Ghana Education Service
Ministry of Education
The Republic of Ghana

Project for Strengthening
the Capacity of INSET Management
in the Republic of Ghana

Project Completion Report

March 2013

JAPAN INTERNATIONAL COOPERATION AGENCY

PADECO Co., Ltd.

Ghana Education Service
Ministry of Education
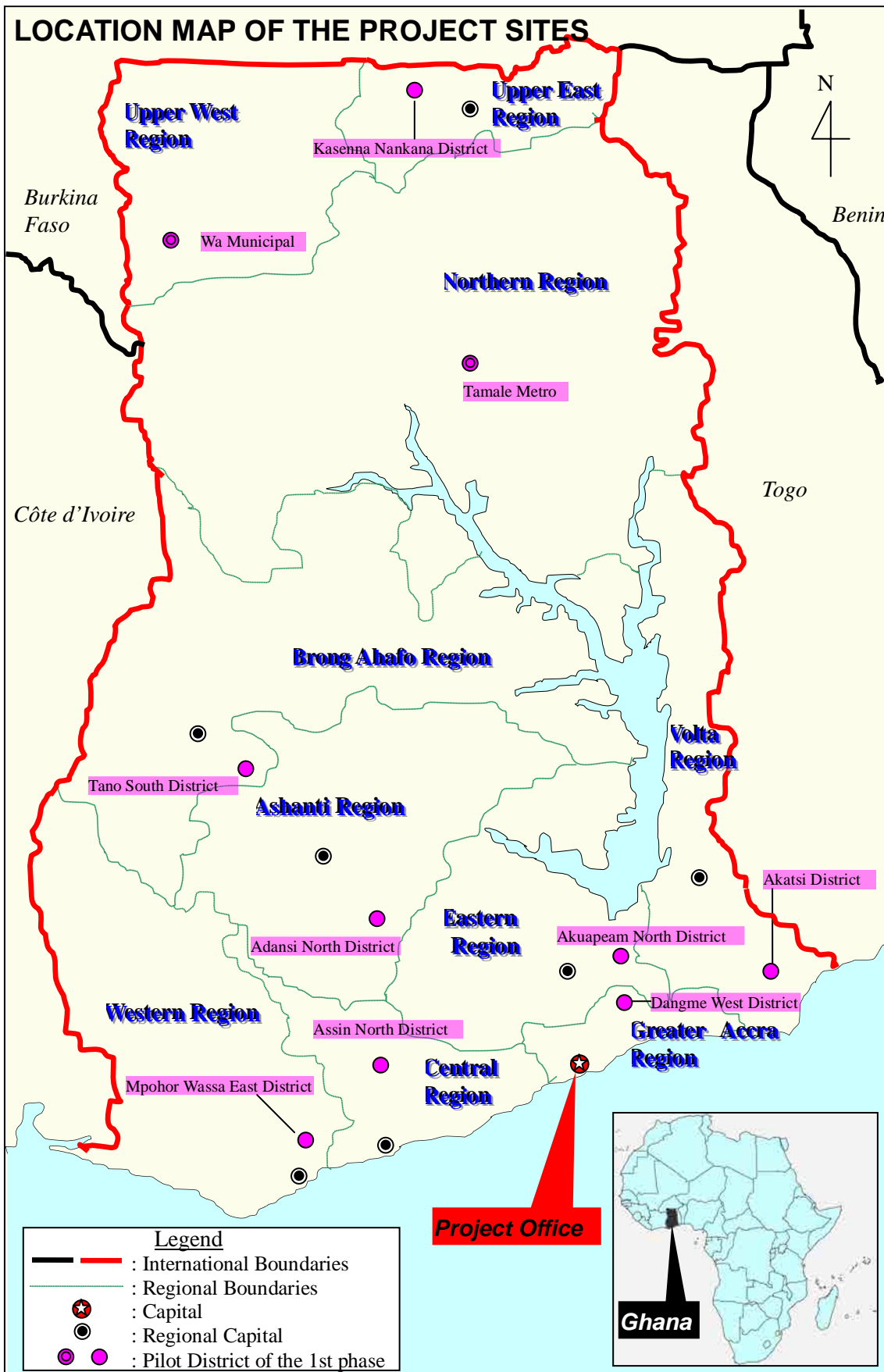**The Republic of Ghana**

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LOCATION MAP OF THE PROJECT SITES

Upper West Region

Upper East Region

Burkina Faso

Benin

Kasenna Nankana District

Wa Municipal

Northern Region

Tamale Metro

Côte d'Ivoire

Togo

Brong Ahafo Region

Volta Region

Tano South District

Ashanti Region

Akatsi District

Adansi North District

Eastern Region

Akuapeam North District

Western Region

Assin North District

Dangme West District

Greater Accra Region

Mpohor Wassa East District

Central Region

Project Office

Ghana

Legend

— : International Boundaries

--- : Regional Boundaries

⊛ : Capital

◉ : Regional Capital

◉ ● : Pilot District of the 1st phase

District Teacher Support Team (DTST) Training

National INSET Committee (NIC) Meeting

School Based INSET (SBI) (Peer Teaching)

SBI (Demonstration Lesson)

Project Office (TED)

Terminal Evaluation

Participants of Joint Coordinate Committee (JCC) Meeting held on 30th Jan 2013

Table of Contents

Appendices

List of Figures

List of Tables

```
┌─────────────────────────────────────┐
│      Exchange Rate (February 2013)   │
│         USD 1 = JPY 91.04            │
│        GHS 1 = JPY 48.364            │
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Abbreviations and Acronyms

AD	Assistant Director
ADEOP	Annual District Education Operational Plan
ADPR	Annual District Performance Report
ASEI	Activity, Student, Experiment, Improvisation
AESOP	Annual Education Sector Operational Plan
AIPR	Annual INSET Progress Report
BED	Basic Education Division
CBI	Cluster-Based INSET
CL	Curriculum Leader
CODE	Conference of Directors of Education
COE	College of Education
CRDD	Curriculum Research and Development Division
CS	Circuit Supervisor
DDE	District Director of Education
DEO	District Education Office
DFID	Department for International Development
DG	Director General
DIC	District INSET Committee
DMT	District Master Trainer
DTO	District Training Officer
DTST	District Teacher Support Team
EMIS	Education Management Information System
ESP	Education Strategic Plan
FCUBE	Free Compulsory Universal Basic Education
GES	Ghana Education Service
GHS	Ghanaian Cedi
GNAT	Ghana National Association of Teachers
GOG	Government of Ghana
GPEF	Global Partnership for Education Funds
GPEG	Ghana Partnership for Education Grant
HT	Head Teacher
INSET	In-Service Training
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency

JPY	Japanese Yen
LOS	Lesson Observation Sheet
M/M	Minutes of Meeting
MOE	Ministry of Education
MOES	Ministry of Education and Sports
MT	Master Trainer
MTEF	Medium Term Expenditure Framework
NEA	National Education Assessment
NIC	National INSET Committee
NIU	National INSET Unit
NT	National Trainer
NTC	National Teaching Council
OJT	On-the-Job-Training
OVI	Objectively Verifiable Indicator
PBME	Planning, Budgeting, Monitoring and Evaluation Division
PDM	Project Design Matrix
PFY	Project Fiscal Year
PTPDM	Pre-Tertiary Teacher Professional Development and Management
R/D	Record of Discussion
RDE	Regional Director of Education
REO	Regional Education Office
RMT	Regional Master Trainer
SBI	School-Based INSET
SMASE-WECSA	Strengthening of Mathematics and Science Education in Western, Eastern Central and Southern Africa
SRIMPR	Statistics, Research, Information Management and Public Relations
STM Project	Project of Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education
TED	Teacher Education Division
TLM	Teaching and Learning Materials
UNICEF	The United Nations Children's Fund
UTDBE	Untrained Teacher Training Diploma in Basic Education

EXECUTIVE SUMMARY

The Government of Ghana (GOG) has identified education as a key area for national development, and ensured the free access and retention of children in basic education in the Education Act. Various related policies and strategies such as an Education Strategic Plan (ESP) for 2003–2015 have accelerated the improvement of access to basic education. However, issues related to the quality of education still remain, mainly owing to the lack of teachers' teaching skills. In-Service Training (INSET) is widely recognised as one of the best strategies to enhance teaching skills, thereby providing a means to address the issue. Several INSET programmes have been organised in the past. However, they were mostly supply-driven, and therefore School-based INSET and Cluster-based INSET (SBI/CBI) have thus been captured as a demand-driven INSET.

The Government of Japan implemented technical cooperation twice in the past, since 2000. These projects supported developing the INSET model in Mathematics and Science in public Primary schools. The Ghana Education Service (GES) has initiated the Nationwide INSET Programme since 2009 to implement the INSET model. The Japan International Cooperation Agency (JICA) has implemented "the Project for Strengthening the Capacity of INSET Management" for three years and nine months from June 2009 to March 2013, aimed at strengthening the structure and quality of the INSET management system in collaboration with the Teacher Education Division (TED) of the GES as a counterpart.

1. Outline of the Project

The Project aims to strengthen the management of INSET and improve its quality in line with the Nationwide INSET Programme. The Project Design Matrix (PDM) has been revised twice; Version No. 3 prescribes its goals and outputs as follows:

Super Goal:	Pupils' performance is improved.
Overall Goal: **(Target year 2016)**	Teaching abilities of public Primary school teachers in the area of Mathematics and Science are improved.
Project Purpose: **(Target year 2013)**	The nationwide management system for a structured and quality INSET of Mathematics and Science is established and reinforced.
Output 1:	The capacity of the National INSET Unit (NIU) for managing INSET is strengthened.
Output 2:	The capacity of the Regional Master Trainers (RMTs[1]) and District Master Trainers (DMTs) for INSET delivery is enhanced.
Output 3:	The capacity of the District INSET Committee (DIC) for managing INSET and the District Teacher Support Team (DTST) for INSET delivery is enhanced.
Output 4:	Monitoring and evaluation system is established and enhanced for a structured and quality INSET.
Output 5:	The supporting system for INSET is strengthened.

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[1] RMTs refer to National Trainers (NTs) in PDM version No. 1

2. Resources Required for the Project

9 JICA experts were dispatched for 2,778 assignment days (92.6 months) in Ghana (inclusive of travel days), and worked for 46 assignment days (1.5 months) out of Ghana. The GES provided 12 counterparts to the Project with the Project office located in the TED. Expenses incurred in the project were covered by JICA and GOG, Japanese Yen (JPY) 49,551,264 and Ghanaian Cedi (GHS) 366,026 respectively. JICA provided 30 motor bikes to District Education Office (DEO) and cars and necessary equipment such as computers to the TED.

3. Project Activities

Flexibly responding to the decentralization process of the education system, the Project carried out the various activities described in the PDM.

- **Output 1:** The Project implemented on the job training to the National INSET Unit (NIU) members using the occasion of revising and implementing the annual operational plan for the Nationwide INSET Programme, building capacity and coordinating districts and divisions of GES, and revising the Sourcebook1/2. The Project also supported the NIU organizing the sensitization workshop for District Directors of Education (DDE), various training to district level stakeholders, and monitoring the INSET activities.

- **Output 2:** The capacity of 21 Regional Master Trainers (RMTs) was strengthened. As budget transferred from the GES to each DEO due to decentralization, each DEO has deployed the District Master Trainers (DMTs) since 2010 and therefore the Project provided training to DMTs since 2010.

- **Output 3:** The Project has established the District INSET Committee (DIC) and the District Teacher Support Team (DTST) in all 170 districts, and supported DIC, DMT, and DTST to train Head Teachers (HT), Circuit Supervisors (CS) and Curriculum Leader (CL).

- **Output 4:** The Project developed the Lesson Observation Sheet (LOS) and its manual, which are used for assessing teachers' teaching skills, and trained district stakeholders. The Project also developed the monitoring system to collect quantitative data regarding the progress of INSET activities at both district and school levels, by utilizing the Annual INSET Progress Report (AIPR) and Education Management Information System (EMIS). To collect the qualitative data, the Project carried out sampling surveys.

- **Output 5:** To sustain the output of the Project, the Project supported the draft of the Pre-tertiary Teacher Professional Development and Management (PTPDM) policy, supported the draft of its implementation plan, and incorporated the INSET activities into the indicators of Annual Education Sector Operational Plan (AESOP). The Project shared experience with other countries in the regional conferences of the Strengthening of Mathematics and Science Education in Western, Eastern Central and Southern Africa (SMASE-WECSA). The Project also supported revising the HT Handbook and issuing the newsletters of the GES Nationwide INSET Programme.

4. Project Achievement

Based on the result of the Terminal Evaluation, the Project assessed the achievements in terms of Project Purpose and Overall Goal.

Project Purpose: Project Purpose is likely to be achieved by the end of the Project completion.

- **Indicator 1:** The percentage of the districts that conducted the Curriculum Leader (CL) Sourcebook Training 1 reached 90.6 % (154 districts) in September 2012, which exceeded the target rate of 60%.

- **Indicator 2:** Regarding the SBI/CBI implementation ratio, the percentage of Primary schools in which CLs have participated in the CL Sourcebook Training 1, implemented the SBI/CBI more than the targeted frequency of 57.7 %. This proportion is below the target of 80%, but the Terminal Evaluation team concluded that it would increase up to 90% by September 2013.

- **Indicator 3:** The teachers' satisfaction rate on SBI/CBI (rating between 1 and 4, the maximum score is 4) was 2.9 in August 2012 while the target value of 2.8.

Overall Goals: Overall Goals are expected to be achieved between three and five years after completion of the Project.

- **Indicator 1:** The satisfaction rates of the pupils on teachers' teaching skills and their subject knowledge gradually increased to 88.4% in 2012, while it was 85.3% in 2009. Terminal evaluation however concluded that the target rate of 90% is likely to be achieved in the three to five years of the project completion.

- **Indicator 2:** The rate of teachers' teaching skill had increased from 2.6 in 2009 to 2.8 in 2012 which could not reach the target value of 3.5 on the PDM Version2. After the terminal evaluation at the Joint Coordinating Committee (JCC) meeting held in January 2013, the target value to be achieved by 2016 was revised from 3.5 to 3.0 on PDM version3, in consideration that the target value be more realistic (3.0 is a target of a learner-centred teaching). It is expected to attain 3.0 five years after completion of the Project.

5. Recommendation for the Way Forward

The Project mostly succeeded in archiving its purpose of establishing quality INSET nationwide in 170 districts. In order to further improve the teaching skills in Primary school, the Project recommends the following:

- Improvement of Communication and Coordination: The TED is to collect the INSET related data and information through close communication with districts. This will minimize the negative impact of the delay of budget release at district level;

- Implementation of PTPDM Policy: The Project has supported establishing the PTPDM policy which links the INSET and promotion. The Project recommends the TED to take a lead to implement the policy;

- Dissemination of LOS, Revision of Sourcebooks, and Improvement of SBI Contents: All stakeholders, particularly those of school level, are to use the LOS and its manual continuously. It is also recommendable to revise the Sourcebooks according to the teachers' needs and to dispatch the DMTs to schools. These activities will enrich the SBI/CBI and enhance the involvement of teachers in INSET activities;

- Establishment of the Regional INSET Committee (RIC): The training of RIC members is to be carried out as the National Guidelines prescribed; and

- Collaboration with the National Education Assessment (NEA): Analysing the percentage of questions pupils answer correctly in the NEA enables one to identify topics pupils find difficult to understand. In the learner-centred approach, it is ideal to deal with these challenging topics for pupils in SBI/CBI. It is thus recommended to utilize the NEA analysis in further INSET activities.

Conclusion

The Project produced tangible results by adjusting the Project design and activities to the changing external operating environment, such as an increase in number of districts, and financial devolution under decentralization. Based upon the outputs produced in the Project, the GES in collaboration with the National Teaching Council (NTC) have prepared the PTPDM policy approved by the GES Council in order to continue and further strength the Nationwide INSET Programme. It is hoped that through nationwide implementation of the PTPDM policy, the SBI/CBI will be even more firmly institutionalized to provide further opportunities for teachers to strengthen their teaching capacities in the classroom and as a result improve the quality of education in Ghana.

INTRODUCTION

The Government of Ghana (GOG) has identified education as a key development tool of the nation and has aimed to ensure free access and retention of children in basic education through the Free Compulsory Universal Basic Education (FCUBE) programme. The Ghana Poverty Reduction Strategy (GPRS I) has also identified the importance of the same educational policy. Similarly, the Ministry of Education and Sports (MOES; Currently the Ministry of Education (MOE)) formulated an Education Strategic Plan (ESP) for 2003-2015 and the subsequent ESP II (2010 – 2020), which outline a comprehensive format for sectoral development. The GOG also introduced a Capitation Grant in 2005 and the school feeding programme in 2006. As a result of these policies and strategies, the Gross Enrolment Rate (GER) of Primary schools in Ghana increased from 78.4% in the 2003/2004 academic year to 95.0% in the 2007/2008 academic year. However, there are still many improvements to be made in terms of the quality of education. According to the National Education Assessment (NEA) conducted in 2005 and 2007, only 10%–20% of pupils reached the proficiency level in Mathematics and English. This result indicates that even though access to education has improved, further efforts are necessary to improve pupils' achievements.

One of the major reasons for such low academic achievement of pupils in public Primary schools is the lack of teachers with appropriate and effective teaching skills. INSET is widely recognised as one of the best strategies to enhance teaching skills, thereby providing a means to address this issue. Several INSET programmes have been organised in the past. However, they were mostly supply-driven, and therefore there is a need to establish a structured and replicable need-based/demand-driven INSET. School-Based INSET (SBI) helps teachers themselves to identify and continuously improve their teaching skills.

The Japan International Cooperation Agency (JICA) supported the Project of Improvement of Educational Achievement in Science, Technology, and Mathematics in the Basic Education (STM Project) from 2000 to 2005. The STM Project was designed to improve students' abilities and educational achievements in Science and Mathematics in Primary and Junior Secondary education (now Junior High Schools) in three pilot districts, and developed the prototype of the need-based SBI model. After the success of the STM Project, the Project to Support the Operationalization of the In-Service Training Policy (INSET Project Phase 1) was implemented from 2005 to 2008, to develop the INSET model through pilot activities in ten pilot districts.

Building on the achievements of these projects, the GOG initiated the implementation of the INSET model in all 138 districts[2], but since then, several issues have been identified which need to be addressed, for nationwide implementation of the INSET model. The issues are quality of SBI/CBI, capacity of national and district officers, monitoring and evaluation systems, and further institutionalisation. Given this situation, the GOG requested JICA to support Ghana to establish and reinforce the management system for a structured and high quality INSET for public Primary schools in core subjects like Mathematics and Science. In accordance with the Record of Discussion (R/D) and Minutes of Meeting (M/M) agreed in March 2009, which includes a Project Design Matrix (PDM), JICA dispatched the JICA Expert Team to support the project implementation in June 2009.

This Project Completion Report presents the progress and contents of the work accomplished during the project period from June 2009 to March 2013.

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[2] The number of districts has been increased twice since commencement of the project. The number increased from 138 to 170 districts in 2009 and the Project has targeted 170 districts since then. In 2012 the number of districts increased to 212 but the Project continues to target 170 districts as the new districts have not set up their office yet.

1. OUTLINE OF THE PROJECT

1.1 Introduction

The Government of Ghana (GOG) launched the Nationwide INSET Programme to implement the management system for structured and quality In-Service Training (INSET) for Primary education at regional, district and school levels. The Project was designed to support the implementation body of the Programme at national level and was launched in June 2009.

The original Project Design Matrix (PDM version No.1, Appendix 1) was revised into PDM version No. 2 (Appendix 2) on 14 March 2011 as a result of the Mid-Term Review Survey, which raised the necessity of making the project design better aligned with on-going decentralisation in the education sector. The Objectively Verifiable Indicators (OVI) of its overall goal were revised after the terminal evaluation at the last Joint Coordinating Committee (JCC) Meeting on 30th January 2013 in consideration of targeting realistic goals (PDM version No. 3, Appendix 3).   This chapter provides an overview of the Project as stated in the PDM version No.3.   All descriptions related with PDM in this report refer to PDM version No.3.

1.2 Scope and Schedule of the Project

The scope of the project described in the PDM is summarised as follows:

- Area: Nationwide
- Schools: Public Primary schools
- Subjects: Science and Mathematics

The coverage area of the Project is nationwide.   The number of target districts was originally 138 when the R/D and M/M were signed in March 2009, but increased to 170 by the commencement of the Project in June 2009 as some districts were split into two or three districts.   The JICA Expert Team had a discussion with the Teacher Education Division (TED) and decided to cover the 32 new districts in the Nationwide INSET Programme.   The number of districts increased again to 216 officially on 28th June 2012, but setting up of offices and posting of officers has not been completed yet.   Therefore, the Project scope was not extended to cover them.

The 170 districts are divided into 4 groups, which include the pilot districts of the INSET Project phase 1, for a step-by-step introduction of the INSET system under the Nationwide INSET Programme, as shown in Table 1.1.

Table 1.1   Phases of the Nationwide INSET Programme

Batch	Year of Introduction	No. of Districts Original	No. of Districts Revised	Note
Pilot of the INSET Project	2008	10	10	One district from each region including the three pilot districts of the STM project and two deprived districts
1st Batch	2009	57	57	51 deprived districts and six other districts
2nd Batch	2010	71	41	The number of districts was reduced from 71 to 41
3rd Batch	2011	-	62	32 new districts were added to the 3rd batch after fragmentation of some districts
Total		138	170	

Source: GES/JICA INSET Project Phase 2

The original plan aimed to cover 71 districts in the 2nd batch, but the number was reduced to 41 districts as the Teacher Education Division (TED) recognised the need for continuous support to both the pilot and 1st batch districts after 2009. Due to this strategic decision, the remaining districts were included in the 3rd batch. A complete list of the 170 districts by batch is shown in Appendix 4.

The INSET Project Phase 1 developed the INSET Model and the Nationwide INSET Programme, which is a plan to implement the INSET Model nationwide. The current Project is designed to support the TED in implementing the Nationwide INSET Programme. The Project targets public Primary schools as the quality of Primary school education is a critical issue. However, the INSET model is not exclusively for the Primary level because it was developed in consideration of its applicability to other school levels as well. Science and Mathematics were selected as the pilot subjects. The current Project (hereinafter referred as the INSET Project Phase 2) inherited these scopes.

The project period is 45 months from 15 June 2009 to 14 March 2013, which is divided into 4 Project Fiscal Years (PFY)[3]. Each PFY refers to a different period as shown below:

- 1st Fiscal Year (PFY2009):   June 2009 – August 2010
- 2nd Fiscal Year (PFY2010):   August 2010 – August 2011
- 3rd Fiscal Year (PFY2011):   August 2011 – March 2012
- 4th Fiscal Year (PFY2012):   April 2012 – March 2013

1.3   Goal, Purpose and Output of the Project

The super goal, the overall goal, the project purpose and outputs of the project in PDM Version No. 3 are shown in Table 1.2.

Table 1.2   Goal, Purpose and Outputs of the Project of PDM Version No.2

Super Goal:	Pupil's performance is improved.
Overall Goal: (Target year 2016)	Teaching abilities of public primary school teachers in the area of mathematics and science are improved.
Project Purpose: (Target year 2013)	The nationwide management system for a structured and quality INSET of mathematics and science is established and reinforced.
Output 1:	The capacity of the National INSET Unit (NIU) for managing INSET is strengthened.
Output 2:	The capacity of the Regional Master Trainers (RMTs[4]) and District Master Trainers (DMTs) for INSET delivery is enhanced.
Output 3:	The capacity of the District INSET Committee (DIC) for managing INSET and the District Teacher Support Team (DTST) for INSET delivery is enhanced.
Output 4:	Monitoring and evaluation system is established and enhanced for a structured and quality INSET.
Output 5:	The supporting system for INSET is strengthened.

Source: JICA/GES, Minutes of Meeting between Japanese Mid-Term Review Team and the Authorities Concerned of the Government of the Republic of Ghana on Japanese Technical Cooperation for Project for Strengthening the Capacity of INSET Management

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[3] Years not specified as PFY refers to the fiscal year in Ghana, which is from January to December
[4] RMTs refer to National Trainers (NTs) in PDM version No. 1

1.4　　Revision of PDM

Due to decentralization, most of the INSET budget of the National INSET Unit (NIU) at the TED was transferred to the districts.　This change caused difficulty for the NIU/TED to maintain Regional Master Trainers (RMTs) within their INSET structure and decision-making; authority regarding commitment to INSET was transferred to the 170 District Directors of Education (DDE) who have different priorities.　In accordance with these change, each District Education Office (DEO) deploys District Master Trainers (DMTs) in their district.　In consideration of these changes, the original Project Design Matrix (PDM version No.1) was revised on 14 March 2011 as a result of the Mid-Term Review survey, which raised the necessity of making the project design better aligned with ongoing decentralization in the education sector.　The major changes from the original PDM version 1 are 1) to decrease the emphasis on RMT and put DMTs as authority for appointing and deploying Master Trainers was transferred from the TED to DEOs and 2) to emphasise sensitization of DDE.　The details of the comparison between PDM version No.1 and No. 2 are enclosed in Appendix 5.　After the Terminal Evaluation, at the last Joint Coordinating Committee (JCC) Meeting on 30th January 2013, the Objectively Verifiable Indicators (OVI) of the PTM Version No. 2 were revised to Version No. 3:　1) "the 10 pilot districts and the first batch districts in a sampling survey" was removed so that the Ghana Education Service (GES) could collect necessary data from any district on various occasions;　2) Objectively Verifiable Indicators (OVI) of "the rating of teachers' teaching skills attains more than 3.5" is revised to 3.0, which is more realistic in consideration of the result of the sampling survey.　It should be noted that above 3.0 is considered learner-centred teaching and the Ghanaian teachers need to achieve and sustain this level (PDM version No. 3, Appendix 3).

1.5　　Project Implementation Structure

The National INSET Unit (NIU) in the Teacher Education Division (TED) of the Ghana Education Service (GES) implements the Nationwide INSET Programme since 2009, whereas the Project supports the NIU/TED/GES to implement the Nationwide INSET Programme.　The implementation structure of the Project is shown in Fig.1.1.　It consists of four levels: 1) Joint Coordinating Committee (JCC); 2) National Level; 3) District Level; and 4) School Level.
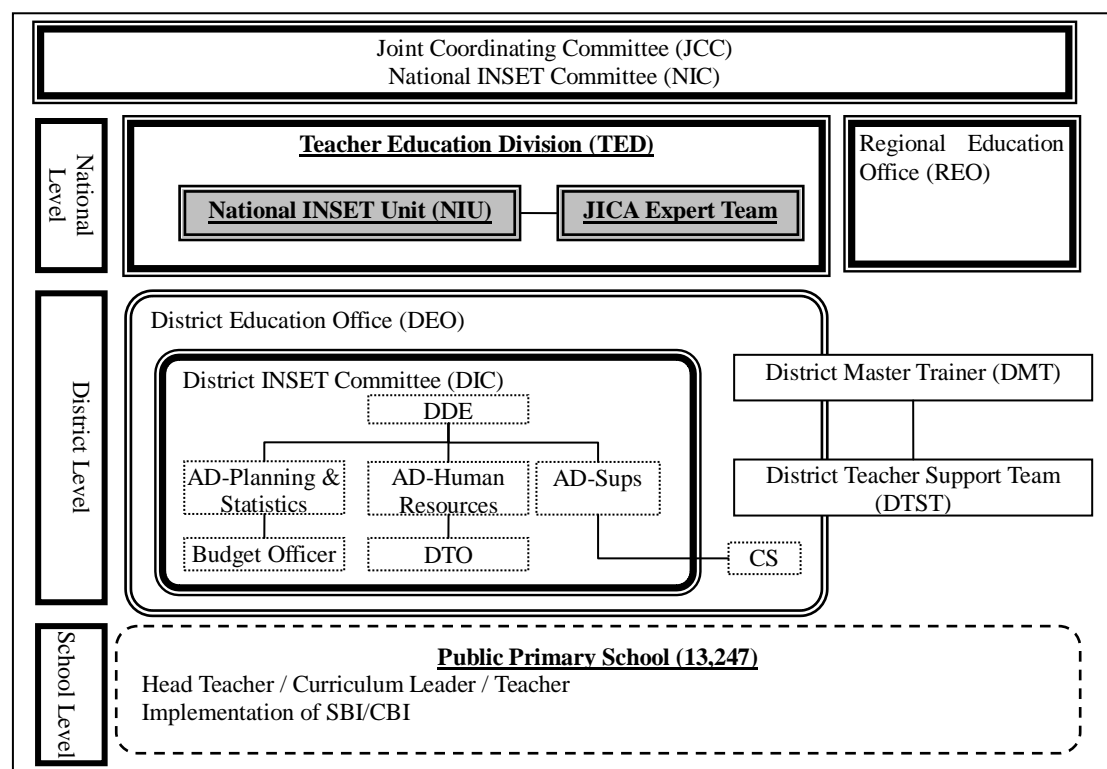
Source: GES/JICA INSET Project Phase 2

Figure 1.1   Implementation Structure of the Project

The JCC is the highest decision-making body of the Project.   The chairperson of the JCC is the Director General (DG) of the Ghana Education Service (GES), who performs as Project Director. Its members are director-level personnel from relevant divisions of the GES, the Ministry of Education (MOE), the JICA Experts, representatives of JICA Ghana Office and other representatives of relevant organisations.   The National INSET Committee (NIC) is the highest decision-making body of the Nationwide INSET Programme and its chairperson is the DG of the GES same as the Project.   The details of the JCC are shown in Box 1:

BOX 1: The Joint Coordination Committee (JCC)

JCC consists of personnel from both the Japanese and the Ghanaian sides and it is established for the smooth and effective implementation of the Project.

1. Functions

JCC is held once a year or whenever the need arises, in order to fulfil the following functions: 1) To review the Annual Plan of Operation of the Project; 2) To review the overall progress of the Project and achievement of the technical cooperation programme as well as the Annual Plan of Operation; and 3) To review and exchange views on major issues arising from or in connection with the Project.

2. Composition

(1) Chairperson: Director General of Ghana Education Service, Ministry of Education

(2) Members

   a) Ghanaian side
   − Deputy Director General, GES
   − Director, Teacher Education Division, GES
   − Director, Basic Education Division, GES

- Director, Institute of Education, University of Cape Coast
- Vice Chancellor, University of Cape Coast
- Vice Chancellor, University of Education, Winneba
- Representative, Regional Directors of Education (1)
- Representatives, District Directors of Education (one from each region)
- Representative, Ghana National Association of Teachers (GNAT)
- Representative, Ghana Association of Science Teachers (GAST)
- Representative, Mathematics Association of Ghana (MAG)
- Representative, Principal's Conference
- Programme Coordinator, National INSET Unit (NlU)
- Other personnel as required

b) Japanese side
- JICA experts
- Representatives of JICA Ghana Office
- Other personnel relating to JICA activities, if necessary

c) Others
- Representatives from Ministry of Education
- Representatives from Development Partners, if necessary

Note: Officials from the Embassy of Japan may attend JCC as observers

Source: Record of Discussions between the Japan International Cooperation Agency and Authorities Concerned of the Government of the Republic Ghana on Japanese Technical Cooperation for Project for Strengthening the Capacity of the In-Service Training (INSET) Management

The Director of the TED performs as Project Manager. Both the NIU and the JICA Expert Team work closely to implement the Project as the central administrative body of the Project, and are responsible for reporting the Project's progress to the JCC, the Project Manager and the Project Director. The District INSET Committee (DIC) in DEO is a district administrative body that supports all activities in its district including human resource management, such as selection of DMTs as well as District Teacher Support Teams (DTSTs). DMT, DTST and Circuit Supervisors (CSs) at the district level are responsible for monitoring SBI/CBI conducted at the school level, as well as to give their feedback to the DIC. At the school level, Head Teachers (HTs) and Curriculum Leaders (CLs) are responsible for the administration and coordination of SBI/CBI.

The 10 pilot districts of the INSET Project Phase 1 had already established the INSET structure in 2008, and the remaining districts have been introducing the structure with support from the Project since the commencement of the Project.

2. RESOURCES REQUIRED FOR THE PROJECT

Various resources are required from both Ghanaian and Japanese sides to successfully implement the Project under the Nationwide INSET Programme. This chapter briefly summarises the inputs of human and financial resources as well as equipment provided by both the Japan International Cooperation Agency (JICA) and Government of Ghana (GOG) for the Project and the Nationwide INSET Programme.

2.1 Human Resources

(1) JICA Side

The JICA Expert Team consists of 9 experts whose positions and names are listed in Table 2.1. The table shows the assignment periods of each expert in the Project Fiscal Year (PFY). The numbers at the top of each cell are the duration of assignment days in Ghana including travel days. The numbers at the bottom in parentheses are the assignment days outside of Ghana.

Table 2.1   List of JICA Experts with Projected Assigned Days

No	Name	Position	Days in each PFY				Total
			2009	2010	2011	2012	
1	Mr. Kenichi TANAKA	Chief Advisor / INSET System 1 /Team Leader	126 (1)	71	44	73 (1)	314 (2)
2	Dr. Albert Kwame AKYEAMPONG	INSET System 2	64 (3)	56 (4)	13 (17)	-	133 (24)
3	Mr. Tatsuya NAGUMO	INSET Planning, Management, and Coordination / Deputy Team Leader	195 (2)	144	135	186	660 (2)
4	Dr. Masakazu KITA	Mathematics and Science Education / SBI/ Lesson Observation 1	48 (3)	9 (4)	8 (1)	8 (2)	73 (10)
5	Mr. Kenichi JIBUTSU	Mathematics and Science Education / SBI/ Lesson Observation 2	210	138	72 (3)	125 (5)	545 (8)
6	Mr. Jutaro SAKAMOTO	Monitoring and Evaluation 1	190	211	-	-	401
		Administrative Coordinator 1	60	-	-	-	60
7	Ms. Orie SASAKI	Monitoring and Evaluation 2	-	-	140	158 (14)	298 (14)
8	Ms. Megumi SHIOTA	Monitoring and Evaluation 3				100	100
		Administrative Coordinator 2	-	60	60	-	120
9	Ms. Chiemi OSADA	Administrative Coordinator 3	-	-	-	60	60
	Total	Assignment days in Ghana incl. travel	893	689	472	710	2,764
		Assignment days outside of Ghana	(9)	(8)	(21)	(22)	(60)

Source: GES/JICA INSET Project Phase 2

Manning Schedule of the JICA Expert Team for the project period is shown in Appendix 6.

(2) Ghana side

The key counterparts from the GES of the Ministry of Education (MOE) are listed below in Table 2.2.

Table 2.2   List of Counterparts from the GES of the MOE

No	Name	Position in the project	Title/Organisation	From	To
1	Samuel Bannerman-MENSAH	Project Director	Director General, GES	Jun-09	Feb-11
2	Benedicta Naana BINEY	Acting Project Director	Acting Director General, GES	Jan-10	Apr-12
		Project Director	Director General, GES	Apr-12	Mar-13
3	Victor Kofi MANTE	Project Manager	Director, TED, GES	Jun-09	Sep-11
4	Emmanuel K. Asare	Acting Project Manager	Acting Director, TED, GES	Jan-11	Feb-12
5	Samuel ANSAH	Project Manager	Director, TED, GES	Feb-12	Mar-13
6	Evelyn Owusu ODURO	NIU	TED, GES	Jun-09	Jan-10
		Programme Coordinator, NIU		Jan-10	Mar-13
7	Seth Odame BAIDEN	Programme Coordinator, NIU	TED, GES	Jun-09	Dec-10
8	Rosina ADOBOR	Assistant Coordinator, NIU	TED, GES	Jun-09	Mar-13
9	Jacob MOLENAAR	NIU	TED, GES	Jun-09	Mar-13
10	Gershon K. DORFE	NIU	TED, GES	Jun-09	Mar-13
11	Gideon AHOHOLU	NIU	TED, GES	Jun-09	Mar-13
12	Francesca HAIZEL	NIU	TED, GES	Jun-09	Mar-13

Source: GES/JICA INSET Project Phase 2

Other Ghanaian members involved in the Project as resource persons are shown in Appendix 7.

(3)   Involvement of Local Personnel

The Project hired the following personnel as local consultants, as the Project considered the involvement of local personnel crucial for the smooth implementation of its activities, especially in support of establishing policy.   A secretary and drivers were also employed by the Project.

Table 2.3   List of Local Consultants

No	Name	Title	From	To	Tasks
1	Joseph Ghartey AMPIAH	Senior Consultant (Sampling Survey)	Oct-09	Jul-10	Sampling Survey
2	Kofi D. MEREKU	Senior Consultant (Education Administration)	Oct-09	Oct-09	Advising on PTPDM Policy
3	Owusu MENSAH	Senior Consultant (Education Administration)	Oct-09	Oct-09	Advising on PTPDM Policy
4	Michael K. NSOWAH	Senior Consultant (Education Administration)	Apr-11	Jul-11	Coordination of INSET Sourcebook revisions
			Sep-11	Mar-12	
5	Cosmas COBBOLD	Senior Consultant (Education Administration)	Jun-11	Jun-11	Revision of Lesson Observation Sheet
6	Kofi D. MEREKU	Senior Consultant (Education Administration)	Jun-11	Jun-11	Revision of Lesson Observation Sheet
7	Paul N. BUATSI	Senior Consultant (Education Policy)	Jun-11	Jul-11	Coordination for revision of PTPDM Policy
			Sep-11	Mar-12	
			May-12	Feb-13	
8.	Hiroko TANGUCHI	Technical Officer (Assistant Researcher/ Education Policy)	Sep-11	Mar-12	Assistant Researcher
			May-12	Feb-13	

Source: GES/JICA INSET Project Phase 2

2.2   Local Expenses

Both JICA and GOG provided funds for the implementation of the project.   A total of JPY 65 million was funded from JICA and its breakdown is shown in Table 2.4.   A total of GHS 366,026 was funded from GOG and its breakdown is shown in Table 2.5.   Note that the costs shown in the table do not include the personnel costs of international experts and Ghanaian counterparts.   Also excluded are distribution costs borne by the Supply and Logistic Division

of the GES, and implementation costs borne by the districts, which are allocated yearly by the GOG for activities at the district level.   The district budget is shown in Table 3.8 in Section 3.1.4.

Table 2.4   Breakdown of Local Expenses, Funded by JICA (in JPY)

Items	1st year Jun 2009– Aug 2010	2nd year Sep 2010– Aug 2011	3rd year Sep 2011– Mar 2012	4rd year * Apr 2012– Mar 2013	Total (JPY)
Local Consultants	1,752,581	1,582,020	2,640,483	3,454,968	9,430,052
Maintenance (PC, Car)	2,868,671	2,093,951	1,420,817	1,880,354	8,263,793
Office Supplies	1,045,209	1,841,081	1,906,157	2,910,768	7,703,215
Travel Expenses	104,012	160,370	506,439	50,296	821,117
Communication	448,871	862,274	421,098	1,664,542	3,396,785
Document preparation	255,463	2,554,164	617,577	4,010,097	7,437,301
Car Rental	281,964	841,296	1,089,075	3,770,509	5,982,844
Maintenance (Facility)	32,281	28,629	20,942	21,100	102,952
Workshop, Training, Seminar fee	2,124,146	3,163,017	5,825,182	10,826,310	21,938,655
Total	8,913,198	13,126,802	14,447,770	28,588,944	65,076,714

* Amount in 4th year is a projected amount as at February 2013.

In addition to the above cost, JPY 6,345,000 was spent on Sourcebook printing in 2011/12.

Source: GES/JICA INSET Project Phase 2

Table 2.5   Breakdown of Costs Funded by GOG

Activity Name	2009 Budget	2009 Actual	2010 Budget	2010 Actual	2011 Budget	2011 Actual	2012 Budget	2012 Actual	Total Actual
1. INSET Sourcebooks									154,271
Printing	109,800	66,821	155,850	0	172,300	59,366	0	0	126,187
Distribution	9,104	8,084	11,112	0	11,616	20,000	0	0	28,084
2. INSET Newsletters									0
Issue newsletters	136,500	0	144,300	0	136,500	0	0	0	0
3. Coordination									18,983
Orientation for REOs							0	0	3,841
Organizing NIC	3,612	3,841	0	0	0	0	0	0	15,142
4. Strengthening the National Level Personnel	0	0	604	302	604	14,840	0	0	15,948
Selection of RMT	0	0	24	0	42	0	0	0	0
Training: DMTs	0	0	0	0	N/A	8,250	0	0	8,250
Monitoring Training: RMTs	15,138	0	17,256	7,698	21,252	0	0	0	7,698
5. Strengthening the District Level Personnel									129,400
Orientation: DIC	61,823	53,930	74,355	7,022	79,528	14,840	0	0	75,792
Training: DTST, DTO/ AD-Sup	166,661	22,930	188,190	14,616	222,212	16,062	0	0	53,608
6. Supporting the District Level									35,494
Support DIC in DTST selection	0	0	142	0	156	0	0	0	0
Monitoring district	22,420	4,284	40,588	7,620	62,494	0	17,890	16,866	28,770
AIPR Workshop	0	0	0	0	0	6,724	0	0	6,724
7. Others									11,930
Sensitization Activities	0	0	0	0	0	11,930	0	0	11,930
8. Procurement of Computers	0	0	7,966	0	0	0	0	0	0
Total	525,058	159,890	640,387	37,258	706,704	152,012	17,890	16,866	366,026

Source: Teacher Education Division

2.3   Equipment

JICA provided equipment to both the project office at the Teacher Education Division (TED) and districts to assist in the implementation of the project.   For example:

- Two vehicles for the TED;
- Motorbikes for 15 District Education Offices; and
- Office equipment (e.g. computers for the TED)

The complete list of equipment provided is shown in Appendix 8.   Additionally, the list of books purchased by the Project is shown in Appendix 9.

3.   PROJECT ACTIVITIES

This chapter provides details on the proceedings and implementation results of the various activities implemented during the project period.   The following sections are organized according to Outputs and corresponding activities as stated in the Project Design Matrix (PDM) version No. 3, as the original Project Design Matrix (PDM version No.1) was revised twice, on 14 March 2011 and 30 January 2013.   The Plan of Operation with the actual implementation schedule is shown in Appendix 10.

3.1   Capacity Development of the National INSET Unit

<PDM Output 1>
The capacity of the National INSET Unit (NIU) for managing INSET is strengthened.

[Activities in PDM Output 1]
  1-1.   Prepare the annual schedule of INSET activities
  1-2.   Print INSET Sourcebook
  1-3.   Distribute INSET Sourcebooks
  1-4.   Conduct appropriate training for managing INSET for NIU
  1-5.   Sensitize DDEs on securing INSET-related budget
  1-6.   Arrange the orientation/training for DMTs, DIC, and DTST
  1-7.   Assist DDEs to conduct HT orientation and CL orientation/training
  1-8.   Follow up on HT orientation and CL orientation/training
  1-9.   Review and revise the Nationwide INSET Programme
  1-10.   Review and revise the National Guidelines and INSET Sourcebooks as needed
  1-11.   Coordinate INSET-related matters within/with the GES/MOE
  1-12.   Convene the NIC meetings

[Objectively Verifiable Indicators (OVIs)]
  OVI 1.1   All the districts prepare district budget which include INSET components.

Output 1 of PDM aims at strengthening the National INSET Unit (NIU), the management body at the national level, by supporting the development of the Nationwide INSET Programme, distribution of INSET Sourcebooks, arrangement of various trainings and meetings, coordination with GES/MOE and so on.   The NIU plays an integral role in coordinating all the stakeholders from the national to district levels and schools as the hub of the INSET system. Strengthening its function is therefore essential to successfully introduce and maintain INSET as a coherent and stable system.

The Terminal Evaluation team assessed Output 1 to be "mostly achieved".   As to the achievement level of the district-level budget preparation including INSET components (OVI 1.1), the number of districts that budgeted for the Nationwide INSET Programme in 2012 is 85 (50.0%), which is half of the target number – 170 districts.   Although the target has not been fully achieved, the 2012 record of budget disbursement at the district level indicates that the budget requests/approvals and actual disbursement are not necessarily linked.   For instance in 2012, 140 districts (82.4%) covered the cost of the Nationwide INSET Programme.   The Project conducted sensitization workshops for District Directors of Education (DDE) in May and December 2011, to increase their awareness of the importance of INSET.   Given the fact that these workshops, especially the one in December, have already resulted in a significant increase in the numbers of INSET training to Head Teachers (HTs) / Circuit Supervisors (CSs), and Curriculum Leaders (CLs), of which expenses are covered by the districts' budgets, it can

be expected that the number of districts that include INSET components in their budgets will increase. Therefore it was assessed as "mostly achieved".

The following subsection elaborates on the activities and their results for Output 1.

3.1.1 The Nationwide INSET Programme/Annual Schedule

(1) The Nationwide INSET Programme/Annual Schedule for the Year 2009

The NIU/TED developed the three year implementation plan of the Nationwide INSET Programme 2009–2011 in 2008 supported by the INSET Project Phase 1, and commenced its implementation for the 57 first batch districts from Jan 2009 as planned. The Programme was behind schedule at the time of commencement of the Project (June 2009) because of the delay in budget disbursement and sourcebook printings. The Project decided to reschedule the training without sacrificing the quality of training and all the 57 districts completed a series of activities within the year without reducing any of the training duration. The Project however faced a budgetary cut both at national and district levels which seriously affected most activities. As a result, only 5 districts and 4 districts among 1st batch district (57 districts) implemented training for HT/CS and for CL respectively. Considering this situation, the Project decided on handing over the remaining activities to the INSET Programme 2010.

Examples of Challenges in 2009

The Project managed trainings successfully under frequently changing conditions in budgets at national and district levels by restructuring its schedule on a number of occasions within a limited time. However, compromises were made to a certain extent with the training results. For example in DTST training, the trainees from some districts could not participate in the training due to a cut in district budgets. In addition to a budgetary cut, the training budget was planned to be disbursed through DEOs, but budgetary procedures among MOE, Ministry of Finance and Economic Planning and Districts, such as budget requesting, approval and disbursement, were not aligned and on time. This complex problem in budgets seriously affected the capacity of districts to dispatch their officers to the training. The Project re-structured the training schedule week by week to accommodate them with the hope that they would get the necessary budget. Although some districts found fund sources and attended the training programme, 9 districts could not participate in the training.

In addition, a budgetary cut in the TED also compelled the NIU to reduce the duration of RMT training in Monitoring. The monitoring training was originally planned in 3 sessions with durations of 3 days, 2 days, and 2 days respectively. However, due to the budget cut, the Project could not help reducing the training to 2 sessions with 2 days and 1 day programmes respectively. The Project flexibly compressed the programmes by focusing on the most important and practical content in terms of skills acquisition.

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(2) The Nationwide INSET Programme/Annual Schedule for the Year 2010

Considering the delay of the Nationwide INSET Programme 2009, the Project reduced the target number of the Nationwide INSET Programme 2010 to 25 districts to provide continuous and intensive support to most of the 57 first batch districts that could not complete all the planned activities in 2009. However, different from 2009, with expectation that full support of the JICA Expert Team from January 2010 would increase the possibility of successful implementation of the Programme, the target number was increased in the middle of 2010 to 41 districts. Regardless of this expectation, a constant delay of budgetary disbursement affected the schedule, and the Project was forced to wait until the beginning of November 2010 to start a series of trainings for the 2nd batch district.

(3)   The Nationwide INSET Programme/Annual Schedule for the Year 2011

The Nationwide INSET Programme 2011 was agreed in 2010 to cover 62 districts as the third batch in consideration of adding continuous support to the first and second batch districts in 2011.   Different from 2009 and 2010, it was implemented almost as planned owing to effective coordination with DEOs.   Assuming the ongoing decentralisation, the Project developed cooperative relationships with DEOs and succeeded in adjusting the schedule of training when some districts had difficulties in preparing the necessary budget on time.   For example, the Project planned to organize District INSET Committee (DIC) orientation for 60 districts, which were divided into 7 groups, in March, April and May, but 6 districts did not attend due to their financial issues.   The Project organized an additional orientation for these 6 districts in August and therefore completed DIC orientation for all 170 districts.

(4)   The Nationwide INSET Programme/Annual Schedule for the Year 2012

In the original plan defined in 2009, the Nationwide INSET Programme 2012 was expected to be the first year of regular operation, since the core INSET structures at the district and school levels were expected to be established in all districts by the end of 2011.   However various districts could not implement regular operations because: 1) districts in the pilot and first batch districts needed to select and train District Master Trainer (DMT) in 2012[5]; 2) most of the districts, in particular the first batch districts which were negatively affected by the changes of the 2009 budget transfer due to decentralization, only began implementing training for HT/CL after the Project sensitised their DDE in December 2011 and had started sensitising schools in their district to organize SBI/CBI from 2012; 3) the Sourcebook Module 1/2 was revised in December 2011 and the Project needed implementation training to all DICs in May-June 2012. Although the Project was behind schedule, three years' experience of the Project to coordinate with DEOs enabled the Project to adjust the schedule with DEOs more smoothly when organizing activities in 2012.   For example, the Project planned to organize DMT training for 67 districts (10 pilot districts and 57 first batch districts), and 57 districts (85%) succeeded in attending.   This high participation rate was because the Project confirmed disbursement of the Department for International Development (DFID) Sector Budget Support funds by calling some districts as samples before fixing the training schedule.

(5)   The Nationwide INSET Programme /Annual Schedule for the Year 2013

Given the core INSET structures at the district level, the DIC, DMT and DTST, were established in all districts by the end of 2012, the year 2013 was the first year for regular operation of the Nationwide INSET activities at both national and district level.   Most of the activities by the NIU after the year 2013 will be: 1) monitoring districts to find districts with challenges including districts whose key players (DDE and/or District Training Officer (DTO)) were replaced; 2) provide trainings to those districts, and; 3) sampling districts and schools to analyse the situation of average districts and schools.   In addition to these activities, the NIU will support 57 deprived districts through the Global Partnership for Education Funds (GPEF) for three years from 2013.   The JICA Expert Team supported the NIU to develop a plan of GPEF activities, for example developing training structure, schedules, budget plans and so on.

3.1.2   Printing and Distribution of Sourcebooks

Printing and distribution of sourcebooks for the first batch district was planned for 2009, but was delayed because political inspections by the new government were done on contracts between the GES and the printing company, which caused a delay in subsequent activities.   The NIU could not organize DIC orientation/training which was originally planned to be

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[5] As DMT was introduced in the INSET model since 2010, districts in the second batch and the third batch had deployed DMT by 2012.

implemented in May 2009 until late July 2009 when the necessary Sourcebooks were finally available, and the distribution to districts was further delayed until October. While the unexpected delay occurred at the national level, there was also confusion in some districts. There was a mistake in the allocation of Sourcebooks within certain districts, so they had to conduct DTST training without sufficient Sourcebooks.

In 2010, the NIU/TED planned to print Sourcebooks for all the remaining 103 districts in the 2nd and 3rd batch in order to reduce the cost of printing, and the first lot and delivery were placed in April 2010 while the second lot and delivery were expected to be completed before a series of trainings started in November 2010. However, it was delayed since the GES started the tender over again to secure fairness in its bidding. After these transactions, the Project found that the GES did not allocate any budget for printing in 2010, and only the budget for half of the expected amount was allocated in 2011 as at June 2011.

Printing costs of the INSET Sourcebooks are stipulated as an input from the Ghanaian side in the PDM, but in consideration of the importance of the Sourcebook distribution, JICA offered to support the GES in printing the remaining copies of the Sourcebook Module 3, 4, 5 and 6. JICA also offered to support the printing cost of 5,233 copies of new Module 1/2 which was planned to be revised by December 2011. Both JICA and the GES agreed in August 2011 that JICA would support the printing while the GES would deliver the printed modules to each district.

Table 3.1 shows the detail of modules printed by both JICA and the GES respectively.

Table 3.1   Number of Copies Printed by GES and JICA

Module	No of Copies Printed			Ratio of Printed Copies	
	By GES	By JICA	Sub-Total	By GES	By JICA
1/2 (2nd edition)	4,600	0	4,600	100%	0%
1/2 (3rd edition)	0	5,233	5,233	0%	100%
3	23,600	13,341	36,941	64%	36%
4	23,600	13,341	36,941	64%	36%
5	23,600	13,341	36,941	64%	36%
6	23,600	13,341	36,941	64%	36%
Total	99,000	58,597	157,597	63%	37%

Source: GES/JICA INSET Project Phase 2

In the delivery stage of the Sourcebook Module, the Project confirmed that all the districts had received the Sourcebooks Module by 1) collecting delivery notes from each district, 2) by asking DEOs to bring their Sourcebook to the Sourcebook training held in 2012 for their use, and 3) by EMIS.

Each DEO was responsible for distributing two copies of the Sourcebook Module 3-6 to public Primary schools. Table 3.2 shows the possession status of the Sourcebook Module 3-6 at each public Primary school in pilot districts and non-pilot districts (districts in 1st/ 2nd /3rd batch), which was surveyed by school census in September 2011 and provided to the Project through the EMIS database in August 2012. 67% of schools in the pilot districts had maintained their Sourcebook for 5 years after distribution in 2007/2008, while only 47% of public Primary schools in non-pilot districts possessed them since distribution for them had not been completed when surveyed in 2011[6]. This survey will be undertaken continuously by the NIU/TED after project completion.

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[6] The NIU/NIU started handing over the Sourcebook to each DEO from April 2011 at Accra when they came to Accra for any occasion. It was September 2011 when the NIU/TED completed handing over the Sourcebook. DIC

Table 3.2   Possession Status of the Sourcebook Module 3–6 at Public Primary Schools in the Pilot District and the Non-Pilot District as at September 2011

Batch	Number of Schools	The number of Schools who have the Module 3–6	Ratio of Schools who have the Module 3–6
Pilot Districts	1,009	675	67%
Non-Pilot Districts	12,432	5,808	47%
1st batch	4,901	2,349	48%
2nd batch	2,916	1,707	59%
3rd batch	4,615	1,752	38%
Total	13,441	6,483	48%

Source: GES/JICA INSET Project Phase 2

Table 3.3 shows a different type of analysis using the same data as Table 3.2 above.   Districts were categorized into five groups, depending on the ratio of public Primary schools which possessed their Sourcebook Module 3–6 in their districts.   The ratio of Primary schools that had the Sourcebook Module 3-6 was relatively high in pilot districts: more than 80% of public Primary schools possessed the Sourcebook Module 3–6 in two pilot districts and 60%–79% of schools had them in seven pilot districts.   Compared to the high possession rates in pilot districts, non-pilot districts' possession ratios were lower, as most of the non-pilot districts had not implemented training for HT/CL as at September 2011.

Table 3.3   Possession Ratio of the Sourcebook Module 3–6 at Public Primary Schools (PPS) in the Pilot/1st/2nd/3rd Districts as at September 2011

| Batch | Number of District (Ratio of Districts in Pilot/ 1st/2nd/3rd District) | | | | | |
	Above 80% of PPS possess SB M3–6	60%–79% of PPS possess SB M3–6	40%–59% of PPS possess SB M3–6	20%–39% of PPS possess SB M3–6	Less than 20% of PPS possess SB M3–6	Total
Pilot Districts	2 (20%)	7 (70%)	1 (10%)	0 (0%)	0 (0%)	10 districts
1st batch	8 (14%)	16 (28%)	14 (25%)	6 (11%)	13 (23%)	57 districts
2nd batch	9 (22%)	16 (39%)	7 (17%)	2 (5%)	7 (17%)	41 districts
3rd batch	9 (15%)	9 (15%)	8 (13%)	8 (13%)	28 (25%)	62 districts
Total	28 (16%)	48 (28%)	30 (18%)	16 (9%)	48 (28%)	170 districts

PPS: Public Primary School   SB: Sourcebook   M: Module
Source: GES/JICA INSET Project Phase 2

Most districts implemented training for HT/CL after September 2011.   The Project reminded each District Training Officer (DTO) on various occasions to distribute the Sourcebook to public Primary schools.   This resulted in improvement of the possession ratio of the Sourcebook Module 3–6 at public Primary schools as shown in Table 3.4 as at December 2012, collected through telephone monitoring.   Among the 118 districts which responded by December 2012, more than 80% of the public Primary schools possessed the Sourcebook Module 3–6.

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was expected to hand over the Sourcebook to HT/CL when training them, but the handing over was delayed as training for HT/CL was delayed.

Table 3.4   Possession Ratio of the Sourcebook Module 3–6 at Public Primary Schools in the Pilot/1st/2nd/3rd Districts as at December 2012

Batch	Above 80% of PPS possess SB M3–6	60%–79% of PPS possess SB M3–6	40%–59% of PPS possess SB M3–6	20%–39% of PPS possess SB M3–6	Less than 20% of PPS possess SB M3–6	No Response	Total
			Number of District				
Pilot Districts	6	1	0	0	0	3	10 districts
1st batch	27	2	0	0	1	27	57 districts
2nd batch	29	3	0	1	0	8	41 districts
3rd batch	46	2	0	0	0	14	62 districts
Total	108	8	0	1	1	52	170 districts

PPS: Public Primary School   SB: Sourcebook   M: Module
Source: GES/JICA INSET Project Phase 2

3.1.3   Revision of Sourcebooks

The Project examined the need for revising Sourcebook Modules 1–6.   The need for revising Sourcebook Module 4–6 was examined in May 2011 in consideration of the needs of its users, such as incorporating new topics and eliminating redundancy.   The Project also examined the need for revision of the Module 1–3 to be better aligned with decentralisation of the education sector.   After these considerations, the Sourcebook Module 1/2 was prioritized for revision over the other modules to respond to decentralisation demands, which impacted the Nationwide INSET Program in various ways.   Table 3.5 shows a summary of Workshops held for Sourcebook Revision.

Table 3.5   Workshops on Revising Sourcebook Module 1/2

Target	Venue	Period	Participants
Workshop to review the need for revising Module 4–6	Coconut Grove, Accra	3–6 May 2011	14
1st Workshop to revise Module 1/2	Alisa Hotel	26–28 Oct 2011	11
2nd Workshop to revise Module 1/2	Alisa Hotel	2–3 Nov 2011	10
Workshop to revise the National Guidelines	Alisa Hotel	11 Dec 2012	16

Source: GES/JICA INSET Project Phase 2

(1)   Revision of Module 1/2

The staff of the Inspectorate Division of GES, Basic Education Division of GES and a Training Officer of Accra Metropolitan Education Office participated as resource persons in workshops for revising Module 1/2.   The revision was done based on the following policies:

Incorporate changes of INSET structure:
Transferring most of INSET budget from the NIU/TED to districts due to decentralisation caused difficulty for the NIU/TED to maintain Regional Master Trainers (RMTs) within their INSET structure.   Thus, the Project decided to remove RMT from the INSET structure and put District Master Trainers (DMTs) instead.

Simplify as much as possible:
The second edition of Sourcebook Module 1/2, which was published in 2007, provided a broad picture of INSET activities and operations at the district level.   This required the Project to train and support district personnel intensively, but the Project performed well under the circumstances as the target was only 10 pilot districts.   After the increase of districts up to 170, the Nationwide INSET Programme originally planned to increase the number of the NIU staff to support all the 170 districts, but could not.   Due to decentralisation, only posts at district level were increased, but not at national level.   Therefore, the NIU needed to manage the

Nationwide INSET Programme with less staff. Thus, it was necessary to simplify Module 1/2 so that district personnel could understand the core INSET activities with minimum training and with the limited resources of the NIU. For example, the form of the Annual INSET Progress Report (AIPR) was simplified drastically.

Assigning new role to Circuit Supervisor (CS)
The 2nd edition of Sourcebook Module 1/2 published in 2007 defined the role of CS to collect SBI/CBI status from schools, but highlighted the role of DTST as the monitors of SBI/CBI. However, the monitoring of SBI/CBI by DMT/DTSTs who have subject expertise was difficult to implement for DEO due to financial constraints, and therefore cost effective monitoring was required. The monitoring by CS does not require any extra cost as they are staff of the DEO and therefore the Project emphasised the role of CS as the monitors of SBI/CBI. Based on data collected by CS, the DIC screens schools to be monitored by DMT/DTST at the preliminary stage.

Combine "CL Orientation" with "CL Sourcebook Training 1" and rename trainings
The Project found that many districts faced difficulty in budgeting for the initial three trainings: Orientation and Training for HT/CS, CL Orientation, and CL Sourcebook Training 1. Therefore the Project combined the CL orientation with CL training to cut down the total cost for initial trainings. The Project also renamed trainings as shown in table below. In this report, new names are used except those quoted from PDM.

Table 3.6   Old and New Names of Trainings

Old Name	New Name
Orientation and Sourcebook Training for HT and CS	Sourcebook Based Training for HTs and CSs
CL Orientation	Sourcebook Based Training for CLs
CL Sourcebook Training 1	
CL Sourcebook Training 2	Experience Based Training for CLs

Source: GES/JICA INSET Project Phase 2

(2)   Revision of National Guidelines

While the revised INSET Sourcebook Modules 1/2 succinctly cover the newly defined roles and responsibilities of stakeholders at the national, district and school level, there is still a need for finalizing the revision of the "National Guideline," which provides detailed descriptions of roles and responsibilities of the NIU in consideration of decentralization, and lessons learned during the Project. Since the guideline provides clear direction for an effective and efficient INSET management at the national level, the Terminal Evaluation team recommended revising the INSET National Guideline as planned within the project period in order to secure the Project's Sustainability. The Terminal Evaluation team also recommended that upon finalization of the National INSET Guideline, the Project conducts a one-day seminar to the national-level stakeholders to launch the guideline.

As the Project also had same intent to revise the National Guidelines, the Project revised the National Guidelines as planned after Terminal Evaluation. The Project drafted the National Guidelines in November/ December 2012 and organised workshops with various stakeholders from GES and MOE in December 2012. The participants provided roles and responsibilities of the current NIU, added a new organization named Regional INSET Committee (RIC) and incorporated future tasks into it. The Guidelines describe cooperating with the existing departments (e.g. Statistics, Research, Information Management and Public Relations (SRIMPR) Division and Planning, Budgeting, Monitoring and Evaluation Division (PBME) Division) in accordance with the recommendation from the Terminal Evaluation Team for data

analysis.   The guidelines also included a training manual which the NIU will continuously use to implement at the district level in the future.

3.1.4   Sensitising DDEs on Securing INSET-Related Budget

Due to the decentralisation, most of the INSET-related budget for the TED was transferred to districts and the decision-making authority regarding commitment to INSET was transferred to 170 District Directors of Education (DDE) who have different priorities.   This situation required the NIU/TED to be a facilitator of INSET activities more than previously, in order to convince the DDE in each district to use their own resources for INSET.   In response to these changes, the Project organized two sensitisation activities as shown in Table 3.7.

Table 3.7   Summary of Sensitisation Activities

Activity	Venue	Period	No. of Participants
CODE Meeting	WESCO, Kumasi, A/R	3 May 2011	41
Sensitisation Workshop	Golden Tulip Kumasi City, Alisa hotel, Accra	1 day workshop for five group (12–15 and 19 Dec 2011)1	193 (DDE: 160, RDE: 5, Unit Schools: 28)

Source: GES/JICA INSET Project Phase 2

A meeting with the Conference of Directors of Education (CODE) was first organized to sensitise DDEs to secure and disburse budgets for INSET activities.   The project also organised a 1-day workshop in 5 groups for all DDEs, all Regional Directors of Education (RDEs) and regional managers of religious schools to sensitise them for commitment to the Nationwide INSET Programme.   Sensitisation was successful, and the implementation rate of training for HT/CL drastically increased after these activities.   For example, the implementation ratio of HT/CS training was increased from 38% (41 districts among 108 target districts) as at January 2011 to 96% (164 districts among 170 target districts) as at August 2012. Table 3.8 shows the district budget related with the Nationwide INSET Programme for financial years 2011 and 2012 analysed from AIPR 2012.   As for the achievement of the district-level budget preparation including INSET components (OVI 1.1), the number of districts that budgeted for the Nationwide INSET Programme in 2012 was 85 (50.0%), which was half of the target number – 170 districts.   Although the target has not been achieved, the 2012 record of budget disbursement at the district level indicates that the budget requests/approvals and actual disbursements are not necessarily linked.   For instance in 2012, 140 districts (82.4%) covered the cost of participating in INSET activities (including participants' travel costs and per diem for DMT training), despite the fact that only half of all the districts had budgeted for INSET components.

Table 3.8   District Budget on Nationwide INSET for Financial Year 2011 and 2012

Items	2011			2012		
	No of Districts	Total Amount	Average amount per district	No of Districts	Total Amount	Average amount per district
Request on MTEF	80	GHS 644,787	GHS 8,060	85	GHS 708,306	GHS 8,333
Actual Allocation	78	GHS 537,723	GHS 6,894	80	GHS 466,254	GHS 5,828
Actual Expenditure	76	GHS 512,299	GHS 6,741	140	-	-

Source: GES/JICA INSET Project Phase 2

Table 3.8 shows a slight increase between 2011 and 2012 because the timing of requesting budget on Medium Term Expenditure Framework (MTEF) in 2011 for the year 2012 was done in August 2011, which was before the sensitisation workshop for DDE held in December 2011. Given the fact that these workshops, especially the one in December, have already resulted in a significant increase in the numbers of INSET training to HTs/CSs/CLs, of which expenses are

covered by the districts' budgets, it can be expected that the number of districts that include INSET components in their budgets will increase.

3.1.5 Strengthening Management Capacity of the NIU

The coordinating and management capacity of the NIU was strengthened through OJT (On-the-Job-Training), which includes coordination with stakeholders at national and district levels, planning and modifications of activities, budgetary arrangements, preparation of orientation/training as well as monitoring, all in consultation with the JICA Expert Team when implementing activities. The JICA Expert Team provided advice to the NIU, for example, on: 1) dividing participants into smaller groups so that participants could nurture their collegiality with other participants from their neighbouring districts easily; and 2) calling some districts to sample if the budget had been disbursed before fixing the training schedule, when DEO were requested to bear their travel cost and per diem.

In addition to OJT, the JICA Expert Team provided several intensive trainings to the NIU as shown in Table 3.9. The JICA Expert Team provided training on data management and basic statistical analysis skills (for instance strengthening of capacity to use Microsoft Excel) in January 2013 in accordance with the recommendation from the Terminal Evaluation Team too.

Table 3.9   Management Training for the NIU Staff

Session	Venue	Period	No. of Participants
Management Training	Project Office, TED, Accra	9 April, 2010	6 (NIU)
Report Writing Training	Capital View Hotel, Koforidua	7 –9 Nov 2011	7 (NIU + MT)
Training on Operation of MS-Excel	Project Office, TED, Accra	12–13 Aug 2012	3 (NIU)
Data Management and Basic Statistical Analysis Skills	Project Office, TED, Accra	15 Jan 2013	5 NIU

Source: GES/JICA INSET Project Phase2

The feedback from participants in the activities was given to the NIU for their self-examination. Since the decentralisation, coordination with DEOs became one of the biggest challenges in training arrangement, as the NIU/TED requires communicating with each district even for their budgetary preparation. While facing such challenges, the NIU/TED became more sensitive to the evaluation results and was more eager to improve the quality of training as the coordinator.

As a result of these efforts and activities, the management skills of the NIU improved. Figure 3.1 shows a sample of feedback results given to the NIU from the JICA Expert Team. It shows the transition of participants' satisfaction on five aspects of quality of the training from 2010 to 2012. Improvement of administration from 2010 to 2012 is particularly worthy of attention. One of the reasons for this remarkable improvement must be the timing of invitations. Capacity of the NIU improved in this area through its experience in organizing the INSET Programme over a long period supported by the JICA Expert Team.
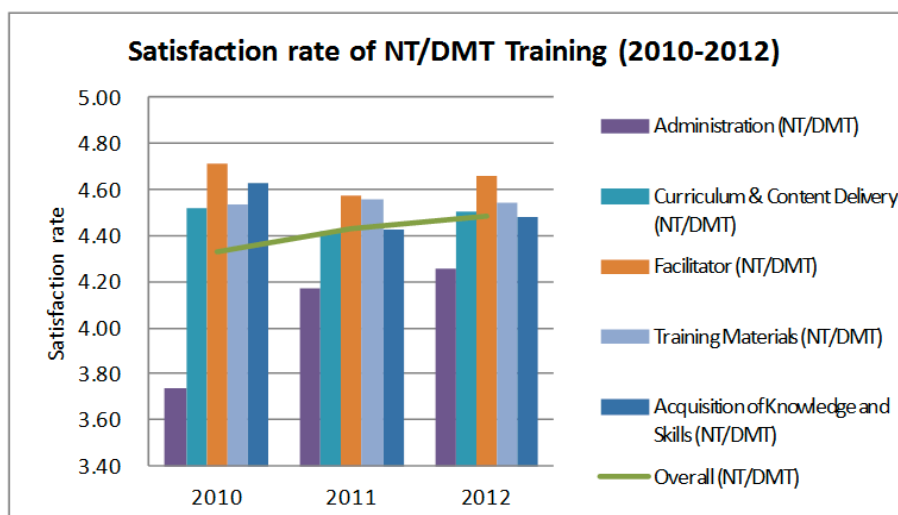
Source: GES/JICA INSET Project Phase 2

Figure 3.1   Satisfaction Rate of NT/DMT Training (2010–2012)

3.1.6   National INSET Committee (NIC) Meeting

The NIU organized the National INSET Committee (NIC) meeting several times during the Project period, mainly focusing on the Pre-Tertiary Teacher Professional Development and Management (PTPDM) Policy and progress of the Project as shown in Table 3.10.   As for the PTPDM policy, the Project facilitated various stakeholders to discuss various issues, for example, licensing and registration of teachers along with proposed new career paths in the PTPDM policy, and the role and responsibilities of key players including the National Teaching Council defined in the Education Act 778.   As a result of this series of discussions, the Project finalized the PTPDM policy with the stakeholders and the GES council endorsed it in January 2012.   After the Project obtained the informal consent of the Chief Director and the Minister on the policy, the GES officially shared it with the National Teaching Council (NTC) in November 2012.   It is now at the stage where the GES will develop the implementation plan with the NTC.

Table 3.10   Summary of NIC Meetings

Date	Agenda	No. of Participants
11 November 2009	Creation of the Steering Committee	16
13 April 2010	Introduction of the Policy	47
2 July 2010	Sharing of a draft final Policy and the NIU Report	18
8 April 2011	PTPDM Policy / Decentralisation Policy	23
14 June 2011	The results of Mid-term Review and the Progress of the Project	26
13 October 2011	PTPDM Policy	20
23 November 2011	PTPDM Policy	13
16 February 2012	Progress of the Project and the PTPDM Policy	26

Source: GES/JICA INSET Project Phase2

3.1.7   Overseas Training Contributing to Capacity Development

The Project dispatched suitable personnel to overseas trainings, which contributed to capacity development of the project stakeholders, in order to meet increasing manpower demands in the Nationwide INSET Programme, and complement quality improvement in district-level INSET activities.   The Project followed up with the trainings and supported the participants to use acquired knowledge and skills for planning, delivering and monitoring INSET activities from

policy to field levels within the Nationwide INSET Programme. For example, participants from 9 districts (3 districts each in three years) who joined a training named "Improvement of Teaching Methodology in Science and Mathematics for Ghana" disseminated the learner-centred approach that they studied at the training after their return from Japan. The NIU also organized workshops twice for them to disseminate what they had studied. Appendix 11 shows the details of the trainings conducted.

3.2   Capacity Development of Master Trainers (MTs)

<PDM Output 2>
The capacity of the Regional Master Trainers (RMTs) and District Master Trainers (DMTs) for INSET delivery is enhanced.

[Activities in PDM Output 2]
  2-1.   Conduct orientation for Regional Education Office (REO) and District Education Office (DEO) by NIU
  2-2.   Select MTs
  2-3.   Conduct orientation and training in INSET delivery for MTs
  2-4.   Conduct training in monitoring skills for MTs
  2-5.   Provide professional support to MTs for effective INSET delivery and monitoring by NIU
  2-6.   Monitor district-level activities by MTs

[Objectively Verifiable Indicators (OVIs)]
  OVI 2.1   Monitoring activities on orientation/training in INSET management for HTs and CSs are conducted by MTs on a regular basis.
  OVI 2.2   Monitoring activities on orientation/training in INSET delivery for CLs are conducted by MTs on a regular basis.

Output 2 of PDM targets strengthening Master Trainers who are responsible for the quality assurance of the INSET Programme by conducting DTST training and monitoring various activities at both district and school levels, including SBI/CBI and sampling surveys. Their capacity development is definitely key to ensuring quality INSET all over the country.

The Terminal Evaluation team assessed Output 2 to be "mostly achieved". As for the achievement levels of the indicators, the orientation/training on INSET Management for HTs and CSs monitored by RMTs/DMTs has been implemented in 98 districts (57.6%) (OVI 2.1) and the orientation/training on INSET Delivery for CLs monitored by RMTs/DMTs has been implemented in 100 districts (58.8%) (OVI 2.2) as shown in Table 3.11. Since it was in July 2012 that DMTs were appointed in the first batch and the pilot districts, most of the trainings for HTs/CSs and CLs in these districts were conducted without being monitored by DMTs, while most of the trainings for HTs/CS and CLs conducted in the second and third batch districts were monitored by DMTs.

Table 3.11   Coverage of the Districts that have Implemented HT/CS and CL Training Monitored by RMTs/DMTs

	OVI 2.1 (HT/CS Training)		OVI 2.2 (CL Training)	
Year	No. of districts	%	No. of districts	%
2012 (as at August)	98	57.6%	100	58.8%

Source: GES/JICA INSET Project Phase2

The following subsection elaborates on activities and their results for Output 2.

3.2.1   RMT/DMT Training in INSET Delivery and Monitoring

The Nationwide INSET Programme was originally designed so that each of the 10 Regional Education Office (REOs) appoints National Trainers as Regional National Trainers (Regional NTs) and the TED appropriates a budget for 1) training Regional NTs and 2) dispatching the Regional NTs to districts in their responsible regions for training DTSTs and monitoring district activities.   However, after 1st batch districts were trained in 2009, most of the national level budget was transferred to district levels due to decentralisation.   In this situation, the TED decided in 2010 to transfer the authority of appointing and deploying National Trainers from 10 REOs to 170 DEOs.   Since each district has its own National Trainers, the Project renamed 'Regional NT' as 'Regional Master Trainer (RMT)' (Regional NTs are hereinafter called RMTs in this section) and 'District National Trainer' as 'District Master Trainer (DMT)'.   The PDM was revised to incorporate these changes (refer to Appendix 2, 3 and 5).

In response to a request from the NIU/TED, DEOs deployed DMTs to monitor trainings for school personnel.   The decision to utilise DMTs depends on the availability of district budgets, but some districts coped with such problems by nominating staff of the DEO as DMTs.

The original role and responsibilities of RMTs were to 1) deliver training for DTST of districts in their responsible regions and 2) monitor district activities, for example, training for HT/CS, training for CL and SBI/CBI.   To equip the RMTs with enough skills to undertake these two roles and responsibilities, the Project designed two trainings: 1) Training on INSET Delivery and 2) Training on INSET Monitoring.   In addition to these two trainings, 3) Preparation of the Sampling Survey was also added for RMTs as the Project designed the RMTs to conduct the sampling survey to enhance their monitoring skills.   Although 1) Training on INSET Delivery and 2) Training on INSET Monitoring were implemented for DMTs from 2010 after DMT was deployed at each district, 3) Preparation of the Sampling Survey still remained the responsibility of the RMTs as the Project used the RMTs as resource persons for the sampling survey.

The following sub-section elaborates on the training history for both RMTs and DMTs.

(1)   Training for Regional Master Trainers (RMTs)

Regional Master Trainers (RMTs) received three types of training: 1) Training on INSET Delivery; 2) Training on INSET Monitoring; and 3) Preparation of the Sampling Survey as shown in Table 3.12 below.

Table 3.12   Training for Regional Master Trainers (RMTs)

Contents	Venue	Period	Date	Year	No of Participants
INSET Delivery	Akrokeri COE, A/R	4 days	15–18 Sep	2009	20
INSET Monitoring	Wesley COE, Kumasi, A/R	2 days	28–29 Oct	2009	21
Preparation of the Sampling Survey	Wesley COE, Kumasi, A/R	1 day	26 Nov	2009	21
Preparation of the Sampling Survey	Wesley COE, Kumasi, A/R	1 day	29 Oct	2010	18
Preparation of the Sampling Survey	Wesley COE, Kumasi, A/R	1 day	7 Oct	2011	14
Preparation of the Sampling Survey	Kumasi, A/R	1 day	20 Sep	2012	14

Source: GES/JICA INSET Project Phase2

1) Training on INSET Delivery
The INSET Project phase 1 drafted the contents of this training in 2006, improved it based on the feedback from DTST training actually organized for 10 pilot districts in 2006/2007 and

finalized it in 2008.   During this long process, the contents were well matured.   The training was designed so that participants learn about the INSET model, their roles and responsibilities, types of SBI/CBI and method of organising SBI/CBI in classroom lectures, and the practical situation of SBI organized in the course.

The Project implemented the training for 20 RMTs including 16 newly appointed RMTs in September 2009.   Especially in designing the training programme, the Project increased opportunities to conduct a lesson observation during the training so that RMTs can learn about the contents and skills through practice.   The demonstration was especially a good opportunity for new RMTs to learn the aims and procedures of lesson studies.   Whereas the Project confirmed the improvement of participants' capacity, a couple of challenges were identified. First, some RMTs had difficulties in developing a model lesson at the Primary school level partly because they usually deliver lessons at College of Education (COE) and do not fully understand the expectations of Primary level lessons.   Secondly, some of them need to be more self-aware as professional RMTs because they showed poorly prepared demonstration lessons. From this perspective, challenges remained in enhancing RMTs' understanding of good Primary level lessons and professionalism as national level trainers.   It was also observed that there was a large difference in the understanding of content between newly appointed and experienced RMTs, but the gaps gradually diminished as they learned from one another through discussions and group work.   Based on this lesson, taking all RMTs into the same programme was considered effective in accelerating their learning, as opposed to offering separate programs to new and experienced RMTs.

2) Training on INSET Monitoring
This training was newly added during this project.   It was designed to equip RMTs with the skills to improve district level trainings (Orientation/Training for HT/CS/CL).   For this purpose, the Project designed the training to emphasize practical training such as role playing where RMTs actually analyse the situation and problems of the training by themselves and utilize coaching skills to improve the training, in addition to studying general knowledge and skills in monitoring.   As for the area of lesson observation and subject matters where RMTs are most conversant, RMTs are expected to conduct lesson observation on a recorded lesson and form a common understanding of "the new LOS (refer to section 3.4.3)".

The Project implemented this training for 21 RMTs including 16 newly appointed RMTs in October 2009 as shown in Table 3.12 above.   A lot of practical opportunities allowed the participants to be fully equipped with the knowledge and skills necessary to analyse and improve the target training.

3) Preparation of the Sampling Survey
The Preparation of the Sampling Survey aimed to equip RMTs with the skills to conduct the sampling survey.   In order to achieve the training purpose within a 1 day programme, the Project put a priority on practical training, in which RMTs would conduct a demonstration of the survey such as lesson assessment and questionnaires.   The 1st training was organized on 26th November 2009 as shown in Table 3.12.   As per the aims of the Project, practical training helped RMTs acquire a clear understanding of the concepts and procedures related to the sampling survey.   In addition to the skills necessary for the sampling survey, this training improved RMTs' understanding of good lessons and skills to critically analyse Primary level lessons from the pupils' point of view.   During the training, RMTs conducted lesson observation at a demonstration school by using the new "Lesson Assessment Sheet (LAS)," which is specialized for the survey, and learned its concepts and usage.   Being familiar with this sheet, RMTs not only acquired skills of lesson assessment but also deepened their understanding of elements of good lessons with further attention to the child-centred approach. However, they had just begun to understand the concept of child-centred lessons, so it was

necessary to further develop their capacity in lesson observation through continual training. The preparation training was provided for RMTs four times before every sampling survey, but the target RMT was reduced from the third training as the Project screened performing RMTs.

(2)   Training for District Master Trainers (DMTs)

Upon request from the NIU/TED, the DIC in each district appointed 2 District Master Trainers (DMTs).   The Sourcebook Module 1/2 recommends the DIC to select the DMTs from tutors in Colleges of Education, teachers in Senior High Schools and/or DEO officers with a minimum of five (5) years of teaching experience in their major subject area, but in reality some are selected from teachers in Junior High Schools (JHS).   DMTs received three types of training: 1) Training on INSET Delivery; 2) Training on INSET Monitoring; and 3) Integrated Training as shown in Table 3.13.   As at January 2013, 156 districts have at least one DMT in their district who participated in at least one training.

Table 3.13   Training for District Master Trainers (DMTs)

Contents	Venue	Period	Date	Year	No of Participants
INSET Delivery	Akrokeri COE, A/R	5 days	22–26 Nov	2010	78 (2nd batch)
INSET Monitoring	Akrokeri COE, A/R	5 days	13–17 Dec	2010	78 (2nd batch)
INSET Delivery	Kumasi, A/R	5 days	9–13 May	2011	55 (3rd batch)
INSET Delivery	Koforidua, E/R	5 days	16–20May	2011	55(3rd batch)
INSET Monitoring	Kumasi, A/R	5 days	14–18 Nov	2011	45 (3rd batch)
INSET Monitoring	Koforidua, E/R	5 days	5–9 Dec	2011	53 (3rd batch)
Integrated	Koforidua, E/R	5 days	3–7 July	2012	61 (Pilot district + 1st batch)
Integrated	Tamale, N/R	5 days	9–13 July	2012	56 (Pilot district + 1st batch)
	Total				481

Source: GES/JICA INSET Project Phase2

As for the 2nd and 3rd batch districts trained in 2010 and 2011 respectively, the same curriculum as for RMTs was used for: 1) Training on INSET Delivery; and 2) Training on INSET Monitoring, whereas a new curriculum was introduced for: 3) Integrated training delivered for 1st batch and pilot districts in 2012.   The role of DMTs was different from that of RMTs, as RMTs monitored Training for HT/CS/CL and advised DTST while DMTs supported DICs implementing the trainings, especially when their subject expertise was required.   This difference was, however, not emphasized for DMTs training for the 2nd and 3rd batches as the Project had not identified the difference yet.   It was emphasized from 3) Integrated Training. The following elaborates on 3) Integrated Training.

3) Integrated Training

After implementing training for DMTs from the 2nd and 3rd batches, the Project found that their participation ratio was low, as shown in Table 3.14.

Table 3.14   Participation Rate of DMT Training (2nd and 3rd Batch)

Batch and No. of target districts	No. of Districts		
	No participation	Partial participation	Full participation
2nd batch (41 districts)	1 (2.4%)	7 (17.1%)	33 (80.5%)
3rd batch (62 districts)	3 (4.8%)	26 (41.9%)	33 (53.2%)
Total (103 districts)	4 (3.9%)	33 (32.0%)	66 (64.1%)

Source: GES/JICA INSET Project Phase 2
Note: No participation means that nobody participated in DMT training from the district
        Full participation means that 2 DMTs participated in both training in INSET delivery and INSET monitoring
        Partial participation means at least 1 DMT participated in at least one training session.

The ratio of districts who fully participated in DMT training was 80.5% for 2nd batch districts and 53.2% for 3rd batch districts. On the other hand, the ratio of districts that had not dispatched even one person to any training was only 3.9% in total. This implies that most districts were willing to participate in the training, but could not subsidize the expense of participation due to a lack of budget. To solve this, the Project merged 5-day INSET Delivery training and 5-day INSET Monitoring into one 5-day training session to reduce the participation fee by removing lower priority content and rearranging the order of topics for further effectiveness. The Project provided this new training for DMTs from 10 pilot districts and 57 first batch districts in July 2012 as shown in Table 3.13. They learned about their roles and responsibilities and the INSET system, experienced how to organize SBI/CBI in real situations and acquired skills in lesson studies using the Lesson Observation Sheet (LOS). The skill of using LOS was expected to be effectively used to monitor and improve the district level training for HT/CS/CL and SBI/CBI at the school level. This new training curriculum is defined in the national guidelines.

3.2.2   Support to RMTs/DMTs in INSET Delivery (DTST Training)

As for DTST from the 57 first batch districts, the training was delivered to 50 districts in 9 groups in 2009 and to the remaining 7 districts in 2010. At least 1 NIU staff member joined each group to support RMTs in delivering the quality training. It was challenging for the newly appointed RMTs to facilitate the training sessions with content they had just learned a couple of weeks ago, but they succeeded in managing the training with support which was provided by the experienced NIU staff member both during and after each session.

Some of the identified challenges for RMTs as facilitators in DTST training were as follows: First, some RMTs had difficulties in conducting DTST training smoothly due to a lack of understanding of the INSET system. Although this knowledge gap gradually diminished as they gained experience in the facilitator's role during the training, it was expected that the NIU will help them to fully understand about INSET Delivery during RMTs training. Second, during lesson observation, active participation was demonstrated by RMTs rather than DTSTs. Because the purpose of this training was to develop the capacity of DTST members, the Project reminded RMTs to keep playing a facilitator's role in order to bring out spontaneous participation and potential from DTST members.

It was confirmed, however, that RMTs' skills in training delivery were gradually improved as they gained experience in training facilitation during the training. In addition, their understanding of INSET was further enhanced by teaching the contents as facilitators. These findings proved that learning by teaching is one of the most effective methods for the capacity development of RMTs.

As for DTSTs from the 41 second batch districts, the training was delivered in 4 groups in total 2010, and, as was the case for the first batch district, at least 1 NIU staff joined each group to support RMTs to deliver the quality training.

As for DTSTs from the 62 third batch districts, the trained DMTs- instead of RMTs- implemented training to DTSTs in 2011. The training was delivered over a total of 11 sessions, and at least 1 NIU staff joined each session to support DMTs to deliver quality training.

3.2.3   Support to RMTs/DMTs in INSET Monitoring

After their monitoring training in 2009, RMTs were expected to monitor the district level training (trainings for HT/CS/CL). However, only 4 districts out of the 57 first batch districts could organize the training in 2009, whilst the other 53 districts could not organize the training

due to a shortage of district budget.   3 RMTs conducted monitoring of training in 2 districts for HT/CS training and in 3 districts for CL training with the coordination of the Project, providing technical support for improving the quality of the training.   In 2010, RMTs additionally monitored HT/CS training and CL Training in 3 districts and 1 district respectively while monitoring budgets were not fully disbursed in the TED.   From 2011, DMTs started monitoring training instead of RMTs.   Table 3.15 shows the number of districts monitored (supported) by RMTs in 2009/2010 and by DMTs in 2011/2012.   Since DMTs were equipped with knowledge and skills during training, the Project advised DICs, on various occasions, to utilize DMTs more for organizing HT/CS/CL training so that the quality of training could be enhanced.   As at September 2012, the training for HTs/CSs had been monitored by DMTs in 98 districts (57.6%) whereas the training for CLs had been monitored by DMTs in 100 districts (58.8%).   Since it was in July 2012 that DMTs were appointed in the first batch and the pilot districts, training for HTs/CSs and CLs in these districts was conducted without monitoring from DMTs.   Most of the training for HTs/CS and CLs conducted in the second and third batch districts was monitored by DMTs.

Table 3.15   Number of Districts Monitored by RMT/DMT (NET)

Target Training	2009		2010		2011		2012	
	No	Ratio	No	Ratio	No	Ratio	No	Ratio
Training for HT/CS	2	1.2%	5	2.9%	63	37.1%	98	57.6%
Training for CL	2	1.2%	3	1.8%	24	14.1%	100	58.8%

Source: GES/JICA INSET Project Phase 2

3.3   Capacity Development at District Level (DIC/DTST)

<PDM Output 3>
The capacity of the District INSET Committee (DIC) for managing INSET and the District Teacher Support Team (DTST) for INSET delivery is enhanced.

[Activities in PDM Output 3]
3-1.   Conduct orientation for DIC to manage INSET by NIU
3-2.   Support DIC to select DTST by NIU and MTs
3-3.   Conduct orientation and training in INSET delivery for DTST, District Training Officer (DTO) and Assistant District Director for Supervisors (AD-Sups) by MTs
3-4.   Provide professional support to DIC for the smooth implementation of orientation and training for HT and CS by NIU and MTs
3-5.   Provide professional support to DTST for the smooth implementation of orientation / training for CL by MTs
3-6.   Identify challenges of DIC and DTST by NIUs and MTs
3-7.   Conduct mop-up orientation for newly appointed DIC members by NIU
3-8.   Conduct periodic training for DTST by MTs

[Objectively Verifiable Indicators (OVIs)]
OVI 3.1   The orientation/training in INSET management for REO and DIC is conducted as planned.
OVI 3.2   The orientation/training in INSET delivery for DTST is conducted as planned.
OVI 3.3   More than 60% of districts conduct the orientation and training in INSET management for HTs and CSs.

Output 3 of the PDM aims to strengthen the capacity of key INSET stakeholders at the district level, namely DIC and DTST.   These stakeholders are expected to play a coordinating role both in the management and quality assurance of INSET activities at the school level, by organising orientation and training for HTs, CSs and CLs as well as monitoring SBI/CBI.

The Terminal Evaluation team assessed Output 3 to be "achieved". Table 3.16 summarizes the result of indicators. The orientation/training on INSET Management was provided to all key personnel at the regional and district level (OVI 3.1). Regional Directors and Deputies from all 10 Regional Education Offices (REOs) received the orientation in 2009 and all DIC members (6 from each district) from all 170 districts received DIC orientation in the first three years of the Project (2009-2011). INSET Sourcebooks Modules 1/2 were revised in 2011 in accordance with the changes in the roles and responsibilities of stakeholders at the national and district level, and a second round of DIC training was conducted in 2012.

By 2012, the orientation/training in INSET delivery for DTST members was conducted in all districts (OVI 3.2). The orientation/training on INSET delivery for HTs and CSs was also conducted in 164 districts (96.5%) in 2012 (OVI 3-3).

Table 3.16 Progress of Training Implementation of Regional- and District Level Training

| | OVI 3.1 | | | | OVI 3.2 | | OVI 3.3 | |
| | REO | | DIC | | DTST | | HTs/CSs | |
Year	No of Regions	%	No of Districts	%	No of Districts	%	No of Districts	%
2009	10	100%	69	40.6%	69	40.6%	16	9.4%
2010	-	-	110	64.7%	111	65.3%	41	24.1%
2011	-	-	170	100.0%	169	99.4%	130	76.5%
2012*	-	-	170**	100.0%	170	100.0%	164	96.5%

* 2012: as at August   ** Second Round of DIC Training
Source: GES/JICA INSET Project Phase 2

The following subsection elaborates on activities and their results for Output 3.

3.3.1 District INSET Committee (DIC) Orientation

The District INSET Committee (DIC) orientation was delivered by the Project according to the schedule shown in Table 3.17, and all the modules in the Sourcebooks were introduced to the DIC members with an emphasis on their roles and responsibilities. Table 3.18 summarizes the number of districts that participated as well as the number of participants in each year. The Project planned to implement the orientation for the 57 first batch districts, 41 second batch districts and 62 third batches in 2009, 2010 and 2011 respectively, but some districts joined of their own accord using their own funds, without official invitation from the NIU. For example, in 2009, 12 DIC members from Chereponi and Kpandai districts in N/R, the 3rd batch districts, attended the orientation using their own funds.

The JICA Expert Team supported the NIU in planning, implementing and monitoring the DIC orientation and developing the database of DIC members after completion of training. The successful orientation ensured that the trained DIC members properly selected DTST members soon after the training, contributing to the smooth preparation of the DTST orientation and training.

Table 3.17 Schedule of DIC Orientation

Year	Date	Venue
2009	21–23 Jul	Wesley COE, Kumasi, A/R
	27–29 Jul	Bagabaga COE, Tamale, N/R
	3–5 Aug	St.John Bosco's COE, Navrongo, UE/R
	10–12 Aug	GESDI, Ajumako, C/R
2010	8–12 Nov	GNAT, Sunyani, BA/R
	8–12 Nov	Holy Child COE, Takoradi, W/R
	15–19 Nov	Resource Center, Koforidua, E/R
	15–19 Nov	GNAT, Ho, V/R
2011	14–18 Mar	Tamale, N/R
	14–18 Mar	Koforidua, E/R
	21–25 Mar	Sunyani, BA/R
	21–25 Mar	Kumasi, A/R
	21–25 Mar	Ho, V/R
	28 Mar–1 Apr	Kumasi, A/R
	2–6 May	Kumasi, A/R

Source: GES/JICA INSET Project Phase2

Table 3.18 Summary of DIC Orientation/Training

Items	Before 2009	2009	2010	2011	2012	Total
Number of Districts Trained in Each Year						
Pilot districts (10 districts)	10	0	1	0	10	21
1st batch districts (57 districts)	-	57	1	2	57	117
2nd batch districts (41 districts)	-	0	40	1	41	82
3rd batch districts (62 districts)	-	2	1	61	62	126
Gross (Number of Districts Trained)	10	59	43	64	170	346
Net Number of Districts Covered	10	69	112	170	170	-
Net Ratio of Total Districts Covered	5.9%	40.6%	66.5%	100%	100%	-
No. of participants	60	353	256	384	510	1,563

Source: GES/JICA INSET Project Phase 2

Because revised Sourcebook Module 1/2 was published in February 2012, the Project implemented a 3-day additional training for district key personnel (a DTO, an AD-Supervision and a CS) of all 170 districts (Table 3.18). The training contained not only Module 1/2, but also instructions about how to use the Lesson Observation Sheet (LOS). To enhance the effectiveness of the training sessions, several measures were taken: 1) Dividing 540 participants (3 participants from 170 districts) into 10 groups to make smaller groups to enhance participants' ability to concentrate on the training; 2) Placing neighbouring districts in a group as much as possible so that participants could easily share their lesson experiences with neighbouring districts after returning; 3) Introducing role play when studying the LOS; and 4) Providing sample training materials for HT and CL Sourcebook Training.

3.3.2 DTST Orientation and Training

Under instruction from the Project, DIC selected DTST members who satisfied the conditions described in the Sourcebooks after the DIC training. The Project defined the number of DTST members in a district based on the number of public Primary schools in the district as shown in Table 3.19 and provided this information to each district when they select DTST members.

Table 3.19 Agreement on the Number of DTST Members per Subject

	No. of Public Primary School				
	1–50	51–100	101–150	151–200	201–
No. of DTST members per subject	2	3	4	5	6

Source: GES/JICA INSET Project Phase2

29

The RMTs delivered DTST Orientation/Training for DTST members, District Training Officers (DTO) and the Assistant Director of Supervision (AD-Sup) according to the schedule shown in Table 3.20. Table 3.21 summarizes the number of districts that participated and the number of participants in each year. As both 1 day orientation and 4-day trainings were implemented as 5-day activities, Table 3.20 and Table 3.21 show 5-day activities. As with the DIC orientation, although the Project planned to implement the orientation/training for the 57 first batch districts, 41 second batch districts and 62 third batches in 2009, 2010 and 2011 respectively, some districts joined of their own accord and funds, without official invitation from the Project, while others could not join on time due to budgetary constraints. For example, 2 of the third batch districts joined the training in 2009. The training was delivered in a total of 26 sessions, and at least 1 NIU staff joined each session to support RMTs/DMTs to deliver quality training. The participants (DTST) acquired the knowledge and skills necessary for their INSET activities.

Table 3.20   Schedule of DTST Orientation/Training

Year	Date	Venue
2009	21–25 Sep.	Akrokerri COE, Obuasi, A/R
	28 Sep.–2 Oct.	Wiawso COE, Wiaswo, W/R
	5–9 Oct.	Wiawo COE, Wiawso, W/R
	5–9 Oct.	St.John Bosco's COE, Navrongo, UE/R
	5–9 Oct.	OLA COE, Cape Coast, C/R
	12–16 Oct.	OLA COE, Cape Coast, C/R
	12–16 Oct.	Presbyterian COE, Akropong, E/R
	12–16 Oct.	N.J.Ahmadiyya COE, Wa, UW/R
	19–23 Oct.	Bagabaga COE, Tamale, N/R
2010	8–12 Mar	Dambai COE, Dambai
	26–30 May	GNAT, Sunyani
	29 Nov.–3 Dec.	GNAT, Sunyani
	29 Nov.–3 Dec.	GNAT, Ho
	6–10 Dec.	Holy Child T.C., Takoradi
2011	10–14 Jan.	Resource Centre, Koforidua
	6–10 Jun.	Cape Coast, C/R
	6–10 Jun.	Koforidua, E/R
	6–10 Jun.	Wa, UW/R
	13–17 Jun.	Koforidua, E/R
	13–17 Jun.	Kumasi, A/R
	13–17 Jun.	Sunyani, BA/R
	20–24 Jun.	Kumasi, A/R
	20–24 Jun.	Sunyani, BA/R
	20–24 Jun.	Ho, V/R
	27 Jun.–1 Jul.	Kumasi, A/R
	27 Jun.–1 Jul.	Ho, V.R

Source: GES/JICA INSET Project Phase 2

Table 3.21   Summary of DTST Orientation/Training

Items	Before 2009	2009	2010	2011	2012	Total
Number of Districts Trained in Each Year						
Pilot districts (10 districts)	10	0	0	0	1	11
1st batch districts (57 districts)	-	48	11	1	13	73
2nd batch districts (41 districts)	-	0	40	1	4	45
3rd batch districts (62 districts)	-	2	2	57	14	75
Gross (Number of Districts Trained)	10	50	53	59	31	204
Net Number of Districts Covered	10	60	111	169	170	-
Net Ratio of Total Districts Covered	5.9%	35.3%	65.3%	99.4%	100.0%	-
No. of participants	100	351	468	540	217	1,459

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

DTSTs' Understanding of Learner-Centred
It was observed that there was a large difference in the capacities of DTST members, as it was difficult for the NIU to control the selection of DTST members by DIC. As opposed to DIC orientation, DTST training explained their roles and responsibilities under the INSET system, but prioritized on practical training. Most of DTST improved their understanding of how to introduce activities for pupils through developing a lesson plan, demonstrating the lesson and observing the lesson. However they had difficulties in drawing out pupils' interest in and motivation for learning. They prioritized the flow of activities they planned, but not what pupils think creatively and freely in order to participate in the activities. In addition, there was no consensus on good lesson among DTSTs and therefore argument during lesson observation went round and round and ultimately went nowhere. Utilization of LOS, which provided the essence of good lessons, helped DTST members quickly grasp the concept of good lessons.

3.3.3   Support DIC/DMT/DTST to Deliver and Monitor Training for HT/CS/CL

The Project provided support to DICs/DMTs/DTSTs of all 170 districts in organising HT/CS/CL orientation and training. The Project and RMTs also provided more direct technical support to DIC/DMT/DTST when visiting for monitoring districts as described in Section 3.2.3. Table 3.22 and Table 3.23 show the progress of Orientation and Sourcebook Training for HT and CS by region and by batch respectively. Table 3.24 shows the number of HTs trained in each calendar year. Table 3.25 and Table 3.26 show the progress of CL Sourcebook Training 1 by region and by batch respectively. Table 3.27 shows the number of CLs trained in each calendar year.

Table 3.22   Progress of Orientation/Training for HT/CS by Region in Each Calendar Year

Region	No. of Districts in Region	Districts Implemented (NET)		Districts Implemented (GROSS)					
		Number	Ratio (%)	Before 2009	2009	2010	2011	2012	Total
A/R	27	27	100%	1	3	0	14	16	34
BA/R	22	21	95%	1	0	0	13	14	28
C/R	17	16	94%	1	0	3	13	4	21
E/R	21	21	100%	1	2	2	16	11	32
GA/R	10	9	90%	1	0	0	7	4	12
N/R	20	18	90%	1	0	10	13	8	32
UE/R	9	9	100%	2	0	7	6	5	20
UW/R	9	9	100%	1	0	1	3	6	11
V/R	18	17	94%	1	0	1	12	12	26
W/R	17	17	100%	1	0	4	15	6	26
Total	170	164	96%	11	5	28	112	86	242

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

Table 3.23 Progress of Orientation/Training for HT/CS by Batch in Each Calendar Year

Batch	No. of Districts in Batch	Districts Implemented (NET)		Districts Implemented (GROSS)					
		Number	Ratio (%)	Before 2009	2009	2010	2011	2012	Total
Pilot	10	10	100%	10	0	1	5	3	19
1st	57	53	93%	0	5	24	37	25	91
2nd	41	39	95%	0	0	1	36	11	48
3rd	62	62	100%	1	0	2	34	47	84
Total	170	164	96%	11	5	28	112	86	242

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

Table 3.24 Number of HTs Trained in Each Calendar Year

Region	By 2008	2009	2010	2011	2012	Total
A/R	140	282	0	1,124	1,052	2,598
BA/R	65	0	0	985	601	1,651
C/R	102	0	232	975	231	1,540
E/R	86	160	128	1,283	816	2,473
GA/R	89	0	0	607	424	1,120
N/R	251	0	686	1,087	611	2,635
UE/R	88	0	460	318	204	1,070
UW/R	69	0	68	175	260	572
V/R	95	0	24	985	810	1,914
W/R	58	0	354	1,304	369	2,085
Total	1,043	442	1,952	8,843	5,378	17,658

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

Table 3.25 Progress of CL Sourcebook Training 1 by Region in Each Calendar Year

Region	No. of Districts in Region	Districts Implemented (NET)		Districts Implemented (GROSS)					
		Number	Ratio (%)	Before 2009	2009	2010	2011	2012	Total
A/R	27	24	89%	1	2	1	10	14	28
BA/R	22	21	95%	1	0	0	8	13	22
C/R	17	15	88%	1	0	0	9	8	18
E/R	21	20	95%	1	2	0	15	13	31
GA/R	10	10	100%	1	0	0	6	5	12
N/R	20	14	70%	1	0	1	11	10	23
UE/R	9	9	100%	2	0	3	8	3	16
UW/R	9	6	67%	1	0	0	2	4	7
V/R	18	18	100%	1	0	0	9	12	22
W/R	17	17	100%	1	0	2	8	10	21
Total	170	154	91%	11	4	7	86	92	200

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

**Table 3.26 Progress of CL Sourcebook Training 1 by Batch
in Each Calendar Year**

| Batch | No. of Districts in Batch | Districts Implemented (NET) | | Districts Implemented (GROSS) | | | | | |
		Number	Ratio (%)	Before 2009	2009	2010	2011	2012	Total
Pilot	10	10	100%	10	0	1	2	4	17
1st	57	48	84%	0	4	6	36	23	69
2nd	41	39	95%	0	0	0	31	17	48
3rd	62	57	92%	1	0	0	17	48	66
Total	170	154	91%	11	4	7	86	92	200

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

Table 3.27 Number of CLs Trained in Each Calendar Year

Region	By 2008	2009	2010	2011	2012	Total
A/R	90	97	100	765	1,037	2,089
BA/R	63	0	0	589	765	1,417
C/R	161	0	167	642	522	1,492
E/R	161	165	137	1,176	1,149	2,788
GA/R	82	0	0	390	609	1,081
N/R	256	0	350	773	648	2,027
UE/R	97	0	407	738	164	1,406
UW/R	68	0	0	114	193	375
V/R	101	0	22	531	848	1,502
W/R	104	0	166	665	726	1,661
Total	1,183	262	1,349	6,383	6,661	15,838

Source: GES/JICA INSET Project Phase 2
Note: Year 2012 shows the data as at Aug 2012.

To accelerate the low implementation rate of each training by 2010, several interventions were implemented by the Project as follows:

- as the Project recognized the importance of sensitizing DDEs to mobilize budget at DEO under the decentralization after the Mid-Term Review, the Project organized a sensitization seminar for the Conference of Directors of Education (CODE) on 3rd May 2011 and sensitisation workshops for all 170 DDEs in December 2011;

- in order to remind districts that INSET is mandatory, the Project changed the policy of AIPR submission as mandatory for all districts and invited all 170 DTOs to an AIPR workshop in January 2012[7];

- in order to remind districts that INSET is mandatory and discover the actual situation at field level, the Project monitored selected districts after February 2012;

- the Project reported the progress of each district in a newsletter published in February 2012 so that districts will progress more, by feeling honoured and dreading the shame of their achievement;

- the Project simplified the work flow of DIC on the Sourcebook Module 1/2 so that the DIC will have less stress in doing their work and trained them; and

- the Project integrated CL orientation and CL Sourcebook Training 1 into new training named "CL Sourcebook Training" to reduce training costs at the district level

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[7] The Project invited districts which implemented training for HT/CL to AIPR workshop for year 2009 and 2010, but changed this to invite all 170 districts to remind them of their role.

These interventions resulted in a significant increase in the number of HTs/CLs trained. According to the monitoring report by the NIU and RMTs in 2010/2011, DIC/DMT/DTST delivered an orientation to HTs and CSs based on a programme recommended in the Sourcebooks. The roles and responsibilities of HT and CS were thoroughly shared, and a variety of forms necessary for implementation and feedback on activities were used. In addition, through lesson studies led by DTST members, it was found that participants shared the idea that INSET would help to reduce the challenges of teaching in their schools. While they saw SBI/CBI as effective measures for continuous professional development for teachers, HTs voiced concerns about funding, since dependency on capitation grants does not seem sustainable enough to organize SBI/CBI on a regular basis. The DIC members made the suggestion to make maximum use of resources until an alternative source of support is found for their activities.

As for monitoring the training for CLs, the Project observed that expected contents were mostly delivered to CLs with an effective use of appropriate materials. A demonstration was also conducted with enough teaching and learning materials so that CLs learned how to conduct lesson studies in actual settings.

A couple of challenges were identified through monitoring: First, training for CLs was conducted without Sourcebooks in one district because of a lack of coordination in the DEO. This problem was solved in 2012 by reminding the DIC on various occasions as stated in section 3.1.2. Secondly, some expected contents were not fully explained by the DIC/DMT/DTST members, so RMTs gave complementary explanations and advice to the DIC/DMT/DTST members. Another challenge is the capacity of facilitators to control young CLs making noise. The NIU/RMTs gave support to DIC/DMT/DTST to overcome these challenges during the training.

3.4   Strengthening the Monitoring and Evaluation System

<PDM Output 4>
Monitoring and evaluation system is established and enhanced for a structured and quality INSET.

[Activities in PDM Output 4]
4-1.   Monitor the process of the Annual INSET Progress Report (AIPR) by NIU
4-2.   Collect the AIPR form each DEO by NIU
4-3.   Analyse the AIPR by NIU
4-4.   Feedback the analysed outcomes into the next annual activities by NIU
4-5.   Make the NIU report annually
4-6.   Revise lesson observation tools for teachers
4-7.   Conduct lesson observation at the school selected from the 10 pilot districts and the first batch districts as sampling survey by NIU
4-8.   Conduct the endline survey (sampling survey)

[Objectively Verifiable Indicators (OVIs)]
OVI 4.1   The percentage of the AIPR submitted to NIU from DEOs which have conducted CL Sourcebook training 1 reaches more than 80%.

Output 4 of the PDM aims to ensure the monitoring and evaluation (M&E) function in the INSET system. Progress of implementing activities at district and school levels was identified through AIPR submitted by districts, direct visits for monitoring, EMIS and so on. In addition,

the impact of INSET on teachers' teaching skills was assessed through lesson observation conducted as a part of the annual sampling survey in this output.

The Terminal Evaluation Team assessed Output 4 to be "achieved". The Annual INSET Progress Report (AIPR) is required to be submitted by all districts to NIU through DICs. The 2012 AIPR submission rate of all districts was 98.8% (168 districts), exceeding the target value of 80% (OVI 4.1).

The following subsection elaborates on activities and their results for Output 4.

3.4.1 Submission of AIPR

The Annual INSET Progress Report (AIPR) is required to be submitted by all districts to the NIU through DICs every year. Table 3.28 shows the number of district submit AIPR by region since AIPR 2009. AIPR was collected 4 times during the project period. The number of districts that submitted AIPR 2009, AIPR 2010, AIPR 2011 and AIPR 2012 (targeting data from Jan–Aug 2012) are 14 districts, 40 districts, 168 districts and 168 districts respectively[8].

As for AIPR 2009 and 2010, the Project requested only districts that had something to report, for example, implementation of HT/CS orientation/training, to submit AIPR. Apart from 10 pilot districts where SBI/CBI were already being conducted at the school level since 2007, only 4 districts completed HT/CS orientation/training in 2009. Thus the Project requested these 14 districts submit AIPR 2009 (10 pilot districts and 4 first batch district). Similarly, the Project requested AIPR submission from a total of 40 districts in 2010; consisting of 4 districts qualified from AIPR in 2009, 26 new qualified districts and the 10 pilot districts. Therefore although the numbers of districts that submitted AIPR were 14 and 40 in AIPR 2009 and AIPR 2010 respectively, submission rates were 100%.

Table 3.28   The Number of Districts which Submitted AIPR by Region

Region	No. of Districts in Region	Number of Districts Submitted			
		AIPR 2009 collected in Jan 2010	AIPR 2010 collected in Jan 2011	AIPR 2011 collected in Jan 2012	AIPR 2012 (Jan- Aug) collected in Sep 2012
A/R	27	3	4	27	27
BA/R	22	1	1	22	22
C/R	17	1	4	17	16
E/R	21	3	4	21	21
GA/R	10	1	1	10	10
N/R	20	1	11	20	19
UE/R	9	1	7	9	9
UW/R	9	1	2	8	9
V/R	18	1	2	18	18
W/R	17	1	4	16	17
Total	170	14	40	168	168

Source: GES/JICA INSET Project Phase 2

Although the submission rate was 100% for AIPR 2009 and AIPR 2010, the Project took various measures to increase the number of districts that commence the Nationwide INSET Programme as stated in section 3.3.3. As a result, 168 districts submit both AIPR 2011 and AIPR 2012.

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[8] Sissala West (UW/R) and Sefwi Akontombra (W/R) did not submit AIPR 2011. Zabzugu/Tatale (N/R) and Assin North (C/R) did not submit AIPR 2012.

AIPR Workshop
The Project organized AIPR workshops to help DIC submit AIPR. AIPR Workshop was delivered to DTOs and AD-Supervisions from 14 qualified districts for AIPR 2009 and from 40 qualified districts for AIPR 2010. After changing its policy on AIPR submission, the Project delivered AIPR workshops to DTOs from 170 districts for AIPR 2011 and AIPR 2012 which targets January 2012 to August 2012. The workshops equipped DTOs with skills to analyse the situation of INSET in their districts and to develop AIPR.

At the workshop for AIPR 2009 and AIPR 2010, the Project found that the majority of the districts could not provide all the information expected in AIPR. The reason seems to lie in a mixture of complex problems such as the lack of capacity of DTO to fill in the forms, ineffective monitoring by CSs of school activities, a lack of understanding by HTs of reporting, and complicated structures of AIPRs. DTOs in the pilot districts developed AIPR properly during the INSET Project Phase 1, probably because the INSET Project Phase 1 monitored and supported them frequently as the number of target districts was only 10. These lessons learned were discussed among stakeholders, and the Project decided to simplify Sourcebook Module 1/2, including AIPR and forms at the school level, by prioritizing necessary data.

3.4.2   Analysis of AIPR

The Project analysed the submitted AIPR data in order to identify the progress and challenges of INSET activities. One of the identified problems drawn from the AIPR was a variance of implementation status of a series of training. For example, the numbers of districts implemented HT/CL training were 16 districts among 67 target district (57 first batch district and 10 pilot district) as at January 2010 and 41 districts among 108 target district as at January 2011 only due to low commitment of DDE for INSET. This situation required the Project to sensitise DDE more to secure budgets for implementation of training for HTs/CSs/CLs. This strategy resulted in drastic improvement of implementation rate as stated in the previous sections. Another problem drawn from the AIPR was a need for training for newly appointed HTs and CLs in pilot districts, as trained HTs and CLs have been replaced since 2007. For example, the ratios of trained HT decreased to 19% in Tano South District and 56% in Dangme West District as at January 2011, from 100% in 2007. The analysed data was used for this report, the progress reports, the NIU reports, the presentation documents for JCC meetings and NIC meetings and the newsletters. The data was also utilised for decision making of the Project.

3.4.3   Revision of the Lesson Observation Sheet

The Project decided in 2009 to use the Lesson Observation Sheet (LOS) developed by the INSET Project phase 1 (hereinafter referred as old LOS) for training for a while but at the same time to create "the new Lesson Observation Sheet (hereinafter referred as new LOS)," which would replace the old LOS. The new LOS provides criteria which could be an indicator when assessing a lesson. The criteria were developed with an aim to enable both demonstrators and observers participating in lesson observations to easily identify ways to improve teaching practices rather than just evaluate teaching skills. This is called Empowerment Evaluation, and the newly developed criteria will bring about the empowerment of teachers, in the form of an improvement in teaching skills.

The old LOS was superior in 1) aligning with criteria being used in pre-service training, and 2) covering teaching practices that are considered difficult for average Ghanaian Primary teachers to manage. On the other hand, it did not indicate what kind of teaching was expected of a good teacher, so teachers had difficulties identifying a process to improve their level of teaching. In order to overcome this weak aspect, the Project drafted the "new LOS," which describes

teaching behaviours in more detail with regards to each observation point and each rating in the new LOS.   This helps both demonstrators and observers participating in lesson observation to not only fairly assess the demonstrators' skills but also easily identify necessary steps for improving the demonstrators' teaching skills.

The criteria were reviewed and modified by all 21 RMTs at monitoring trainings in 2009 and 2010, by local consultants several times and by the Project and other resource persons at the Sourcebook Review Workshop in 2011.   The Project combined some evaluation categories for better usability, gave clearer differentiation to various criteria, and integrated the lesson observation and its criteria into one format.   The finalized new LOS was published and distributed in July 2011 and was incorporated into the Sourcebook Module 1/2 (third edition) in December 2011.   The Project also provided training on how to observe a lesson with new LOS to DIC from 170 districts in May-June 2012, DTO from 170 districts in August 2012 and to DMTs from the 10 pilot districts and the 57 first batch districts in July 2012.   The Project also planned to develop LOS manual which helps DTO to teach LOS to school personnel easily.

The Terminal Evaluation Team observed that teachers and district stakeholders (i.e. DMTs, DTST members and CSs) attending SBI tend to give higher scores on the LOS without fully comprehending the meanings of each improvement stage and therefore supported the Project developing the LOS Manual and providing further training on its usage for district stakeholders. The Project developed, printed and distributed the LOS manual in January 2013 and provided half a day training on its usage for DMT and a CS from 170 districts in January 2013.   To ensure their understanding, the Project conducted examinations for all participants.   All participants successfully passed the exam.   The Project also guided them to conduct necessary trainings for HT and CL of public Primary schools in their districts.   After the completion of the Project, the NIU will continue to monitor its progress through telephone monitoring.

3.4.4   Sampling Survey (Endline Survey)

The sampling survey was conducted at the selected 48 schools in 12 sampled districts four times every year.   4 districts were selected from the pilot districts (2 districts from northern area, 2 from southern area) and 8 districts were selected from the 57 first batch districts (4 districts from northern area, 4 from southern area).   In each selected district, 4 different types of schools were selected as target schools according to the conditions mentioned in Table 3.29.

Table 3.29   Conditions for School Selection for the Sampling Survey

School	Requisite Condition				Preferred Condition
	Enrolment	Urban /Rural	Teachers' Qualification	HTs' Qualification	
School 1 (Urban good)	100–240	Urban	More than 80% teachers are qualified	More than 3 years experience as HT	P5 & P6 teachers are expected to stay in the same grade for the next 4 years.
School 2 (Urban challenge)	100–240	Urban	Less than 60% teachers are qualified	Less than 3 years experience as HT	
School 3 (Rural good)	100–240	Rural	More than 80% teachers are qualified	More than 3 years experience as HT	
School 4 (Rural challenge)	100–240	Rural	Less than 60% teachers are qualified	Less than 3 years experience as HT	

Source: GES/JICA INSET Project Phase2

In each school, lesson assessments of one P5 Science class and one P6 Mathematics class were conducted in addition to questionnaires for 1 HT, 1 CL, 1 teacher in observed P5 and P6 classes respectively and their pupils.   The survey methodology is summarized in Table 3.30.

Table 3.30   Outline of Methodology in the Sampling Survey

Area of Measurement	Method	Answerer
Teachers' teaching skills	Lesson Assessment	RMTs
	Questionnaire to teachers	P5 and P6 teachers
Teachers' satisfaction with SBI/CBI	Questionnaire to teachers	P5 and P6 teachers
Pupils' satisfaction with teachers' teaching (teaching skills and subject knowledge etc.)	Questionnaire to pupils	Pupils
Management of SBI/CBI	Questionnaire to HT	HT
	Questionnaire to CL	CL

Source: GES/JICA INSET Project Phase2

The primary purpose of the lesson assessment in the sampling survey lies not in improving teachers' teaching skills by giving them advice, but in measuring the impact of INSET activities on teachers' teaching skills.   From this point of view, the Project created "the Lesson Assessment Sheet (LAS)," which was a prototype of the new LOS.   The feedback from this sampling survey was also used to develop the new LOS (refer to section 3.4.3 for more detail of developing the new LOS).

To develop questionnaires measuring teachers' and pupils' satisfaction, the Project applied the theories of "The Four-Level Kirkpatrick Model for Evaluating Effectiveness of Training Programs" (Kirkpatrick, D.L.:1959).   This theoretical approach is a great help in the systematic analysis of the degree of satisfaction.   All the questionnaires were also reviewed by local consultants and modified several times through trials at demonstration schools.   A complete set of questionnaires and the Lesson Assessment Sheet can be found in the Sampling Survey Report.

At the implementation stage, trained NIU staff and RMTs conducted the sampling survey in several teams.   At the same time, the JICA Expert Team monitored its implementation at various sites and supported NIU/RMT to improve the quality of the survey.

The following are the major findings of the 4th sampling survey (endline survey).

(1)   Impact of SBI/CBI on Teaching and Learning

The impact of SBI/CBI on teachers was clearly observed.   Table 3.31 shows the average ratings of each observation point between Group A (Teachers who had NOT participated in SBI/CBI AT ALL over the last year) and Group B (Teachers who had participated in SBI/CBI AT LEAST ONCE over the last year).   The results of T-Tests are used to examine whether there was a significant difference between Group A and B.   In the T-Tests of the 2010, 2011 and 2012 sampling surveys, the teaching skills of teachers who had participated in SBI/CBI were given higher ratings than those of teachers who had not participated.   Although a significant difference was not observed in 2009, the teaching skills of teachers who participated in SBI/CBI were either rated higher or at the same level as those of teachers who had not.   This means participation in SBI/CBI has at least a positive impact on the improvement of teaching skills.

Table 3.31   Average Rating of Teaching Skills in Lesson Assessment (Group A/B)

Lesson Assessment Sheet (LAS) Category	2009 A	2009 B	2010 A	2010 B	2011 A	2011 B	2012 A	2012 B
Objectives and Core Points in Lesson Plan (Average)	2.83	2.80	2.87	**3.22**	2.75	**3.09**	3.02	3.14
1. 'SMART' objectives	3.37	3.02	3.06	**3.55**	2.85	**3.32**	3.50	3.41
2. Core points	2.92	3.02	3.15	3.34	2.96	3.17	3.20	3.17
3. Logical sequencing of teaching and learning activities	2.93	2.72	2.89	3.15	2.75	**3.11**	2.96	3.22
4. Teaching and Learning Materials (TLMs)	2.37	2.74	2.56	**3.16**	2.73	**3.11**	2.70	**3.11**
5. Learner activities (e.g. group work, role play)	2.55	2.52	2.70	2.91	2.46	2.72	2.72	2.83
Classroom Organization and Management (Average)	2.39	2.40	2.82	2.99	2.06	**2.54**	2.30	2.51
6. Arranges class to suit learning activity	2.13	2.21	2.69	2.84	1.85	**2.28**	2.04	2.23
7. Use appropriate class control measures	2.65	2.60	2.96	3.13	2.27	**2.80**	2.56	2.80
Teaching Methodology and Lesson Delivery (Average)	2.49	2.46	2.75	**2.98**	2.32	**2.60**	2.62	2.73
8. Use language appropriate to the level of pupils	2.92	2.80	3.24	3.25	2.69	2.97	2.94	3.01
9. Use of chalkboard and taking notes	2.55	2.48	2.98	2.92	2.31	2.59	2.56	2.71
10. Questioning and feedback	2.30	2.30	2.72	2.87	2.17	**2.50**	2.48	2.52
11. TLMs and activities	2.02	2.19	2.15	**2.97**	2.02	**2.50**	2.38	2.62
12. Pupils' active participation and generic skills	2.53	2.57	2.74	2.97	2.33	2.56	2.64	2.81
13. Evaluation of pupils understanding of lessons	2.65	2.44	2.67	2.89	2.39	2.50	2.74	2.70
Overall Average	2.61	2.58	2.81	**3.08**	2.44	**2.78**	2.72	**2.86**

Note: **XX**   Significantly higher than the other (P<0.05)
Source: GES/JICA INSET Project Phase2

Unlike the impact on teachers, however, the impact of SBI/CBI on pupils was not so clearly observed.   Table 3.32 summarizes the average satisfaction level of pupils in Group A and Group B, which is shown in percentages, in each category.   As the number of pupils in the sampled class varies widely from 10 to 50, average satisfaction of each class was used instead of average satisfaction of pupils.   The advantage of SBI for pupils was observed for three years in 2009–2011, but not in 2012.   This implies that the influence on pupils is difficult to observe constantly.

Table 3.32   Impact of SBI/CBI on Pupils in Group A/B

Items	2009 A	2009 B	2010 A	2010 B	2011 A	2011 B	2012 A	2012 B
Lesson and Teacher (Average)	82.3%	**85.9%**	86.1%	87.2%	83.6%	**88.8%**	86.5%	87.9%
A. Teachers' Teaching Skills	79.4%	**83.4%**	84.0%	84.3%	80.5%	**86.1%**	83.3%	85.6%
B. Teachers' Attitudes to Lessons	79.6%	83.0%	84.1%	85.2%	81.6%	87.6%	85.4%	85.2%
C. Teachers' Attitudes to Pupils	88.2%	**91.1%**	90.3%	**92.8%**	89.3%	93.7%	92.4%	92.7%
Pupils' Self-Assessment (Average)	85.7%	87.2%	90.3%	90.1%	87.8%	**92.1%**	90.4%	89.9%
D. Interest	91.6%	90.3%	93.7%	93.3%	91.8%	93.9%	93.5%	91.8%
E. Class Participation	88.0%	89.9%	92.0%	91.3%	88.4%	**93.1%**	91.5%	92.2%
F. Understanding	76.2%	80.2%	84.3%	85.2%	82.8%	**88.9%**	85.8%	84.6%
Overall Average	83.3%	**86.3%**	87.3%	88.0%	84.7%	**89.7%**	87.6%	88.5%

Note: **XX**   Significantly higher than the other (P<0.05)
   Group A: Teachers who had NOT participated in SBI/CBI AT ALL over the last year
   Group B: Teachers who had participated in SBI/CBI AT LEAST ONCE over the last year
Source: GES/JICA INSET Project Phase 2

(2)   Impact of the Nationwide INSET Programme:

Table 3.33 shows average ratings of teachers' satisfactions with SBI/CBI, acquisition of knowledge and skills at SBI/CBI, change in behaviour in teaching, impact of SBI/CBI on schools and teachers' teaching skills between Group B1 (teachers in schools where HT/CLs were trained by the Nationwide INSET Programme and subsequently organised SBI/CBI) and Group B2 (teachers in schools where the Programme made no interventions).   According to the T-Test, the Nationwide INSET Programme has shown a positive impact on teaching in classrooms.   Group B1 have higher teaching skills and are more satisfied with SBI/CBI than Group B2.   This means that the Nationwide INSET Programme has indeed improved teachers' teaching skills.

Table 3.33   Average Rating of Teachers' Satisfaction, Acquisition of Skills, Change in Behaviour, Impact on Schools and Teaching Skills (Group B1/ B2)

Items	2009		2010		2011		2012	
	B1	B2	B1	B2	B1	B2	B1	B2
1) Teachers' Satisfaction with SBI/CBI (Questionnaire, 1-4 scale)	**3.32**	2.71	**3.33**	2.82	**3.35**	2.75	**3.24**	2.61
2) Acquisition of knowledge and Skills at SBI/CBI (Questionnaire, 1-4 scale)	**3.39**	2.98	**3.48**	3.18	**3.51**	3.27	**3.45**	3.04
3) Change in behaviour in teaching (Questionnaire, 1-4 scale)	**3.33**	3.24	3.53	3.46	**3.44**	3.20	**3.43**	3.06
4) Impact of SBI/CBI on Schools (Questionnaire, 1-4 scale)	3.16	2.97	**3.25**	3.04	**3.27**	2.97	**3.21**	2.75
5)Teachers' Teaching Skills (LAS, 1-5 scale)	2.60	2.55	**3.40**	2.68	**2.89**	2.64	**2.88**	2.74

Note: XX   Significantly higher than the other (P<0.05)
Source: GES/JICA INSET Project Phase2

However, like the trend observed in the impact of SBI, the advantage of the Programme on pupils was not observed in 2012, although it was observed for three years between 2009 and 2011 (Table 3.34).   This indicates that the effect on pupils is difficult to observe as there are various other factors affecting pupils.

Table 3.34   Impact of SBI/CBI on Pupils (Group B1/ B2)

Items	2009		2010		2011		2012	
	B1	B2	B1	B2	B1	B2	B1	B2
Lesson and Teacher (Average)	85.7%	86.1%	88.0%	86.3%	89.4%	88.1%	87.4%	**90.4%**
A. Teachers' Teaching Skills	82.8%	83.9%	84.0%	84.7%	87.1%	85.0%	85.1%	88.1%
B. Teachers' Attitudes to Lesson	85.9%	80.6%	**89.4%**	80.2%	90.2%	84.6%	84.5%	88.5%
C. Teachers' Attitudes to Pupils	90.4%	91.6%	**94.3%**	90.9%	93.1%	94.3%	92.3%	**94.8%**
Pupils' Self-Assessment (Average)	**90.7%**	84.3%	90.3%	89.9%	**93.2%**	90.9%	89.5%	**92.0%**
D. Interest	**93.8%**	87.3%	93.4%	93.2%	94.9%	92.6%	91.5%	92.9%
E. Class Participation	91.8%	88.3%	90.7%	92.0%	93.0%	93.2%	91.7%	**94.5%**
F. Understanding	**86.0%**	75.2%	86.6%	83.4%	**91.7%**	85.6%	84.0%	87.4%
Overall Average	87.1%	85.6%	88.6%	87.3%	90.5%	88.9%	88.0%	**90.9%**

Note: XX   Significantly higher than the other (P<0.05)
Source: GES/JICA INSET Project Phase2

(3)   Factors Related with Nationwide INSET Model

Figure 3.2 shows the correlation coefficients between pairs of variables (factors) determined from the logical sequence of the INSET Model.   Different colours indicate the strength of various correlation coefficients: red for r≧0.6, orange for 0.6>r≧0.4, yellow for 0.4>r≧0.2 and no colour for 0.2>r>-0.2.   Correlation coefficients less than −0.2 were not observed. Each pair of factors from the logical sequence of the INSET Model, ranging from training HT/CLs to pupils' satisfaction with lessons and teachers, is correlated with each other. HT/CLs with higher management and sensitisation skills tend to organize SBIs more often (r=0.536 and 0.483 respectively), encourage teachers to attend SBIs more often (r=0.512 and r=0.423 respectively) and make SBIs more attractive so that teachers are more satisfied with SBI (r=0.621 and r=0.603 respectively).   Teachers who attend SBIs more often tend to have better teaching skills (r=0.212).   Pupils tend to be more satisfied with teachers who have better teaching skills defined according to LAS (r=0.210).

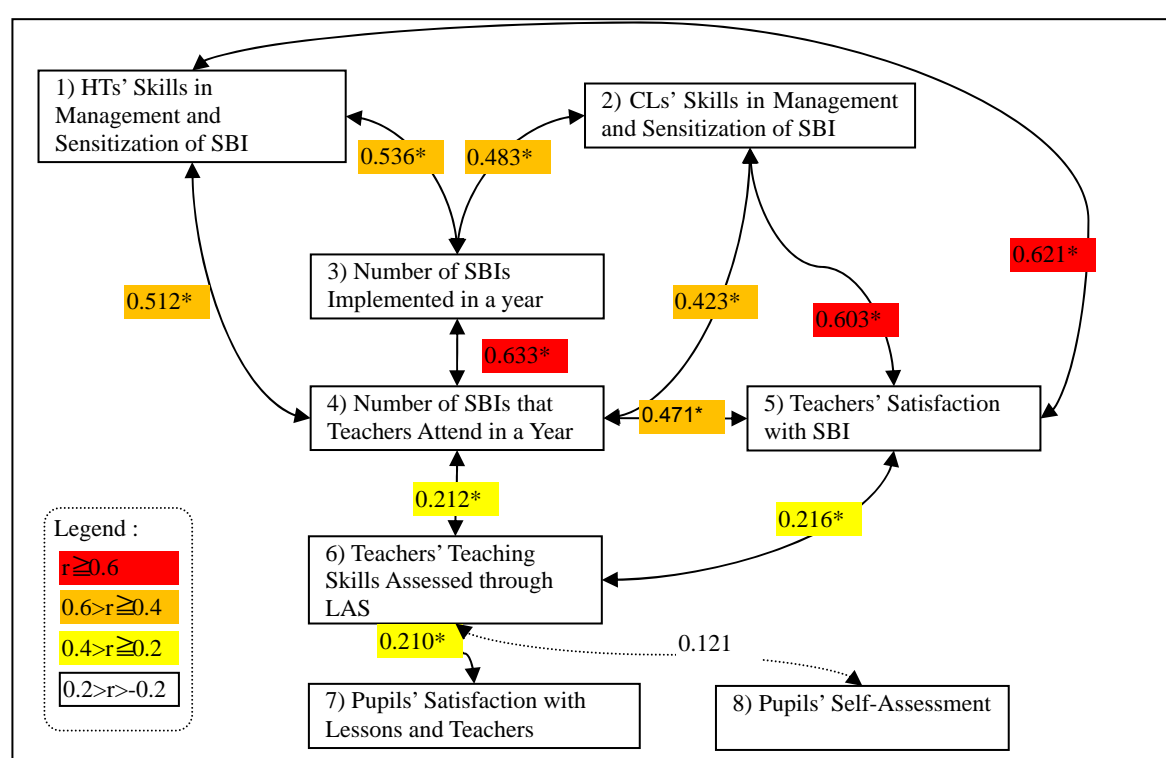Source: GES/JICA INSET Project Phase2   Note: *: P<5%,

Figure 3.2   Correlation between Major Factors of SBI Model

Table 3.35 shows annual variation of HT Skill on SBI and the number of SBI implemented in a year between 2009/2012 in 4 pilot districts.   As the pilot districts have not implemented remedial training for HT in since 2009, the Sampling Survey analysed this data to investigate the effect of the Nationwide INSET Programme over time.   This shows that without additional training on INSET from the DEO, the number of SBIs organized by HTs decreases eventually, although HTs maintain their skills of management and sensitization of SBI.

Table 3.35   Annual Variation of HT Skill on SBI and the Number of SBI Implemented in a Year between 2009/2012 (4 Pilot Districts)

Items (4 Pilot Districts)	2009	2012	Difference between 2009–2012
HTs' Skill on Management and Sensitization of SBI (1–4 Scale)	3.23	3.35	0.12
Number of SBI Implemented in a year	4.25	3.20	−1.05

Note: **XX**   Significantly higher than the other (P<0.05)
Source: GES/JICA INSET Project Phase2

It is also noteworthy that attendance at SBIs correlates weakly with teaching skills (r=0.212), likewise with teaching experience in basic school (r=0.203).   Increasing teachers' teaching experience is very difficult in Ghana due to high attrition rates; therefore SBI has great potential to affect teaching skills.

Teachers who work in the same school for a long time tend to attend SBIs more often (r=0.286), although there is no correlation between teachers' years of experience and whether or not they attend SBIs (r=0.066).   This indicates that teachers with established relationships in a school tend to attend more often.

Since the sampling survey provided useful information to the project, the GES decided to apply the approach of the sampling survey for assessing impact on classrooms for the GPEF.   This continuous usage of lesson assessment will help to entrench the culture of lesson assessment at national, district and school levels.

3.4.5   Development of Cost-Effective Monitoring

The NIU is responsible for promoting districts' implementation of INSET and continuously improving the Nationwide INSET Programme.   The NIU therefore needs to be aware of the progress at district and school level, to support them.   However the Project faced difficulties in collecting necessary information because of 1) high attrition rate at DEO; e.g. DDE (about 32% every year[9]) and DTO (about 15%–18% every year[10]) resulted in a loss of necessary information in each district, 2) lack of business handover when replacement happens, 3) low administrative capacity of DEO, 4) lack of district budget for monitoring school level activity and 5) challenges to record keeping at both school and district levels.   To solve these issues, the Project developed cost effective monitoring methods for the NIU as follows;

(1)   Collecting School Level Information from EMIS (School Census)

Education Management Information System (EMIS) is a school level database managed by the Statistics, Research, Information Management and Public Relations (SRIMPR) division under the Ministry of Education (MOE) and has been firmly institutionalized.   Using this system to collect school level information cut down the cost at both district and national levels.   The Project coordinated SRIMPR and added three INSET-related questions to the school census collected from 2010/11.   The added items are: the existence of a trained CL at school; the number of SBI/CBI conducted per subject per year; and the existence of INSET Sourcebooks (Modules 3–6).   The first data were provided to the NIU from the SRIMPR in August 2012.

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[9] 38 out of 59 1st batch DDEs (64%) retired within two years after training and 14 out of 43 2nd batch DDEs (32 %) retired within one year after training (data from AIPR collected in January 2011).
[10] 18 out of 59 1st batch DTOs (31%) retired within two years after training and 8 out of 43 2nd batch DTOs (19 %) retired within one year after training (data from AIPR collected in January 2011).

(2)   Collecting District Information through ADPR and ADEOP

The Project coordinated with the Basic Education Division (BED) of the GES to incorporate INSET-related items (activities and budget) into the Annual District Education Operational Plan (ADEOP), and each district's INSET implementation status (i.e. activities implemented and challenges) into the Annual District Performance Report (ADPR) respectively.

(3)   Collecting Human Resource and Activities Information from Simplified AIPR

Removing school level information and budget information from the AIPR simplified the report and reduced the workload DTOs faced in developing it.

The introduction of these monitoring tools has reduced the workload at the district level; however, the NIU collects these data only once a year. From the point of view of promoting districts to progress their INSET activities, more frequent monitoring is required.   The Project examined several forms of remote monitoring (telephone, e-mail, mail or web) to find the best balance between remote monitoring and direct visit monitoring.   The result were: 1) Availability of the internet at district level was still low[11]; and 2) Monitoring through telephone required more than 30 minutes per district and is time consuming and costly.   In consideration of these trials, the method of monitoring over the phone after sending a questionnaire in advance through mail[12] or e-mail was selected[13].   A manual on remote monitoring was attached in the appendix of the National Guidelines third edition.   Intensive training was provided by the JICA Expert Team to the NIU to manage, operate and analyse the data collected through this monitoring, especially in January 2013.

3.5   Strengthening the Support System for INSET

<PDM Output 5>
The support system for INSET is strengthened.

[Activities in PDM Output 5]
5-1.   Share the experiences, lessons, and outcomes coming from the 10 pilot districts.
5-2.   Organize stakeholder seminars to disseminate information on INSET
5-3.   Publish newsletters
5-4.   Promote the incentive system, such as best teacher awards, best CLs, best DTST, best DMTs, etc
5-5.   Support MOE Divisions and Agencies/GES Divisions to incorporate INSET practices into existing policies/programmes

[Objectively Verifiable Indicators (OVIs)]
OVI 5.1   The newsletters are published as planned.
OVI 5.2   A number of INSET practices are incorporated into educational policies/structures /programmes.

Output 5 of PDM targets the support of the institutionalisation of INSET.   Information sharing of INSET-related experiences, lessons and outcomes is essential for creating a supportive environment, and this will be achieved through stakeholder seminars, newsletter publishing etc. Creating policy support is also expected to make INSET fully functional in the country.

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[11] 74 DTOs out of 170 DTOs (43%) reported his/her e-mail address to the NIU, but only 45 addresses were active and 29 addresses provided "Failure Notice".   The NIU sent e-mail to those 45 addresses, but only 6 responded in two weeks.
[12] Mailing system is institutionalised by the GES, but it requires long time to reach the DEO.
[13] E-mail has no cost and therefore will be used.

The Terminal Evaluation team assessed Output 5 to be "mostly achieved". The Project published newsletters three times and distributed these to all Regional Education Offices (REO), District Education Offices (DEO), and Primary schools nationwide (OVI 5.1). The Project also successfully incorporated the INSET into the ESP 2010–2020, the Pre-tertiary Teacher Professional Development and Management (PTPDM) policy (draft), Head Teachers' Handbook, School Census/EMIS, ADPR and GPEF (former Education for All-Fast Track Initiative) (OVI 5.2).

The following subsection elaborates on the activities for Output 5, and their results.

3.5.1 Share the Experiences, Lessons, and Outcomes Coming from the 10 Pilot Districts

The Project utilized the resources of the 10 pilot districts on various occasions, especially when supporting the first batch districts; DIC orientation, DTST orientation and training and AIPR workshop. As the DIC is a core management body of INSET at the district level, experiences and lessons learnt provided by the 10 pilot districts are practical assets for organizing INSET activity at the district and school levels. In addition, the Project invited DTO and AD-Supervision from the 10 pilot districts to the AIPR workshop so as to promote exchanges of experiences and lessons between the pilot and the first batch districts.

After utilizing those resources for the first batch district, the Project continued to utilize their resources on various occasions: 1) At the AIPR workshop in 2011, the DTO and AD-Supervision from the pilot and selected first batch districts had the opportunity to discuss lessons and measures against challenges such as budgetary arrangement through the process of developing AIPR; and 2) at the DIC training held in May/June 2012, the DTOs from the pilot districts provided necessary information to all the other districts on lessons and measures against challenges such as budgetary arrangement, human resource mobilization, and sensitisation of school personnel among others. In addition to the pilot districts, other districts with good performance, e.g. Tema Metro, shared their good experiences with other districts that were facing challenges.

3.5.2 Publications for Sharing Information and Sensitising Stakeholders

(1) Newsletter

Due to the budget deficiency in Ghana, there was no budget for publishing newsletters for the NIU from the GES for the whole project period from 2009 to 2013. In consideration of the importance of newsletters especially for school level personnel, the Japanese side decided to release funds for issuing newsletters three times: 15,000 copies of the first edition in February 2012, 30,000 copies of the second edition in November 2012, and 30,000 copies of the third edition in February 2013 to the REOs, DEOs, and schools.

(2) Leaflet

The Project developed and distributed 20,000 copies of the INSET leaflets that disseminate information about the Nationwide INSET Programme to all stakeholders (i.e. REOs, DEOs, schools, and Development Partners) in 2010.

(3) Meetings at National Level

Various stakeholders' meetings were organized to disseminate information on INSET, discuss issues on INSET and report progress during the project period as shown in Table 3.36.

Table 3.36   List of Meetings

No	Date	Meeting	Agenda	No. of Participants
1	14 Jul 2009	Inception Report Workshop	Commencement of the Project	22
2	11 Nov 2009	NIC Meeting	Policy & Budget	16
3	13 Apr 2010	NIC Meeting	Policy	47
4	2 Jul 2010	NIC Meeting	Policy & Progress	18
5	13 Jul 2010	JCC	Progress	35
6	19 Nov 2010	Kick-Off for Mid-term Review	Preparation for Mid-term Review	7
7	8 Apr 2011	NIC Meeting	PTPDM and Decentralisation	23
8	14 Jun 2011	JCC	Progress	26
9	13 Oct 2011	NIC Meeting	PTPDM	20
10	23 Nov 2011	NIC Meeting	PTPDM	13
11	16 Feb 2012	NIC Meeting	Progress and PTPDM	26
12	30 Jan 2013	JCC	Progress and PTPDM	35

Source: GES/JICA INSET Project Phase 2

(4)   SMASE-WECSA Network

In addition to the above meetings in Ghana, the Project dispatched the NIU to the SMASE-WECSA Regional Conference held in Kenya several times to share lessons learnt with the African regional group.   Table 3.37 shows the participations of SMASE-WECSA Meetings.

Table 3.37   Participation in SMASE-WECSA Meetings

Name of Meeting	Duration	Participants
SMASE-WECSA Regional Conference	15th to 20th November 2009	1 NIU staff and 1 JICA expert
	5th to 11th December 2010	2 NIU staff and 1 JICA expert
	5th to 11th December 2011	1 NIU staff
	12th to 16th November 2012	1 NIU staff
SMASE-WECSA 2nd Technical workshop	23rd to 27th July in 2012	One NIU staff and two from districts

Source: GES/JICA INSET Project Phase 2

The aim of the technical workshop was to discuss the issues that prevent teachers from implementing the Activity, Student, Experiment, Improvisation (ASEI) approach in the classroom, and to find solutions to address these issues.   Participation in these conferences gave various feedback to the Project and the TED.   For example, Head Teachers of a senior Secondary school and a Primary school, who were guests of the conferences, provided their lessons learned; that commitment of HTs at schools would influence commitment of teachers in following ASEI.   This feedback gave suggestions for the TED to prioritize HTs' training for the GPEF.   Feedback from the conference on strategy after JICA pulls out also provided an opportunity for the TED to consider how they sustain the learner centred approach.   The resolution from the conference was to establish country chapters in each country so that each country can exchange their knowledge, lessons learned and progress, so that each country inspires others.   Budget and management issues for establishing and operating the Ghana chapter of SMASE/WECSA are in discussion in the TED.

3.5.3   Incorporation of INSET Practices into Policies

The Project also successfully incorporated the INSET in policies, programmes, handbooks and so on as follows.

(1)   Education Strategic Plan (ESP) 2010–2020

When the Project started in June 2009, the preparation of ESP (2010–2020) was in process.   In order to incorporate INSET into the ESP, the Project started coordination with the Planning,

Budgeting, Monitoring and Evaluation (PBME) Division in the MOE and as a result, the Project succeeded in incorporating the brief summary of the draft Pre-tertiary Teacher Professional Development and Management (PTPDM) policy into the ESP. The ESP 2010-2020 was officially approved by the MOE in 2011.

(2)   Annual Education Sector Operational Plan (AESOP)

AESOP is a three-year rolling plan for materialising the ESP. The Project succeeded in incorporating INSET into indicators of the AESOP in 2011. First of all, the PTPDM policy was introduced under BE15: Ensure that the teaching service provides value for money in terms of pupil contact time and effective learning. In addition, the INSET model was also introduced under BE14: Improve the preparation, upgrading and deployment of teachers and HTs especially in disadvantaged areas, as this model is replicable to other INSET. These incorporations were a motivation for districts to invest in INSET activities.

(3)   Pre-tertiary Teacher Professional Development and Management (PTPDM) Policy (Draft)

The PTPDM policy contributes to the institutionalization of the Nationwide INSET Programme. The policy sets forth the attendance record of SBI/CBI to be one of the key considerations when teachers apply for promotion.

The Project developed the first draft of the PTPDM policy which focused on the teacher training modes consisting of PRESET as teacher preparation, and induction INSET through SBI/CBI. However, this draft did not have clear linkages between teacher professional development, teacher carrier development (promotion, salary increase or incentive) and teacher training. In order to address these issues, the Project prepared a second draft that paid more attention to skills and training corresponding to the ranks and professional levels of teachers. The second draft was shared with most of the relevant directors in the MOE at the NIC meeting organized in 11th November, 2009, at which the Director General of the GES ordered the launch of a steering committee to develop the PTPDM policy based on the second draft.

The third draft of the PTPDM policy was developed from April 2010 to December 2011 by the Project. Various stakeholders were involved during this process, namely Conference of Regional Directors of Education, Conference of Directors of Education (CODE), University of Cape Coast, University of Education Winneba, the Ghana National Association of Teachers (GNAT), the National Association of Graduate Teachers (NAGRAT), the Development Partners (JICA, World Bank, UNICEF, DFID, UNESCO, USAID) and Local Government Service.

As a result of continuous efforts, the GES council endorsed the PTPDM policy in January 2012 and the NIU/TED obtained informal consent from the Chief Director of the MOE in July 2012. Based on the advice from the MOE after that, the GES officially shared the PTPDM policy with the National Teaching Council (NTC) in November 2012, and both the GES and the NTC supported by the Project has started preparing its implementation plan.

(4)   Head Teachers' Handbook

When the MOE revised the old handbook, the Project supported its revision by incorporating the concept and procedures of the INSET model.

(5)   School Census (EMIS)/ ADPR

As discussed in Section 3.4.5, INSET-related questions were added to the school census that is the information source for EMIS and to ADPR.

(6)   Coordination of Global Partnership for Education Funds (GPEF) on INSET

The Global Partnership for Education Fund (GPEF)[14] Grant, now officially named the Ghana Partnership for Education Grant (GPEG), is supported by various development partners and has been prepared for implementation in 2012–2014.   The three-year GPEG Project, with funding worth 75.5 million dollars, includes INSET activities to be implemented in the 57 districts that are classified as "deprived districts."   The JICA Expert Team supported the NIU/TED to coordinate with various stakeholders, namely the Basic Education Division (BED), the Curriculum and Research Development Division (CRDD), Inspectorate Division, UNICEF and others, to develop their implementation plan of INSET in 2012.   The Project had a series of consultations with those divisions and developed plans of operation for their INSET on the framework of the INSET model with time management and cost management.

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[14] The Global Partnership for Education (GPE)—formerly known as the Education for All Fast Track Initiative—is a global partnership supporting the education sector in developing countries, with a focus on accelerating progress toward the United Nations' Education for All' goals.

4. PROJECT ACHIEVEMENTS

This chapter provides the project's achievements: project output (publication); the achievements based on the project purpose and goals in the Project Design Matrix (PDM); and the evaluation results from the Terminal Evaluation team. The achievement of each output of the PDM is described in Chapter 3. Progress after the Terminal Evaluation is also provided in this chapter.

4.1 Project Outputs

Table 4.1 and Table 4.2 show the list of reports and technical outputs submitted by the Project.

Table 4.1   List of Administrative Reports

No	Title	Submission Date	Copies and Language
1	Inception Report	Jul 2009	English 21 copies (15 copies to the GOG), Japanese 6 copies
2	First Progress Report	Feb 2010	English 21 copies (15 copies to the GOG)
3	Second Progress Report	Aug 2010	English 21 copies (15 copies to the GOG)
4	Annual Final Report (1st Year)	Aug 2010	Japanese 1 copy
5	Third Progress Report	Feb 2011	English 21 copies (15 copies to the GOG)
6	Fourth Progress Report	Aug 2011	English 21 copies (15 copies to the GOG)
7	Annual Final Report (2nd Year)	Aug 2011	Japanese 1 copy
8	Fifth Progress Report	Feb 2012	English 21 copies (15 copies to the GOG)
9	Annual Final Report (3rd Year)	Mar 2012	Japanese 1 copy
10	Sixth Progress Report	Oct 2012	English 21 copies (15 copies to the GOG)
11	Project Completion Report	Mar 2013	English 21 copies (15 copies to the GOG), Japanese 6 copies
12	Annual Final Report (4th Year)	Mar 2013	Japanese 1 copy

Source: GES/JICA INSET Project Phase 2

Table 4.2   List of Technical Outputs

No.	Title	Completion Date	Copies
1	1st Sampling Survey Report	Feb 2010	English 21 copies (15 copies to the GOG)
2	2nd Sampling Survey Report	Feb 2011	English 21 copies (15 copies to the GOG)
3	3rd Sampling Survey Report	Feb 2012	English 21 copies (15 copies to the GOG)
4	4th Sampling Survey Report (Endline Survey Report)	Dec 2012	English 21 copies (15 copies to the GOG)
5	Guideline for Sampling Survey	Feb 2011	English 21 copies (15 copies to the GOG)
6	National Guidelines [Third Edition]	Mar 2013	English 21 copies (15 copies to the GOG)
7	Sourcebook Module 1/2 [Third Edition]	Dec 2011	Electronic Copy (English)
8	Leaflet to promote the Project	2010	English (20,000 copies to stakeholders at national, district and school levels)
9	SBI/CBI Lesson Observation Sheet	Jul 2011	English (2 copies each to all public Primary schools)
10	Instructional Manual for SBI/CBI Lesson Observation Sheet	Jan 2013	English (2 copies each to all public Primary schools)

Source: GES/JICA INSET Project Phase2

4.2 Prospect for Achieving the Project Purpose and Goals

This section summarizes the details of the project's achievements in terms of project purpose and overall goal on PDM Version 3 based on the result of the Terminal Evaluation team from 30th of October to 24th of November 2012. The achievements of each output in the PDM and summary of the endline survey have already been discussed in Chapter 3.

Project Purpose:

The nationwide management system for a structured and quality INSET of mathematics and science is established and reinforced.

Objectively Verifiable Indicators:
OVI 1)   More than 60% of districts conduct the CL Sourcebook training 1 in INSET delivery for CLs.
OVI 2)   More than 80% of Primary schools whose CLs have participated in the CL Sourcebook training 1 implement at least three SBI/CBI in mathematics and science per year by the year 2013.
OVI 3)   Satisfaction ratings of teachers attain more than 2.8 (1 to 4 scale) on average with reference to INSET (SBI/CBI) at the schools selected nationwide (the 10 pilot districts and the first batch districts) in the sampling survey by the year 2013.

Based on the achievement level of its indicators, the Terminal Evaluation team assessed the prospect for achieving the project purpose by the end of the project period as promising.

As a result of various measures taken after the Mid-term Review to sensitize district-level stakeholders into giving INSET priority in their budgets and activities, the proportion of the districts that have conducted the CL Sourcebook Training 1 in INSET delivery has reached 90.6% (154 districts) by September 2012, greatly exceeding the target value of 60% (OVI 1).

Table 4.3   Implementation Record of CL Sourcebook Training 1

Year	No. of Districts	Proportion	Target Value of OVI1
2009	15	8.8%	
2010	21	12.4%	More than 60%
2011	94	55.3%	
2012 (Sep.)	154	90.6%	

Source: GES/JICA INSET Project Phase 2

Table 4.4 shows the coverage of public Primary schools implementing SBI/CBI guided by the Nationwide INSET Programme (OVI 2) from 2009 to 2012[15]. In assessing the achievement level of SBI/CBI implementation in 2012, the team referred to the percentage of public Primary schools that had completed SBI/CBI at least twice (instead of three times)), as the data collected as at August 2012.

Table 4.4   Coverage of SBI/CBI Implementation

No	Schools	Year	Implementation of SBI/CBI		Target Value
			Frequency	%	
1	All Public Primary Schools	2012(August)	More than 3 times	26.8%	
2			More than 2 times	38.0%	
3	Public Primary Schools	2009		-	
4	whose CLs have participated	2010	More than 3 times	-	More than 80%
5	in the CL Sourcebook	2011		17.5%	
6	Training 1	2012 (August)		41.7%	
7			More than 2 times	57.7%	

Source: GES/JICA INSET Project Phase 2

Under this premise, the proportion of districts and schools that have completed CL Training 1 and SBI/CBI at least twice is 57.7% as at August 2012. Although the figure is still under the

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[15] Some schools implemented SBI/CBI before the districts implemented trainings guided by the Nationwide INSET Programme, since some interventions like the Whole School Development (WSD) programme had already introduced SBI/CBI in the past.

target value (80%), the implementation coverage will reach 90% by September 2013 based on the following projections and assumptions: 1) the INSET Project Phase 1 observed that an increase of ratio of school implementation of SBI/CBI happened one year after implementation of CL training 1. A similar increase was observed in this Project. Therefore there is a link between implementation of CL Training 1 and implementation of SBI/CBI at school level; 2) the ratio of districts implementing CL training 1 increased by 50% from December 2010 to January 2012. A similar increase in the proportion of schools implementing SBI/CBI was observed from 2011 to 2012; and 3) the ratio of districts implementing CL training 1 increased by 30% from 2011 to 2012. A similar increase in the proportion of schools implementing SBI/CBI is expected to occur from August 2012 to August 2013. Therefore 87.7% (=57.7% [the 2012 record] + 30% [the expected increase in 2013] by September 2013 is projected. Refer to the Joint Terminal Evaluation Report for more details.

As for the teachers' satisfaction level with INSET (SBI/CBI) (OVI 3), the 2012 overall satisfaction rating, which was rated by teachers from 12 districts (4 pilot districts and 8 districts from the first batch) selected for the sample survey (including those from the two districts that have not completed CL Sourcebook Training), was 2.9, exceeding the target value of 2.8.

Table 4.5   Teachers' Satisfaction with INSET[16]

Year	Overall Average (12 districts)	Target Value
2009	2.5	
2010	2.7	More than 2.8
2011	2.7	
2012 (October)	2.9	

Source: GES/JICA INSET Project Phase 2

As OVI 1 and OVI 3 have been achieved already and OVI is expected to be achieved by September 2013, the Project purpose is projected to be achieved.

Overall Goal

Teaching abilities of public Primary school teachers in the area of mathematics and science are improved.

Objectively Verifiable Indicator:

OVI 1) Satisfaction ratings of students attain more than 90 % on average with reference to the teaching skills, knowledge of teaching subjects, etc. of teachers at the schools selected nationwide (the 10 pilot districts and the first batch districts) in a sampling survey by the year 2016.

OVI 2) The rating of teachers' teaching skills attain more than 3.0 (1 to 5 scale) on average at the schools selected nationwide (the 10 pilot districts and the first batch districts) in a sampling survey by the year 2016.

As the Terminal Evaluation assessed the overall goal based on PDM version 2, in which OVI 2 was 3.5 instead of 3.0, the Terminal Evaluation judged that it will take longer than three to five years to fully achieve the overall goal, although positive signs of gradual improvements in the teachers' teaching skills have been observed in the sampling survey and the feedback from school-level stakeholders as follows:

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[16] The teachers' satisfaction with INSET is assessed from six aspects: general satisfaction, contents, environment, management by HTs/CLs, participation, and self-reflection.

1) The students' satisfaction rate with teachers' teaching skills has consistently increased in the course of the project period; 85.3% in 2009, 87.9% in 2010, 88.3% in 2011, and 88.4% in 2012 (OVI 1). Based on this trend, it is likely that the target value will be achieved within three to five years after the Project's completion.

Table 4.6   Pupils' Satisfaction[17] Rate on Teachers' Teaching

Year	Overall Average (12 districts)	Target Value
2009	85.3%	
2010	87.9%	More than 90%
2011	88.3%	
2012 (October)	88.4%	

Source: GES/JICA INSET Project Phase 2

2) The teachers' teaching skill level observed in the Sampling Survey has increased from 2.6 in 2009 to 2.8 in 2012 (OVI 2) and is expected to attain 3.0 in five years after completion of the Project. It is also notable that the rating increased drastically to 3.0 in 2010, which is the dividing point between teacher-centred and learner-centred teachings, but the sudden increase was probably observed because the lesson observation skills of the evaluators (RMTs) had not been fully developed at the time and evaluators were lenient when evaluating teachers' teaching skills. This analysis is supported by the sharp decline of the rating (2.7) in the following year, as the Project emphasised the rating of the learner-centred teaching at a training session (Preparation of the Sampling Survey) held on 7 Oct, 2011.

Table 4.7   Rating on Teachers' Teaching Skills Observed in the Sampling Survey

Year	Overall Average (12 districts)	Target Value
2009	2.6	
2010	3.0	More than 3.0
2011	2.7	
2012 (October)	2.8	

Source: GES/JICA INSET Project Phase 2

4.3   Results of the Evaluation on Five Criteria by the Terminal Evaluation

This section summarizes the results of the project evaluation conducted by the Terminal Evaluation team according to the following five criteria: relevance, effectiveness, efficiency, impact and sustainability. The team assessed the project as being likely to attain its Project Purpose stated in the PDM version 2, in consideration of its current achievement level. Although the Terminal Evaluation team judged that it is likely to take longer than three to five years to achieve the overall goal, it is on track to achieve its Overall Goals written in the PDM Version 3.   Table 4.8 shows evaluation results.

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[17] Satisfaction with teachers' teaching skills is assessed from six aspects: teachers' teaching skills, attitude to lesson and attitude to pupils and pupils' interest, class participation, and understanding.

**Table 4.8   Summary of Evaluation Results by Terminal Evaluation Team
(Nov. 2012)**

Evaluation Result	Description
Relevance: High	The evaluation team concludes that the relevance is high, based on the following facts: - The GOG recognized education as a key for their development by fCUBE. - The GOG set forth the institutionalization of INSET as one of the necessary policy interventions at the Primary level at the Ghana Shared Growth and Development Agenda (GSGDA) 2010-2013, ESP2010-2020 and the PTPDM policy. - "Health and Science/Mathematics Education" is prioritized in Japan's Country Assistance Policy for the Republic of Ghana (2012) - The Project approach (SBI/CBI and learner-centred) is appropriate for improving the teaching abilities of public Primary school teachers in Ghana in consideration of cost effectiveness and its necessity in Ghana.
Effectiveness: Relatively High	The evaluation team concludes that the effectiveness is relatively high, based on the following facts: - The prospect of the nationwide management system for a structured and quality INSET of Mathematics and Science to be established and reinforced by the end of the Project period is assessed as promising; - The five Outputs of PDM cover all necessary conditions for the establishment of a nationwide management system for structured and quality INSET. - Various stakeholders stated the INSET Sourcebooks and other training materials (e.g. Power Point) used/developed by the Project are effective for improving INSET management and teaching skills.
Efficiency: Medium	The evaluation team concludes that the efficiency is medium, based on the following facts: - Under the revised PDM, the Project has taken appropriate measures, including the sensitization of DDEs, the revision of the Sourcebooks, and the usage of existing information sources to (EMIS, ADPR, etc) facilitate the production of the Outputs; - The participants in overseas training have been utilized efficiently at various trainings; - The continuity of JICA's technical assistance in establishing INSET for Primary school teachers in Mathematics and Science in Ghana has also increased the Project's efficiency; - High attrition rate of stakeholders at both district and school levels and decrease and delay of budget disbursement caused negative effect on the Project progress.
Impact: Medium	The evaluation team concludes that the impact is medium, based on the following facts: - Target indicators of Overall Goal (Pupils' satisfaction with teachers' teaching and teachers' teaching skills rated by lesson observation) have been increasing gradually, but it will take longer than three to five years for the Overall Goal to be fully achieved; - The logical sequence from the achievement of the Project Purpose to the achievement of the Overall Goal is appropriate and is supported by statistical data from the Project's sampling survey; - The Project's cooperation with development partners (UNICEF, USAID, World Bank, DFID, etc.) to improve the quality of education through INSET will promote the achievement of the Overall Goal; - According to NIU members, SBI/CBI has been implemented in literacy (local languages and English) at the Primary school level in several districts and at Secondary schools.

Evaluation Result	Description
Sustainability: Medium	The evaluation team concludes that the sustainability is at a medium level, based on the following facts:
	- From the institutional perspective, INSET has been incorporated into the ESP 2010-2020 and the draft PTPDM policy;
	- From the organizational perspective, the roles and responsibilities of stakeholders at the district and school levels in the Nationwide INSET Programme implementation and monitoring are clearly defined in the revised Sourcebook Modules 1/2 and the National Guidelines;
	- The INSET structure has been widely acknowledged by development partners who are involved in improving the quality of basic education, and is used by them when implementing similar projects;
	- The linkage of the INSET monitoring system with existing information sources (EMIS, ADEOP, and ADPR) has increased the sustainability of the system;
	- In the short-term, financial sustainability has been secured for at least the 57 districts that are target districts of the GPEG Project; however, based on the past record of budget disbursement during the Project, it remains uncertain whether sufficient budget will be released at all levels;
	- From the technological perspective, the Project has solidly established the Nationwide INSET Programme;
	- The NIU members have been trained sufficiently to coordinate INSET activities, but there is room for improvement in the NIU members' capacity in analysing monitoring data.

(Quoted from "Joint Terminal Evaluation Report on The Project for Strengthening the Capacity of the In-Service Training (INSET) Management in the Republic of Ghana (INSET Project Phase 2)", 2012.

In general, the results of the Evaluation Team's assessment were positive and it was noted that the Project had taken the necessary initiatives to implement the Nationwide INSET Programme, especially after the Mid-Term Review, by flexibly adjusting the Project design and activities to the changing external operating environment, such as an increase in the number of districts and the financial devolution.

4.4 Progress after the Terminal Evaluation

Although the remaining project time after the Terminal Evaluation was only two months, the Project made every effort to follow what the Terminal Evaluation Team recommended as follows.

(1) The Revision of the INSET National Guideline

The Project revised the National Guidelines as planned after the Terminal Evaluation. The Project drafted it in November/ December 2012 and organised workshops with stakeholders from GES and MOE in December 2012 to finalize it. It included the roles and responsibilities of current NIU and the newly created Regional INSET Committee (RIC). It also defined cooperation with the SRIMPR on the data management issue, as SRIMPR provide EMIS annually.

(2) Development of and Training on the Lesson Observation Sheet Manual

The Project developed the LOS manual and printed/distributed 33,000 copies in January 2013. The Project also provided half a day training on its usage for DTO and a CS from 170 districts in January 2013 at Kumasi, Koforidua and Tamale. To ensure their understanding, the Project conducted examinations for all participants. These examinations made participants devote more time and effort to studying at the training site. The Project also guided them to conduct

necessary trainings for HT and CL of public Primary schools in their districts.   After the completion of the Project, the NIU will continue to monitor its progress through telephone monitoring.

(3) Technical Transfer on Data Management and Basic Statistical Analysis Skills

The JICA Expert Team provided training on data management and basic statistical analysis skills (for instance strengthening the capacity to use Microsoft Excel) in January 2013 in accordance with the recommendation from the Terminal Evaluation Team.   The Project also defined cooperation between the NIU/TED and SRIMPR on the INSET National Guidelines developed in December 2012.   Participants from SRIMPR also showed their commitment to provide necessary data from EMIS to the NIU at the workshop.

(4) Implementation Plan of the PTPDM Policy

The PTPDM policy regulates the institutionalization of the Nationwide INSET Programme. The policy was endorsed by the GES Council in January 2012.   In order for the policy to take effect, the Terminal Evaluation Team recommended the MOE/GES and the National Teaching Council jointly launch the PTPDM policy in the first half of 2013, attended by important stakeholders (e.g. NTC council members, GES, MoE, and DPs).   The team also recommended the NIU to draft an implementation plan to facilitate discussions between the TED, GES and NTC.

The Project proposed the roles and responsibilities of the TED, the NTC and MOE and a framework of implementation plan to the participants for their discussion at the JCC meeting held on 30th January 2013.   In addition, the Project developed the detailed implementation plan after the JCC meeting so that the TED would continue discussion with the NTC.

5. LESSONS LEARNT AND RECOMMENDATIONS

The Project learned lessons from various challenges the Project faced, but mostly succeeded in achieving its Project Purpose of establishing quality INSET nationwide (170 districts) by improving its design and activities. However, various issues still remain in order to achieve its Overall Goal that "Teaching abilities of public Primary school teachers in the area of Mathematics and Science are improved". This section summarizes the lessons the Project learned from challenges the Project faced and countermeasures the Project took, and provides recommendations for the way forward to achieve its overall goal.

5.1 Lessons and Countermeasures

(1) Budget Issues

As the GES was responsible for bearing most of the Project's cost in the original project design, the budgetary situation of the GES affected the Project activities seriously as follows:

The timing of budget transfer from the GES Headquarter to each District Education Office (DEO) due to decentralization was uncertain for the Project

The budgetary decision was transferred from the GES headquarters to each DEO from year to year due to decentralization, but it was difficult for the Project to ascertain clearly from which year the Project should request DEO to bear travel costs and per Diem of their participants to attend training provided by the Project. The Project made the best effort to plan its activities in advance by collecting necessary information from the Financial Controller of the GES, but the Project was forced to revise its plans on numerous occasions in 2009/2010.

Arrears of budget disbursement from national to each DEO

The TED/GES was responsible to bear the cost of per diem, accommodation, and travel fee for district personnel to attend trainings in the original plan; however as most of budgetary decision for INSET was transferred due to decentralization from the GES to each DEO, the Project could not develop time plans for each training properly. The Project requested each DEO to attend training after confirming with the Financial Controller of the GES if the budget had been disbursed to each DEO. However, as most of the districts did not send any participants or sent less than the number requested due to their financial constraint, the Project revised its training schedule very frequently. The Project finally realized the fact there was a time lag from budget disbursement at GES and credit advice at each DEO. As the Project planned each activity after confirming the budget status of each DEO by calling some districts since 2011, the participation rate from the districts had increased.

Shortage of budget

The INSET Project Phase 1 designed district level activities of the Nationwide INSET Programme as premises for using service activity budget from both Government of Ghana (GOG) consolidated fund and DFID sector budget support. However there was no budget disbursement from GOG after commencement of the Project and as a consequence, the total amount applicable for INSET at the district level was less than expected. Concerning this issue, the Project cut down operation costs by several means: integrating two trainings (CL orientation and CL Sourcebook Training 1) into one training; and proposing cost effective human resource management, for instance, appointing DEO staff as DMT.

(2)   Human Resource Management at National Level

The Nationwide INSET Programme 3-year Plan (2009–2011) developed by the INSET Project Phase 1 planned to deploy 7 NIU members and 48 Regional Master Trainers (RMT) by 2011, but there was no hope to increase NIU staff from 6 due to progress of the decentralization. Furthermore, as the TED faced difficulty to keep deploying RMT as most of the national budget was transferred to DEO, the Project changed its design to one under which DEO deployed DMT. As the DMTs do not have the obligation, function, and budget to report district INSET status to the NIU, and it is impossible for the NIU alone to visit all 170 districts to monitor, the Project changed its design of data collection from district: 1) quantitative data through document such as ADPR and AIPR and telephone monitoring; and 2) qualitative data through sampling some districts.

5.2   Recommendations for the Way Forward

(1)   Operational Efficiency Improvement by Improving Communication and Coordination with District

As improvement of budget shortage is beyond the control of the GES/MOE, the Project restructured trainings and simplified administrative operations to cut down the cost.   Delay of budget disbursement is also beyond the control of the GES/MOE, but the Project minimized its adverse effect by coordinating with DEO closely and collecting information.   The Project defined restructured training and simplified task flow in the National Guidelines and the Sourcebook Module 1/2 so that sustainability for those two items are strengthened, however close coordination with DEO require the TED make consistent effort.   As operational efficiency improvement will maintain stakeholders implementing INSET, the Project recommend the NIU/TED to keep coordinating closely with DEO.

(2)   Implementation of the PTPDM Policy

The Final Report of the INSET Project Phase 1 presented teachers' motivation to attend INSET step by step, by applying MacGregor's motivation theories to the INSET system.   The INSET Project Phase 2 designed its activities based on this idea in principle.   Establishing a mandatory system is the minimal level (Level 1) required for motivating stakeholders to implement INSET.   The Project strengthened this by incorporating INSET into ADPR, Head Teacher Handbook and other official documents.   The second level is to establish a link between INSET and a rewards system for stakeholders.   The Project promoted the PTPDM policy to link INSET with promotion and salary.   The Project drafted the policy and the policy was endorsed by the GES Council.   It is now time to discuss implementing the policy.   At the final Joint Coordinating Committee (JCC) meeting held in 30 January 2013, the Project proposed the implementation structure; the National Teaching Council (NTC) as an advisory body, the GES as an implementing body, and the MOE as supervising body.   The Project also proposed some prioritized activities to launch the PTPDM policy.   It is strongly recommended that the TED facilitate both the GES and the NTC for further discussion to implement the policy.

(3)   Promotion of LOS, Revision of the Sourcebook and Support of Improving SBI Delivery

The third level of motivation to attend INSET proposed by the final report of the INSET Project Phase 1 is: 1) to heighten the self-esteem of the stakeholders by providing a proper, socially recognized goal to be achieved; and 2) to stimulate each stakeholder to participate in INSET by making INSET more interesting, through improving the quality of SBI/CBI.

The Project rated progress of each DEO and announced it in the newsletter published by the Project, aiming to stimulate district stakeholders by social recognition.   This worked very well.

Some districts whose rate was low declared their continuous effort for better progress to the NIU.

The Project also developed the Lesson Observation Sheet (LOS) as a means of assessing teachers' teaching skills. The LOS was designed to stimulate teachers' sense of achievement by providing features on the LOS: progressive improvement of teaching skill; clear criteria to be achieved for next level; and distinguishing with other teachers on rating. Fortunately, the GPEF will promote the LOS in selected 57 districts, but the Project recommends the NIU/TED promote it nationwide continuously.

The Project observed a positive correlation between teachers' teaching skills and attendance at SBI/CBI in the sampling surveys. The Project promoted making INSET mandatory and linking INSET with reward so that teachers continuously attend INSET, but the effect of attending SBI will increase when participants attend SBI/CBI by being attracted to the contents of SBI/CBI. Thus the Project recommends each DEO to dispatch a resource person, e.g. DMT, to enrich SBI/CBI and the NIU to revise the Sourcebook according to teachers' needs.

(4) Establishing the Regional INSET Committee (RIC)

The INSET National Guidelines were approved by the GES in February 2013. The guidelines define the establishment of the Regional INSET Committee (RIC) at each Regional Education Office (REO). The Project had coordinated with the Regional Director of Education (RDE) when necessary, but it is expected that RIC will strengthen coordination between REO and the TED. Thus, the Project recommends the NIU/TED to provide the RIC with the necessary training on the National Guidelines.

(5) Applying the Result of National Education Assessment (NEA) into INSET Activities

The National Education Assessment (NEA) assesses pupils' performance in P3 and P6 in Mathematics and English every two years nationwide. The correct answer rate of each question helps identify challenging topics for pupils to study. Currently topics for SBI/CBI tend to be selected from challenging topics for teachers to teach, but it should be selected from challenging topics for pupils to study from the point of view of learner-centredness. Thus, the Project recommends collaborating INSET with NEA more to identify challenging topics for pupils to study. The Project analysed the results of NEA 2011 and found that 5% and 22% of questions had less than a 25% correct answer rate in P3 and P6 Mathematics respectively. As NEA is 4 multiple choice questions, less than a 25 % correct answer rate is serious. The Project recommends the GES considers improving teaching at College of Education (COE) for these topics. The Project also recommends that this analysis be conducted to select topics to be dealt with by PRESET and INSET respectively.

5.3 Strategies of the Project for Implementation

The Project took the following strategies for the smooth implementation of the Project:

- Aiming to enhance ownership by Ghanaian counterparts, the Japanese experts tried not to appear themselves in front of Ghanaians, especially in front of district and school personnel. The Project let the Ghanaian counterparts provided training to district and school personnel and visit districts for monitoring, so that those stakeholders understood the Nationwide INSET Programme was a Ghanaian initiative. The Japanese experts also did not provide any presentations at the JCC meeting, the National Teaching Council (NTC) meeting and even at lobbying; Ghanaian counterparts, Ghanaian experts or Ghanaian senior consultants did this. Before these activities, the Japanese experts spent

a lot of time developing strategies to be presented and discussed with Ghanaian counterparts on each occasion. This resulted in high ownership by Ghanaian counterparts.

- The Project implemented activities in line with school schedules and other programmes in Ghana. For instance, the TED implements the Untrained Teacher Training Diploma in Basic Education (UTDBE) programme in April, August, and December every year. Since the NIU member participates in the Programme, the Project planned the activities carefully not to overlap with the schedule of the UTDBE programmes, by coordinating with the TED in advance. This helped a smooth implementation of the Project.

- The Project coordinated with other programmes supported by Japan for better aid efficiency. For example, the Project cooperated with the advisor on decentralized education management posted in the Basic Education Division (BED) of the GES, and succeeded in incorporating INSET into ADPR. Although the TED is a counterpart of the Project, as the Nationwide INSET Programme relates with various divisions of the GES, it was difficult for the Project alone to solve several issues. Collaboration with the advisor in BED provides a synergy effect for better aid efficiency. The Project also collaborated with Programmes in other countries supported by Government of Japan, e.g. SMASE in Kenya, and with training in Japan for training human resources effectively.

- As JICA has supported the teacher education sector over a decade in Ghana, the Project was acknowledged by other development partners very well. This made the donor coordination easier for the Project. In addition, the Project successfully applied utilizing support from other development partners; DFID's sector budget support at district level and GPEF for 57 selected districts.

CONCLUSION

After establishing fCUBE in 1996 and introducing a capitation grant in 2005, Ghana experienced an increase in the enrolment of students in basic schools due to increased accessibility; however there remained challenges in the quality of education.   To improve the academic achievement of children, there was a need to improve the teaching skills of teachers. As SBI/CBI is widely accepted as the best means to improve the teaching skills of in-service teachers with low cost, the Ghana Education Service (GES), with support from the Japan International Cooperation Agency (JICA), embarked upon this project to institutionalize a model of SBI/CBI.

In the Project's duration of three years and nine months, tangible results have been produced; capacity development of the stakeholders at national, district and school levels, development of the INSET monitoring system, and strengthening of the institutional support system for INSET. Indicators in the Project Design Matrix (PDM) as well as results from the Terminal Evaluation verify that the Project Purpose (the nationwide management system for a structured and quality INSET of Mathematics and Science is established and reinforced) will be achieved by the end of the Project period.

Building on the achievements of this Project, the GES will continuously implement the Nationwide INSET Programme and launch the PTPDM policy with the National Teaching Council (NTC).   The Project has supported the Teacher Education Division / National INSET Unit (TED/NIU) in the preparation of an implementation plan of the PTPDM policy.   It is hoped that through nationwide implementation of the PTPDM policy, SBI/CBI will be even more firmly institutionalized to provide further opportunities for teachers to strengthen their teaching capabilities in the classroom and, as a result, to improve the quality of education in Ghana.