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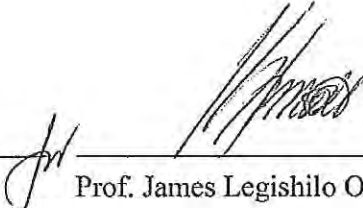
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**MINUTES OF MEETING BETWEEN
THE JAPANESE MID-TERM REVIEW TEAM AND
THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF KENYA ON
THE JAPANESE TECHNICAL COOPERATION FOR
THE STRENGTHENING OF MATHEMATICS AND SCIENCE
EDUCATION (SMASE) PROJECT**

The Japanese Mid-term Review Team (hereinafter referred to as “the Team”), organised by the Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. Jun Sakuma, visited the Republic of Kenya (hereinafter referred to as “Kenya”) from 22 to 30 November 2011 for the purpose of the Mid-term Review of the Strengthening of Mathematics and Science Education (SMASE) Project (hereinafter referred to as “the Project”).

During its stay in Kenya, the Team exchanged views through a series of discussions with the concerned parties of the Government of the Republic of Kenya (hereinafter referred to as “the Kenyan side”) on the further improvement of the implementation and management of the Project. As a result of the discussions, both the Kenyan side and the Team agreed upon the matters referred to in the document attached hereto.

Nairobi, 29 November 2011

	
Mr. Jun Sakuma	Prof. James Legishilo Ole Kiyiapi, CBS
Leader	Permanent Secretary
Mid-term Review Team	Ministry of Education
Japan International Cooperation Agency	Republic of Kenya
Japan	

**STRENGTHENING OF
MATHEMATICS AND SCIENCE
EDUCATION (SMASE) PROJECT**

Joint Mid-term Review Report

Nairobi, 29 November 2011

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ATTACHMENT

- 1: Revised Project Design Matrix (proposed) (Kenyan Component)
- 2: Revised Project Design Matrix (proposed) (WECSA Component)

APPENDIXES

- Appendix I: Finding Report of Mid-term Review Study on the Strengthening of Mathematics and Science Education (SMASE) Project (Kenyan Component)
- Appendix II: Finding Report Mid-term Review Study on the Strengthening of Mathematics and Science Education (SMASE) Project (WECSA Component)

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List of Abbreviations and Acronyms

ASEI- PDSI	Activity, Student-centred, Experiment and Improvisation- Plan, Do, See and Improve
CEMASTEA	Centre for Mathematics, Science and Technology Education in Africa
DAC	Development Assistance Committee
DPC	District Planning Committees
DQASO	District Quality Assurance and Standards Officer
INSET	In-Service Education and Training
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
LOU	Letter of Understanding
M&E	Monitoring and Evaluation
M/M	Minutes of Meeting
MOE	Ministry of Education
MOU	Memorandum of Understanding
NPC	National Planning Committee
OECD	Organization for Economic Co-operation and Development
ODA	Official Development Assistance
PDM	Project Design Matrix
PO	Plan of Operation
PTTC	Primary Teachers Training College
R/D	Record of Discussions
R&D	Research and Development
SMASE	Strengthening of Mathematics and Science Education
SMASSE	Strengthening of Mathematics and Science in Secondary Education
SMASE-WECSA	Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa
TAC	Teacher Advisory Centre
TCE	Third Country Expert
TICAD	Tokyo International Conference on African Development
TSC	Teachers Service Commission
TW	Technical Workshop
ZQASO	Zonal Quality Assurance and Standards Officer

1. INTRODUCTION

1-1. Preface

The Project has been implemented in collaboration with the Ministry of Education (MOE) and JICA since January 2009. JICA dispatched the Team to Kenya for the purpose of conducting the Mid-term Review (hereinafter referred to as “the Review”), which has been undertaken jointly by Kenyan authorities concerned and the Team.

1-2. Objectives of the Review

The objectives of the Review are as follows:

- (1) To review the inputs and the progress of activities;
- (2) To assess the overall achievements of the Project Purpose and Outputs of the Project;
- (3) To review the achievement of the Project from the viewpoint of the five evaluation criteria of Development Assistance Committee (DAC) of Organization for Economic Co-operation and Development (OECD);
- (4) To identify the issues and make recommendations on the measures to be taken for the further improvement of the Project for the remaining period;
- (5) To compile a joint evaluation report; and
- (6) To review and revise the Project Design Matrix (PDM), if necessary

1-3. Schedule of the Team

The Review has been conducted from 18 September to 30 November 2011.

Detailed schedule is shown in Appendix I and II.

1-4. Members Concerned to the Review

1-4-1. Joint Evaluation Committee

Both sides had agreed to establish the Joint Evaluation Committee, of which the members are shown below.

Kenyan Side	
Prof. James Legishilo Ole Kiyapi, CBS	Permanent Secretary, MOE
Prof. George I Godia	Education Secretary, MOE
Mr. Kimathi M’Nkanata	Director of Field and Other Services, MOE
Mr. Enos O. Oyaya	Director of Quality Assurance and Standards, MOE
Ms. Cecilia Ngetich	Director, Centre for Mathematics, Science and Technology Education in Africa (CEMASTE A)

Mr. Garise Omara	SMASE Desk Officer (Secondary), Directorate of Field Service, MOE
Mr. Charles Kanja	Officer of Quality Assurance and Standards, MOE
Ms. Dorothy Ogega	Officer of Basic Education, MOE
Mr. Musilu Kilonzo	Officer of Secondary and Technical Education, MOE
Mr. Patrick Kogolla	Programme Coordinator, CEMASTEА
Mr. Daniel Muraya	Coordinator of Research and Development (R&D), CEMASTEА
Japanese Side	
Team Leader	Mr. Jun Sakuma Deputy Director General, Human Development Department, JICA
Cooperation Planning	Ms. Minako Sugawara Deputy Director, Basic Education Division II, Human Development Department, JICA
INSET Evaluation	Ms. Fumie Tsukagoshi Associate Expert, Basic Education Division II, Human Development Department, JICA
Evaluation Analysis 1	Ms. Miho Ota Senior Consultant, KRI International Corporation, Consulting Department II (Kenyan Component)
Evaluation Analysis 2	Mr. Shinichiro Tanaka Senior Consultant, Education Development Division, Overseas Business Management Division, PADECO Co., Ltd. (WECSA Component)

1-4-2. Other members participated to the Review

(1) Kenyan side

Ms. Susan T. Njau	Deputy Director, Quality Assurance and Standards, MOE
Mr. Moses O. Kawa	Deputy Director, CEMASTEА
Mr. Waibochi Paul N.	Head of ICT Department, CEMASTEА
Mr. Matembo Lukongo	Head of Mathematics Department, CEMASTEА
Ms. Nancy Wambui Nui	Dean of Mathematics and Coordinator of Secondary Programme, CEMASTEА
Mr. C.B. Chesire	Dean of Physics and Coordinator of WECSA Programme, CEMASTEА
Mr. Ndelela Masoka	Dean of Chemistry, CEMASTEА
Ms. Mary Kariuki	Dean of Biology, CEMASTEА

(2) Japanese side

JICA Kenya Office

Mr. Masaaki Kato	Chief Representative
Mr. Junichi Hanai	Senior Representative
Mr. Sei Kimura	Representative

Mr. Samuel K. Kibe Consultant (Education)

Japanese Expert

Mr. Keiichi Naganuma Chief Advisor
Mr. Atsushi Matachi Academic Advisor
Ms. Hazuki Uchiyama Science Education
Mr. Noriaki Tanaka Project Coordinator

1-5. Framework of the Review

1-5-1. Overall Framework of the Review

Based on the PDM and the Plan of Operation (PO) of the Project, the Review was designed to assess the following aspects:

- 1) Achievements of the Project based on the PDM verifiable indicators;
- 2) Implementation process; and
- 3) Five evaluation criteria of DAC

Definitions of the five evaluation criteria of DAC are as follows:

Relevance	Relevance of the project plan was reviewed in terms of the validity of the project purpose and the overall goal in connection with the development policy of the Government of Kenya, aid policy of the Government of Japan, needs of beneficiaries, and by logical consistency of the project plan.
Effectiveness	Effectiveness was assessed by evaluating the extent to which the Project had achieved its purpose and by clarifying the relationship between the purpose and Outputs.
Efficiency	Efficiency of the Project implementation was analysed by focusing on the relationship between Outputs and inputs in terms of timing, quality and quantity of inputs.
Impact	Impact of the Project was assessed on the basis of both positive and negative influences caused by the Project.
Sustainability	Sustainability of the Project was assessed in terms of political, institutional, financial and technical aspects by examining the extent to which the effect produced through the Project would be sustained or expanded after the Project period.



1-5-2.Process of the Review

- 1) The achievement and implementation process of the Project were reviewed against the initial PDM and PO. The overall achievement of the Kenyan Component was further evaluated according to the DAC's five evaluation criteria.
- 2) The results of these Reviews of both Kenyan and WECSA Components were compiled in the separate reports, which were attached to this Minutes of Meeting (M/M) as appendixes.
- 3) Based on the said results of the Review, the Kenyan side and the Team discussed issues to be addressed and measures to be taken by both Kenyan and Japanese sides in order to lead the successful implementation of the Project.
- 4) Both sides jointly prepared the M/M that summarises the results of the Review and discussions. Based on the results of the Review, the team further discussed the necessity of revising the initial project plan with Kenyan side.

1-5-3.Methodology of the Review

(1) Kenyan Component

- 1) Literature Review (SMASE, Strengthening of Mathematics and Science in Secondary Education (SMASSE) and SMASSE Phase 2 documents)
- 2) Analysis of SMASE Project Monitoring and Evaluation (M&E) reports submitted by the SMASE Project and other existing documents
- 3) Questionnaire survey to CEMASTEAs counterparts, teachers and district management personnel
- 4) Interviews with Kenyan stakeholders

(2) WECSA Component

- 1) Literature Review (SMASE documents and project reports of other Strengthening of Mathematics and Science Education in Western, Eastern, Central and Southern Africa (SMASE-WECSA) member countries)
- 2) Analysis of SMASE Project M&E reports submitted by the SMASE project and other existing documents
- 3) Questionnaire survey to the participants of SMASE-WECSA activities and related project experts in SMASE-WECSA member countries
- 4) Interviews with concerned parties of WECSA activities in Kenya, Uganda and Rwanda and with participants of the WECSA Component activities

2. THE SUMMARY OF THE REVIEW OF KENYAN COMPONENT

This part summarises the findings of the Review. The detailed report of the finding is attached as Appendix I (Kenya Component).

2-1. Review of the Achievements of the Project

2-1-1. Inputs

Inputs to the Project by Japanese and Kenyan sides were mostly realised according to the plan. However, some issues were observed in related to counterparts' assignment and budget allocation to CEMASTEА. Persistent understaffing at CEMASTEА, particularly the shortage of staff with primary teachers' training background, led to difficulties in developing Primary In-Service Education and Training (INSET) course contents relevant to primary teachers and ensuring the quality of INSET delivery. The necessary budget to implement the Project activities in 2009/2010, such as first Primary INSET, was not allocated to CEMASTEА from MOE at the beginning. While MOE had managed to disburse sufficient budget at the last minute, the delay of disbursement had hampered the smooth preparation and implementation of the Primary INSET.

For further details, see Appendix I (2-1. Result of Inputs).

2-1-2. Implementation of Activities

Overall, most of the planned activities have been implemented according to the original PO, except activities related to Output 4 (secondary principals' workshop) and Output 5 (Role of CEMASTEА as a resource centre for Mathematics and Science education is strengthened).

The actual implementation of activities related to Output 4 was different from the original plan. According to the original plan, the Project was expected to conduct sensitisation workshops for all secondary principals in 2010 and 2011 through a cascade mode. However, the development of the workshop contents was delayed for around one year and the Project had changed the modality of workshop to a direct mode without approval by Joint Coordinating Committee (JCC) to amend the PDM and PO. As a result, as of July 2011, less than 70% of secondary principals were sensitised only once. Regarding Output 5, no significant activities have been implemented so far in order to enhance the function of CEMASTEА as a resource centre.

For further details, see Table 3 of Appendix I (2-1. Progress of Activities).



2-1-3. Outputs

Output 1: A system of National INSET for Regional Trainers is established at CEMASTEVA.

Output 1 is likely to be achieved by the end of the Project considering the progress made so far. The material development for primary INSET has been implemented according to the original plan. In addition, the enough number of Regional Trainers was trained in National INSET in 2010 and 2011. However, the quality standard of National INSET has not yet achieved the target figure according to the assessment by the Quality of INSET Assessment Index.

Output 2: A system of Regional INSET and Regional workshop is established at Primary Teachers' Training Colleges (PTTCs).

Output 2 is likely to be achieved by the end of the Project considering the progress made so far. Regional INSET for Cluster Trainers at PTTC has been implemented according to the original plan. The quality of Regional INSET in 2011 was as par with the target figure according to the assessment by the Quality of INSET Assessment Index. While the number of Cluster Trainers participated in Regional INSET was below the target figure set at 5,600, the sufficient number of Cluster Trainers (in total 6,384) had facilitated Cluster INSET since some conducted twice. However, it should be noted that the turnover of Cluster Trainers was remarkably high. The number of participants of Regional workshop, which targeted over 1,000 Teacher Advisory Centre (TAC) tutors and 1,358 Provincial, District and Zonal Quality Assurance and Standards Officers (ZQASOs), was far below the target figure. The shortfall in the number of participants in Regional workshop could be attributed to the lack of budget provisions and the doubling roles of TAC Tutors and ZQASOs.

Output 3: Existing system of cluster INSET is strengthened.

Output 3 is likely to be achieved if the activities will be implemented as planned. Cluster INSET was conducted in 2010 and 2011 as planned. However, the number of participants in 2010 was 55,393 in 238 districts out of 285, which was below the target (60,000). The shortfall of participants of primary INSET could be attributed to; the lack of accurate information on the number of teachers who teach Mathematics and/or Science at Grade 6 to 8; and the difficulty in conducting non-residential INSET in some hardship areas, such as the Arid and Semi-Arid Land region. A guideline on management of primary INSET has not been completed yet.

Output 4: Secondary Mathematics and Science teachers' Activity, Student-centred, Experiment and Improvisation-Plan, Do, See and Improve (ASEI-PDSI) practices in classroom are enhanced.

A certain progress was observed in the activities, such as developing workshop content for the introduction of lesson study and sensitising secondary principals through workshops. However, it is not possible to evaluate its achievement, since the verifiable indicators for Output 4 set in the PDM were not adequate to evaluate the degree of enhancement of ASEI-PDSI practices in classrooms. In addition, if the principals' workshop will be continued in a direct mode, it would be difficult to ensure establishing a system that continuously supports teachers through the improvement of principals' pedagogical leadership.

Output 5: Role of CEMASTEAs as resource centre for Mathematics and Science education is strengthened.

No significant achievements were observed in related to Output 5 of Kenyan Component according to the evaluation based on the indicators set in the PDM.

For further details, see Appendix I (2-3. Achievement of Outputs).

2-1-4. Project Purpose

Project Purpose: Quality of Mathematics and Science education at Primary and Secondary school levels in Kenya is strengthened through INSET.

(1) Primary level

A certain progress between baseline data and data of 2011 survey was observed in terms of the improvement of lesson delivery. However, it is difficult to establish whether the Project Purpose at primary level is to be achieved due to the inconsistency of monitoring and evaluation items between the two surveys and the unavailability of raw data of any survey conducted by CEMASTEAs. Moreover, it was found that the target figures of some indicators, such as Lesson Innovation Index and Student Participation Index, had been already achieved at the time of baseline survey. Therefore, it is necessary to examine the validity of M&E tools and the appropriateness of some target figures as soon as possible.

(2) Secondary level

The lesson observation conducted by CEMASTEAs in 2011 found that the practices of

ASEI-PDSI by Mathematics and Science teachers in the secondary schools were still weak. This result could not be compared with the baseline data in 2009 due to the inconsistency of M&E items between the two surveys in 2009 and in 2011. Therefore, it is also necessary to examine the validity of M&E tools and the appropriateness of some target figures as soon as possible.

For further details, see Appendix I (2-4. Achievement of Project Purpose)

2-2. Review of the Implementation Process

2-2-1. Administration and Management of the Project

Decision making body of the Project, Joint Coordinating Committee (JCC), had not met during 2009 and 2010 as stipulated in the agreed document. As a result, changes in implementation of the Project activities were effected without JCC's approval. In related to National Planning Committee (NPC), the administrative body of the Project, the Record of Discussion (R/D) did not guide on the frequency of NPC, however, NPC met weekly except when staffs were out on field activities. As a result, some decisions were made outside NPC. In addition, NPC did not restrict itself to project matters.

2-2-2. Implementation structure of the Project and Training System

(1) CEMASTE A

CEMASTE A strengthened its management structure through clarification of the organisational structure with the introduction of performance contract and increased contacts with external organisations. However, it still has a certain weakness with its data management and proper supervision on daily tasks.

(2) Primary Programme

Expanded District Planning Committees (DPCs) for primary INSET as outlined in the Project Document were not operationalized, because funding of the primary activities came from MOE through CEMASTE A to the District Education Offices (DEOs). Financing mechanism of INSET fund is not working well, such as late reimbursement from CEMASTE A to Primary Teachers Training Colleges (PTTCs) or DEOs. As the DPCs were not working for the primary INSET, CEMASTE A coordinated directly with PTTCs with assistance of MOE. However, the role and mandate of PTTCs were not clearly streamlined. Furthermore, external quality assurance system of INSET course content and delivery is non-existent and internal quality

assurance system at CEMASTEА is still weak.

(3)Secondary Programme

While the implementation of secondary INSET is responsibility of the Kenyan side and the out of the Project scope, the Team observed some challenges. Secondary INSET programme was not implemented as expected; the Management Handbook on District SMASSE Programme was not fully utilised by most of DEOs and DPC; most of the District Trainers failed to prepare course contents for District INSET by themselves due to time constraints and also did not send to CEMASTEА for quality control; and the support from DPC to District Trainers to conduct District INSET was minimal. Although MOE’s policy aims to implement INSET for 20,000 Mathematics and Science teachers every year, only mop-up courses were actually conducted in 2009 and 2010, which were attended by 1/2 to 1/4 of target teachers. Some of the secondary teachers expressed discontent with repeated course contents for years and non-issuance of certificate.

2-2-3. Financial Resources of the Project

Sufficient fund to implement the agreed Project activities had not been secured in 2009 and 2010 by MOE. Although CEMASTEА requested the development budget based on the budget estimation on the Project Document, it was not adequate, such as the number of districts and the unit cost of accommodation. As a result, CEMASTEА downsized some of the agreed activities of the Project; for example, DEO workshop and Regional workshop were downsized from 5 days to 3 days. There is no proper mechanism to ensure accountability of SMASSE INSET Fund at district level.

2-3. Review by the Five Evaluation Criteria of DAC

Results of the Review by Five Evaluation Criteria of DAC are summarised below.

Relevance: High
The Project is considered relevant because of the following reasons. Firstly, the Overall Goal and Project Purpose are relevant to the necessity of the Kenyan society as well as the necessity of the target groups in terms of the training effect on the teaching methods and difference from other INSET programmes. Secondly, the Overall Goal and Project Purpose are relevant to Kenya’s governmental policies such as Vision 2030 and Sessional Paper No. 1 of 2005 that calls for “urgent development of a comprehensive in-service training programme to empower

teachers” and also to Japan’s governmental policies, including those for Official Development Assistance (ODA), country assistance for Kenya and on education. In addition, Japan has technical comparative advantage in the field of INSET in mathematics and science education. On the other hand, concerning to the Precondition of the Project, that is, “Teachers’ union support the Project”, the secondary teachers’ union expressed its dissatisfaction with the secondary INSET, which was referred in a news article.

Effectiveness: Medium

Effectiveness of the Project is considered medium because; the result of the Lesson Observation Index shows significant improvement in the lesson at the primary level. However, every verifiable indicator of the Project Purpose requires a review of the validity of its evaluation tool and target figure due to the modification of tools. Moreover, it was observed that secondary INSET implementation by the Kenyan side should be noted as part of the Important Assumptions for the Project. Finally, in related to the Important Assumptions in order to realise the Project Purpose, university degree programmes and other programmes are, in some cases, affecting teachers’ participation in the SMASE INSET.

Efficiency: Medium

Efficiency of the Project is considered medium. As positive elements, the following can be mentioned: (1) Inputs by the Japanese and Kenyan sides were mostly realised according to the plan; (2) “Japan DAC Peer Review Report” (OECD, 2010) recognised strong and high-level ownership of the Project by MOE, which led to “a decrease in unit cost, making use of government buildings and officials”; and (3) Major donors in the education sector recognise CEMASTE A and SMASE Project and expect its leading role in the future. On the other hand, shortage of CEMASTE A staff with primary teachers’ training background and lack and delay of budgetary provisions led to difficulties in the implementation process. Moreover, staff’s turnover at MOE, CEMASTE A and district education offices sometimes affected the smooth implementation of the Project. Furthermore, an Important Assumption in order to realise the Outputs, i.e., “Counterparts at CEMASTE A and key trainers in the developed cascade levels will be motivated enough to continue to work for the Project”, was not sufficiently satisfied.

Impact: Medium

Impact of the Project is considered medium. On one hand, teachers and district management personnel in the education sector recognise that the improvement of the quality of lessons, as a result of INSET, contributes to the quality of learning of students. Moreover, authorities are noted to be willing to expand INSET to other subjects. On the other hand, negative publicity in

the newspapers somewhat discourage teachers to attend INSET.

Sustainability : Medium

Sustainability of the Project is considered medium due to the following reasons. Institutionally, MOE plans to establish a legal framework for INSET. Organisationally, although CEMASTEAs management still faces various challenges, it has been developing its structure and capacity and seeking for Semi-Autonomous Government Agency status. Moreover, primary INSET provision system is working at the moment, using the existing MOE administration structure. Secondary INSET was supposed to be provided by DPC, but sometimes was not operated. Financial sustainability is considered low at the primary level, whereas secondary INSET has been financed by the SMASSE Fund. It is also necessary to recognise INSET trained teachers during promotions in order to motivate them for continuous participation in INSET.

2-4. Positive and Negative Factors

2-4-1. Factors that promoted realisation of effect

- SMASSE/SMASE INSET is widely accepted as a national programme contributing to improving the quality of teachers and education.
- CEMASTEAs is an appropriate institution to run the Project, as CEMASTEAs is officially mandated to provide training to primary and secondary teachers and the implementation structure of INSET matched the educational administration in Kenya.
- Technical Committee on the Re-engineering of CEMASTEAs, which was established in May 2011, promoted understanding on INSET and role of CEMASTEAs among concerned parties.

2-4-2. Factors that impeded realisation of effects

- Primary activities were started without piloting; therefore, the Project design was not integrated necessary measures to address likely problems.
- The change in educational administration after inception of the Project, such as the increase in the number of districts from 150 to 285, was not reflected in the Project Document at the appropriate timing. This somewhat hindered adequate funding and smooth implementation.
- JCC had not met during 2009 and 2010 as stipulated in the agreed document. As a result, changes in the implementation of project activities were effected without JCC's approval.



2-5. Conclusion

It is considered a great achievement that the Project had managed to conduct two nationwide INSETs for primary Mathematics and Science teachers in 2009 and 2010. However, the Project still needs to address several challenges in order to complete establishing a functional and sustainable INSET system before the end of the Project.

Among several challenges observed, the following issues should be highlighted:

- 1) Primary INSET system has a weakness in quality assurance, operational and financial management;
- 2) Secondary INSET programme has not been implemented as expected;
- 3) Valuable knowledge and resources that were produced by CEMASTEAs (e.g. course curriculum, training materials, assessment tools, M&E reports and M&E data, etc.) are not managed properly at CEMASTEAs;
- 4) Understaffing of CEMASTEAs;
- 5) Sufficient budget to implement the agreed Project activities has not been secured constantly; and
- 6) The administrative and management structure of the Project has some weakness.

Corresponding to the major issues indicated above, recommendations were presented for the further improvement of the Project implementation, which requires an immediate attention by all responsible parties.

3. THE SUMMARY OF THE REVIEW OF WECSA COMPONENT

This part summarises the findings of the Review. The detailed report of the findings is attached as Appendix II (WECSA Component).

3-1. Review of the Achievements of the Project

3-1-1. Inputs

In general, WECSA component utilises the same inputs made for Kenyan component, and as stated before the planned inputs to the Project by Kenyan and Japanese sides have been made in accordance with the plan with minor modifications.

(1) Inputs by Kenyan side

Buildings, offices and other facilities: WECSA component activities utilise CEMASTEAs facilities as illustrated in the 2-1-1 of the Appendix I.

Personnel: At CEMASTEА, counterpart personnel have been assigned to plan, implement and evaluate the WECSA component activities, as described below.

- WECSA committee consists of 9 personnel and is in charge of Third Country Training Program (TCTP)
- R&D department handles WECSA Regional Conference (WRC)
- Director's office handles Third Country Experts (TCE) and Technical Workshop (TW)
- One non-academic staff (secretary) of CEMASTEА is assigned to support logistics and administration of the WECSA Secretariat function

Besides, all of the CEMASTEА staff participates in any of the WECSA component activities such as TCTP, TCE, TW, WRC, etc.

Finance: Kenyan side provides quarter per diem on top of the travel allowance provided by JICA. Besides, member countries provide out-of-pocket allowances for TCTP participants according to the regulation of respective government¹.

(2) Inputs by Japanese side

Personnel (Japanese experts): All of the 5 Japanese experts assigned to the Project serve for both of the Kenya and WECSA component. Currently one post (mathematics) is vacant since June 2011.

Finance: On average an annual 50 million Kenyan Shilling is budgeted and it has been disbursed accordingly.

Equipment and facilities: All equipment and facilities provided by Japanese side are utilised for both Kenyan and WECSA component.

3-1-2. Implementation of Activities

(1) Activities under Output 1: ASEI-PDSI based INSET providers from member countries are trained.

Activities under Output 1 have been implemented as planned with some modifications to schedule, which has no negative influence to overall project progress. So far 7 regular and one country-specific TCTP(s) have been conducted with 456 participants from 26 member countries/areas. Also there has been in total of 30 Third Country Experts (TCEs) sent from CEMASTEА to 7 countries upon 16 requests. It is observed that TCE is on sharp decline; there has been only one dispatch in 2011, while there were 12 and 3 dispatches in 2009 and 2010

¹ Member countries of the SMASE-WECSA association pay a registration fee of US\$ 100 and an annual subscription fee of US\$ 300.

respectively.

(2) Activities under Output 2: SMASE-WECSA network is strengthened.

A variety of activities have been implemented as planned with some modifications to the schedule, including Technical assistance at CEMASTEAs (4 events), Technical workshops on improvement of lessons (5 events), SMASE-WECSA regional conferences (2 times), and delegate meetings (2 times).

(3) Activities under Output 3: Role of CEMASTEAs is strengthened as resource centre for Mathematics and Science education in Africa.

It is commonly understood among the Project personnel that there have been no significant progress made in activities under the Output 3. According to the plan, some “resource” materials have been collected spontaneously; however, they are not systematically stored and disseminated.

3-1-3. Outputs

Output 1: ASEI-PDSI based INSET providers from member countries are trained

Among four verifiable indicators of the Output 1, two of them already have achieved the target. It is reasonably envisaged that qualities and effectiveness of the activities to be maintained during the remaining period of the Project, and therefore, the Output 1 is going to be achieved by the end of the Project.

- Verifiable Indicator 1(a): TCTP at CEMASTEAs is carried out five times; two times had been carried out by 2010, and the third time is under way. So far, 7 regular and one country specific (for South Sudan) TCTP(s) have been implemented.
- Verifiable indicator 1(b): At least 400 participants attend the TCTP at CEMASTEAs; in total of 456 participants from 26 countries/areas attended TCTP.
- Verifiable indicator 1(c): At least 40 sets of training materials are produced; in total of 59 “writes-up” (session resumes) have been developed.
- Verifiable indicator 1(d): M&E tools applicable to member countries are developed and used; M&E tool (Kenyan practice) have been presented and distributed at TCTP for member countries’ reference, instead of a new development of the tool.

Output 2 : SMASE-WECSA network is strengthened

It is most likely that Output 2 is going to be achieved. Verifiable indicators set for Output 2 are numbers of events and achievement to date is as follows:

- Verifiable indicator 2(a): Regional conferences and SMASE-WECSA delegates meetings are held at least four times; they have been held for two times each, and the third ones are planned in December 2011. It is scheduled to be held annually.
- Verifiable indicator 2(b): Increased number of countries participating in SMASE-WECSA activities and implementing INSET; the number of member countries have been increased from 25 to 27.
- Verifiable indicator 2(c): Number of technical exchange notes: Letter of Understandings (LOU), Memorandum of Understandings (MOU) etc.; so far no new LOU, MOU, etc., have been signed.

Output 3: Role of CEMASTEAs is strengthened as a resource centre for Mathematics and Science education in Africa.

No significant achievements were observed in Output 3 of WECSA Component according to the Review based on the verifiable indicators set in the PDM.

3-1-4. Project Purpose

Project purpose: Capability of INSET providers to implement ASEI-PDSI based INSET in member countries is strengthened.

The Project purpose is verified with following indicators; Lesson Innovation Index and Capacity Building Index, both of which have already exceeded the targets set. As far as TCTP maintains its quality, it is most likely that scores of these indexes of current definition shall be maintained too. Thus, it is reasonable to envisage that the Project Purpose is going to be achieved.

- Verifiable indicator (a) Lesson Innovation Index attains a mean of 2.5; Lesson Innovation Index marked 3.04 (N=31)
- Verifiable indicator (b) INSET providers obtain a mean of 2.5 on a scale of 0-4 in the overall assessment of Capacity Building Index for INSET provision; it marked 2.98 (N=31)

3-2. Review of the Implementation Process

3-2-1. Appropriateness of TCTP

TCTP is currently provided in three areas, namely, primary for Anglophone, secondary for

Anglophone, and primary for Francophone. TCTP, in general, have been appropriately provided as induction course of the ASEI-PDSI. The programme has been evolved through continuous improvement and adjustment from the time of SMASSE Phase 2. According to the questionnaires and interviews, TCTP trainees are well satisfied with the programme as it is an eye-opening opportunity to expose to knowledge and practices of ASEI-PDSI. It also provides intellectual and professional excitement and stimulation through collaboration with INSET professionals from the region.

Meanwhile, a challenge commonly understood among CEMASTEAs staff is that TCTP needs a quality monitoring, by improving needs assessment and follow-up of trainees. Also the Review observed that, at this moment, the provision of intermediate and advanced courses for ex-participants of TCTP is rather limited, particularly for secondary and Francophone courses. Meanwhile, the Review noted that there are needs for intermediate and/or advanced courses among ex-TCTP trainees who once attended TCTP, gained experience in the field, and are now facing new challenges.

3-2-2. TCE

TCE is also appreciated very much among the member countries, as it provides a quality expert service related to ASEI-PDSI and INSET upon request. For the beneficiary countries, TCE was an indispensable part of commencing their INSET programmes. Meanwhile, some issues are noted in the Review as follows;

- 1) Dispatch of TCE has declined recently. It seems demands of the member countries have been satisfied as (1) there are numbers of ex-TCTP trainees in member countries, and (2) most of the projects supported by JICA Technical Corporation in INSET have completed its inception stage in the member countries.
- 2) Feedback on TCE services from beneficiary countries is limited. Feedback on dispatched TCE is not systematically provided to CEMASTEAs for further improvement of its services.

3-2-3. WRC

WRC is conducted in conjunction with WECSA annual delegates meeting. Member countries report their progress of INSET implementation to share the issues and solutions. By its nature, WRC agenda needs to accommodate annual reports from the member countries, while some

participants consider it is also monotonous, according to the interviews and questionnaires. Among personnel with such opinion, there is an expectation to shift WRC from a ceremony to a good mix of ceremony and technical discussion. Furthermore, they expect more opportunities to attend technical workshops which focus on addressing emerging needs from the ground.

3-2-4. Growing senses of ownership among the member countries

The Review observed a raising sense of ownership among the member countries of the association. Suggestions by the member countries include: (1) CEMASTEAM to invite TCTP lecturers from member countries, (2) member countries to second its personnel to Nairobi to take part in WECSA component activities, and (3) raise membership fee to make the member countries more serious and be committed to the WECSA association activities.

3-3. Review by the Five Evaluation Criteria of DAC

Results of the Review by the Five Evaluation Criteria of DAC are summarised below.

Relevance: High
WECSA component is very relevant to the needs and policies of African nations as indicated by that (1) African Union prioritizes mathematics and science education in along with teacher development in its recent strategic paper “Second decade of education for Africa,” and (2) WECSA component at the same time composes the activities of the working group of mathematics and science education of the Association for the Development of Education in Africa. It is also consistent with Japanese ODA/foreign policy for Africa indicated in the Tokyo International Conference on African Development IV (TICAD IV) commitments, and a recent policy of Ministry of Foreign Affairs “Japan’s Education Cooperation Policy 2011-2015.”
Effectiveness: High
Current activities and Outputs are effective to achieve the Project Purpose. It is envisaged that TCTP would continuously contribute to improving scores of Lesson Innovation Index and Capacity Building Index for the rest of the project period. Therefore, it is reasonable to state that the Project Purpose is highly achievable.
Efficiency: High
Although there is no significant progress made for Output 3, the Project has been implemented efficiently within the given time framework at CEMASTEAM where activities of both Kenya and WECSA components are carried out.

Impact: N.A.
Impact of WECSA component activities is not evaluated in this mid-term Review.
Sustainability : mixed
<p><u>Policy:</u> Ministry of Education of Kenya mandates WECSA component activities as part of CEMASTEА activities. Meanwhile, it has not been confirmed yet if such policy could be maintained without current JICA support.</p> <p><u>Technical:</u> Technical sustainability, in other terms, expertise of the CEMASTEА staff is sufficient enough to continue WECSA component activities. Expertise foundation is laid through a decade of corporation between Kenya and Japan, while continuous and sincere improvement is indispensable to catch up the shifting needs across the member countries.</p> <p><u>Finance:</u> There is no alternative funding has been confirmed other than JICA to run WECSA component activities.</p>

3-4. Positive and Negative Factors

3-4-1. Positive factors

There are several driving forces of the Project, including: (1) steady and robust demands for training and other opportunities on ASEI-PDSI knowledge and practices, (2) professional dedication of the CEMASTEА staff to promote ASEI-PDSI ideas, and (3) strength of the flexible management among CEMASTEА staff and the JICA experts.

3-4-2. Negative factors

There are several impediments too as follows:

- 1) CEMASTEА prioritises Kenyan INSET during the 1st – 3rd quarters of a calendar year, and TCTP and annual WRC in the 4th quarter, while TW and TCE can be implemented anytime of a year upon the request from the beneficiary countries. With this time frame, TCTP and WRC needs to be planned, implemented and evaluated within the 3 months, and TW and TCE needs to be conducted in parallel to other on-going activities. This limits time allocated for CEMASTEА staff to discuss through the plan beforehand and carefully evaluate the implementation afterwards. Eventually, the programme, such as WRC, tends to be rather monotonous being replicated from the previous practices, while efforts have been paid for continuous improvement.
- 2) Potential clients have not been specifically determined for the function of CEMASTEА as a resource centre. This hindered CEMASTEА to promote activities under Output 3.

3-5. Conclusion

The Review concluded the Project made a reasonably good progress. The Review also found that CEMASTEА was positioned distinct from other similar INSET institutions in the region, while the numbers of competitive INSET providers are gradually increasing. For CEMASTEА to maintain its distinct position, it is crucial to (1) maintain “one step ahead of others” through a continuous and sincere improvement of its technical expertise and activities, and (2) to shift its domain of activities from just “providing training” to “leading collaboration”, reflecting the shifting demands and expectation of member countries.

4. RECOMMENDATIONS

4-1. Kenyan Component

Ultimate goal of the Project is to complete the institutionalisation of sustainable Primary and Secondary INSET system, which Kenyan responsible body could continue the programme after the Project period. Many of the challenges faced by the Project are well addressed by the Recommendations of the Technical Committee on the Re-engineering of CEMASTEА. Therefore, the Team urges all parties to adopt the recommendations and implement the relevant recommendations as earliest as possible.

Among many recommendations made by the Technical Committee, the Team highlights some important recommendations closely related to the Project implementation, which require immediate attention as below. (“Rec. **” shows the correspondence No. of recommendations in the report of the Technical Committee.)

4-1-1. Primary Programme

Major Findings:

- Primary INSET system has a weakness in quality assurance, operational and financial management.
- External quality assurance system of INSET course content and delivery is non-existent and internal quality assurance system at CEMASTEА is still weak.
- Financing mechanism of INSET budget is not working well, such as late reimbursement from CEMASETA to PTTCs or DEOs.

Recommendation 4-1-1 (a): In order to make INSET course content more relevant with teachers’ needs, CEMASTEА should work with relevant institutions, such as Teacher Service Commission (TSC) for accreditation (Rec. 7.2.10), Kenya Institute of Education for the

validation of INSET course content (Rec. 7.2.11), Kenya National Examinations Council for assessment of learning achievement of students to inform INSET course content (Rec. 7.2.12), and Kenya Education Staff Institute for sensitisation of principals on their roles in the implementation of INSET (Rec. 7.2.13).

Recommendation 4-1-1 (b): In order to build a monitoring mechanism in INSET design (Rec. 7.2.20.2), CEMASTEА should work closely with DEOs and District Quality Assurance and Standards Officers (DQASOs) to monitor the implementation of Cluster INSET. Monitoring Reports from DEOs should be collected as prompt as possible after the INSET and archived at CEMASTEА properly. Accordingly, CEMASTEА should utilise the result of monitoring done by DEOs and DQASOs to improve the next INSET Course Contents.

Recommendation 4-1-1 (c): CEMASTEА should develop implementation guidelines of INSET at all levels that specify the role and responsibilities of each organisation, such as CEMASTEА, PTTCs, DEOs, and Cluster INSET centres. In addition, CEMASTEА should communicate guidelines on financial management of INSET budget to all stakeholders. (Rec. 7.2.35) As it would take time to establish the INSET fund system sourced by Free Primary Education, this should work as interim guidelines that regulate reimbursement mechanisms between CEMASTEА, and PTTCs and DEOs and expenditure at regional and cluster INSET centres. These guidelines should be authorised and published before the next round of INSET. JICA will support the publications of these guidelines once they are authorised.

Recommendation 4-1-1 (d): Accreditation of SMASE INSET should be considered. For immediate period, MOE should cooperate with DEOs to issue letters of participation from DEO at the end of every INSET as proposed in the Report of Issues for the SMASE JCC (p.22). For the longer term, it is important to establish national accreditation system on INSET as recommended by the Technical Committee. Under such system, MOE should work with TSC to include the attendance of SMASE INSET as one of the basic qualifications for promotion. (Rec. 7.2.10.6) If MOE and CEMASTEА will establish a committee working on the development of INSET Policy that will be expected to discuss issues including the accreditation, JICA considers supporting the process according to the request made by Kenyan side.

4-1-2. Secondary Programme

Major Findings:

- Secondary INSET programme was not implemented as expected, because most of District Trainers failed to prepare course contents for District INSET by themselves due to time constraints and also did not send to CEMASTEА for quality control.
- The support from District Planning Committees to District Trainers to conduct District INSET was minimal.
- Although MOE's policy aims to implement INSET for 20,000 science and mathematics teachers every year, only mop-up courses were actually conducted in 2009 and 2010, which were attended by 1/2 to 1/4 teachers of target population.
- Some of the secondary teachers expressed discontent with repeated course contents for years and non-issuance of certificate.
- Management Handbook on District SMASSE Programme is not fully utilised by most of DEOs and District Planning Committees.
- There is no proper mechanism to ensure accountability of SMASSE INSET Funds at district level.
- The ASEI/PDSI practices in classrooms are still weak.

The objective of principals' workshop is to enhance the effectiveness of Secondary INSET. In this sense, the recommendations below cover the entire Secondary Programme. The recommendations for Primary programme, namely Recommendation 4-1-1 (a), (b) and (d), also apply to secondary programme.

Recommendation 4-1-2 (a): CEMASTEА should develop new INSET curriculum of secondary INSET for medium term based on the results of situational analysis conducted in 2009. In addition, CEMASTEА should develop new course contents for the next round of INSET (2012/2013).

Recommendation 4-1-2 (b): MOE in collaboration with CEMASTEА should revise and re-enforce the utilisation of the Management Handbook on SMASSE Programme as a policy guideline to all DEOs. (Rec. 7.2.35)

Recommendation 4-1-2 (c): For improved accountability of INSET funds, MOE should

ensure that all INSET Accounts are subjected to all government audit processes. (Rec. 7.2.1.2 & 7.2.38)

Recommendation 4-1-2 (d): CEMASTEА should continue principals' workshop and establish a system that continuously support teachers through the improvement of pedagogical leadership of principals.

4-2. WECSA Component

4-2-1. TCTP

Major Findings:

- TCTP needs a quality monitoring, by improving needs assessment and follow-up of trainees.
- Provision of intermediate and advanced courses for ex-participants of TCTP is rather limited, particularly for secondary and Francophone courses.
- There are competitive personnel recognised across the member countries to serve as TCTP trainers.

Recommendation 4-2-1(a): The Project should analyse the training needs of WECSA member countries and weakness of the trainees by utilising the existing information at CEMASTEА and other relevant information.

Recommendation 4-2-1 (b): Based on the analysis mentioned above, the Project should consider the possibility to rearrange TCTP courses, such as introducing an intermediate and advanced training course related to ASEI-PDSI. If it seems appropriate, explore possibility to invite TCTP trainers from member countries to implement the intermediate/advanced course.

4-2-2. TCE

Major Findings:

- Feedback on TCE services from beneficiary countries is limited.

Recommendation 4-2-2(a): The Project should ensure service quality and continuity of TCE, by improving TCE selection and assignment, reflecting the feedback from the beneficiary countries.

4-2-3. TW and WRC

Major Finding:

- There are emerging needs for more technical workshop/events among member countries.

Recommendation 4-2-3(a): JICA should consider redefining the objectives and role of WECSA Regional Conference in collaboration with concerned parties to strike a good balance of ceremony and technical discussion in the conference.

Recommendation 4-2-3(b): The Project should encourage member countries to organise a TW reflecting their INSET issues and concerns.

4-2-4. Overall WECSA component activities

Major Finding:

- There is a growing sense of ownership among the member countries.

Recommendation 4-2-4 (a): CEMASTEAs, as the hosting institution of Secretariat of and headquarters of SMASE-WECSA Association, should support the Association to prepare a strategic plan at WECSA Regional Conference planned in December 2011.

4-3. Overall Recommendations common to Kenyan and WECSA Components

4-3-1. CEMASTEAs as a resource centre

Major Findings:

- No significant activities have been implemented so far in order to enhance the function of CEMASTEAs as a resource centre.
- Verifiable indicators of PDM related to Output 5 of Kenyan Component and Output 3 of WECSA Component do not capture what were expected to do as a resource centre.
- No significant achievements were observed in related to Output 5 of Kenyan Component and Output 3 of WECSA Component according to the evaluation based on the indicators set in the PDM.

Recommendation 4-3-1(a): The Project team should discuss and agree on concept on the function of CEMASTEAs as a resource centre and activate the concept by June 2012. It should serve as the utilisation plan of the existing library and a new library and ICT facilities to be constructed.

Recommendation 4-3-1(b): Based on the agreed concept on the function of CEMASTEAs as a resource centre, the activities and indicators for Output 5 of Kenyan Component and Output 3 of WECSA Component should be revised.

4-3-2. Data Management at CEMASTEAs

Major Findings:

- Data of available resources that were produced by CEMASTEAs (e.g. course curriculum, training materials, assessment tools, M&E reports and M&E data, etc.) are not managed properly at CEMASTEAs.

Recommendation 4-3-2 (a): Valuable resources that were/will be produced by CEMASTEAs should be collected and properly stored so that INSET stakeholders across Kenya and member countries of SMASE-WECSA association could easily access to them. The proposed products to be stored are the followings:

- Complete set of Course Curriculum of Primary and Secondary INSET
- Complete set of Training Materials for Primary and Secondary INSET
- Monitoring and Evaluation Tools of INSET with users' guide
- Lesson Observation Instruments with users' guide
- The Management Handbook of Primary INSET (authorised as policy guideline)
- The Management Handbook of Secondary INSET (authorised as policy guideline)
- Implementation Report of Training and Workshop
- Monitoring and Evaluation Report of INSET
- Lesson Observation Report
- Other reference materials (e.g., syllabus, lesson plan, teaching materials, improvised material, research report, etc.) related to Mathematics and Science education

Recommendation 4-3-2 (b): All products indicated above should be authorised by CEMASTEAs Management or MOE at appropriate timing. In particular, M&E reports or implementation reports should be completed within one month after the event.

4-3-3. Understaffing at CEMASTEА

Major Findings:

- Vacancy (12) of staff at CEMASETA has not been filled for long time.
- In particular, the shortage of staff with primary teachers' training background led to difficulties in developing Primary INSET course contents relevant to primary teachers and ensuring the quality of INSET delivery.

Recommendation 4-3-3(a): MOE and CEMASTEА should work with TSC to fill-up urgently the vacancies at CEMASTEА with staff who has expertise in primary teachers' training.

Recommendation 4-3-3 (b): The possibility of further capacity building of existing staff in primary education should be considered, by utilising the knowledge and skills acquired through various kinds of training provided so far and any other relevant means.

4-3-4. Financial Resources of the Project

Major Findings:

- Sufficient fund to implement the agreed Project activities had not been secured in 2009/2010.
- The budget estimation attached to the Project Document, such as the number of districts and the unit cost of accommodation, was not adequate.
- As a result, CEMASTEА downsized some of the agreed activities of the Project, for example DEO workshop and Regional workshop were downsized from 5 days to 3 days.

MOE and CEMASTEА should constantly secure the sufficient fund to implement the agreed Project activities by revising the current agreement between MOE and JICA according to the current administrative setup and trend of inflation. In particular, allocation of adequate funds to implement National and Regional INSET in 2011/2012 should be duly authorised by JCC at earliest possible time.

4-3-5. Administration and Management of the Project

Major Findings:

- JCC had not met during 2009 and 2010 as stipulated in the agreed document in 2009 and 2010. As a result, changes in the implementation of project activities were effected without

JCC's approval.

- The R/D did not guide on the frequency of NPC. However, NPC met weekly except when staffs were out on field activities. As a result, some decisions were made outside NPC.
- NPC did not restrict itself to project matters.

Recommendation 4-3-5 (a): JCC should meet regularly as mandated. It is recommended that the composition of NPC should be revised to include MOE officials and Board of Governors' members and should be stipulated to meet once a month. (Rec. 2.3.18)

Recommendation 4-3-5 (b): In order to supplement the functions of JCC and NPC, it is necessary to establish a new structure, Program Coordinators Meeting at CEMASTEА in order to handle the issues related to day-to-day operations.

Recommendation 4-3-5 (c): The Project should submit its half-year progress report to JICA and MOE in July (Jan. – Jun.) and January (July – Dec.). The progress report should be jointly prepared by CEMASTEА and Japanese Experts team in JICA's standard format for Technical Cooperation Project.

Recommendation 4-3-5 (d): When each side, either Kenyan or Japanese side, feel necessary to make modifications on the Master Plan of the Project, scope of the Project, modalities of the activities, target figures, and budget estimation, mutual consultation for making consensus and authorisation on such modifications by JCC should be conducted at an appropriate timing.

4-4. Revision of the Master Plan of the Project and PDM

Responding to the above-mentioned recommendations, it is necessary to amend the original R/D and the Project Document, including PDM. The proposed revisions on PDM are attached to this Main Report. The revision on the R/D and the Project Document should be authorised and agreed, as earliest as possible, between MOE and JICA by signing on the Amendment to the Record of Discussions and the Amendment to the Minutes of Meeting signed on 28th November, 2008.

5. LESSONS LEARNED

5-1. Kenyan Component

- The use of the existing administrative structure has been effective in implementing a new programme, such as a nationwide INSET for primary teachers.
- Before implementing any new programme, it is necessary to pilot activities.

5-2. WECSA Component

- CEMASTEА, which has strengthened its capacity through long-term bilateral cooperation, has now the capacity to effectively implement the bilateral SMASE project locally as well as to implement SMASE-WECSA regional activities across the continent. Furthermore, these regional SMASE-WECSA activities are good opportunities for WECSA member countries to learn from the experiences of Kenya.



Attachment 1: Revised Project Design Matrix (proposed) (Kenyan Component)

Project Title: Strengthening of Mathematics and Science Education (SMASE)

Executing Bodies: Ministry of Education (MOE) and Japan International Cooperation Agency (JICA)

Duration: 5 years from January 2009 to December 2013

Target groups: 1) Primary school teachers who teach mathematics and/or science in grades 6, 7, or 8 in Kenya
2) Secondary school teachers who teach mathematics and/or science in Kenya

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
(Overall goal) Capability of young Kenyans in Mathematics and Science is upgraded.	(a) Performance in National Examination at primary education (mean scores of KCPE) is improved. (b) Results of SPIAS at the secondary level are improved compared with the ones conducted at the end of Phase 2.	-Kenya National Examinations Council Reports -Results of SPIAS	
(Project Purpose) Quality of Mathematics and Science education at Primary and Secondary school levels in Kenya is strengthened through INSET.	By the end of the project, the results of the evaluations by the following monitoring and evaluation tools reach the targeted figures as follows: (Primary level) (a) Lesson Innovation Index attains to 3.3 on a 0-4 scale. (b) ASEI/PDSI Lesson Observation attains to 2.0 on a 0-4 scale. (c) Student Participation Index attains to 2.5 on a 0-4 scale. (Secondary level) (a) ASEI/PDSI lesson Observation attains to 3.0 on a 0-4 scale. (b) Lesson Innovation Index attains to 3.0 on a 0-4 scale. (c) Student Participation Index attains to 3.0 on a 0-4 scale	SMASE Project M&E reports	
(Output) 1. A system of National INSET for Regional Trainers is established at CEMASTEAs. 2. A system of Regional INSET and Regional workshop is established at PTTCs.	By the end of the project: 1 (a) 4 cycles of training materials and programs for the National INSET for the primary education are developed. 1 (b) Over 250 Regional Trainers are trained at CEMASTEAs every year. 1 (c) National INSET for the primary education at CEMASTEAs obtain a mean of over 3 on the scale of 0 to 4 in the Quality of INSET Assessment Index. 1(d) 100% of Implementation Reports (Attendance list and Training reports) on National INSET and Workshops are submitted by CEMASTEAs staff by the agreed deadlines (in one month). 2 (a) Regional INSET for Cluster Trainers at PTTCs is carried out four times. 2 (b) At least 4,400 Cluster Trainers are trained every year. 2 (c) Over 1,000 TAC Tutors and 47 County, 285 Sub-county and 860 Zonal QASOs are trained. 2 (d) Regional Trainers obtain a mean of over 2.5 on the scale of 0 to 4 in the overall assessment of Capacity Building Index at the Regional INSET at PTTCs. 2 (e) Regional INSET at PTTCs attains to a mean of over 2.5 on the scale of 0 to 4 in the Quality of INSET Assessment Index. 2 (f) 100% of M&E Reports on Regional INSET and Workshops are submitted by CEMASTEAs staff by the agreed deadlines (in one month). 2 (g) 100% of Implementation Reports (Attendance list and	1. SMASE Project M&E reports. 2. SMASE Project M&E reports.	

<p>3. Existing system of cluster INSET is strengthened.</p> <p>4. Secondary M/S teachers' ASEI/PDSI practices in classroom are enhanced.</p> <p>5. Role of CEMSTEA as a resource centre for M/S education is strengthened.</p>	<p>Training reports) are submitted by PTTCs by agreed deadlines (in one month).</p> <p>3 (a) A guideline/manual on management of M/S INSET for primary school teacher is developed.</p> <p>3 (b) At least 60,000 primary school teachers who teach mathematics and/or science in grades 6, 7, and/or 8 drawn from every cluster in the country participate in Cluster INSET every year.</p> <p>3 (c) 100% of M&E reports on Cluster INSET are submitted by CEMASTEAs staff by the agreed deadlines (in one month).</p> <p>3 (d) 100% of Implementation Reports (Attendance list and Training reports) are submitted by DEOs in three months.</p> <p>4 (a) INSET and workshop contents for introducing lesson study are developed.</p> <p>4 (b) A guidebook on Lesson Study is developed.</p> <p>4 (c) At least 90% of Secondary School Principals are trained on pedagogical leadership including Lesson Study.</p> <p>4(d) 47 County Directors of Education, 47 County QASOs, 285 DEOs and 285 District QASOs are trained for District Workshops for Principals.</p> <p>4(e) More than 80% of the Counties (clustered Districts) conduct workshops for Secondary School Principals to share and discuss experience in Lesson Study.</p> <p>4 (f) Principal's supervision on ASEI-PDSI practice is enhanced/improved by 10% compared with the results in the Situational Analysis.4(g) 100% of M&E Reports on Principals' Workshops are submitted by CEMASTEAs Staff by the agreed deadlines (in one month).</p> <p>4 (h) At least 50% of Implementation reports on Principals' Workshop are submitted by the agreed deadlines (in three months) by DPCs.</p> <p>5 (a) Primary INSET materials (write-ups) for Cycle 1&2 are revised/refined as self-explanatory materials and published for teachers.</p> <p>5 (b) The revised Primary INSET materials for Cycle 1&2 are digitized and made available through the CEMASTEAs website.</p> <p>5 (c) At least one booklet on ASEI/PDSI practices is published and distributed.</p> <p>5 (d) At least one exemplary lesson video is produced and distributed.</p>	<p>3. SMASE Project M&E reports.</p> <p>4. SMASE Project M&E reports.</p> <p>5. SMASE Project M&E reports.</p>	<p>Other programs do not adversely affect teachers' participation.</p> <p>District INSET for all secondary M&S teachers are conducted every year.</p>
<p>(Activities)</p> <p>1-1 To assess INSET training needs of primary M/S teachers</p> <p>1-2 To develop manuals and materials for National/Regional/Cluster INSET.</p> <p>1-3 To develop/review monitoring and evaluation tools for National/Regional/Cluster INSET.</p> <p>1-4 To conduct National INSET to develop the capacity of Regional Trainers at CEMASTEAs.</p> <p>1-5 To organise workshops for PTTC Principals and Deans of Curriculum/heads of M/S department on understanding of SMASE INSET & ASEI/PDSI classroom practices.</p>	<p>(Inputs)</p> <p>Kenyan side:</p> <ol style="list-style-type: none"> 1. Buildings, offices and other facilities necessary for INSET activities 2. Assignment of adequate Kenyan full-time academic counterpart personnel at CEMASTEAs 3. Assignment of adequate non-academic personnel at 	<p>The counterparts at CEMASTEAs and key trainers in the devolved cascade levels will be motivated enough to continue to</p>	

<p>1-6 To get evaluation from participants on quality of National INSET.</p> <p>1-7 To carry out monitoring and evaluation on impact of National INSET by National Trainers.</p> <p>2-1 To conduct national sensitisation workshop for DEO, QASO, TAC Tutor.</p> <p>2-2 To select Cluster Trainer.</p> <p>2-3 To provide PTTCs with training materials/apparatus as necessary for regional INSET and workshop.</p> <p>2-4 To develop the workshop contents and materials by CEMASTE A.</p> <p>2-5 To organise Regional workshops for ZQASOs and TAC Tutors.</p> <p>2-6 To conduct Regional INSET for Cluster Trainers at PTTCs.</p> <p>2-7 To carry out monitoring and evaluation on quality of Regional INSET.</p> <p>2-8 To carry out monitoring and evaluation on impact of Regional INSET.</p> <p>2-9 To collect and analyse implementation reports (Attendance list and training reports) made by PTTC.</p> <p>3-1 To provide training materials/apparatus as necessary for Cluster INSET and District Workshop.</p> <p>3-2 To conduct Cluster INSET.</p> <p>3-3 To conduct District workshop.</p> <p>3-4 To carry out monitoring and evaluation on quality of the cluster INSET.</p> <p>3-5 To carry out monitoring and evaluation on the impact of cluster INSET and ASEI/PDSI classroom practices.</p> <p>3-6 To collect and analyse implementation reports (Attendance list and Training reports) made by DPCs</p> <p>3-7 To develop handbook on management of primary INSET system in accordance with MOE policy.</p> <p>4-1 To assess the current situation of M/S teachers' ASEI/PDSI classroom practices</p> <p>4-2 To develop INSET content for lesson study.</p> <p>4-3 To assess the current situation of capacity of school leadership on supervision of ASEI/PDSI classroom practices.</p> <p>4-4 To develop workshop content for principals.</p> <p>4-5 To conduct workshops for County Directors of Education, County and District QASOs to develop the capacity to conduct workshops for principals at District level.</p> <p>4-6 To conduct District workshops to support Secondary Principals in promoting Lesson Study and ASEI-PDSI practices in the classroom.</p> <p>4-7 To develop a guidebook on Lesson Study.</p> <p>4-8 To identify model schools for Lesson Study.</p> <p>4-9 To carry out monitoring and evaluation on ASEI/PDSI classroom practices.</p> <p>5-1 To revise/refine existing Primary INSET materials as self-explanatory materials for publication.</p> <p>5-2 To digitize the revised materials.</p> <p>5-3 To identify good ASEI-PDSI practices.</p> <p>5-4 To organise symposia on good ASEI/PDSI classroom practices.</p> <p>5-5 To compile good practices of ASEI/PDSI and disseminate.</p>	<p>CEMASTE A</p> <p>4. Expenses necessary for the project activities to be implemented in Kenya</p> <p>5. Expenses for repair, maintenance and improvements of CEMASTE A facilities</p> <p>Japanese side:</p> <p>1. Dispatch of long-term experts</p> <p>2. Dispatch of short-term experts</p> <p>3. Training of Kenyan counterpart personnel in Japan and in third countries</p> <p>4. Provision of training materials and equipment for INSET activities</p> <p>5. Expenses necessary for SMASE-WECSA activities</p> <p>6. Local operation cost for administration of the Project</p>	<p>work for the project</p> <p>Preconditions: Teachers' union support the project.</p>
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Attachment 2: Revised Project Design Matrix (proposed) (WECSA Component)

Project Title: Strengthening of Mathematics and Science Education (SMASE)

Executing Bodies: Ministry of Education (MOE) and Japan International Cooperation Agency (JICA)

Duration: 5 years from January 2009 to December 2013

Super Goal: Quality of Teaching and Learning of Mathematics and Science in member countries is improved.

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
(Overall goal) INSET systems in member countries are established/strengthened.	(a) Existence of Policy on INSET (b) Existence of Administrative structure on INSET system (c) Existence of a funding mechanism for INSET (d) Existence of M&E systems of INSET	-Project documents, project reports, sector programs, policy papers, etc. in member countries	
(Project Purpose) Capability of INSET providers (trainers and administrators) to implement ASEI/PDSI based INSET in member countries is strengthened	By the end of the project period: (a) INSET providers obtain a mean of 2.5 on a scale of 0-4 in the overall assessment of Capacity Building Index (*1) for INSET provision. (b) The extent to which the ASEI-PDSI concept is reflected in the training manual/ materials in the member countries.	SMASE Project Monitoring and Evaluation Reports	Policy frameworks in participating countries will be supportive of INSET for Mathematics and Science teachers
(Outputs) 1. ASEI/PDSI based INSET providers (trainers) from member countries are trained. 2. SMASE-WECSA network is strengthened. 3. Role of CEMASTEAs is strengthened as a resource centre for Mathematics and Science education in Africa.	1. By the end of the project period: a) TCTP at CEMASTEAs is carried out five times. b) At least 500 participants attend the TCTP at CEMASTEAs c) At least 15 sets of training materials are produced (one set of training materials is all materials prepared for one TCTP course) d) Lesson Innovation Index (*2) attains a mean of 2.5. 2. By the end of the project period: a) Regional conferences and SMASE-WECSA delegates meetings are held at least four times b) Increased number of countries participating in SMASE-WECSA activities and implementing INSET. c) Technical workshops organized by Kenya or in collaboration with member countries are held at least three times. 3. By the end of project period: a) ASEI/PDSI prototype lesson plans, developed by member countries, are compiled and disseminated. b) One of the TCTP materials (write-ups) is revised/refined for publication. c) The revised material is digitized and made available through the CEMASTEAs website.	1. SMASE Project M&E reports. 2. SMASE Project M&E reports. 3. SMASE Project M&E reports.	

(Activities)	(Inputs)	
<p>1-1 To assess the current situation and needs of INSET systems in SMASE-WECSA member countries.</p> <p>1-2 To review and develop TCTP course content for mathematics and science educators from SMASE-WECSA member countries.</p> <p>1-3 To review and develop training manuals and materials for the TCTP.</p> <p>1-4 To train INSET providers from SMASE-WECSA member countries.</p> <p>1-5 To offer technical support in the construction and strengthening of INSET system for mathematics and science education for member countries.</p> <p>1-6 To monitor and evaluate the quality of TCTP.</p> <p>1-7 To monitor and evaluate the impact of TCTP.</p> <p>2-1 To sensitise officials of education ministries in member countries on ASEI-PDSI classroom practices as need arises.</p> <p>2-2 To conduct technical exchange visits with member countries as need arises.</p> <p>2-3 To organize technical workshops by Kenya or in collaboration with member countries.</p> <p>2-4 To organise and participate in SMASE-WECSA Regional conferences and delegates meetings.</p> <p>2-5 To participate in relevant regional and international conferences and other activities.</p> <p>3-1 To establish / strengthen networks with Regional and International organisations involved in related activities</p> <p>3-2 To collect materials and reference books for SMASE-WECSA activities.</p> <p>3-3 To establish/equip a library.</p> <p>3-4 To revise/refine TCTP materials (write-ups) materials for publication.</p> <p>3-5 Revised materials are digitized.</p> <p>3-6 To disseminate information on SMASE-WECSA activities through the website, and other publications.</p>	<p>1. Kenya side:</p> <p>a Buildings, offices and other facilities necessary for the project at CEMASTE A</p> <p>b Assignment of adequate Kenyan full-time counterpart personnel at CEMASTE A</p> <p>c Assignment of adequate support personnel at CEMASTE A</p> <p>2. Japanese side:</p> <p>a Dispatch of long term experts</p> <p>b Expenses necessary for Training of SMASE-WECSA Counterpart personnel at CEMASTE A</p> <p>c Expenses necessary for dispatch of teams for Technical exchange visits, Technical assistance and Third Country Expertise among member countries</p> <p>d Expenses necessary for holding Regional conferences and SMASE-WECSA delegates meetings</p> <p>e Expenses necessary for SMASE-WECSA counterparts to attend international conferences</p> <p>f Provision of machinery, equipment and materials to CEMASTE A as resource centre</p>	<p>Support and understanding are obtained from member countries to sustain SMASE-WECSA activities.</p> <p>Pre-condition <i>Member countries have or will have plans of improving Mathematics and Science Education at basic level.</i></p>

*1 Capacity Building Index: To evaluate the capacity of INSET trainers to manage INSET, e.g., PDSI of INSET implementation by third persons.

*2 Lesson Innovation Index: To evaluate the perception of the participants (teacher trainers/teachers) on lessons by themselves.