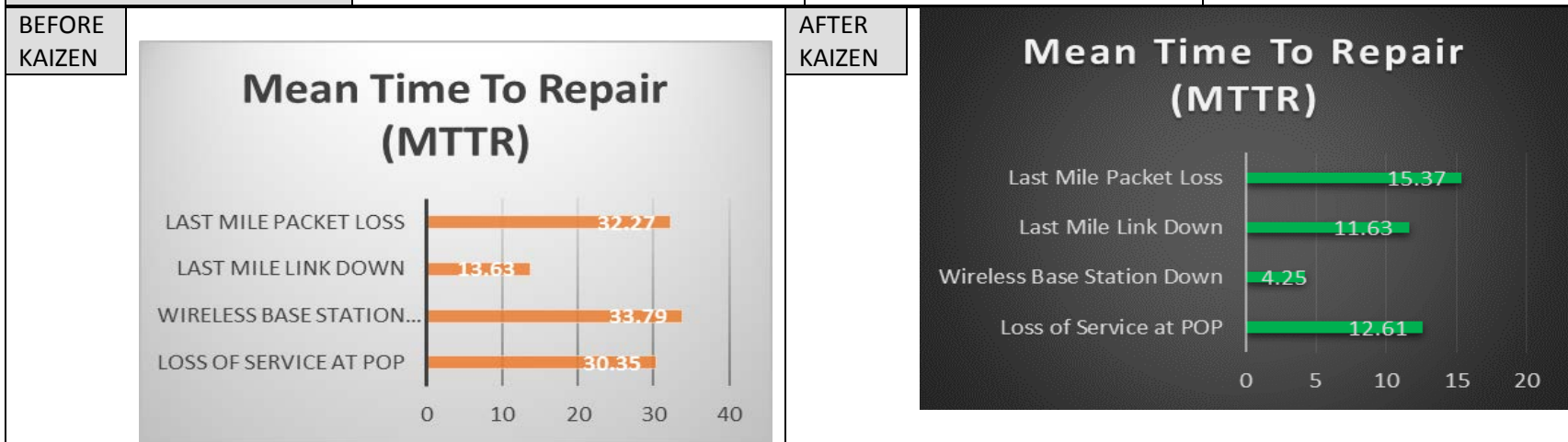
CONCLUSION

Recommendations	<ul style="list-style-type: none"> • Consider painting the floor in the warehouse to enhance the appearance • Improve the Engineers’ pool office by procuring a storage cabinet for their equipment • Set up QCCs by departments
Observations	The first phase of KAIZEN implementation has been a success because of Management commitment. Likewise, top management’s continued commitment will sustain KAIZEN activities.
Expectations	Realtime will prepare KAIZEN progress reports which will be considered during monthly KAIZEN audit meetings
Date of next visit	To be communicated later

KAIZEN CASE SHEET

PREPARED BY MUCHEMWA SIAME- Hai-Telecommunications- 2014

Hai-Telecommunications KP(KAIZEN & PLAN)	KAIZEN THEME: Improve Communication Efficiency for Customer Support Service	Reason for selecting KAIZEN Theme: Improve service quality	Process: Internet Service Provision No. of Members: Six (6)
			KAIZEN By:



Problem Content

1. Low quality service.
2. Failure to meet Service Level Agreement (SLA) standards arising from long lead times on MTTR

Specific & Concrete KAIZEN

1. Introduction of Quality Control Circles to promote TEAM WORK
2. Baseline Data collection on incident handling process and MTTR trends

Expected effects

1. Improved quality of service
2. Lead time reduction on MTTR.

Schedule for the next KAIZEN

1. Reduce MTTR to two (2) hours for Last Mile and four (4) hours for Wireless and packet loss

CONSULTING REPORT: LWSC - KAFUE
--

Company name	LWSC-KAFUE	No. 9	
Date of visit	14/10/15	Date of issue	14/10/15
Time of visit	10:24 – 12 :40 hrs	Written by	Monica Mwiche

Participants	Name	Position
Enterprise	Mr. Michael Ponga	Member, Team Producers
	Mr. Mutunda Malichi	Member, Team Producers, Leader
	Mr. Ryan Mwambari	Member, Team Buffalo
KIZ	Mr. Shigeki Tsuchiya	JICA Expert
	Ms. Monica Mwiche	Consultant
	Mr. John Kapenda	Consultant

Consulting themes

1. Office 5S to be done by both Team Producers and Team Buffalo.
2. The Team Producers theme: **Reduction of Non-Revenue at Iolanda Water Treatment Plant**
3. The Team Buffaloes theme: **Reduction of Production and Transmission Losses from river intake to the reservoirs from 12% to 8%** (the figures are yet to be verified)

Achieved results up to the current visit

- Revitalisation of two QCC teams
- Selection of themes
- Collection of baseline data but Team Buffalo's information is subject to change once verification on water production and water loss quantities is done using a portable meter
- Team Producers have prepared an activity plan, scheduling all activities - PDCA
- Team Producers have made an action plan for countermeasure implementation and most activities have been implemented
- 5S Training for KAIZEN team members was done by the General Manager (Coordinator)
- Company visit to Varun for appreciation of plant 5S
- Training of team members (19) on problem-solving techniques and 7 QC tools by KIZ staff

Activities during the current visit

1. Checking status of assignments from previous meetings:
 - 1.1 Instructed items for Team Producers (Iolanda WTP)
 - An Action Plan to address the identified nine leaking valves has been written and implementation will start during the course of the week.
 - 1.2 Instructed items for Team Buffalo (Kaseba WTP)
 - No report as the Team Leader was out
 - The source(s) of NRW at Kaseba WTP still not established
2. Reviewing PPT presentation of KAIZEN activities which will be presented at the 2015 KAIZEN conference. Recommendation was made by KIZ team that the presentation be summarised and restricted to 20 minutes and the team to show how they have standardised and sustained the KAIZEN. In addition, show continuation of activities.

Instructions to the company

1. Team Producer to continue working on the presentation for the KAIZEN Conference
2. Both teams to continue KAIZEN activities using the PDCA

Next visit

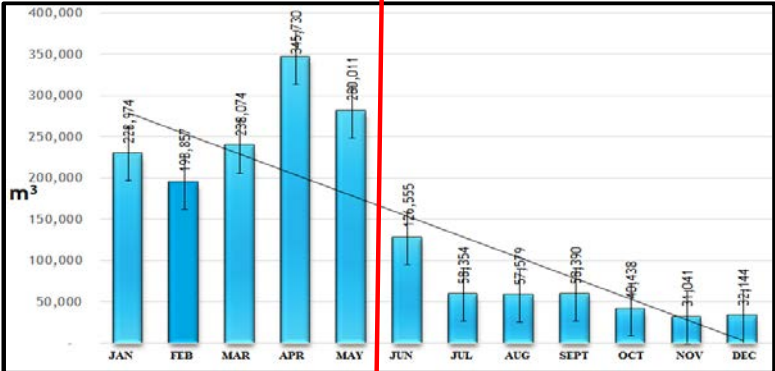
Themes	Confirm status of instructed items Check the presentations for the conference
Observations	Team Producer is ready to make a presentation The Teams are eager to participate in the Conference
Date of next visit	Wednesday 28 th October 2015, 10:00 hrs

ANNEX 1: STATUS OF ASSIGNMENTS FROM PREVIOUS VISITS

<i>Item No.</i>	<i>Description of Assignment</i>	<i>Date of instruction</i>	<i>Progress Status</i>
1	Check the KIZ Consulting Schedule and make appropriate adjustments (Team Producers)	19/05/2015	Done
2	Form QCCs	19/05/2015	Done
3	Train members in 5S	19/05/2015	Done
4	5 S Launch and big cleaning day	19/05/2015	Already launched in 2013
5	Teams to select themes	19/05/2015	Done
6	Provide current water production volumes and associated information (baseline data)	03/06/15	Done but Team Buffalo need more data
7	Team Producers to set target	03/06/15	Done
8	Team Producer to carry out cause analysis, find countermeasure, make action plan and start implementation	17/06/2015	Done
	Record status of valves 1, 2 and 3 (that is confirm repair)	29/07/2015	Done
9	Provide protection on ultrasonic meter transmitter by covering	29/07/2015	Done
11	Conduct 5S baseline of both office and plant areas using right 5S Check sheet.	29/07/2015	Done but needs consolidation
	Team Producers to help Team Kaseba on validity of the theme by finding the cause of NRW at Kaseba water purification plant	09/09/2015	Not done, Ultrasonic meter was still in Lusaka
12	Sensitisation / Training of team members on problem solving tools (7QC Tools)	17/09/2015	Done by KIZ
13	Company visit to Varun Beverages for good 5S practices	23/09/2015	Done, facilitated by KIZ

KAIZEN CASE SHEET

PREPARED BY MONICA MWICHE – LUSAKA WATER & SEWERAGE COMPANY LTD - 2015

<p>LWSC LTD KP (KAIZEN & PLAN) SHEET</p>	<p>KAIZEN THEME: To reduce Non-Revenue Water at Iolanda Water Treatment Plant from 7.8% to 4.2%</p>	<p>Reason for selecting KAIZEN Theme: Loss of water within the plant through treatment units and transmission line</p>	<p>Process: Abstraction, treatment and transmission of water No. of Members: Seven (7) KAIZEN By: Team Producers</p>																									
<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Water losses before KAIZEN</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">Water losses after KAIZEN</div> </div>  <table border="1" style="margin-top: 10px;"> <caption>Monthly Water Losses (m³)</caption> <thead> <tr> <th>Month</th> <th>Water Losses (m³)</th> </tr> </thead> <tbody> <tr><td>JAN</td><td>228,374</td></tr> <tr><td>FEB</td><td>198,857</td></tr> <tr><td>MAR</td><td>238,074</td></tr> <tr><td>APR</td><td>345,730</td></tr> <tr><td>MAY</td><td>280,011</td></tr> <tr><td>JUN</td><td>126,555</td></tr> <tr><td>JUL</td><td>58,354</td></tr> <tr><td>AUG</td><td>57,579</td></tr> <tr><td>SEPT</td><td>58,330</td></tr> <tr><td>OCT</td><td>46,438</td></tr> <tr><td>NOV</td><td>31,041</td></tr> <tr><td>DEC</td><td>32,144</td></tr> </tbody> </table>		Month	Water Losses (m³)	JAN	228,374	FEB	198,857	MAR	238,074	APR	345,730	MAY	280,011	JUN	126,555	JUL	58,354	AUG	57,579	SEPT	58,330	OCT	46,438	NOV	31,041	DEC	32,144	<p>Problem Content</p> <ol style="list-style-type: none"> 1. Water leakages from pumps – high lift pumps 2. Over- flow of water from filters 3. Water leakages through expansion joints of pipes 4. Water leakages through filter drain valves 5. Water leakages through clear well and chemical mixing tank 6. Water leakages through valves along transmission line
Month	Water Losses (m³)																											
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DEC	32,144																											
<p>Specific concrete KAIZEN activities</p> <ol style="list-style-type: none"> 1. Revitalisation of QCC for small group activities 2. Compilation and analysis of water production data for problem - solving 3. Identification of sources of water losses and quantification 4. Sealing of leakages within the plant 5. Attitude change after analysis on how water losses occur using QC tools (Cause and Effect diagram) 		<p>Realized outcomes</p> <ol style="list-style-type: none"> 1. Reduction in water losses from 7.8% to 3.6% (from 252,000 to 40,000 m³ per month on average) 2. Reduction in energy costs: savings made: \$329,480 from June to Dec 3. Reduced production costs from \$152,496 to \$32,524 per month on average 4. Increase in water production from 2, 893 000 to 3, 085 000 m³ per month 																										
		<p>Activities for the next KAIZEN</p> <ol style="list-style-type: none"> 1. Reduction of water losses along transmission line (between Iolanda Water Treatment plant and Chilanga reservoir) 2. Improve plant 5S 																										

CONSULTING REPORT (ZAM LEATHER LTD)

Organisation Name		Zam Leather Ltd	Written by	Gilbert Kiprios
Date of visit		27/09/2016~06/05/2016	Check by	Fred Sichikolo
Time of visit		14:30 – 16:30 hrs	JICA expert	Yoshiaki Fujita
Participants	No.	Name	Position	
Zam-Shu	1.	Mr. Mulenga	Kaizen co-ordinator	
	2.	TEAM EAGLE	Team leader	
	3.	Chiza. G. Nalwamba	Team member	
	4.	Lucy. M. Phiri	Team member	
	5.	Denson Masaka	Team member	
	6.	McDonald Zulu	Team member	
	7.	Joshua Sichivule	Team member	
	8.	George Kashalah	Team member	
	9.	TEAM FIGHTERS	Team member	
	10.	Mr. G.P. Mulenga	Team leader	
	11.	P. Cheelo	Team member	
	12.	B. Mwale	Team member	
	13.	A .Phiri	Team member	
	14.	G. Kalimashi	Team member	
	15.	O. Mwanakasale	Team member	
KIZ	16.	Mr. Gilbert Kiprios	KIZ Consultant	
	17.	Mr. Fred Sichikolo	KIZ Consultant(Team Leader)	
	18.	Vasumathi	KIZ Consultant	
JICA	19.	Yoshiaki Fujita	JICA Expert	

1. CONSULTING THEMES

(Theme 1) Team EAGLES: Workplace organisation; 5S & Safety

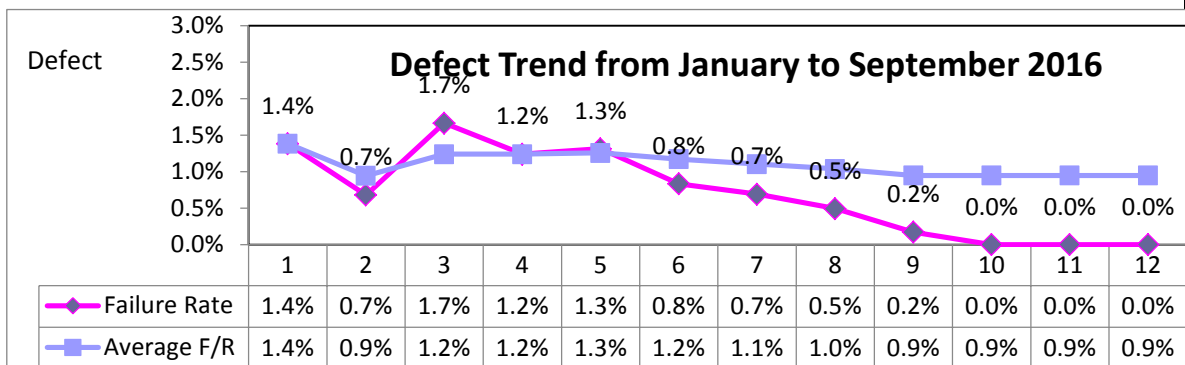
(Theme 2) Team FIGHTERS: Quality improvement for shoes production

2. ACHIEVED RESULTS UP TO THE CURRENT VISIT

- In the first month of KAIZEN the defect rate for May was 1.3%.
- The defect rate for June reduced to 0.8%
- The defect rate July continued to reduce to 0.7%
- For the month of August the defect rate reduced to 0.5%
- September the defect rate reduced to 0.2%
- The team made some changes to model 3423 on the cutting tool for the material this has resulted in material saving.
 - The old cutting tool used 67.4cm squared of leather.
 - The new designed tool is using 52.6cm squared of leather,

making a saving of 14.8cm squared of the material for 1 pair of a shoe.

- **Material productivity improved by 23%**
- **Monetary saving of K13.08 per pair**
- Team Eagle discovered dead stock of shoes and other materials such as brown polish, wood glue during the 5S activities. Unnecessary items were removed because of this more space has been created in the stores. The necessary materials was arranged in order using FIFO and labeled accordingly.
- In the production floor gang ways have been labeled and safety signage's has been put as put of safety improvement.
- Introduced a new container for flammable materials, previously all the materials was in one container for storing.
- The team did a process flow map on a walking customer at the show room outside the plant. After doing the value stream the team discovered that it takes minimum 30 minutes for a customer to buy a pair of a shoe because of the distance and non-value adding activities. The process starts with client walking in the show room outside the Production premises the customer is asked to go to sales a distance of approx 50meters. Customer makes payment then go to stores which is approximate another 50 meters to get the shoes, He/she then walks back to the car park stopping at the security. After doing the process flow the team proposed to management to convert the show room into a sales shop so as to reduce the time it takes for a customer to purchase a pair a shoe which management has agreed and minor construction modifications are on going to turn the show room into sales outlet.
- The show room has now been converted into a sales shop, in addition 4 more outlets have been opened.



The team re- designed the material cutting tool on model 3423 which resulted in Material cost saving of K13.08 per pair and an increase in material productivity by 23%.

5S and Countermeasures for Quality improvement



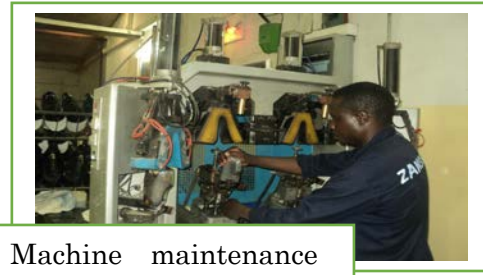
Before 5S



After 5S



Material Inspection



Machine maintenance

3.ACTIVITY PROCESS AND OUTCOME IN EACH CONSULTING

No10 (27-SEP-2016)

- Progress reports from team EAGLE on 5S achievements and team FIGHTERS on:
 - Number of (A) and (B) pairs produced for September.
 - List of defects for September.(0.2%)
 - Defects that contributed the biggest percentage using Pareto diagram.
 - Causes of the most occurring defect using Fish born diagram.
 - The countermeasure implemented.

No9(09-SEP-2016)

- Progress reports from team FIGHTERS on:
 - Number of (A) and (B) pairs produced for July and August.
 - List of defects for July and August.(July 0.7%, August 0.44%)
 - Defects that contributed the biggest percentage using Pareto diagram.
 - Causes of the most occurring defect using Fish born diagram.
 - The countermeasure implemented.
 - The old cutting tool used 67.4cm squared of leather.
 - The new designed tool is using 52.6cm squared of leather, making a saving of 14.8cm squared of the material for 1 pair of a shoe.(23% cost saving)

No8(29-JULY-2016)

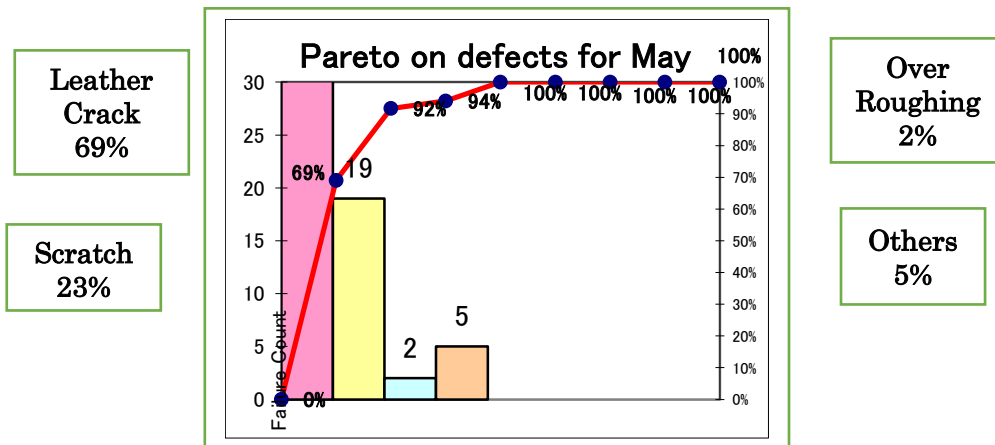
- Progress reports from team FIGHTERS AND team EAGLE.
- Did a demonstration to the teams on how to use Fish born diagram and the 5Why analysis to find root cause to defects
- Genba visit to confirm progress on last visit instructions.
- During the 5S activities the team discovered 308 sided saws which were scraped and recovered 153 pairs of good saws which was mixed with the sided saws.
- Team Eagle has started using the 5S check sheet in the production area.

No7(15-JULY-2016)

- Progress reports from team FIGHTERS AND team EAGLE.
- Gemba visit to confirm progress on last visit instructions.
- After doing the cause and effect analysis, the team discovered that the 0.94% defect rate was caused by **machinery fault**.
- The company has new model in production which they are producing to stock this because of the irregular trend in demand.
- The team Eagle is still educating people on safety.
- Zam-shu is now advertising their products on media.

No6(06-JULY-2016)

- Team EAGLE has unblocked a CCTV camera in the stores which blocked by the boxes of shoes, by moving 1984 pairs of shoes to the tannery from the main stores.
- Team EAGLE is still waiting for a decision from management on the discovered dead stock of polish and wood glue which they proposed for clearance sale.
- They have identified the most frequent defect and has since reported it to leather section.



No5(24-JUNE-2016)

- The Engineering department is also storing some spares and equipment in the same stores.
- There's deadstock of 8279 pairs of shoes in stores produced between 2011 and 2014. The shoes are not in Good quality due to the period they have stored.



No4(06-JUNE-2016)

- The team FIGHTERS have started collecting data on Quality levels; types of defects, location and frequency.
- They have started using the cause and effect diagram to help them understand the causes of the defects.
- Team EAGLE has started 5S in the stores, arranging and labelling the materials in the stores.

No3(16-MAY-2016)

- They have selected two themes; Quality improvement by The FIGHTERS

5S & Safety by The EAGLE

- They have formed two teams comprised of 6 members in each team; one team for quality improvement the other one for 5S and safety.
- They have chosen team leaders for the two teams; Team defect fighters for Quality improvement & team Eagle for 5S and safety.

No2(16-MAY-2016)

- KICK-OFF ceremony was held, Introductions were made for both parties, the KIZ team and Zam Leather.
- Welcoming notes by Zam leather General Manager Mr Franklin; Zam leather started Kaizen in 2012 under ZAM, participated and won the Gold at the 2013 conference.
- Top management pronouncement of their commitment to kaizen implementation at Zam leather.
- Presentation on Kaizen by KIZ and JICA expert
- Tour of the finished goods and raw materials warehouse.
- Open interactions and discussions; Question and Answer session.
- Closing remarks by the General Manager; thanked all participants for the activities, gave words of encouragement to all workers to openly participate in Kaizen activities.

No1(06-MAY-2016)

- Meeting with Top Management
- Requesting KICK-OFF ceremony for team awareness.
- Theme selection: Quality Control and Workplace Organization
- Tour of shoe production plant and inventory room.

4.INSTRUCTION AND OBSERVATIONS TO THE COMPANY BY KIZ CONSULTANT

No10 (29-SEP-2016)

- To start preparing the power point presentations for the conference.
- To document the countermeasure (solutions) implemented on defect reduction in the power point presentation.
- To include the before and after photos for the team Eagle presentation.

(Observation)

- The KAIZEN team members are very enthusiastic about KAIZEN, they have shown great dedication and team work.

No9(09-SEP-2016)

- To start conducting 5S weekly audits using the 5S check sheet and plot the results on the KAIZEN board for everyone to see their progress.

(Observation)

- The company has done a good job in putting visual control in most areas of the shoe plant. This is part of safety improvement.

No8(29-JULY-2016)

- To team Fighters: compile a list of defects for July
- To team Fighters: Focus on the defect that contributed biggest percentage to the

33 (B) pairs

- To team Fighters: Brainstorm the causes of the most occurring defect for July using the Fish born diagram.
- To team Fighters: The Fish born should be presented in the next meeting (Observation)
- The company has done a good job in putting visual control in most areas of the shoe plant. This is part of safety improvement.

No7(15-JULY-2016)

- Team Fighters to compile defect types & Frequency for the month of June.
 - Team Eagle to start conducting 5S audits on weekly basis using a 5S check sheet.
 - Requesting 5S and safety countermeasures in plant observation.
- (Observation)



No6(06-JULY-2016)

- There's need for more signage in the production plant.
 - Compile Quality data; A Pairs and B Pairs produced for the month of June.
- (Observation)
- Some people don't put on face masks despite been given.
 - Path ways are well labelled

No5(24-JUNE-2016)

- To the coordinator we need to review the methods used to forecast the Demand and Production planning.
- (Observation)
- We need to address the challenge of Inventory to reduce a lot of stocks.

No4(06-JUNE-2016)

- Team "Fighters" to compile aggregate data for the month of May on current Quality levels; No of total shoes produced, No. of B -Pairs, identify most frequent defect type, location and cause.
- (Observation)
- Both Teams are very committed to kaizen activates and want to learn more about the 7QC tools.

No3(16-MAY-2016)

- Team "Fighters" to compile baseline data on current Quality levels (identify defects type, location and cause
 - Team "Eagle" to establish the current safety levels (identify safety hazards in terms of type and location).
- (Observation)

- Team members are very keen to implement Kaizen.

- The Quality team are meeting two times in a week Tuesdays and Thursdays for 15minutes.
- The Quality team have started recording Quality data.

No2(16-MAY-2016)

- Submit names of QCC team members & team leaders on next visit.
- Send Inventory data; re-order level, Economic order Quantity
- Send Production and Quality data.

(Observation)

- Zam leather Top Management are very enthusiastic and committed to implement KAIZEN in the organization.
- The company has a lot of inventory for finished goods
- 5S is needed in some sections of the warehouse.

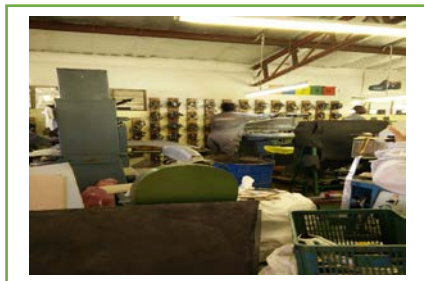


No1(06-MAY-2016)

- There is need to form 2 teams Comprising of 6members in each team and choose Team Leaders
- Organize a kickoff ceremony
- Briefing and pronouncement on implementation of KAIZEN at Zamleather
- Compile and send the current Production and Quality data

(Observation)

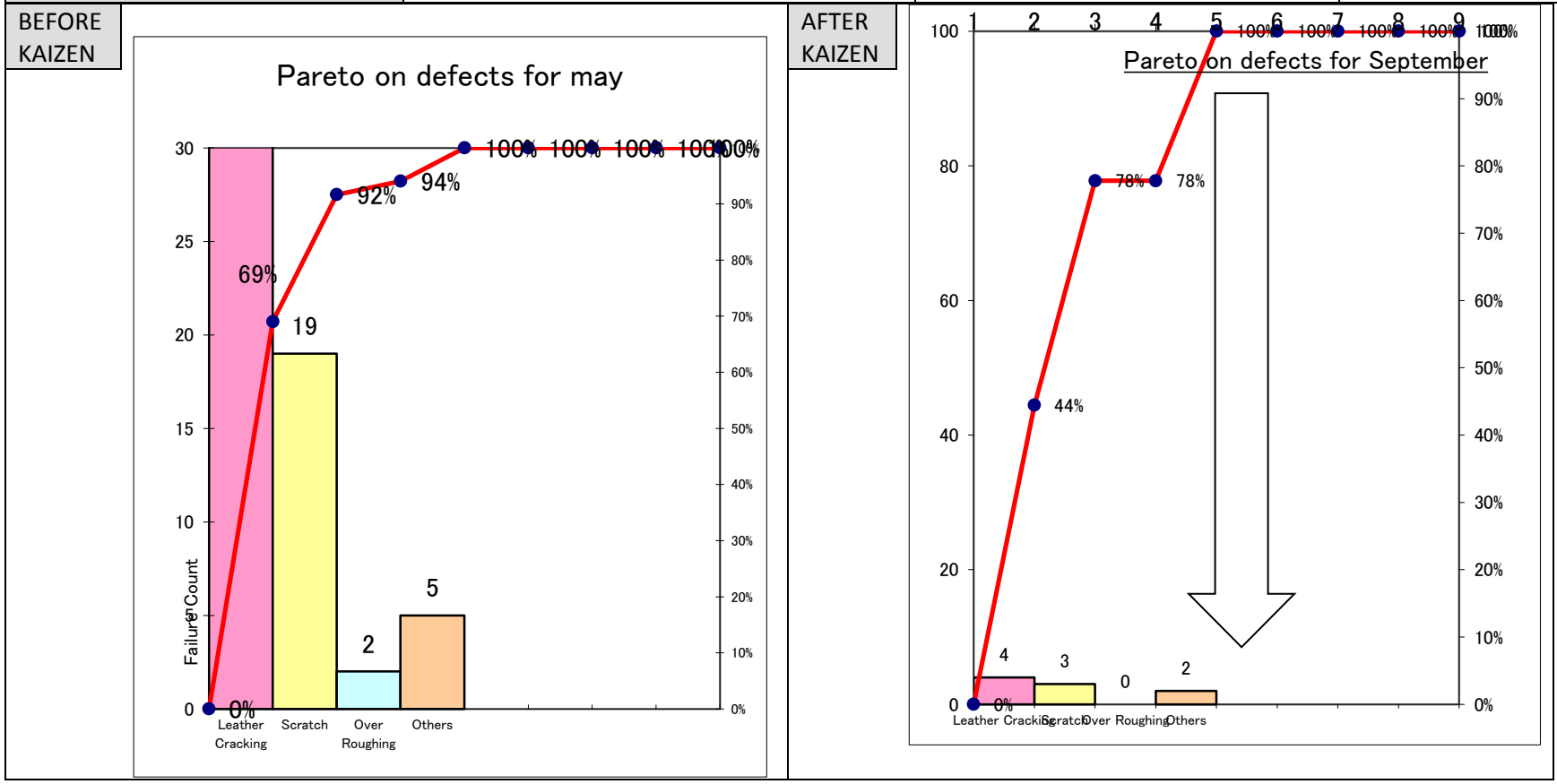
- Top Management is very committed to KAIZEN implementation with a clear understanding of their Quality and Safety challenges in the shoe production plant.
- The Shoe production Plant is a good section for KAIZEN activities. With current Quality and Safety data available, it presents an opportunity for utilizing the Quality Control Tools.

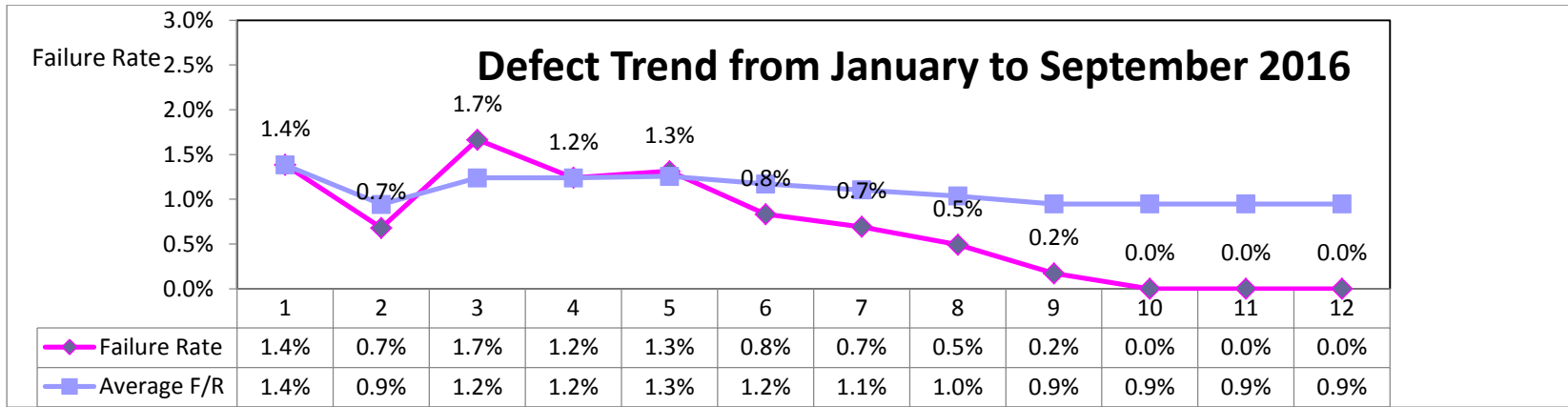


KAIZEN CASE SHEET

PREPARED BY GILBERT KIPRIOS- ZAM-LEATHER Ltd- 2016 (May2016~OCT2016)

ZAM-LEATHER LTD KP(KAIZEN & PLAN)	KAIZEN THEME: Quality Improvement.	Reason for selecting KAIZEN Theme: Management selected the theme because they wanted to improve Quality by reducing the number of defects.	Process: Shoe production No. of Members: Six (6)
			KAIZEN BY: Team Fighters

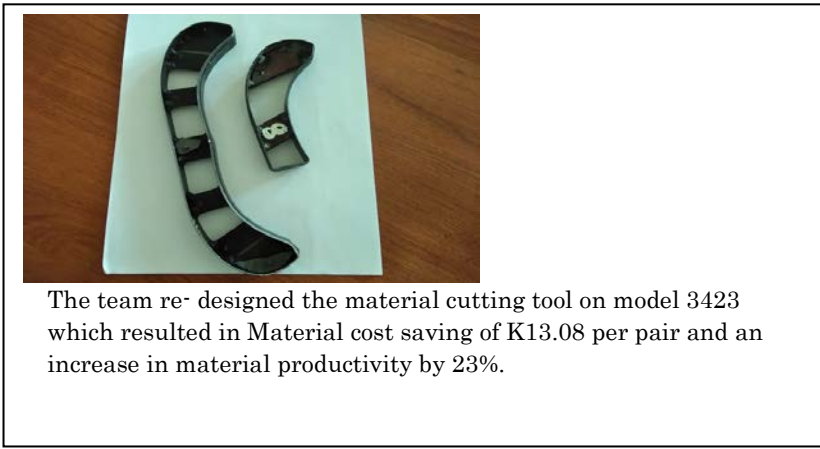




Expected effects

Problem Content

1. To increase market share and sales Zam-leather management wanted to improve the Quality of the shoes by reducing the (B) pairs which do not met the Quality standard. These (B) Pairs are sold at a less price which is a loss to the company.
2. As of May the defect rate was 1.3% and target was to reduce it to 0.5 % by October 2016.



Specific & Concrete KAIZEN content

1. Formation of Quality control circles to improve team work.
2. Data collection on the number of defects by type the cause and location using the check sheet
3. Pareto diagram showed three types of defects Leather cracking, scratch and over roughing.
4. Did Cause analysis discovered that cracking is caused by
 - Machine failure.
 - Mixing of processing chemicals in the tannery if not done well will result in poor quality of leather.
 - Lack of moisture content in the leather.
5. Scratch is caused by man
6. Over Roughing is caused is also cause by man.
7. Countermeasures included:
 - Periodical preventive maintenance once a month
 - Training the operators on Quality
 - Material inspection
 - Communication improvement
 - In process Quality inspection.
 - 5S

Schedule for the next

1. Standardization of effective counter measures.
2. Expand the KAIZEN activities to the Tannery (Leather processing section).

KAIZEN Consulting for Companies/Organizations in the OJT Program – Case 1
Lusaka Water & Sewerage Company (LWSC)

1. Company profile

Name	Lusaka Water & Sewerage Company (LWSC)
Industry type	Public sector
Size	Around 700 employees
Product/service	Water supply and sewerage business serving Lusaka and its surrounding areas Of total demand for tap water by around 3 million populations in the Lusaka Metropolitan Area, amounting to 370 million liters per day, the company produces 270 million liters.
Number of QCCs	6 (as of 2016)

2. Current issue

The most serious issue facing LWSC was substantial water loss in the treatment and conveyance processes, as measured by non-revenue water amounting to 42% of total before the start of KAIZEN activity. LWSC has set the goal to reduce non-revenue water in percentage of total to 25% by 2018, and KAIZEN activities are conducted in two water purification plants, namely Iolanda in Kafue (Team Producers) and Kaseba. Each plant is required to reduce water loss that is caused by leak or poor management. Major sources of water loss are overflow from filters, leaks from pumps, pipe joints and tanks, and loss in the production and conveyance processes. Also, water leakage was partially caused by operation and management problems.

3. Main theme for KAIZEN activity

The main theme for KAIZEN activity in 2015 was “to reduce water leaks from pipelines between the Kafue water purification plant and the Chilanga pump station. Then, the 2016 theme is “to create orderly and smart workshop by December 2016.”

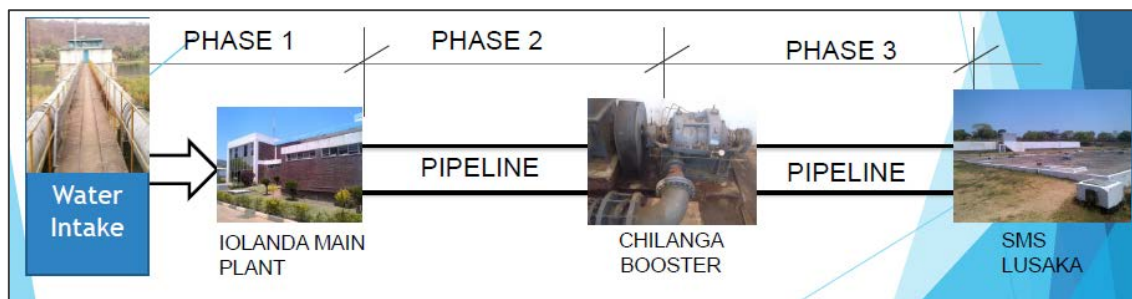
4. Deployment of KAIZEN activity

LWSC started KAIZEN activity in 2013 by organizing 22 QCCs, which commenced formal activities in 2014. Mr. Chikama, manager in charge of quality, environmental and management systems, became KAIZEN coordinator to lead day-to-day activities. In 2014, however, most activities became stagnated. In 2015, then, 6 QCCs were newly organized at two water purification plants in Kafue (Iolanda and Kaseba) to renew the activity.

■ **Iolanda water purification plant (Team Producers)**

KAIZEN activity at the Iolanda w plant has been executed in the following three phases:

- Phase 1: From the water intake facility to the Iolanda water purification plant (2014)
- Phase 2: Between the Illand water purification plant and the Chilanga pump station (2015)
- Phase 3 Between the Chilanga pump station and SMS in Lusaka (2016)



Srouce: LWSC

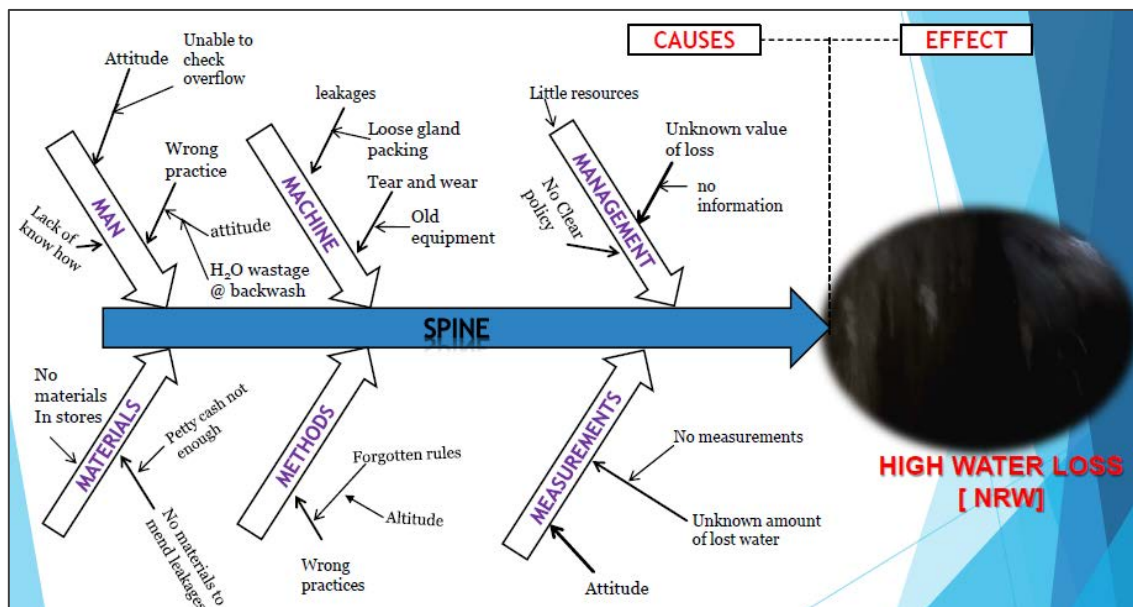
At the beginning of KAIZEN activity in 2015, data collection on water leaks between the Iolanda water purification plant and the Chilanga pump station (around 30km) was conducted to identify causes. At the same time, members of Team Producers visited Varun Beverages in August 2015, which made a pioneering approach by aid of KIZ consultants, to get a hint on field implementation of 5S activity. Then, LWSC decided to review and modify its 5S activity.

Team Producers received the 5S activity fund of 3.975 ZMW from management and started formal activity by confirming the current state using a 5S checklist. In the beginning, little progress has been made due to a large number of 5S-related problems. Under the advice of KIZ consultants, efforts are made to devise actions conducive to problem identification, such as division of the checklist according to theme. In September 2015, KAIZEN activity was launched and extensive cleaning was conducted.

As for water leakage, pipeline inspection and measurement of leaked water volume have been conducted. Then, using an ultrasonic instrument available within the company, water leaks at the Chilanga pump station were measured to determine the nature and extent of the problem. As a result, leaks were found in 9 out of 40 valves. On the other hand, inflow to the Chilanga reservoir cannot be measured due to the absence of meters, but the intake volume from the reservoir is estimated to be around 86,000 square meters per day as judged from daily production of 90,000 square meters at the water purification plant. In consideration of this factor, the action plan has incorporated control of water leakage from valves.

Nevertheless, target setting was delayed and required a few more weeks than the original plan for various reasons, including a delay in budget disbursement and a delay in acquisition of the ultrasonic instrument, so that the full-fledged launching of KAIZEN activity was delayed. Also, as it became clear that LWSC's staff members did not understand 7QC tools and other problem solving techniques well, KIZ consultants conducted a special training course in September 2015.

Fig.1 Problem Analysis of the Iolanda Water Purification Plant by the QC Cause-and-Effect Diagram (Fishbone Chart)



Source: LWSC

Meanwhile, Team Producers decided to evaluate the progress of KAIZEN activity from the user’s standpoint by conducting a user survey to collect baseline data on the water loss problem to collect data on the average hours of water supply. This has allowed LWSC to see the problem from an alternative perspective and to examine priority matters in more detail.

Until 2015, KAIZEN activity at the Iolanda plant was conducted by two teams, Team Producers and Real Time Team, under two different themes of water production and supply. Because of duplication, KIZ consultants recommended them to integrate into one team. Also, in 2015, it was advised to focus on a specific area in the Kafue district to maximize efficiency, rather than covering the entire district. As a result, the action plan and the QCC system have been revised and upgraded in consideration of relationship and duplication between different themes and departments in charge, thus allowing LWSC to take action according to a real condition.

Fig.2: 2015 Action Plan for the Iolanda Water Purification Plant

LWSC KAIZEN ACTION PLAN FLOW MEASUREMENTS IN THE PIPELINE						
SN	ACTIVITY (WHAT)	DETAILS OF WORK	WHO	WHEN	WHY	PR
1	Collect the Sonic meter	ask the technical services to assist with sonic to be used	Senior Engineer	4th sept 2015	to read flow measurements	
2	take the flow measurement at the Iolanda pipeline using the mobile flow meter	connect sonic 1 kilometer from main plant and establish flow side by side fixed meter and take readings for 3 days from 08:00hrs to 15:00hrs	Kaizen team	4 - 6th sept 2015	to check how much Iolanda is producing	
3	take the flow measurement at the Iolanda pipeline using the fixed meter.	read meter for 3 days from 08:00hrs to 15:00hrs	Kaizen team	4 - 6th sept, 2015	to check how much Iolanda is producing	
4	take the flow measurements at 2 kilometer before Chilanga to establish the flow into Chilanga	connect sonic 2 kilometer from main plant and establish flow side by side fixed meter and take readings for 3 days from 08:00hrs to 13:00hrs	Kaizen team	4 - 6th sept, 2015	to establish how much is entering Chilanga	
5	take the flow measurements at 2 kilometer after Chilanga to establish the flow after Chilanga	connect sonic 2 kilometer from main plant and establish flow side by side fixed meter and take readings for 3 days from 13:00hrs to 18:00hrs	Kaizen team	4 - 6th sept, 2015	to find out how much Chilanga is producing	
6	take the flow measurements at the Chilanga fixed flow meter	collect the hourly reading from 13:00hrs to 18:00hrs	Kaizen team	4 - 6th sept, 2015	to find out how much Chilanga is producing	
7	Review Chilanga log sheets	collect data on production figures for 3 days	Kaizen team	4 - 6th sept, 2015	investigate production	
8	Review Iolanda log sheets	collect data on production figures for 3 days	Kaizen team	4 - 6th sept, 2015	investigate production	
9	Verify whether Shamwana tap off works	It was verified that Shamwana tap off works and consumption figures were collected.	Kaizen team	done 2 months ago	establish consumption	
10	Verify whether helpers tap off works	It was verified that helpers is disconnected	Kaizen team	done 1 month ago	establish consumption	
11	establish the Chilanga domestic consumption	to verify domestic consumption quantify	Kaizen team	done 2 months ago	establish consumption	
12	Derive a water balance table	use data collected to derive water balance table	Kaizen team	pending	to check the extent of problem	ir
13	Establish the problem	consult with KIZ on way forward	Kaizen team and KIZ	pending	to find solution	
14	Analysis of data and report formulation	consult KIZ on way forward	Kaizen team and KIZ	pending	to find solution	
15	Presentation of report	consult with KIZ on way forward	Kaizen team and KIZ	pending	to get guidance	
Prepared by						
KAIZEN TEAM - IOLANDA						

Source: LWSC

After preparation of the action plan, Team Producers divided it into two elements, namely 5S and water leak, under the advice of KIZ consultants.

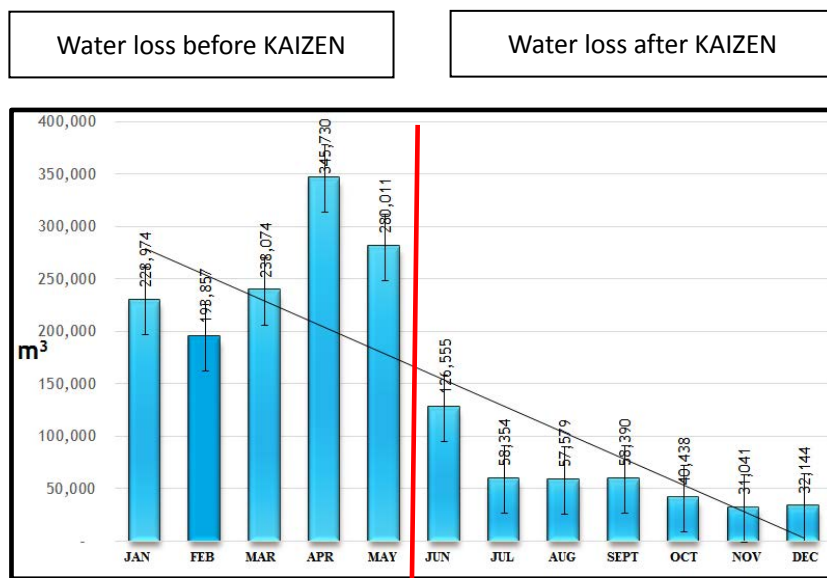
Then, in 2016, as some results were produced for 5S activity and reduction of water leakage at the Iolanda water purification plant, KAIZEN activity moved to the second phase which focused on reduction of water leakage between the Iolanda water purification plant and the Chilanga pump station. Then, Team Producers decided on the 2016 theme for the Iolanda plant, namely "to create orderly and smart workshop by December 2016." On the basis of the achievements and lessons learned from activities in 2015, Team Producers set new targets by combining two key themes, namely 5S and reduction of non-revenue water.

Fig.3: Action Plan for KAIZEN Activity Phase 2 (Iolanda Water Purification Plant)

SN	ACTIVITY (WHAT)	DETAILS OF WORK (HOW)	WHO	WHEN	WHY	PROGRESS
1	Arrange for transport	Arrange for transport to visit the pipeline	Senior Engineer	16th october, 2015	help in repair of leakages	to be done
2	Arrange for the work materials	ensure that materials are available	Kaizen team	16th october, 2015	help in repair of leakages	to be done
3	Engage maintenance crew	Maintenance crew must be involved	Kaizen team	18th october, 2015	help in repair of leakages	to be done
4	Repair the leakages	carry out repairs on the leakages	Kaizen team	20th october,2015	help in repair of leakages	to be done
5	Check measurements	Carry out production figures check up.	Kaizen team	21st october, 2015	help in repair of leakages	to be done
6	take the flow measurements at the chilanga fixed flow meter	collect the hourly reading from 13:00hrs to 18:00hrs	Kaizen team	4 - 6th sept, 2015	to find out how much chilanga is proucing	done
7	Review chilanga log sheets	collect data on production figures for 3 days	Kaizen team	4 - 6th sept, 2015	investigate production	done
8	Review iolanda log sheets	collect data on production figures for 3 days	Kaizen team	4 - 6th sept, 2015	investigate production	done
9	Verify whether shamwana tap off works	It was verified that shamwana tap off works and consumption figures were collected.	Kaizen team	done 2 months ago	establish consumption	done
10	Verify whether helpers tap off works	it was verified that helpers is disconnected	Kaizen team	done 1 month ago	establish consumption	done
11	establish the chilanga domestic consumption	to verify domestic consumption quantify	Kaizen team	done 2 months ago	establish consumption	done
12	Derive a water balance table	use data collected to derive water balance table	Kaizen team	pending	to check the extent of problem	in progress

Source: LWSC

Fig4: Water loss transition at Iolanda Water Purification Plant in 2015



Source: KIZ Consultant

■ Kaseba Water Purification Plant (Team Buffaloes)

Team Buffaloes of the Kaseba water purification plant has been working under a new theme “to prevent production and conveyance loss between the water intake facility and the reservoir by using baseline data collected in 2004. The average rate of water loss in 2014 was 18.2% and the

target reduction was set at 8%.

The Kaseba plant decided on the 2015 target on the basis of data on water supply to the Kafue district in 2014. While the plant takes in water at the daily rate of around 30,000 cubic meters and produces only 23,000 cubic meters. For the difference or loss, causes have been identified and improvement measures have been devised, including the repairing of leaking tanks and improper maintenance by staff members. Finally, a work system has been reviewed.

Then, by using a QC cause-and-effect diagram, key problems were identified, including the overflow from filters and contact tanks, leakage from contact tanks, and overflow from the reservoir. Accurate data were measured and collected, and corrective measures were started with the overflow from filters and tanks. KAIZEN activity at the Kaseba plant characteristically focuses on identification of problems relating to operation and management by staff members, in addition to the repairing of water leaks, so as to deal with a root cause. Also, as some QCCs have proposed measures that rely on budget allocation, KIZ consultants have recommended to devise measures based on self-help efforts, which are expected to promote the change in awareness and attitude of staff members.

5. Results

The rate of water leakage at the Iolanda water purification plant declined from 7.8% per month to 3.6%. It produced the following benefits: (1) higher efficiency allowed one out of four pumps to be stopped, resulting in annual cost reduction of \$329,480; (2) the monthly production cost decreased from \$152,496 to \$32,524; and (3) monthly production increased from 2,893,000 cubic meters to 3,085,000 cubic meters.

6. Analysis of success factors

The largest success factor is that implementation of KAIZEN has caused staff members to cope with work-related issues with a stronger sense of responsibility and to change their passive attitude to wait for the manager's direction to a more active, voluntary one.

Also, the field tour on Varun Beverages, which conducted innovative KAIZEN activity, has promoted the understanding of LWSC staff members by creating opportunity to come up with and apply ideas borrowed from the forerunner's example.

At the same time, encouragement and support by the management has been playing a critical role. As the general manager (Mr.Ngenda) took a lead in teaching 5S to staff members, they had better understanding of KAIZEN Activity. Also, the general manager's support for the KAIZEN team with an aim to promote the most effective use of 7QC tools for problem solving inspires continuous participation by staff members. Furthermore, use of KAIZEN QC tools for data analysis has enabled effective progress management of KAIZEN activity, constituting a model case for continued production of results.

Finally, an incentive paid by the management to employees according to the actual results of

KAIZEN activity has clearly led to the increase in motivation. All in all, KAIZEN activity has contributed greatly to the significant improvement of teamwork, while a strong commitment by team members is considered to be a key success factor.

●KEYS TO SUCCESS●

- 1. Strong commitment by employees to KAIZEN activity**
- 2. Eagerness and strong leadership of the management**
 - **Staff training by the management**
 - **Increase in motivation by an incentive to employees**
- 3. Eagerness and leadership of KAIZEN coordinators**
- 4. Staff training by KIZ consultants**

KAIZEN Consulting for Companies/Organizations in the OJT Program – Case 2

AFIL Engineering

7. Company profile

Name	AFIL Engineering Ltd.
Industry type:	Manufacturing
Number of employees	around 230
Product/service	<p>Manufacturing of heavy and light metal products</p> <p>The heavy metal products section manufactures trailers and their fuel tanks and bodies of trucks used in the mining and agriculture sectors. The light metal products section manufactures furniture, door, window frame and other fittings as well as construction materials for offices and schools. AFIL Engineering was established in 2004 as the engineering department of Agro Fuel Investments Ltd. became independent.</p> <p>Number of QCCs: 14</p>
Number of QCCs	14

8. Current issue

Before the start of KAIZEN activity, no 5S was conducted. The company's workshop was littered with unused equipment and scrap metals, and equipment layout lacked efficiency. Equipment and materials were neither labeled nor assorted, taking up work space. This resulted in low efficiency and safety.

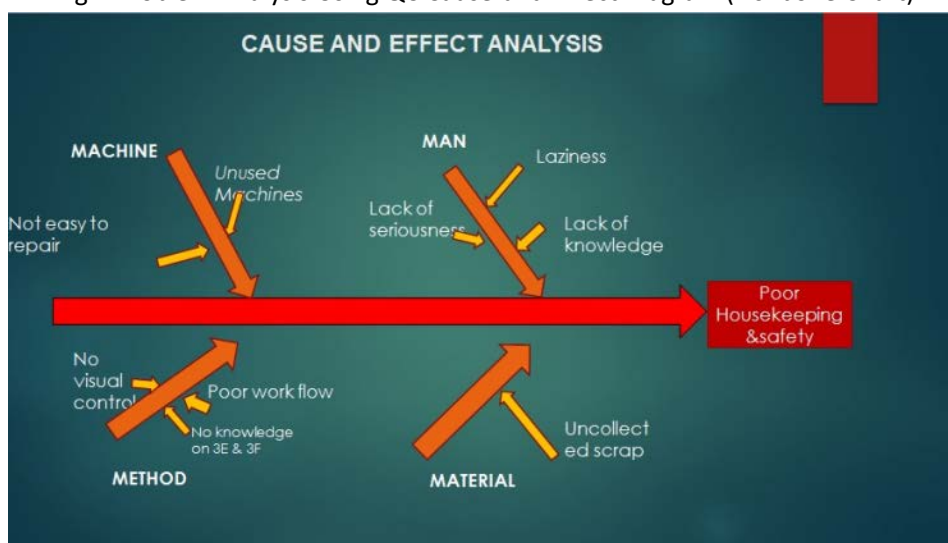
9. Main theme for KAIZEN activity

- 1) Tidying-up and safety management of workshop
- 2) Product quality improvement
- 3) Improvement of customer feedback

10. Deployment of KAIZEN activity

AFIL started KAIZEN activity in 2014 under guidance of KIZ consultants. At the beginning, major challenges and issues to be tackled by QCC teams were identified using a scorecard system. Then, under guidance and advice of KIZ consultants, problem analysis was conducted using a QC cause-and-effect diagram and an action plan was prepared.

Fig.1 Problem Analysis Using QC Cause-and-Effect Diagram (Fishbone Chart)



Source: AFIL Engineering

Fig.2 Action Plan for KAIZEN Activities

KAIZEN ACTION PLAN					
WHAT	WHO	WHEN	WHERE	HOW	BY WHOM
MAN TRAINING	WORKERS AT THE GENBA	30/07/2015 04/08/2015 04/09/2015	AFIL's Work Shop	SEMINAR	
<u>MATERIAL</u> DISPOSE OFF SCRAP	GENBA	DAILY	GENBA	REMOVING THEM	INVOLVING OPERATORS
<u>MACHINE</u> REMOVE UN USED MACHINES	GENBA	MONTHLY	GENBA	INVOLVING WORKERS	INVOLVING MANAGEMENT
<u>ARRANGEMENT</u> REARRANGE MACHINES & TOOLS	GENBA	WEEKLY	GENBA	INVOLVING WORKERS	INVOLVING OPERATORS & MANAGEMENT

Source: AFIL Engineering

Major changes occurred in 2014-16 during which KAIZEN activities were undertaken are as follows.

	Before KAIZEN activity	After the start of KAIZEN activity
1	The workshop floor was littered with unused equipment and scrap metals	Unused equipment was removed and scrap metals were disposed
2	Equipment layout was not efficient.	Efficient layout was made.
3	No label was attached to equipment and materials.	All equipment and materials are labeled.
4	The available workshop space was limited.	The available workshop space has been expanded.

Before KAIZEN activity		After the start of KAIZEN activity
5	No sign was indicated in the workshop.	Signs and other indications have been set in the workshop.
6	No KAIZEN meeting was held on a regular basis.	KAIZEN meeting is held on a regular basis.

Source: Prepared by the JICA project team on the basis of documents and other materials provided by AFIL Engineering

The company faced the following difficulties in its KAIZEN activity.

- ① Due to a wrong image about KAIZEN, some employees were reluctant to participation in KAIZEN activity, which was difficult to change.
- ② Some employees showed resistance to changes and reforms to be brought by KAIZEN activity.
- ③ Other employees did not show strong interest in KAIZEN activity.

To change the mindset of employees, the following measures were taken.

- ① Implementation of 5S lecture in every department
- ② Implementation of 5S lecture in every department
- ③ Making KAIZEN activity an official duty of every employee
- ④ Posting of a KAIZEN activity board in each department to present data on KAIZEN activity
- ⑤ Visit of each QCC team by management to hear concerns and complaints
- ⑥ Encouragement of employees by showing the results of 5S and safety activities as well as teamwork

In the future, to further expand the results of KAIZEN activity, the company intends to raise the morale of employees by conducting 5S training on a continuous basis and rewarding employees according to actual 5S records. Also, KAIZEN meeting will be held on a periodical basis to collect and analyze data including indices on performance evaluation

11. Results

Labels were placed on equipment and materials kept in around 250 locations (200 cabinets and 50 racks). 5S activity has increased work space (around 700 square meters), leading to better layout. As installation spaces for equipment and materials were moved to the workshop, the average distance required to pick up equipment and materials was reduced from around 300m to 5m, equivalent to time reduction of 92%. Finally, standard time was set to use as a performance indicator, which led to improvement of productivity and product quality.

12. Analysis of success factors

Strong interest of the management in KAIZEN activity has led to the improvement of employees' awareness and attitude. Furthermore, the company has been holding KAIZEN meeting (30 minutes) during working hours, twice per week, under the leadership of KAIZEN activity leaders, thereby to share progress in KAIZEN activity throughout the company and help find problems and implement corrective measures effectively.

Furthermore, elaborate training promotes understanding of employees on KAIZEN activity, while the management provides strong support by collecting data on progress of day-to-day KAIZEN activity and giving detailed guidance and advice. Finally, the rewarding of employees who have made notable efforts contributes greatly to high employee motivation.

●Keys to success●

1. Elaborate and well-designed training and support to raise motivation of employees toward KAIZEN activity
2. Enthusiasm and strong leadership of top management
3. Rewarding of employees by management to enhance motivation
4. Holding of periodical KAIZEN meeting to share awareness about progress and problems



Before KAIZEN



After KAIZEN



Before KAIZEN



After KAIZEN

Photo: JICA project team

Skill level of the 1st year KIZ consultant

No	Name	Age	Previous Organization	Previous Position	Average level		
					Initial Stage (30/05/ 2014)	Interim Stage (10/12/ 2014)	Final Stage (30/10/ 2015)
1	Mrs.Peggy Kaunda Chituta	44	Zambia Bureau of Standards (ZABS)	Metrology Manager	12/10=1.2	36/10=3.6	47/10=4.7
2	Mr. Bernard Wamundila (KIZ employee)	50	Northern Technical College (NORTEC)	Quality Assurance Manager	24/10=2.4	35/10=3.5	47/10=4.7
3	Mr. Dismas Chapula	36	Ministry of Commerce, Trade and Industry (MCTI)	Economist - Industrial Monitoring & Evaluation	21/10=2.1	39/10=3.9	48/10=4.8
4	Mr. Gabriel Musentekwa	49	Zambia Development Agency (ZDA)	Academy Coordinator	10/10=1.0	38/10=3.8	48/10=4.8
5	Mr. John Kapenda	43	Road Development Agency (RDA)	Senior Manager Monitoring & Evaluation	25/10=2.5	38/10=3.8	48/10=4.8
6	Ms. Muchemwa Siame	29	National Productivity Development Department (NPDD)	Senior Productivity Measurement Officer	10/10=1.0	28/10=2.8	46/10=4.6
7	Mr. Malioty Kaimba	32	National Productivity Development Department (NPDD)	Occupational Assistance Officer	16/10=1.6	27/10=2.7	
	Mr. McLean Sakala	41	Medical Store Ltd.	Quality Assurance Manager	14/10=1.4	29/10=2.9	
	Mr. Ndiwa Mutelo	37	Road Development Agency (RDA)	Monitoring & Evaluation Officer	24/10=2.4	-	
Average					1.73	3.38	4.73

Level 1: Do not have necessary knowledge and skills

Level 2: Have necessary knowledge and skills , but no experience of consulting

Level 3: Able to render consulting with an expert's guidance in some cases

Level 4: Able to render consulting without expert's guidance

Level 5: Able to render consulting by himself/herself and to train junior consultants

Skill Map for 1st Year KIZ Consultant

No.1

Name	Ms Peggy Chituta														
Knowledge & Skills for KAIZEN	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X							X							X
Basic production mgt.	X							X							X
KAIZEN	X								X						X
5S	X								X						X
Visual control	X							X							X
Method study	X							X						X	
Work measurement	X							X						X	
Work sampling	X							X						X	
Layout	X						X						X		
Line balance	X						X						X		
Inventory ctrl.	X							X							X
QCC	X								X						X
SQC	X							X							X
7 QC tools	X							X							X
Cost mgt.	X						X						X		
Lean production	X						X						X		
TPM	X						X						X		
TQM	X							X					X		
ISO			X							X					X
Management of KAIZEN Implementation	X								X						X
Average level	12/10=1.2					36/10=3.6					47/10=4.7				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.2

Name	Mr Bernard Wamundila														
Knowledge & Skills for KAIZEN	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality		X						X						X	
Basic production mgt.		X						X						X	
KAIZEN		X								X					X
5S			X							X					X
Visual control		X						X							X
Metod study	X						X						X		
Work measurement	X						X						X		
Work sampling	X						X							X	
Layout	X						X								X
Line balance	X						X							X	
Inventory ctrl.		X					X								X
QCC			X							X					X
SQC		X						X					X		
7 QC tools			X				X								X
Cost mgt.		X					X						X		
Lean production	X						X						X		
TPM			X					X							X
TQM			X					X						X	
ISO		X						X						X	
Management of KAIZEN Implementation			X							X					X
Average level	24/10=2.4					35/10=3.5					47/10=4.7				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.3

Name	Mr Dismas Chapula														
Knowledge & Skills for KAIZEN	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality		X								X					X
Basic production mgt.			X						X						X
KAIZEN		X								X					X
5S			X							X					X
Visual control		X						X							X
Metod study		X						X						X	
Work measurement		X						X						X	
Work sampling		X						X							X
Layout		X						X							X
Line balance		X						X							X
Inventory ctrl.		X						X						X	
QCC		X								X					X
SQC		X						X						X	
7 QC tools		X						X						X	
Cost mgt.		X						X						X	
Lean production		X						X						X	
TPM		X						X						X	
TQM		X							X						X
ISO		X	X					X							X
Management of KAIZEN Implementation		X								X					X
Average level	21/10=2.1					39/10=3.9					48/10=4.8				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.4

Name	Mr Gabriel Musentekwa														
Knowledge & Skills for KAIZEN	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/11/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X								X						X
Basic production mgt.	X								X						X
KAIZEN	X									X					X
5S	X									X					X
Visual control	X								X						X
Method study	X								X						X
Work measurement	X								X					X	
Work sampling	X								X						X
Layout	X							X							X
Line balance	X							X						X	
Inventory ctrl.	X									X					X
QCC	X							X							X
SQC	X							X							X
7 QC tools	X								X						X
Cost mgt.	X								X						x
Lean production	X								X					X	
TPM	X							X							X
TQM	X							X						X	
ISO	X							X						X	
Management of KAIZEN Implementation	X								X						X
Average level	10/10=1.0					38/10=3.8					48/10=4.8				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.5

Name	Mr John Kapenda														
Knowledge & Skills for KAIZEN	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality		X						X						X	
Basic production mgt.	X						X							X	
KAIZEN		X							X						X
5S		X							X						X
Visual control	X							X							X
Method study		X						X					X		
Work measurement		X						X					X		
Work sampling		X						X						X	
Layout	X						X							X	
Line balance		X						X						X	
Inventory ctrl.		X							X						X
QCC			X							X					X
SQC	X							X						X	
7 QC tools			X						X						X
Cost mgt.		X							X						X
Lean production	X							X						X	
TPM	X							X					X		
TQM			X						X						X
ISO		X						X						X	
Management of KAIZEN Implementation			X						X						X
Average level	25/10=2.5					38/10=3.8					48/10=4.8				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.6

Name	Ms Muchemwa Siame														
	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
Knowledge & Skills for KAIZEN	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X							X						X	
Basic production mgt.	X						X					X			
KAIZEN	X								X						X
5S	X								X						X
Visual control	X							X							X
Method study	X					X						X			
Work measurement	X					X						X			
Work sampling	X					X								X	
Layout	X							X						X	
Line balance	X					X						X			
Inventory ctrl.	X							X							X
QCC	X								X						X
SQC	X						X					X			
7 QC tools	X								X					X	
Cost mgt.	X					X						X			
Lean production	X					X						X			
TPM	X					X							X		
TQM	X					X								X	
ISO	X					X								X	
Management of KAIZEN Implement.	X							X							X
Average level	10/10=1.0					28/10=2.8					46/10=4.6				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.7

Name	Mr Malioty Kaimba														
	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
Knowledge & Skills for KAIZEN	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X							X							
Basic production mgt.	X						X								
KAIZEN		X						X							
5S		X						X							
Visual control		X						X							
Method study	X						X								
Work measurement	X						X								
Work sampling	X						X								
Layout	X						X								
Line balance	X						X								
Inventory ctrl.	X							X							
QCC		X						X							
SQC	X						X								
7 QC tools		X						X							
Cost mgt.	X						X								
Lean production	X						X								
TPM	X						X								
TQM		X					X								
ISO	X							X							
Management of KAIZEN Implementation	X						X								
Average level	16/10=1.6					27/10=2.7									

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.8

Name	Mr MacLean Sakala														
	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (30/10/2015)				
	Level					Level					Level				
Knowledge & Skills for KAIZEN	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality	X							X							
Basic production mgt.	X							X							
KAIZEN	X							X							
5S	X							X							
Visual control	X							X							
Method study	X							X							
Work measurement	X						X								
Work sampling	X							X							
Layout	X							X							
Line balance	X							X							
Inventory ctrl.	X							X							
QCC	X						X								
SQC		X						X							
7 QC tools		X						X							
Cost mgt.	X						X								
Lean production	X							X							
TPM	X							X							
TQM		X						X							
ISO			X					X							
Management of KAIZEN Implementation	X							X							
Average level	14/10=1.4					29/10=2.9									

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 1st Year KIZ Consultant

No.9

Name	Mr Ndiwa Mutelo														
Knowledge & Skills for KAIZEN	Initial Level (30/05/2014)					Interim stage (10/12/2014)					Final stage (15/11/2015)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity & Quality		X													
Basic production mgt.		X													
KAIZEN			X												
5S			X												
Visual control	X														
Method study	X														
Work measurement	X														
Work sampling		X													
Layout	X														
Line balance	X														
Inventory ctrl.		X													
QCC			X												
SQC		X													
7 QC tools			X												
Cost mgt.		X													
Lean production	X														
TPM	X														
TQM			X												
ISO		X													
Management of KAIZEN Implementation		X													
Average level	24/10=2.4														

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Level of the 2nd year KIZ Consultant

No	Name	Age	Previous Organization	Previous Position	Average level		
					Initial Stage (10/04/ 2015)	Interim Stage (30/10/ 2015)	Final Stage (10/10/ 2016)
1	Ms. Monica M. Mwichhe	42	Kafubu Water and Sewerage Company	Quality Control Manager	16/10= 1.6	38/10= 3.8	49/10=4.9
2	Mr. Howard Musonda	39	Mulonga Water and Sewerage Co	Manager Peri Urban	13/10= 1.3	41/10= 4.1	48/10=4.8
3	Ms. Sarah Shawa	33	Zambia Bureau of Standards	Senior Inspector – IQMS	19/10= 1.9	38/10= 3.8	49/10=4.9
4	Mr. Fred Sichikolo	28	Self employed	Transport engineer	15/10= 1.5	35/10= 3.5	46/10=4.6
5	Mr. Mambo Chiluwe	46	Mach Consultancy Services	Managing Consultant	10/10= 1.0		
6	Mr. John Hikanyemu	47	Ministry of Agriculture and Livestock	Senior Irrigation Engineer	16/10= 1.6		
7	Ms. Mutale C. Sichone	26	Gizmos/Arention	Intern	10/10= 1.0		
Average					1.41	3.80	4.80

Level 1: Do not have necessary knowledge and skills

Level 2: Have necessary knowledge and skills , but no experience of consulting

Level 3: Able to render consulting with an expert's guidance in some cases

Level 4: Able to render consulting without expert's guidance

Level 5: Able to render consulting by himself/herself and to train junior consultants

Skill Map for 2nd Year KIZ Consultant

No.1

Name	Ms. Monica Mwiche														
Knowledge & Skills for KAIZEN	Initial stage (10/04/2015)					Interim stage (30/10/2015)					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality		X						X							
Basic production mgt.		X						X							
KAIZEN		X								X					X
5S		X								X					X
Visual control	X									X					X
Method study	X						X							X	
Work measurement	X							X						X	
Work sampling	X							X						X	
Layout	X						X							X	
Line balance	X						X							X	
Inventory ctrl.		X						X							X
QCC		X								X					X
SQC	X								X					X	
7 QC tools		X							X						X
Cost mgt.		X						X						X	
Lean production	X							X							X
TPM	X							X						X	
TQM		X							X						X
ISO			X						X						X
Problem solving		X								X					X
Standardization			X							X					X
Providing good guidance for KAIZEN activity	X								X						X
Average level	16/10=1.6					38/10=3.8					49/10=4.9				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 2nd Year KIZ Consultant

No.2

Name	Mr. Howard Musonda														
Knowledge & Skills for KAIZEN	Initial stage (10/04/2015)					Interim stage (30/10/2015)					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality		X							X						X
Basic production mgt.		X							X						X
KAIZEN	X								X						X
5S		X								X					X
Visual control	X									X					X
Method study	X								X					X	
Work measurement	X								X					X	
Work sampling	X								X					X	
Layout	X								X					X	
Line balance	X								X					X	
Inventory ctrl.		X								X					X
QCC	X									X					X
SQC	X								X					X	
7 QC tools		X							X						X
Cost mgt.		X								X					X
Lean production	X								X				X		
TPM	X								X					X	
TQM	X							X							X
ISO	X							X						X	
Problem solving		X						X						X	
Standardization		X						X				X			
Providing good guidance for KAIZEN activity	X							X							X
Average level	13/10=1.3					41/10=4.1					48/10=4.8				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 2nd Year KIZ Consultant

No.3

Name	Ms Sarah Shawa														
Knowledge & Skills for KAIZEN	Initial stage (4/05/2015)					Interim stage (30/10//2015)					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality	X							X							x
Basic production mgt.	X							X							x
KAIZEN		X							X						x
5S		X								X					x
Visual control	X								X						x
Method study	X							X						x	
Work measurement	X							X						x	
Work sampling	X						X							x	
Layout	X							X							x
Line balance	X							X							x
Inventory ctrl.	X								X						x
QCC			X						X						x
SQC	X							X							x
7 QC tools		X						X							x
Cost mgt.	X							X						x	
Lean production		X					X								x
TPM	X							X							x
TQM		X						X							x
ISO			X							X					x
Problem solving		X						X							x
Standardization			X						X						x
Providing good guidance for KAIZEN activity		X							X						x
Average level	19/10=1.9					38/10=3.8					49/10=4.9				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 2nd Year KIZ Consultant

No.4

Name	Mr. Fred Sichikolo														
Knowledge & Skills for KAIZEN	Initial stage (21/04/2015)					Interim stage (30/10/2015)					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality		X						X							x
Basic production mgt.		X						X							x
KAIZEN		X							X						x
5S		X								X					x
Visual control	X								X						x
Method study	X						X								x
Work measurement	X						X							x	
Work sampling	X							X							x
Layout	X							X							x
Line balance	X						X						x		
Inventory ctrl.	X							X						x	
QCC	X							X							x
SQC	X						X							x	
7 QC tools		X						X							x
Cost mgt.		X							X						x
Lean production	X						X							x	
TPM		X					X							x	
TQM		X						X						x	
ISO	X							X					x		
Problem solving		X						X							x
Standardization		X					X							x	
Providing good guidance for KAIZEN activity		X							X						x
Average level	15/10=1.5					35/10=3.5					46/10=4.6				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's guidance in some cases (3 points)

Level 4: Able to render consulting without expert's guidance (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Level of the 3rd year KIZ Consultant

No	Name	Age	Previous Organization	Previous Position	Average level		
					Initial Stage (07/04/ 2016)	Interim Stage	Final Stage (10/10/ 2016)
1	Mr. Voster Nkukumbani		Chikankata District Council	Trainee Planning Officer	11/10=1.1	-	43/10= 4.3
2	Ms. Febby Msango		(Graduated in 2014)		13/10=1.3	-	-
3	Ms. Praise Luwaile		Electoral Commission of Zambia	Assistant Registration Officer	11/10=1.1	-	40/10= 4.0
4	Ms. Bwalya Mwansa Tembo		Ministry of Agriculture Fisheries and Livestock	Senior Live Stock Production Officer	12/10=1.2	-	42/10= 4.2
5	Ms. Vasumathi Vriddhagiri		Iyso Consultants, Lusaka	Consultant	27/10=2.7	-	46/10= 4.6
6	Mr. Aaron Magwenzi		(Graduated in 2015)		21/10=2.1	-	44/10= 4.4
7	Mr. Gilbert Kaprios		Optimus Building and Civil Contractors	Operations and Marketing Executive	18/10=1.8	-	43/10= 4.3
8	Mr. Webster Chibwanda Hamoonga		Kankola Copper Mine		17/10=1.7	-	-
Average					1.63		4.3

Level 1: Do not have necessary knowledge and skills

Level 2: Have necessary knowledge and skills , but no experience of consulting

Level 3: Able to render consulting with an expert's guidance in some cases

Level 4: Able to render consulting without expert's guidance

Level 5: Able to render consulting by himself/herself and to train junior consultants

Skill Map for 3rd Year Consultant

Name	Mr. Aaron Magwenzi														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality			X											X	
Basic production mgt.			X												X
KAIZEN		X													X
5S		X													X
Visual control	X														X
Method study			X											X	
Work measurement			X											X	
Work sampling			X											X	
Layout		X											X		
Line balance			X											X	
Inventory ctrl.			X											X	
QCC/Team Work		X													X
SQC	X												X		
7 QC tools	X														X
Cost mgt.		X											X		
Lean production		X											X		
TPM		X											X		
TQM			X										X		
ISO		X											X		
Problem solving		X													X
Standardization		X												X	
Providing good guidance for KAIZEN activity		X													X
Average level	21/10=2.1										44/10=4.4				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Mr. Voster Nkukumbani														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality		X													X
Basic production mgt.		X												X	
KAIZEN		X													X
5S	X														X
Visual control	X														X
Method study	X													X	
Work measurement	X												X		
Work sampling	X													X	
Layout	X													X	
Line balance	X													X	
Inventory ctrl.	X													X	
QCC/Team Work	X														X
SQC	X													X	
7 QC tools	X														X
Cost mgt.	X													X	
Lean production	X													X	
TPM	X													X	
TQM	X												X		
ISO	X												X		
Problem solving	X													X	
Standardization		X											X		
Providing good guidance for KAIZEN activity	X													X	
Average level	11/10=1.1					-					43/10=4.3				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Mr. Webster Chibwanda Hamoonga														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality		X													
Basic production mgt.		X													
KAIZEN	X														
5S					X										
Visual control		X													
Method study		X													
Work measurement		X													
Work sampling		X													
Layout		X													
Line balance		X													
Inventory ctrl.	X														
QCC/Team Work	X														
SQC	X														
7 QC tools	X														
Cost mgt.	X														
Lean production	X														
TPM	X														
TQM		X													
ISO	X														
Problem solving		X													
Standardization	X														
Providing good guidance for KAIZEN activity	X														
Average level	17/10=1.7														

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Ms. Praise Luwaile														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality	X														X
Basic production mgt.	X														X
KAIZEN		X													X
5S	X														X
Visual control	X													X	
Method study	X												X		
Work measurement	X												X		
Work sampling	X													X	
Layout	X													X	
Line balance	X												X		
Inventory ctrl.	X													X	
QCC/Team Work	X														X
SQC	X												X		
7 QC tools	X												X		
Cost mgt.	X													X	
Lean production	X												X		
TPM	X													X	
TQM	X												X		
ISO	X												X		
Problem solving	X														X
Standardization	X														X
Providing good guidance for KAIZEN activity	X													X	
Average level	11/10=1.1										40/10=4.0				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Ms. Bwalya Mwansa Tembo														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality	X														X
Basic production mgt.	X													X	
KAIZEN	X														X
5S	X														X
Visual control	X														X
Method study	X												X		
Work measurement	X													X	
Work sampling		X												X	
Layout	X												X		
Line balance	X												X		
Inventory ctrl.	X													X	
QCC/Team Work		X													X
SQC	X													X	
7 QC tools	X													X	
Cost mgt.	X													X	
Lean production	X														X
TPM	X													X	
TQM	X												X		
ISO	X												X		
Problem solving		X													X
Standardization	X													X	
Providing good guidance for KAIZEN activity	X													X	
Average level	12/10=1.2										42/10=4.2				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Ms. Febby Msango														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality		X													
Basic production mgt.	X														
KAIZEN		X													
5S		X													
Visual control	X														
Method study	X														
Work measurement	X														
Work sampling	X														
Layout	X														
Line balance	X														
Inventory ctrl.	X														
QCC/Team Work		X													
SQC	X														
7 QC tools	X														
Cost mgt.	X														
Lean production	X														
TPM	X														
TQM	X														
ISO	X														
Problem solving	X														
Standardization	X														
Providing good guidance for KAIZEN activity	X														
Average level	13/10=1.3														

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Ms. Vasumathi Vriddhagiri														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality			X												X
Basic production mgt.	X												X		
KAIZEN			X												X
5S				X											X
Visual control				X											X
Method study			X											X	
Work measurement				X										X	
Work sampling		X												X	
Layout		X													X
Line balance	X													X	
Inventory ctrl.			X												X
QCC/Team Work		X													X
SQC	X												X		
7 QC tools		X												X	
Cost mgt.		X												X	
Lean production	X												X		
TPM		X												X	
TQM		X											X		
ISO		X													X
Problem solving			X												X
Standardization		X													X
Providing good guidance for KAIZEN activity			X												X
Average level	27/10=2.7										46/40=4.6				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Skill Map for 3rd Year Consultant

Name	Mr. Gilbert Kiprios														
Knowledge & Skills for KAIZEN	Initial stage (07/04/2016)					Interim stage					Final stage (10/10/2016)				
	Level					Level					Level				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Productivity and Quality			X												X
Basic production mgt.				X											X
KAIZEN		X												X	
5S	X														X
Visual control	X													X	
Method study				X											X
Work measurement				X											X
Work sampling				X											X
Layout			X											X	
Line balance		X											X		
Inventory ctrl.		X												X	
QCC/Team Work		X													X
SQC		X												X	
7 QC tools		X													X
Cost mgt.		X											X		
Lean production		X											X		
TPM		X												X	
TQM		X											X		
ISO		X											X		
Problem solving		X													X
Standardization		X											X		
Providing good guidance for KAIZEN activity		X													X
Average level	18/10=1.8										43/10=4.3				

Note 1) Level 1: Do not have necessary knowledge and skills (1 point)

Level 2: Have necessary knowledge and skills, but no experience of consulting (2 points)

Level 3: Able to render consulting with an expert's advice in some cases (3 points)

Level 4: Able to render consulting without expert's advice (4 points)

Level 5: Able to render consulting by himself/herself and to train junior consultants (5 points)

Note 2) Average level is calculated based on the 10 core skills indicated in bold letters.

Note 3) Average level 3.5 or above will be acceptable as a certified KAIZEN consultant.

Schedule of Training Program in Japan 2014 for the National KAIZEN Project
in the Republic of Zambia

Month / Day		Morning / Afternoon	Items
Oct 12	Sun	13:15	Move from Lusaka via Johannesburg
Oct 13	Mon	Evening	Move from Hong Kong to Tokyo
Oct 14	Tue	09:00-12:00	Opening ceremony, JICA Briefing
		13:00-15:00	JPC Program Orientation
		15:10-16:40	Lecture "The strategy, organization and management of JPC"
Oct 15	Wed	09:30-16:30	Lecture "Practical Consulting for Production Management and Quality Management of JPC" Move to Osaka
Oct 16	Thr	10:00-12:00	Site visit: case of improvement through KAIZEN in manufacturing sector. Yamada Manufacturing Co.Ltd
		13:30-15:00	Site visit: case of improvement through KAIZEN in service sector. Kyoto Takeda Hospital. Move to Nagoya
Oct 17	Fri	10:00-12:00	Practice of productivity and quality improvement in Toyota Motor Corp
		13:30-15:30	"Organization and activities of Chubu Productivity Center"
Oct 18	Sat		Move to Tokyo
Oct 19	Sun		
Oct 20	Mon	09:00-17:00	Participation in the International Conference on Quality (ICQ) 2014, held by the Union of Japanese Scientists and Engineers (JUSE) 1st Day
Oct 21	Tue	09:00-17:00	Participation in the International Conference on Quality (ICQ) 2014, held by the Union of Japanese Scientists and Engineers (JUSE) 2nd Day
Oct 22	Wed	10:00-12:00	Site visit: SME manufacturing sector: Fuji Seira Co.Ltd
		13:30-15:30	Visit to: Machida City Council
Oct 23	Thr	09:30-10:30	Japan Standards Association (JSA)
		11:30-12:30	Asian Productivity Organization (APO)
		14:00-16:00	"Organization and activities of the Union of Japanese Scientists and Engineers (JUSE)"
Oct 24	Fri	09:30-11:30	Presentation and discussion for the utilization of outcomes of the training
		11:30 -13:00	Evaluation Meeting & Closing ceremony
Oct 25	Sat		Move from Tokyo, via Hong Kong
Oct 26	Sun		Move via Johannesburg to Lusaka

Source: JICA Project Team

Schedule of Training Program in Japan 2016 for the National KAIZEN Project
in the Republic of Zambia

Date		Time	Content	Accommodation
22-Aug	Mon		Lusaka - Addis Ababa	-
23-Aug	Tue		Addis Ababa - Bangkok	Bangkok
		Evening	Attend 2016 International Convention on Quality Control Circles (ICQCC) welcome reception	
24-Aug	Wed	All Day	2016 ICQCC Opening Session/Keynote	Bangkok
			Presentations (Attend each session)	
25-Aug	Thu	All Day	Presentations (Attend each session)	Bangkok
			Attend Farewell Banquet	
26-Aug	Fri	All Day	Industrial Visit	-
			Leave Bangkok at night	
27-Aug	Sat		Arrive Narita Bangkok - Narita	Tokyo
28-Aug	Sun	All Day		Tokyo
29-Aug	Mon	9:00-10:30	JICA Briefing, Orientation	Osaka
		11:00-12:00	Lecture "History of Productivity Movement" (JPC)	
		13:30-15:30	Lecture "The strategy, organization and management of JPC /JPC's consultation activities, consultant training and accreditation" (JPC)	
			Move to Osaka	
30-Aug	Tue	9:00-11:45	Site visit: Yamada Manufacturing Co. Ltd.,	Nagoya
		14:00-17:00	Site visit: case of improvement through KAIZEN in service sector. Kyoto Takeda Hospital	
			Move to Nagoya	
31-Aug	Wed	10:30-13:00	Site Visit: Toyota Motor Corp., Motomachi Plant	Tokyo
		15:00-17:00	Lecture: "Productivity and Quality management by ChuSanRen / Consulting services by ChuSanRen" (ChuSanRen)	
			Move to Tokyo	
1-Sep	Thu	9:30-10:30	Site Visit: Musashino, Co.Ltd.	Tokyo
		14:00-16:00	Site Visit: Saitma City	
2-Sep	Fri	10:00-12:00	Lecture: "Introduction to JUSE and TQM" (JUSE)	Tokyo
		14:00-15:30	Presentation and discussion for the utilization of outcomes of the training	
			Closing ceremony	
3-Sep	Sat	PM	Narita - Bangkok	-
4-Sep	Sun	PM	Bangkok - Addis Ababa - Lusaka	-

List of Equipment for the Project

Equipment	Article Number, Standard	Classification
Vehicle	Mitsubishi Pajero(ALP8688)	Vehicle for field survey
Lap Top PC 1	HP4540 Probook	Equipment for field survey
Lap Top PC 2	HP4540 Probook	Equipment for field survey
Lap Top PC 4	HP 450 G2 Probook	Provision of equipment
Printer 1	HP Pro100 Laser Printer	Equipment for field survey
Printer 2	Canon Laser Printer MF8280Cw	Equipment for field survey
Printer 3	Canon Laser Printer MF8280Cw	Equipment for field survey
Projector 1	Epson Powerlite Presenter 1	Equipment for field survey
Projector 2	Epson Powerlite Presenter 2	Equipment for field survey
Projector 3	Epson Powerlite Presenter 3	Provision of equipment
Screen 1	Projector Screen WallMount1520×2030	Provision of equipment
Screen 2		Equipment for field survey
Screen 3		Equipment for field survey