

添付資料

1. ミニッツ
2. 評価グリッド (英文)
3. プロジェクト・デザイン・マトリックス (PDM) 改訂版 (和文、第2版)
4. (1) 評価グリッド 実施プロセス結果
(2) 評価グリッド 5項目評価結果
5. 質問票
6. 議事抄録
7. Information and data for terminal evaluation (September 2007)
8. SMASSE INSET インパクト調査結果
9. SMASSE-WECSA に関する関係国質問票結果集計表
10. 現地調査報告書
11. KCSE (中等教育卒業資格) 結果の推移
12. "The Impact of SMASSE Project and Other Initiatives on the Performance in Mathematics and Science Subjects at KCSE Level" Kenya National Examinations Council (13 June 2006)

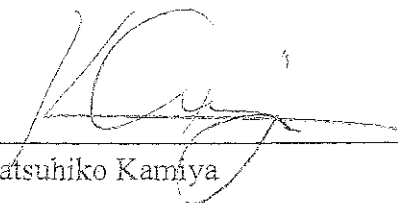
MINUTES OF MEETING
BETWEEN
THE JAPANESE FINAL EVALUATION TEAM
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE REPUBLIC OF KENYA
ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT ON STRENGTHENING OF MATHEMATICS AND SCIENCE
IN SECONDARY EDUCATION (SMASSE) PROJECT PHASE 2

The Japanese Final Evaluation Team (hereinafter referred to as "the Team"), organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Katsuhiko Kamiya, visited the Republic of Kenya from 2 to 15 September, 2007 for the purpose of final evaluation of the Project on "Strengthening of Mathematics and Science in Secondary Education (SMASSE) Project Phase 2" (hereinafter referred to as "the Project").

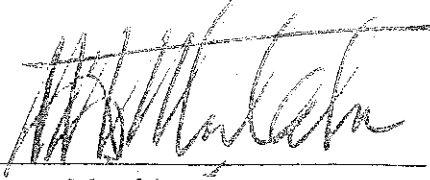
During the stay in Kenya, the Team had a series of discussions with the Kenyan authorities concerned, jointly evaluated the achievements of the Project, and exchanged views for further improvement of the Project.

As a result of the discussions, both sides agreed upon the matters referred to in the document attached hereto.

Nairobi, 14 September 2007



Mr. Katsuhiko Kamiya
Leader
Japanese Final Evaluation Team
Japan International Cooperation Agency
Japan



Prof. Karega Mutahi
Permanent Secretary
Ministry of Education
Republic of Kenya

ATTACHED DOCUMENT

CONTENTS

1. Introduction
 - 1-1 Preface
 - 1-2 Objectives of Evaluation
 - 1-3 Schedule of the Team
 - 1-4 Joint Coordination Committee Members / Attendants
 - 1-5 Methodology of Evaluation
2. Outline of the Evaluation
 - 2-1 Achievements of the Project
 - 2-2 Results of the Evaluation
3. Recommendations
4. Lessons Learnt

ANNEXES

1. Evaluation Grid
 - 1-1 Achievements of the Project and Implementation Process
 - 1-2 Evaluation by Five Criteria
2. Input to the Project
 - 2-1 List of Japanese Experts
 - 2-2 List of Equipment Provided by JICA
 - 2-3 Counterpart Training in Japan
 - 2-4 List of the Assigned Kenyan Counterparts
3. List of SMASSE District Centres



List of Abbreviations and Acronyms

ADEA	Association for the Development of Education in Africa
ASEI	Activity, Student, Experiment, and Improvisation
BEGIN	Basic Education for Growth Initiative
CEMASTEА	Centre for Mathematics, Science and Technology Education in Africa
C/P	Counterpart
DAC	Development Assistance Committee
DEO	District Education Officer
DfID	Department for International Development (UK)
DPC	District Planning Committee
ERS	Economic Recovery Strategy
GOJ	Government of Japan
GOK	Government of Kenya
INSET	In-Service Education and Training
JICA	Japan International Cooperation Agency
JPY	Japanese Currency, Yen
KCSE	Kenya Certificate of Secondary Education
KES	Kenia Currency, Shillings
KESI	Kenya Education Staff Institute
KESSP	Kenya Education Sector Support Programme
KNEC	Kenya National Examinations Council
M&E(TF)	Monitoring and Evaluation (Task Force)
MOE	Ministry of Education, Kenya (current name of MoEST, after 2004)
MOEST	Ministry of Education, Science and Technology, Kenya (former name of MoE, before 2004)
MOU	Minutes of Understanding
NEPAD	New Partnership for Africa's Development
NISMED	University of the Philippines National Institute for Science and Mathematics Education Development
ODA	Overseas Development Agency
PDM	Project Design Matrix
PDSI	Plan, Do, See, and Improve
PTTC	Primary Teacher Training College
QASO	Quality Assurance and Standards Officer
R/D	Records of Discussions
RECSAM	Regional Centre for Education in Science and Mathematics
SACMEQ	Southern and Eastern African Consortium for Monitoring Education Quality
SMASE	Strengthening of Mathematics and Science in Education
SMASSE	Strengthening of Mathematics and Science in Secondary Education

SPIAS	SMASSE Project Impact Assessment Survey
TCE	Third Country Expert
TCTP	Third Country Training Programme
TICAD	Tokyo International Conference for African Development
TSC	Teachers Service Commission
TTC	Teacher Training College
TIVET	Technical, Industrial, Vocational and Entrepreneurship Training
UNICEF	United Nations Children's Fund
UP-NISMED	University of the Philippines, National Institute of Science and Mathematics Education
WECSA	Western, Eastern, Central and Southern Africa

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1. Introduction

1-1 Preface

The R/D was signed on 16 May, 2003 and the Project started on 1 July 2003. It will be completed on 30 June 2008. With the remaining project period of approximately 9 months, JICA dispatched the Team to the Republic of Kenya from 2 to 15 September, 2007 for the purpose of evaluating the achievements of the Project. The final evaluation has been undertaken jointly by the Team and the members from the Kenyan side headed by the MOE.

1-2 Objectives of Evaluation

Objectives of the final evaluation are as follows:

- (1) To review and evaluate the inputs, activities and achievements of the Project, and to summarize the achievement of the Project;
- (2) To execute a comprehensive evaluation on the achievement of the Project from the viewpoint of five criteria of evaluation; and
- (3) To make recommendations to the future perspective of the Project and draw lessons learned from the Project for the same field of technical cooperation.

1-3 Schedule of the Team

	Date	Day	Activities
1	2 Sep.	Sun	Arrival in Nairobi Meeting with JICA Kenya and JICA Experts
2	3 Sep.	Mon	Visit CEMASTE A - Observation of SMASSE National INSET Centre - Meeting with CEMASTE A National Staff - Interview to Mrs. Lelei, Acting Director, CEMASTE A - Interview to Subject Administrators & Academic Staff
3	4 Sep.	Tue	Meeting/Interview with MOE Visit CEMASTE A Interview to DfID Visit CEMASTE A - Interview to JICA Long-term Experts
4	5 Sep.	Wed	Move to Kisumu Visit to District Education Office, Kisumu District - Interview with District Planning Committee Visit to Kisumu Day Girls High school (District INSET Centre) - Interview with the Principal, District Trainers and science teachers Visit to District Education Office, Nyando District - Interview with District Planning Committee Visit to Ahero Girl's High School (District INSET Centre) - Interview with the Principal, District Trainers and science teachers
5	6 Sep.	Thu	Visit to District Education Office, Kericho District - Interview with District Planning Committee Visit to Moi Tea Girls High School (District INSET Centre)

			- Interview with the Principal, District Trainers and science teachers Visit to Naivasha Girls High School (District INSET Centre) - Interview with the DEO, Principal, District Trainers and science teachers
6	7 Sep.	Fri	Visit to CEMASTE -Interview to CEMASTE Academic Staff -Interview to JICA Long-term Experts
7	8 Sep.	Sat	Documentation of data
8	9 Sep.	Sun	Writing a draft of Minutes of Meeting (M/M)
9	10 Sep.	Mon	Internal Meeting Discussion with CEMASTE
10	11 Sep.	Tue	Meeting with Resident Representative, JICA Kenya Office Discussion with CEMASTE Joint Coordinating Committee
11	12 Sep.	Wed	Revising the draft of M/M
12	13 Sep.	Thu	Revising the draft of M/M
13	14 Sep.	Fri	Signing of M/M Reporting to Embassy of Japan and JICA Kenya Office
14	15 Sep.	Sat	Departure from Nairobi

1-4 Joint Coordination Committee Members / Attendants

1-4-1 Kenyan Side

Ministry of Education

Prof. Karega Mutahi	Permanent Secretary
Mr. David Siele	Director, Higher Education
Mrs. Miriam Mwiroti	Director, Policy and Planning
Dr. Samuel Katia	Chairman, Board of Governors, CEMASTE
Mrs. Margaret N. Mbae	SDS (S), Teachers Service Commission
Mr. Kala Ikutu	Deputy Director of Quality Assurance and Standards
Mrs. Beatrice M. Adu	Provincial Director of Education, Eastern Province
Mr. M.M. Mwindipembe	Provincial Director of Education, North Eastern Province
Mr. G.M. Cherongis	Provincial Director of Education, Nyanza Province
Mr. Patrick O. Nyagosia	Provincial Director of Education, Western Province
Mr. M.S. Twahir	Provincial director of Education, Nairobi Province
Mr. Peter M. Macharia	Provincial Director of Education, Rift Valley Province
Mr. Kenneth K. Misoi	Provincial Director of Education, Central Province
Mr. Kariuki Muni	Senior Assistant Director of Education, Directorate of Higher Education
Mr. C.O. Khamira	Senior Assistant Director of Education, Directorate of Higher Education
Mr. Robert M. Omosa	Senior Education Officer, Directorate of Higher Education
Mr. George Ogado	Office of Provincial Director of Education, Nairobi Province

Mr. David Killowzi	Kenya Secondary Schools Heads' Association
Mrs. Emma Odondo	Kenya Secondary Schools Heads' Association
Mrs. Francis Wnjabe	Kenya Institute of Education

Ministry of Science and Technology

Mr. A.A. Rateng	Director of Technical Education
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1-4-2 Japanese Side

Final Evaluation Team

Mr. Katsuhiko Kamiya	Leader
Mr. Atsushi Matachi	Education Evaluation
Mr. Tatsuhiro Mitamura	Cooperation Evaluation
Ms. Yoko Takimoto	Evaluation Analysis

Embassy of Japan

Mr. Masahiro Omura	Minister
Ms. Ai Imai	Researcher/Adviser

JICA Kenya Office

Mr. Yoshiaki Kano	Resident Representative
Mr. Kazuhiko Tokuhashi	Deputy Resident Representative
Mr. Kensuke Miyagi	Assistant Resident Representative
Mr. Samuel K. Kibe	Consultant (Education)

1-4-3 The Project Team

Ms. Peula J. Lelei	Head, SMASSE National INSET Centre
Mr. Michael M. Waititu	Subject Administrator, Physics and M&E Task Force
Mr. Kithaka Njogu	Subject Administrator, Mathematics
Mr. Patrick A. Kogolla	Subject Administrator, Chemistry
Ms. Kariuki Mary W	Academic Head, Biology
Mr. Takahiko Sugiyama	Chief Advisor
Mr. Keiichi Naganuma	Project Coordinator
Ms. Hazuki Uchiyama	Japanese Expert, Science Education
Mr. Hiromasa Hattori	Japanese Expert, Education Evaluation

1-5 Methodology of Evaluation

Major items to be evaluated were the following aspects based on initial PDM, Plan of Operations (hereinafter referred as "PO"):

- 1) Achievements of the Project based on the PDM indicators
- 2) Implementation process
- 3) Conceptual contents in the five DAC's evaluation criteria

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 analyzed with emphasis 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 achievements of the project would be sustained or expanded after the project period.

Conclusions were drawn from the results of the study and recommendations were proposed by the Team.

2. Outline of the Evaluation

2-1 Achievements of the Project

2-1-1 Outputs

With the efforts of both Kenyan and Japanese sides, most of the project outputs have been successfully produced and contributed to the attainment of the Project Purpose.

1. (Kenyan Component) Output 1

A system of training for the District trainers in Mathematics and Sciences has been strengthened at CEMASTEIA. The number of trainings held at CEMASTEIA and the number of District Trainers trained at CEMASTEIA meet the expected targets. The capacity of planning, implementation, monitoring and evaluation was also built in most of the CEMASTEIA academic staff.

2. (Kenyan Component) Output 2

A system of INSET in Mathematics and Sciences was mostly established in the Districts. One of the concerns is that the decreasing number of District INSET, from 16,362 (2004) to 14,581 (2007), probably due to other trainings held at the same period of District INSETs. Another concern is that the Capacity building index evaluated by M&E task force (2.6 and 2.7) was less than the expected target (3.0). Monitoring quality of QASO is also another concern, for their insufficient number and quality for future development and sustainability of District INSETs. Details are reported in Chapter 2-2-2.

3. (Kenyan Component) Output 3

The role of CEMASTEIA was strengthened as a resource centre. The role of District INSET Centre has been also strengthened, with District trainers trained, supplied facilities and equipment. However, capacity of District trainers to develop original training materials capacity after Cycle 4 is limited. A clear INSET strategy beyond Cycle 4 should be discussed by end of the Project, as described in Chapter 3.

4. (WECSA Component) Output 1

The number of trainers trained by TCTP for ASEI/PDSI based INSET was 775, from 33 countries. The number of training materials produced for the training also achieved the targeted level. In addition, Monitoring and Evaluation tools applicable to member countries were developed and practiced, as planned.

5. (WECSA Component) Output 2

According to the questionnaire survey to the third countries, most respondents positively accepted CEMASTEIA being consolidated as a resource centre for Mathematics and Science in Africa. The ASEI/PDSI prototype lesson plans were developed by the participants from member countries, and the number of newsletters produced meets the expected target. The fact that ADEA has given SMASE-WECSA a Working Group on Mathematics and Science Education in Sub-Saharan Africa, in addition to approaches from NEPAD and SACMEQ, also shows a positive evidence of SMASE-WECSA being consolidated as a resource centre in Africa.

6. (WECSA Component) Output 3

The Project has implemented 5 regional conferences between 2003 and 2007, which meets the expected target (4 times). The number of member countries in 2007 is 33 countries. The only concern is that there is no permanent counterpart engaging for the WECSA component. However, since the Project smoothly operates all these activities without any fundamental problems, the capacity of coordination as a secretariat has been built in CEMASTEAM.

2-1-2 Project Purpose

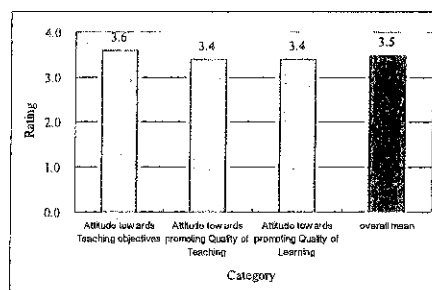
Kenyan Component

Project Purpose of activities in Kenya is "Quality of Mathematics and Science education at secondary level is strengthened in Kenya through In-Service Training (INSET) of teachers."

The results of two indicators for project purpose and other related indicators are as shown below:

1. In 2007, Lesson innovation index achieved a mean of 3.5 (PDM target Indicator 3.0) in 5 point scale from 0 to 4. It was increased from a mean of 3.3, observed in 2005.

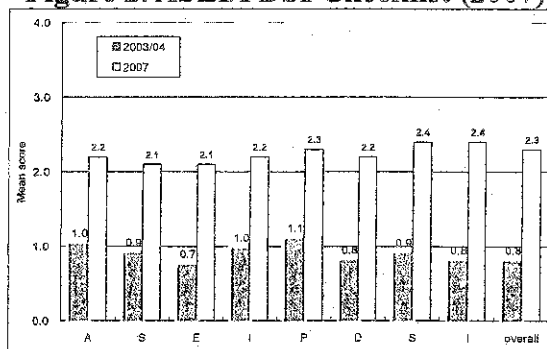
Figure 1. Lesson Innovation Index (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007)

2. In 2007, the result of lesson observation by ASEI/PDSI checklist was 2.3 (PDM target Indicator 2.0). It was increased from 0.8, observed in 2003/2004.

Figure 2. ASEI/PDSI Checklist (2007)



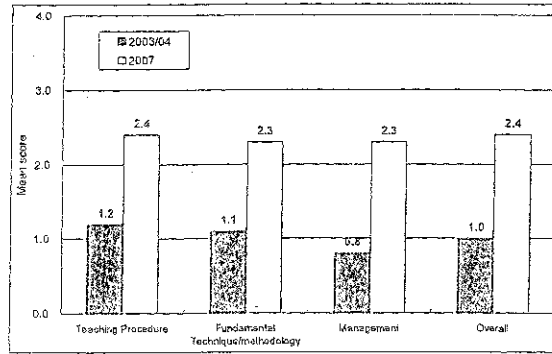
Source: SMASSE Project Monitoring and Evaluation reports (2007)

3. In 2007, the result of Lesson Observation Instrument 2.4 (PDM target Indicator 2.0). It was increased from 1.0, observed in 2003/04.

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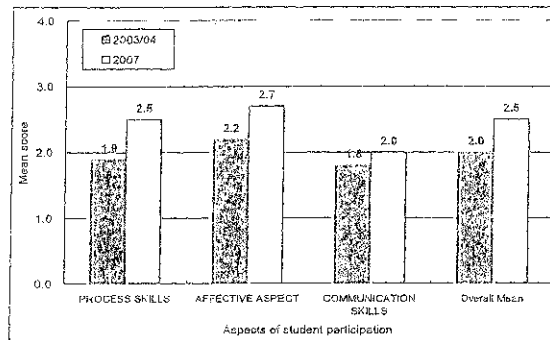
Figure 3. Lesson Observation Evaluation (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007)

- In 2007, the result of assessment on the student participation in lesson was 2.5. It was increased from 2.0, observed in 2003/04.

Figure 4. Quality of Learning: Level of participation (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007)

All indicators could meet the expected achievement target. Besides, the interview survey with DEOs, District Trainers, QASOs, and principals has confirmed that teachers' teaching skill in Mathematics and Science has been strengthened through the INSET. The teachers are now introducing more practical activities and experiments in lessons, which encouraged students to participate more in their learning process, and to make discussions among students. In some schools, students' attitude has been changed and the enrollment of Physics is increasing.

Therefore, the Evaluation Team concludes that the Project Purpose is achieved.

WECSA Component

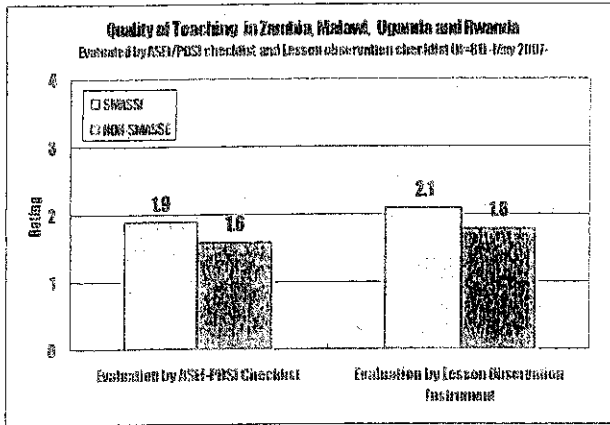
The project purpose is "ASEI/PDSI lessons are practiced in teacher training institutions and secondary schools in member countries".

The results of two indicators for project purpose are: (1) the results of lesson observation by ASEI/PDSI checklist obtained a mean of 1.9 (<2.0), on the scale of 0 to 4, according to the SMASSE Impact Survey Result in 2007; and; (2) the results of lesson observation by lesson observation instrument obtained a mean of 2.1(>2.0), according to the SMASSE Impact Survey Result in 2007.

Although one indicator could not meet the expected achievement target, it is observed that

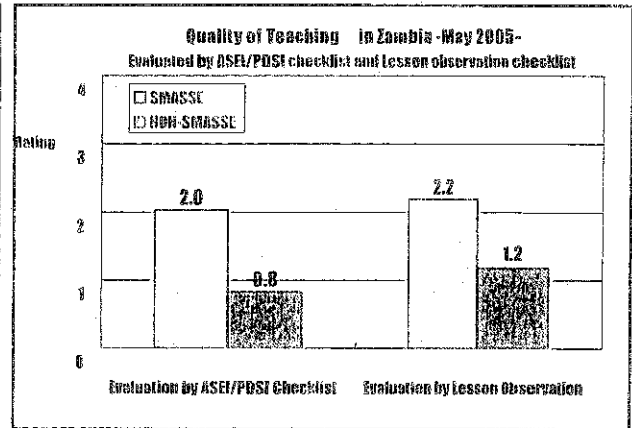
participants of TCTP are practicing ASEI lessons in their own countries and the gap between SMASSE and Non-SMASSE teachers, observed by Lesson Observations and ASEI checklist, has been narrowed, which means that ASEI lesson approach can be diffused from participants of SMASSE trainings to Non-SMASSE teachers. Therefore, the Evaluation Team concludes that there is a possibility to achieve the Project Purpose.

Figure 5. ASEI/PDSI Checklist and Lesson Observation Evaluation (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007)

Figure 6. ASEI/PDSI Checklist and Lesson Observation Evaluation (2005)



Source: SMASSE Project Monitoring and Evaluation reports (2005)

2-1-3 Overall Goal

Kenyan Component

The overall goal is “Capability of young Kenyans in Mathematics and Science is upgraded.”

Limitation:

The Evaluation Team reports that:

- The overall goal requires the further definition on “capability” and “upgraded”. However, the majority of CEMASTEAs share the consensus that the Project aims to the development of the critical and logical thinking of students and the results of KCSE are not sole relevant indicator for the overall goal. Further study is needed to find any significant correlation between INSET programs and SPIAS results; and

According to trends of mean scores of SPIAS, a significant improvement has not been observed (Table 1).

Table 1. Mean Scores in SPIAS Achievement Test (2004-2006)

	Biology	Chemistry	Mathematics	Physics
2004	49.4	49.8	44.0	50.5
2005	46.3	49.4	43.4	50.9
2006	47.7	51.0	43.5	50.4

Source: SPIAS Result (2004, 2005, and 2006)

However, there are positive improvements observed;

- There is an increase in enrollment of Physics, an optional subject.
- As shown in Figure 4, level of participation of students has been improved.

There is no positive improvement in results of SPIAS, because it is too early to appear in test scores. However, there are some positive changes in students' attitude. Therefore, the Evaluation Team concludes that there is a possibility to achieve the Overall Goal.

WECSA Component

The overall goal is **"Quality of Mathematics and Science Education at secondary level in member countries is strengthened"**.

Limitation:

The Evaluation Team reports that:

- although those trainees of TCTP in WECSA member countries practice ASEI lessons, it is difficult to conclude that the Overall Goal will be achieved.
- it is difficult to grasp an accurate picture of ASEI lessons conducted in current teacher training institution in member countries. To achieve the goal, the direct impact of TCTP needs to be diffused by the supportive INSET system in each WECSA member country, and it is too early to evaluate.

However, there are positive aspects as well.

1. According to the questionnaire survey to the WECSA member countries, 6 out of 9 respondents answered that teachers practiced ASEI well after TCTP.
2. According to the questionnaire survey to the WECSA member countries, there were several positive responses; (i) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" teachers' capacity; (ii) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" their teachers' methodology; whereas (iii) 6 out of 8 respondents answered that TCTP "slightly increased" student's participation.
3. WECSA Regional Conferences and other technical exchange activities have contributed to sensitizing high ranking officials of WECSA member countries on the importance of INSET.
4. During the Phase II, new JICA Projects on mathematics and science education were started in 6 countries in Sub-Sahara Africa, and are to be started in 3 more countries. According to the questionnaire survey to the WECSA member countries, 6 out of 9 respondents answered that teachers practiced ASEI well after TCTP.

As a conclusion, although it is difficult to measure the indicator of the Overall Goal, the Evaluation Team values observed aspects and concludes that there is a possibility to achieve the Overall Goal.

2-2 Results of the Evaluation

2-2-1 Implementation Process

The Project has implemented all the activities as originally planned in the PDM without

facing any fundamental managerial problems (Annex 1-2). The project appropriately handled anticipated challenges related to covering the nation wide INSET in secondary education and extended activities of SMASE-WECESA component. Emerging issues such as demand for training allowance was also adequately handled. Technical transfer was effectively and efficiently conducted in both academic and management areas. The remaining challenge is to strengthen the monitoring and evaluation system from National INSET trainers to District INSET trainers, as further described in Chapter 3 and 4.



2-2-2 Evaluation by the Five Criteria

Results of the evaluation by the five criteria are summarized below. For details refer to ANNEX 1-2.

Criteria	Evaluation Result	Findings of the Study
Relevance	(Kenya and WECSA) High	<p>(Kenya and WECSA)</p> <p>Overall goal and Project goal are relevant to the national policy of Government of Kenya (GoK) and the regional policy of Sub-Sahara Africa.</p> <p>(+) Overall goal and Project goal are relevant to Japanese ODA policies.</p> <p>(+) Overall goal and Project goal are relevant to the needs of target groups: mathematics and science teachers in secondary and primary schools.</p> <p>(+) The project is one of 23 investment programs of KESSP.</p>
Effectiveness	(Kenya) Fairly High	<p>Project Purpose (Kenya)</p> <p>Project Purpose is achieved.</p> <p>(+) In 2007, indicators of lesson innovation, lesson observation, and students' participation achieved targeted level.</p> <p>(+) According to the interview survey, DEO, district trainers, QASO, and principals, teachers' teaching skill in Mathematics and Science has been strengthened through the INSET.</p> <hr/> <p>Achievement of Output 1 (Kenya)</p> <p>A system of training for the District trainers in Mathematics and Sciences are strengthened at the National INSET Centre.</p> <p>(+) As of July 2007, the number of Academic staff is 55 (increased from 54 in 2005), and the number of Non-academic staff is 25 (increased from 14 in 2005).</p> <p>(+) 4 times trainings (Cycle 1-4) were conducted at the National Centre</p> <p>(+) 1,139 District Trainers were trained in CEMASTEVA in 2007.</p> <p>(+) According to the questionnaire survey of the C/P, 30 out of 37 answered that the District Trainers in Mathematics and Sciences were significantly strengthened at CEMASTEVA.</p> <p>(+) To explore the possibility of adapting ASEI/PDSI to mathematics and science tutors in PTTC, 218 PTTC tutors were trained in 2006.</p> <p>(+/-) The training of TVET is under preparation as of September 2007.</p> <hr/> <p>Achievement of Output 2 (Kenya)</p> <p>"A system of INSET in Mathematics and Sciences is established in the Districts." is mostly achieved, but the number of District administrative personnel (for phase I) is less than the PDM target indicator, 480. Besides, the number of teachers participating in District INSET is decreasing and Capacity building index evaluated by M&ETF is less than 3.0.</p> <p>(+) There are three kinds of stakeholder trainings: principal training, DEO training, and QASO training. Management system of District INSET is established as it was planned.</p> <p>(+/-) Basically, 4 times INSETs were carried out in the districts and trained 14,581 teachers (2,350 for phase I and 12,231 for phase II).</p> <p>(-) 1381 District Trainers and 465 administrative personnel (99 for phase I and 366 for phase II) are working in the project</p> <p>(-) Average of General ability of District Trainer and Quality of facilitation in 2007 were 2.6 and 2.7, respectively. A technical input or feedback system from CEMASTEVA to District trainers in the "See", and "Improve" are rather weak for the future development of District INSET.</p> <p>(-) The capacity of QASO needs to be strengthened to monitor ASEI/PDSI lessons regularly, with a certain quality, even without National trainers' accompany.</p> <p>(-) Conflicting schedule trainings should be coordinated by MoE and District Education Office.</p> <hr/> <p>Achievement of Output 3 (Kenya)</p> <p>The role of SMASSE National INSET Centre and District INSET Centres is strengthened as resource, but the capacity of District INSET is limited.</p> <p>(+) 18 Newsletter was printed by September 2007. (more than 10)</p> <p>(+) There is a positive perspective for District INSET Centres to be resource centre of the districts. In some centres, science equipment is rented to another school, and there are teachers and students who come to visit the centre to see their lessons.</p> <p>(-) Basically, the districts prepared and produced INSET-training materials in all trainings. According to the interviews from C/P, Japanese Experts, and District trainers, even though some districts developed their own original materials on new</p>

		<p>topics, their capacity to develop original training materials is limited.</p> <p>Positive/Negative Factors Contributing to Project Purpose (Kenya) Intensive syllabus, insufficient incentives for District Trainers and M&E of District INSET are challenging factors.</p> <p>(+) The Education Policy of Kenya supported the project. The ownership is strong in terms of its implementation commitment and financial commitment.</p> <p>(-) In the questionnaire survey, some C/P answered that many teachers are under pressured to complete their syllabus, or to "drill" students for examinations. Similarly, some C/P answered that surrounding environment of teachers cannot always practice ASEI/PDSI in their classrooms nor make a lesson plan.</p> <p>(-) No certificate of the status as a District Trainer is given by MOE.</p> <p>(-) Feedbacks of M&E to DPC and District Trainers should be strengthened.</p>
	(WECSA) High.	<p>Project Purpose (WECSA) Although one indicator could not meet the expected achievement target, it is observed that participants of TCTP are practicing ASEI lessons in their own countries and the gap between SMASSE and Non-SMASSE teachers, observed by Lesson Observations and ASEI checklist, has been narrowed, which means that ASEI lesson approach can be diffused from participants of SMASSE trainings to Non-SMASSE teachers. Therefore, the Evaluation Team concluded that there is a possibility to achieve the Project Purpose.</p> <p>Achievement of Output 1 (WECSA) Trainers for ASEI/PDSI based INSET are produced in member countries.</p> <p>(+) Regular Third Country Trainings were carried out for five times from 2004 to 2007, and Third Country Trainings for particular countries were carried out for three times from 2005 to 2007 at the SMASSE Training Centre. Total number of participants from member countries was 775.</p> <p>Achievement of Output 2 (WECSA) SMASSE National INSET Centre are being consolidated as a resource centre for Mathematics and Science in Africa.</p> <p>(+) 192 ASEI/PDSI prototype lesson plans were developed by the participants from member countries from 2004 to 2006.</p> <p>(-) No newsletters was published by September 2007.</p> <p>Achievement of Output 3 (WECSA) SMASSE National INSET Centre functions as secretariat of SMASSE-WECSA.</p> <p>(+) 5 Regional conferences have been held between 2003 and 2007.</p> <p>(+) 33 African countries are participating in SMASSE-WECSA (20 countries and region paid, whereas 13 countries unpaid its membership fee.)</p> <p>(WECSA) Positive/Negative Factors Contributing to Project Purpose No Negative factors are contributing to Project Purpose.</p>
Efficiency.	(Kenya and WECSA) High	<p>Input by Japan JICA Experts (Kenya) (WECSA) Japanese Experts (long-term and short-term) were dispatched appropriately in terms of (1) Number dispatched, (2) Period dispatched, and (3) Expertises.</p> <p>Equipment (Kenya) (WECSA) Equipment was provided appropriate in terms of (1) specification, (2) volume, and (3) period.</p> <p>(-) In few District INSET Centres, DEO reported a problem in maintenance of equipment provided by the Project. Even though the maintenance is the responsibility of the District Planning Committee, some districts do not fully understand it. The guideline of the maintenance should be reconfirmed.</p> <p>Counterpart Training in Japan (Kenya) (WECSA) Counterpart trainings of Kenyan counterpart personnel in Japan was appropriate in terms of (1) number, (2) requirement, (3) contents, (4) period, and (5) timing accepted.</p> <p>Counterpart Training in Third Countries (Kenya) (WECSA) Third Country trainings of Kenyan counterpart personnel were appropriate in terms of (1) number, (2) requirement, (3) contents, (4) period, and (5) timing accepted.</p> <p>Expenses by Japan (Kenya) (WECSA) Expenses by Japan for the implementation of the Project were appropriate in terms of its volume.</p>

		<p>Input by Kenya (Kenya) (WECSA) Counterpart members were adequate in terms of (1) Number, (2) quality, and (3) timing assigned. (+/-) No. of Academic staff 55 are allocated in the National INSET Centre (increased from 54). It is preferable, however, to be 60, to achieve the Strategic Plan of CEMASTE A (2007-2013). (+/-)No. of Non-academic staff is 25(increased from 14) in 2007. It is preferable, however, to be 62, to achieve the Strategic Plan of CEMASTE A (2007-2013). In fact, 20 out of 35 C/P respondents answered that the current non-academic staff is "inappropriate" in terms of its number and skill. However, JICA Experts suggest that if a survey to assess the efficiency of "out-sourcing" the catering food, accommodation, and security management concludes it is better to "out-source" them, CEMASTE A should do so and the number would not necessarily be 62 non-academic staff.</p>
		<p>Expenses (Kenya) (WECSA) Expenses for the implementation of the Project were appropriate in terms of its volume.</p>
		<p>Buildings, Offices and other facilities (Kenya) (WECSA) Buildings, Offices and other facilities, necessary for the project members were provided appropriately in terms of (1) quality, (2) volume/scale, and (3) convenience.</p>
		<p>Contributing factors for the achievements of the Project Outputs(Kenya) Only negative factors to affect the achievements of the Project Outputs is conflicting program during District INSET period. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI¹, KNEC², School-based degree programs, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>
		<p>Contributing factors for the achievements of the Project Outputs(WECSA) No negative factors is observed to affect the achievements of the Project Outputs. (+) Training for enhancing ASEI/PDSI lesson is likely to be continued in member countries, since it is appreciated in the third countries. (+) Teacher training and INSET based on ASEI/PDSI is likely to be continued in member countries, since it is appreciated in the third countries.</p>
Impact	(Kenya) Fairly High	<p>Appropriateness of achievements of Project Purpose for contributing to the Overall goal (Kenya) Overall goal is appropriate, but the indicator of the goal needs to be defined more clearly to measure the overall goal. (+/-) It is difficult to achieve the goal in a short/medium period.</p> <p>Achievement of Overall Goal (Kenya) Although it is difficult to evaluate from the indicator of Overall Goal, the Evaluation Team notes that there are some positive change in students' attitude. Therefore, the Evaluation Team concluded that there is a possibility to achieve the Overall Goal. (+/-) According to the assessment survey conducted by the project, SPIAS, there has not been observed a significant result. (+) There is an increase in the enrollment of Physics, an optional subject, in some districts.</p> <p>Contributing assumptions for the achievements of the Overall goal (Kenya) No assumptions negatively affected the Overall goal except conflicting training programs. (+) No important assumptions negatively contributed to the overall goal, except conflicting training (described below). (-) In some districts, there are conflicting trainings going on during the period of District INSETs.</p>

¹ Kenya Education Staff Institute

² Kenya National Exam Council Training

		<p>Other effects from the Project (Kenya) Positive effects were observed from the Project. Expected impact (Kenya) (+) The ownership of MOE has been enhanced by targeting all districts in Kenya. (+) INSET was incorporated as one of the important policies, in the Sessional Paper No. 1 of 2005, on Policy Framework for Education. (+) Participation in INSET became a mandatory for all teachers. (+) Attitude has been changed even on non-mathematics and science teachers. (+) By targeting all districts in Kenya, the project approach is acknowledged by both donors and MOE, to complement the budgetary support program. (+) Even in the pilot districts in Phase 1, the 5th District INSET was conducted. (+) By conducting a training for PTTC tutors, PTTC officials reported that ASEI/PDSI approach can be applicable even in primary education.</p> <p>Unexpected impact (Kenya) (+) Since the issue of non-paying incentives became a social topic in media, the project activity accidentally has been known to Kenyan society. (+) School management has been improved through principal training, conducted by the project. (+) Other education institutions started INSET based on ASEI/PDSI contents. (+) In a pilot district, HIV/AIDS session was introduced in the District INSETs, which was not included in the National INSETs. (+) There was a positive change on non-secondary level of education system</p>
	(WECSA) High	<p>Appropriateness of achievements of Project Purpose for contributing to the Overall goal (WECSA) Overall goal is appropriate, but the indicator of the goal is rather difficult to measure the overall goal.</p> <p>Achievement of Overall Goal (WECSA) As a conclusion, although it is difficult to measure the indicator of the Overall Goal, the Evaluation Team valued aspects observed and concluded that there is a possibility to achieve the Overall Goal.</p> <p>Contributing assumptions for the achievements of the Overall goal (WECSA) No assumptions negatively affected the Overall goal</p> <p>Other effects from the Project (WECSA) Expected impact (+) There is an increase in number of membership countries. (+) JICA Experts have been engaged to WECSA countries to promote technical cooperation in SMASE-WECSA. (+) Capacity has been built among C/P in CEMASTEAs. (+) Many officials in Ministry of Education in WECSA countries visited Kenya and were sensitized for SMASSE project and ASEI/PDSI. (+) It will be possible to utilize the trainers from the WECSA countries, not only utilizing from Kenya. Unexpected impact (+) Coordination between NEPAD and AU will be strengthened. (+) ASEI/PDSI attracted even people in Arab region and Latin America region.</p>
Sustainability	(Kenya) Fairly High	<p>Education Policy in the Education System in Kenya (Policy Support) (Kenya) Relevant for CEMASTEAs, but fairly relevant for District INSET Centres. (+) CEMASTEAs is positioned in the Teacher Education System of Kenya, in the Sessional Paper No. 1 of 2005, on Policy Framework for Education, Training and Research, the Ministry of Education. (+) MoE has a strong commitment and ownership on continuing support and funding for activities of CEMASTEAs. (+/-) District INSET Centres are not recognized by the governmental document as INSET centres.</p> <p>Capacity of Management (Kenya) Fairly high, but need to be strengthened. (+) CEMASTEAs has drafted the CEMASTEAs Strategic Plan (2007-2013). It describes future (planned) activities plan and management system of CEMASTEAs. (+/-) The performance based personnel system is not yet implemented in CEMASTEAs.</p>

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Sustainability		<p>Finance Capacity (Kenya) Fairly high, but need to be efficient. (+) CEMASTEIA is positioned in the Teacher Education System of Kenya, in the Sessional Paper No. 1 of 2005, on Policy Framework for Education, Training and Research, the Ministry of Education. (+) The financial system in District INSET is already established by SMASSE INSET Fund. (+/-) MOE has a strong commitment to continue funding to CEMASTEIA activities, however, it needs to increase the running cost of CEMASTEIA to implement its Strategic Plan. (-) In CEMASTEIA, there is a limited finance capacity in terms of (i) practical budgeting procedure, and (ii) efficient expenditure to implement its Strategic Plan. (-) In some districts, there is a difficulty to collect SMASSE INSET Fund from secondary schools, especially from poverty area and private schools.</p>
		<p>Technical Capacity (Kenya) Technical Capacity is high, but technical input to District trainers should be strengthened. (+) Monitoring and Evaluation Task Team has a technical capacity to revise evaluation checklist and questionnaire. (+/-) National trainers in CEMASTEIA have a technical capacity to plan, implement, and evaluate the National INSET. In order to implement the Strategic Plan(2007-2013), the National trainers should be further capacitized. (-) The system of technical feedbacks from CEMASTEIA to District INSET trainers needs to be strengthened. (-) According to the questionnaire survey, 56% of C/P answered that the District INSET Centres have capacity "only to a certain extent", to continue activities.</p>
	(WECSA) Fairly Low	<p>Direction of Education Policy in the Education System in WECSA Direction of Education Policy in the Education System is relevant to WECSA activities. (+) According to the questionnaire respondents from the third countries, 9 out of 10 answered that CEMASTEIA is positioned as a regional INSET centre for the SMASSE-WECSA member countries.</p>
		<p>Capacity of Management (WECSA) Management Capacity is relatively low. (+/-) Most logistics are handled by mainly JICA Experts in the SMASSE-WECSA Secretariat. Although some C/P responded that there should be a separate office/functioning unit to manage the activities, the management capacity to continue activities is adequate, according to JICA Experts.</p>
		<p>Financial Capacity (WECSA) Financial Capacity is low. (+/-) Both CEMASTEIA and WECSA member countries cannot finance for WECSA activities.</p>
		<p>Technical Capacity (WECSA) Technical Capacity is high, but limited in other languages. (+) Both CEMASTEIA C/P and JICA Experts think that CEMASTEIA has a technical capacity to continue WECSA activities. (+/-) All C/P experienced a difficulty to conduct training in other language: French or Portuguese.</p>
		<p>Dissemination Capacity (WECSA) High, but limited in other languages. (+) Both CEMASTEIA C/P and JICA Experts think that CEMASTEIA has a technical capacity to disseminate ASEI in WECSA countries. (+/-) Many C/P experienced a difficulty to conduct training in other language: French or Portuguese.</p>
		<p>Consideration for social, cultural and environmental aspects (WECSA) No specific issue arose.</p>

2-2-3 Conclusion

Based on the evaluation results above, the Team makes conclusions as shown below:

1. The expected activities were conducted smoothly and efficiently. The Project Purpose for the Kenyan component is achieved, whereas the Project Purpose for the WECSA component, there is a possibility to achieve the project purpose.
2. Regarding the Kenyan component, sustainability in terms of policy support, management system, training capacity, and financial aspects is fairly high. However, sustainability of District INSET in terms of planning capacity and monitoring capacity is relatively low. Further efforts should be made to strengthen capacity of District INSET.
3. Regarding the WECSA component, several positive findings and the fact that new JICA projects in six Sub-Sahara African countries were launched have proved that ASEI/PDSI is relevant to other African countries.
4. Thus, for both the Kenyan and WECSA components, there is a possibility to achieve the Overall Goals.



3. Recommendations

1. Clear INSET Strategy Beyond Cycle 4

The Project has completed 4-cycle INSET and capacitated all the science & mathematics teachers in order to improve the teacher's skills of the lesson innovation, focusing on teacher's attitude change, ASEI-PDSI approach, lesson practices and impact transfer to students. At this moment, teachers generally understand the practice and effectiveness of the student-centered lesson. However, it is still necessary to further entrench teachers' practices by continuing INSET programs. For this purpose, CEMASTEА, in consultation with DEOs, should develop the strategy beyond cycle 4 for the future orientation of INSET curriculum, clarify the role of CEMASTEА as a national INSET centre, the role of DEO as an executor of the District INSET, and enhance the better collaboration between CEMASTEА and DEO.

2. Further Capacity Development for the Implementation of District INSET

The Project has contributed to the establishment of a collection and management system of the INSET fund at the district level, and to the capacity development of District Trainers and the District INSET management system by establishing the District Planning Committee. This means the Project has successfully established the District INSET system, which was confirmed to be sustainable in terms of the financial, human and organizational aspects. Hereafter, the District Planning Committee, under the leadership of DEO, should take initiatives for the planning and management of the District INSET. MOE is expected to implement the certification of the status of District Trainers.

For the purpose of the relevant District INSET, which responds to teachers' needs at the local level and supports teachers' practices in class, it is expected that CEMASTEА will further develop its training courses of the INSET management for DEOs, QASOs and principals. Although the current stakeholders' workshops are focusing on the sensitization of the SMASSE INSET, it is necessary to develop new training curriculums, which cover the capacity of local educational and school management for SMASSE INSET. CEMASTEА should start discussions with relevant organizations for the development of such curricula.

3. Elaboration of the Action Plan of CEMASTEА for Its Technical Support to District INSET

The technical input of CEMASTEА is indispensable for the future development of District INSET. CEMASTEА should support development of training materials for District INSET based on pedagogical analyses of the training needs beyond the cycle 4 of the SMASSE INSET.

As a result of the past SMASSE INSET, networks among teachers at the district level has been strengthened and even some of them are sharing information on their ASEI-lesson practices. In order to maximize this favorable environment among teachers, CEMASTEА should make an action plan for its technical support to District INSET and teachers, including such ideas as the strengthening of subject associations at the district and provincial levels and the publication and the forum of teachers' good ASEI-practices.

4. Reinforcement of M&E feedbacks at District Level

Currently M&E of the District INSET is conducted by the M&E team of CEMASTEА. However, it is required that analyzed results of M&E should be fed back to DPCs in timely manner. The collaboration with QASOs for monitoring needs to be strengthened. CEMASTEА also should examine its information flow from and to DPCs and strengthen liaison officers with DPCs.

The current M&E instrument should be revised to reflect the team's experiences so far and be streamlined so that new users, such as officials of WECSA member countries and QASOs, will be able to handle it effectively.

5. Scrutinizing the INSET Program for the Primary Education

Based on the recommendation at the Mid-term Evaluation of the Project, the ASEI-PDSI Training for teachers of Primary Teacher Training College (PTTC) has started and its adaptability of the ASEI-PDSI Training to the primary level was confirmed. In order to nurture this positive impact, CEMASTEА should analyze materials and documents which have been developed by MOE and other donors and organize stakeholders' workshops to agree on the delivery system of INSET and the development of SMASSE INSET program of the primary education.

6. Harmonization of INSET-related Programs of MOE

For the comprehensive INSET planning and its effective and efficient implementation, MOE should strengthen the harmonization of INSET-related programs, implemented by various institutions and departments. CEMASTEА should collaborate more with Kenya Education Staff Institute (KESI) for trainings of school managers.



4. Lessons Learned

1. Comprehensive Approach for the Better Lesson Practice

The Project has aimed at the quality education through the INSET program for Science and Mathematics teachers. It is observed that the SMASSE INSET has caused significant and positive effects on teachers' attitude change. For the further enhancement of the Project impact, it is critical to support teachers in their efforts to upgrade their lesson practices and this support should be comprehensive with the broad outlook of the whole environment around teachers.

In this point of view, the Project has effectively started trainings for the capacity development of principals and local educational officers for the better school and local education management. This comprehensive approach should be considered to other INSET projects.

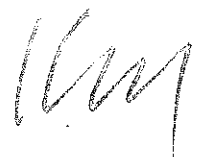
2. Logical and Pedagogical Framework

The Project has successfully introduced the INSET program and established lesson innovation among teachers. Certain changes have been observed in teachers' lesson practices and quality of students' participation in lessons. However, the further impact of the SMASSE INSET needs to be monitored systematically based on the pedagogical analysis on the continuous sequence from teachers' attitude change to development of students' competency. For this purpose, experiences of the Project should be fed back to other educational projects to construct more logical and pedagogical PDM framework.

3. INSET Follow-Up Using Strengthened Networks Among Teachers

The Project has observed that through INSETs' activities, networks among teachers, DTs and officials of DEO were strengthened. In some districts, there are some initiatives among teachers for information sharing and subject associations. For those INSET programs, it is necessary to provide continuous technical support for teachers' practices and this INSET follow-up should make much of social capitals established as networks among teachers.

END



ANNEXES

1. Evaluation Grid

- 1-1 Achievements of the Project and Implementation Process
- 1-2 Evaluation by Five Criteria

2. Input to the Project

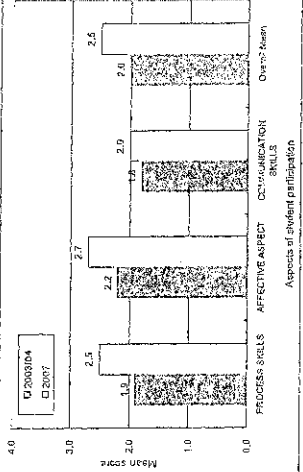
- 2-1 List of Japanese Experts
- 2-2 List of Equipment Provided by JICA
- 2-3 Counterpart Training in Japan
- 2-4 List of the Assigned Kenyan Counterparts

3. List of SMASSE District Centres

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ANNEX 1-1. Evaluation Grid: Strengthening of Mathematics and Science in Secondary Education (SMASSE) in Kenya Phase II

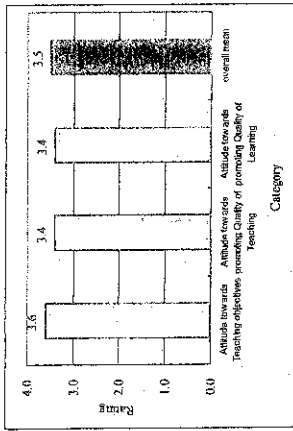
Evaluation: Achievements of the Project and Implementation	Result of Study and Indicators	Data Source/ Method of Data Collection																				
<p>Evaluation Items (Overall)</p> <p>Achievements of Overall Goal (Overall goal) Capability of young Kenyans in Mathematics and Science is upgraded. (Indicator) Performance in National examinations at secondary level in the National level.</p>	<p>Result of Study and Indicators</p> <p>It is difficult to conclude whether the overall goal can be achieved solely from the performance in National examinations at secondary level. Further study is necessary to find any significant correlation between INSET and SPIAS achievement.</p> <p>According to the assessment survey conducted by the project, SPIAS, there has not been observed a significant increase in the mean scores.</p> <p>Table 1. Mean Scores in SPIAS Achievement Test (2004-2006)</p> <table border="1" data-bbox="587 645 710 1406"> <thead> <tr> <th></th> <th>Biology</th> <th>Chemistry</th> <th>Mathematics</th> <th>Physics</th> </tr> </thead> <tbody> <tr> <td>2004</td> <td>49.4</td> <td>49.8</td> <td>44.0</td> <td>50.5</td> </tr> <tr> <td>2005</td> <td>46.3</td> <td>49.4</td> <td>43.4</td> <td>50.9</td> </tr> <tr> <td>2006</td> <td>47.7</td> <td>51.0</td> <td>43.5</td> <td>50.4</td> </tr> </tbody> </table> <p>Source: SPIAS Result (2004, 2005, and 2006)</p> <p>However, in Physics, an optional subject, there is an increase in enrollment, according to our interview survey. Besides, the student participation in lesson has been improved, as shown in Figure 1. Therefore, the overall goal has a possibility to be achieved.</p> <p>Figure 1. Quality of Learning: Level of participation (2007)</p>  <p>Source: SMASSE Project Monitoring and Evaluation reports (2007).</p>		Biology	Chemistry	Mathematics	Physics	2004	49.4	49.8	44.0	50.5	2005	46.3	49.4	43.4	50.9	2006	47.7	51.0	43.5	50.4	<p>Assessment Survey (SPIAS)</p>
	Biology	Chemistry	Mathematics	Physics																		
2004	49.4	49.8	44.0	50.5																		
2005	46.3	49.4	43.4	50.9																		
2006	47.7	51.0	43.5	50.4																		
<p>Achievements of Project Purpose (Project Purpose) Quality of Mathematics and Science education at secondary level is strengthened in Kenya through In-Service Training (INSET) of teachers.</p>	<p>Quality of mathematics and science education at secondary level is strengthened in Kenya through In-Service Training (INSET) of teachers.</p> <p>1. In 2007, Lesson innovation index achieved a mean of 3.5 (PDM target Indicator 3.0) in 5 point scale from 0 to 4. It was increased from a mean of 3.3, observed in 2005.</p>	<p>SMASSE Project Monitoring and Evaluation reports</p>																				



1. By the end of the project, the preparedness for lesson innovation index will obtain a mean of more than 3 on the scale of 0 to 4.

2. By the end of the project, the results of lesson observation by ASEI/PDSI checklist and lesson observation instrument will obtain a mean of more than 2 on the scale of 0 to 4.

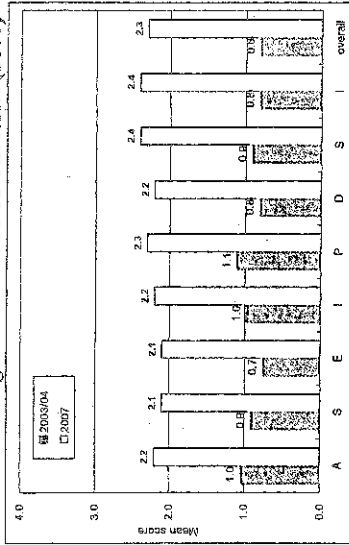
Figure 2. Lesson Innovation Index (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007)

2. In 2007, the result of lesson observation by ASEI/PDSI checklist was 2.3 (PDM target indicator 2.0). It was increased from 0.8, observed in 2003/2004.

Figure 3. ASEI/PDSI Checklist (2007)

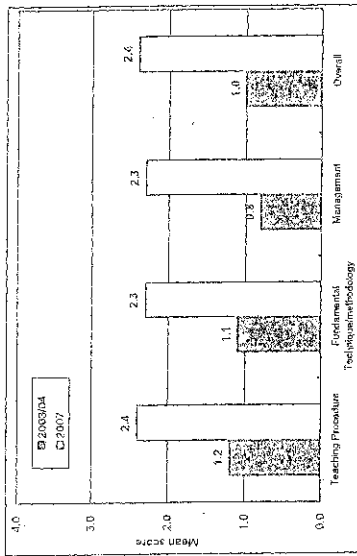


Source: SMASSE Project Monitoring and Evaluation reports (2007).

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3. In 2007, the result of Lesson Observation by Lesson Observation Instrument was 2.4 (PDM target Indicator 2.0). It was increased from 1.0, observed in 2003/04.

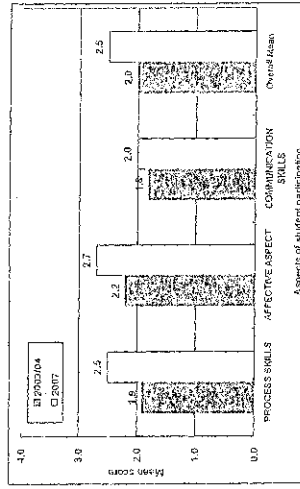
Figure 4. Lesson Observation Evaluation (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007).

4. In 2007, the result of assessment on the student participation in lesson was 2.5. It was increased from 2.0, observed in 2003/04.

Figure 4. Quality of Learning: Level of participation (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007).

5. According to the interview survey with DEOs, District Trainers, QASOs, and principals, teachers' teaching skills in mathematics and science have been strengthened through the INSET. The teachers are now introducing more practical activities and experiments in the lesson, which encouraged students to participate more in their learning process, and to discuss among students. In some schools, students' attitude has been changed and the enrollment in Physics is increasing.

Achievements of Output

1. A system of training for the District Trainers in Mathematics and Sciences will be strengthened at the National INSET Centre.

(Indicators)

1-1 By the end of the project, over 83 Kenyan Academic Staff and 57 non-academic staff at National INSET Centre work for the project.

1-2 By the end of the project, INSET at National INSET Centre is carried out 4 times and trains over 900 district trainers.

1-3 By the end of the project, INSET at National INSET Centre obtain a mean of over 3 on the scale of 0 to 4 in the Quality of INSET Assessment Index through the instruments administered by the project's Monitoring and Evaluation Task Force.

1-4 By the end of the project, over 14 titles of materials are prepared and more

A system of training for the District Trainers in mathematics and sciences are strengthened at the National INSET Centre.

1-1. As of July 2007, the number of Academic staff is 55 (increased from 54 in 2005), and the number of Non-academic staff is 25 (increased from 14 in 2005).

Table 3. Number of Academic Staff in CEMASTEIA (as of September 2007)

	Math	Physics	Chemistry	Biology	Total
Head of SMASSE National INSET Centre					1
Subject Administrators	1	1	1	1	4
Academic Heads	1	1	1	1	4
National Trainers	12	11	11	12	46
Total					55

Source: SMASSE Project Monitoring and Evaluation reports (2007).

1-2. (1) 4 times trainings (Cycle 1-4) were conducted at the National Centre.
(2) 1,139 District Trainers were trained in CEMASTEIA.

Table 4. Number of District Trainers Trained in CEMASTEIA (2004-2007)

	2004	2005	2006	2007
Number of District Trainers Participated in the National INSET	900	981	1,141	1,139

Source: SMASSE Project Monitoring and Evaluation reports (2005) and SMASSE Project Monitoring and Evaluation reports (2007).

As for the activities to explore the possibility of adapting ASEI/PDSI to mathematics and science teachers in TVET and tutors in PTTC, 218 PTTC tutors were trained in 2006. The training of TVET is under preparation as of September 2007.

Table 5. Number of PTTC Tutors Trained in 2006

	Cohort 1	Cohort 2	Total
No. of Mathematics participants trained	52	55	107
No. of Science participants trained	53	58	111
Total	105	113	218

Source: SMASSE Project Monitoring and Evaluation reports (2005) and SMASSE Project Monitoring and Evaluation reports (2007).

1-3. In 2007, Cycle 4 of the National INSET, CEMASTEIA obtained a mean of 3.65 in the Quality of INSET Assessment Index (PDM target Indicator 3.0).

1-4. 40 sets of training manuals were printed (PDM target indicator 14 titles).

SMASSE Project Monitoring and

Evaluation reports

Questionnaire and

Interview to

counterpart/National

trainers

Interview to JICA Experts

¹ In 2006, 8 new personnel for TVET were employed at CEMASTEIA. Due to miss-match of the requirement, 6 out of 8 staff were changed in September 2007. Therefore, the stakeholder workshops for TVET has been under preparation with the remaining 2 TVET staff.

than target number of copies are printed and circulated to people engaged in education

2. A system of INSET in Mathematics and Science will be established in the Districts.
(Indicators)
2-1 Every year, over 900 District Trainers and over 480 (115 for phase I and 365 for phase II) administrative staff in the Districts work for the project.

A system of INSET in mathematics and science was established in the Districts, but (i) the number of District administrative personnel was less than the target indicator, (ii) the number of participants was less than the expected indicator, and (iii) quality of District Trainers were less than the expected indicators.

2-1. In 2007, 1381 District Trainers and 465 administrative personnel (99 for phase I and 366 for phase II) are working in the project. The District Planning Committee is functioning well, as a liaison between CEMASTE A and districts.

Table 6. Number of District Trainers Working in District (2004-2007)

	2004	2005	2006	2007
Number of District Trainers Working in the District INSET	1,122	1,230	1,335	1,381

Source: SMASSE Project Monitoring and Evaluation reports (2005) and SMASSE Project Monitoring and Evaluation reports (2007).

Table 7. Officers Working at the Districts in 2007

Designation	No. of Officers from Phase I	No. of Officers from Phase II	No. of Officers from Phase I+ II
Principals of INSET centres	24	81	105
DPC chairman (DEO)	15	57	72
Trainers representative	15	57	72
Heads representative (Treasurer)	15	57	72
QASO (District Co-ordinator)	15	57	72
TSC	15	57	72
Total	99	366	465

Source: SMASSE Project Monitoring and Evaluation reports (2007).

Trainings for stakeholders such as DEO, QASO and principals were also conducted during the Phase II.

Table 8. Stakeholders Workshops Conducted at CEMASTE A (2004-2007)

Name of Training	Implementation Period		No. of Participants
	1.	2.	
DEO Training	1. August 2005		47
	2. April 2006		70
	3. May 2007		79
	Total		196
QASO Training	1. July 2003		86
	2. August 2004		178
	3. July 2005		60
	4. July - August 2006		75
	5. August 2006		73
	Total		472

- Project Records
- SMASSE Project Monitoring and Evaluation reports
- Questionnaire and Interview to counterpart/National trainers
- Interview to JICA Experts

Principal's training	March 2004	74
1. March 2004		98
2. May 2004		81
3. July 2004		74
4. July 2005 (1)		61
5. July 2005 (2)		69
6. September 2005 (1)		74
7. September 2006 (1)		75
8. September 2006 (2)		80
9. September 2006 (3)		686
Total		

Source: SMASSE Project Record.

- 2-2 By the end of the project, INSETs in the Districts are carried out four times and train over 15,000 (3,000 for phase I and 12,000 for phase II) teachers
- 2-3 By the end of the project, District Trainers in the Districts obtain a mean of over 3 on the scale of 0 to 4 in the overall assessment of INSET Building Capacity INDEX of the Project's Monitoring and Evaluation Task Force tools.
- 2-4 By the end of the project, INSETs in the Districts obtain a mean of over 2.5 on the scale of 0 to 4 in the Quality of INSET Assessment Index of the project's Monitoring and Evaluation Task Force tools.

2-2 (1) Basically, 4 times INSETs were carried out in the districts.²
 (2) INSETs in the Districts trained 14,581 (2,350 for phase I and 12,231 for phase II) teachers³. (See Figure 5)

2-3. Means of General ability of District Trainer and Quality of facilitator in 2007 were 2.6 and 2.7, respectively.

Table 9. General Ability and Quality of Facilitation of District Trainers(2004-2007)

	2004	2005	2006	2007
General Ability of District Trainers	2.1	2.3	2.4	2.6
Quality of Facilitation	2.1	2.5	2.5	2.7

Source: SMASSE Project Monitoring and Evaluation reports (2007).

2-4. The mean of District INSET Assessment index was 3.3, over the expected indicator of 2.5.

Table 10. Criteria Means of District INSET Assessment INDEX(2007)

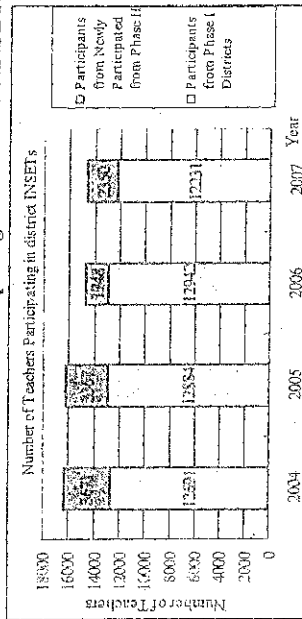
Quality	Motivation	Interest	Involvement	Relevance	Time	Organisational Criteria Mean
Organisation	3.1	3.2	3.2	3.3	3.1	3.2
Plenary	3.5	3.5	3.5	3.5	3.4	3.5
Practical	3.3	3.3	3.4	3.4	3.3	3.3
Discussion	3.2	3.3	3.3	3.3	3.1	3.2
Peer teaching	3.3	3.3	3.2	3.3	3.2	3.3
Feedback	3.3	3.3	3.3	3.4	3.3	3.3
Quality Criteria Mean						

Source: SMASSE Project Monitoring and Evaluation reports (2007).

2-5. The status of SMASSE Fund collection varies. In the interview survey in districts, there was a district of 70% collection rate (Nyando)⁴ and 80% collection rate (Kisumu). However, 3 out of 4 districts reported the shortage of Fund did not affect critically the District INSET.

<p>3. Role of SMASSE National INSET Centre and District INSET Centres as resource centres will be strengthened. (Indicators)</p> <p>3-1. By the end of project, National INSET Centre publishes and distributes more than 10 newsletters.</p> <p>3-2. By the end of project, the Districts prepare and produce INSET-training materials at least once.</p>	<p>The role of SMASSE National INSET Centre and District INSET Centres is strengthened as resource centres, but not enough in the planning capacity beyond Cycle 4 of the training.</p> <p>3-1. As of September 2007, 18 Newsletter was printed by September 2007.</p> <p>3-2. Basically, the districts prepared and produced INSET-training materials in all trainings. According to the interviews from C/P, Japanese Experts, and District trainers, even though some districts prepared their own original materials on new topics, the contents beyond Cycle 4 is limited.</p> <p>3-3. There is a positive perspective for District INSET Centres to be resource centre of the districts. In some centres, science equipment is rented to another school, and there are teachers and students who come to visit the centre to see their lessons. Therefore, once the capacity of districts is built, it would be regarded as resource centres.</p>	<ul style="list-style-type: none"> - Project Records - SMASSE Project Monitoring and Evaluation reports - Questionnaire and Interview to counterpart/National trainers - Interview to district trainers/District planning committee - Interview to teachers(trainees) - Interview to JICA Experts
<p>Attainment of Important Assumptions</p> <p>1. All stakeholders do not oppose the project.</p> <p>2. The counterparts at National INSET Centre and key trainers in the Districts will continue to work for the project.</p> <p>3. Assistance of MOEST will continue.</p> <p>4. Other programs do not adversely affect teachers' participation.</p>	<p>1. Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs.</p> <p>2. Since 2004, 2 directors of CEMASTE were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project.</p> <p>3. Commitment of MOE is high. CEMASTE receives 40 million KES from GOK for its operation cost.</p> <p>4. According to C/P questionnaires and interviews from C/P and districts, there were other programs affected teachers' participation. Namely, School-based degree programmes, KESF, and KNEC. Since teachers prefer to attend the other programs which pay the incentives, it is preferable to avoid the conflicting schedule.</p>	<ul style="list-style-type: none"> - Project records - SMASSE Monitoring and Evaluation Report - Questionnaire and Interview to counterpart/National trainers - Interview to district trainers/District planning committee - Interview to teachers(trainees) - Interview to JICA Experts
<p>5. Teachers continue to practice ASEI/PDSI</p>	<p>5. According to the questionnaire survey and interviews, teachers have a will to continue to practice ASEI/PDSI. The responses to the ASEI/PDSI are generally very positive.</p> <p>6. According to the interview survey, the number of district increased from 72 to 141 (2007). However, new DEOs</p>	

Figure 5. Number of Teachers Participating in the District INSETs (2004-2007)



Source: SMASSE Project Monitoring and Evaluation reports (2005) and SMASSE Project Monitoring and Evaluation reports (2007).

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are mostly familiar with SMASSE INSET programs and are supportive to continue.

1. No. of Academic staff 55 are allocated in the National INSET Centre (increased from 54). It is preferable, however, to be 60, to achieve the Strategic Plan of CEMASTE (2007-2013). (See Table 3).
 2. No. of Non-academic staff is 25 (increased from 14) in 2007. It is preferable, however, to be 62, to achieve the Strategic Plan of CEMASTE (2007-2013). In fact, 20 out of 35 C/P respondents answered that the current non-academic staff is "inappropriate" in terms of its number and skill. However, JICA Experts suggest that if a survey to assess the efficiency of "out-sourcing" the catering food, accommodation, and security management concludes it is better to "out-source" them, CEMASTE should do so and the number would not necessarily be 62 non-academic staff.
 3. Buildings, Offices and other facilities were provided adequately for the project.
 4. Expenses necessary for the implementation of the Project were provided by both Gok and Districts.

Table 11. Budget Expenditure (Operational Cost) for SMASSE from Gok (2004-2007)

	Financial Year starts in July in Kenya, April in Japan					Total / KES
	2003/04	2004/05	2005/06	2006/07	2007/08**	
GOK	20,000,000	20,000,000	40,000,000	40,000,000	40,000,000	160,000,000
Districts*	80,511,100	84,160,900	84,554,400	90,304,600	90,304,600	429,835,600
<i>Number of Public Secondary School Students</i>	806,111	811,609	815,544	823,046	833,046	
JICA	12,960,005	40,492,164	52,674,319	47,047,000	33,059,502	186,232,990
Total	113,471,105	144,653,064	177,228,719	177,351,600	163,364,102	776,068,590
% of Kenyan Side	88.6%	72.0%	70.3%	73.5%	79.8%	76.0%

Source: SMASSE Project Monitoring and Evaluation reports (2007) * Estimated by Number of Students x KES100
 ** Budget for 2007/08: Provisional

INPUTS by the Kenyan side

Project records
 SMASSE Project Monitoring and Evaluation reports
 Interview to JICA Experts

INPUTS by the Japanese side

Dispatch of long-term and short-term experts.
 Long-term Experts
 • Chief Advisor
 • Academic Advisor
 • Project Coordinator
 • Mathematics Education
 • Education Evaluation
 • Science Education
 Short-term Experts
 • INSET Management
 • Education Evaluation
 • Science Education
 • Mathematics Education (2)
 • Primary Education
 Training of Kenyan counterpart personnel in Japan.
 • 81 Counterpart Trainees were trained in Japan (both counterpart to Hiroshima and to Sapporo)
 Training of Kenyan counterpart personnel in the third countries.
 • 120 Counterpart Trainees were trained in Philippines

Project records
 SMASSE Project Monitoring and Evaluation reports

- 87 Counterpart Trainees were trained in Malaysia
 - 2 Counterpart Trainees were trained in France
- Provision of equipment. In total of 182 million KES was input for provision of equipment (See Annex 2-2)
Expenses necessary for the implementation of the Project.

Table 12. Budget Expenditure for SMASSE (Kenya Component) from JICA (2004-2007)

	Financial Year starts in July in Kenya, April in Japan						Total / KES
	2003/04	2004/05	2005/06	2006/07	2007/08**		
Operational Cost for Activities in Kenya	12,960,005	40,492,164	52,674,319	47,047,000	33,059,502	186,232,990	
Operational Cost for Regional Activities	2,764,991	21,656,443	21,572,059	15,753,309	22,572,695	84,319,497	
Cost for TCT in Kenya (Excl. Training for Sudan)	6,308,176	14,395,920	13,561,284	25,607,340	24,245,465	84,118,185	
Cost for TCT in Kenya for Sudanese Teachers	No Activities	No Activities	2,544,104	2,410,204	5,356,009	10,310,317	
Cost for CP Training in NISMED	5,875,268	6,710,580	10,695,844	7,754,613	9,353,175	40,389,480	
Cost for CP Training in RECSAM	No Activities	No Activities	No Activities	6,074,157	7,249,748	13,323,905	
Total	27,908,440	83,255,107	101,047,610	104,646,623	101,836,594	418,694,374	

**Budget for 2007/08: Provisional

1 KES = 1.764 JPY = 67.192 USD as of 1 Aug 2007 by JICA Kenya Office

Source: SMASSE Project Monitoring and Evaluation reports (2007)

Appropriateness of Implementation Process

Implementation of Activities

Overall, the implementation of activities was appropriate:
(+) The Education Policy of Kenya supported the project. The ownership is strong in terms of its implementation commitment and financial commitment.

(+) The assigned C/P and JICA Experts were appropriate in terms of the project implementation.

(+) The system for sustainability was incorporated in organizational, financial, and technical aspects.

(+) The Inputs from both Kenya and Japan were appropriate, in terms of its quality, quantity, and timing.

(+) According to the questionnaire survey, 33 out of 37 respondents answered the activities were appropriated in terms of its approach, contents, concept of ASEI/PDSI, and method.

(-) A system to strengthen District INSET quality and follow-up the training implementation were rather weak. Since CEMASTE A and the district collaborate for the District INSET in 'Plan' and 'Do' stages, a further support system in the 'See', and 'Improve' stages need to be constructed for the future development of District INSET.

Method of Technical Transfer

Overall, the technical transfer method was appropriate:

(+) JICA Experts advised the C/P effectively and efficiently in both academic and management areas. The intervention was limited only in the necessary moment, respecting the Kenyan side's ownership. In this extent, attitude contributed to the capacity development of CEMASTE A C/P.

- Project records
- Interview to MOE
- Questionnaire and Interview to counterpart/National trainers
- Interview to district trainers/District planning committee
- Interview to teachers(trainees)
- Interview to JICA Experts
- Project records
- Questionnaire and Interview to MOE
- Interview to

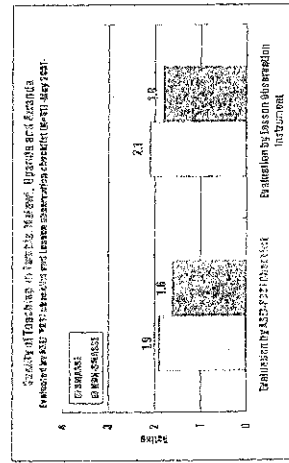
	<p>(+) The result is reflected on the questionnaire survey. 29 out of 35 answered that the technical advises/input was appropriate.</p> <p>(+) JICA Experts, especially Academic Adviser, gave effective advices to the C/P.</p> <p>(+) The way of technical transfer was not "to teach", but "to work together". Therefore, C/P are now confident on their works, ready to handle by themselves.</p> <p>(-) Technical Transfer from CEMASTEAs to District Trainers was limited. The monitoring and evaluation during the District INSETs was mainly to observe the training quality of District trainers, relatively little on district/Centre management quality, and little on QASO monitoring ability.</p>	<p>counterpart/National trainers</p> <p>Interview to district trainers/District planning committee</p> <p>Interview to teachers(trainees)</p> <p>Interview to JICA Experts</p>
<p>Project Management Structure</p>	<p>Overall, project management structure was appropriate, in terms of its management system, decision making process, communication among stakeholders, etc.</p> <p>(+) The Planning Committee Meeting⁷ was held regularly in CEMASTEAs.</p> <p>(+) Joint Coordinating Committee was held regularly between MOE and JICA.</p> <p>(+) The support from JICA HQ and JICA Kenya Office was adequate.</p> <p>(+) The support from MOE and TSC was enough and adequate.</p> <p>(+/-) In the questionnaire survey, 16 answered that the management structure was adequate; whereas 14 answered that sometimes it was inappropriate. Those who chose "inappropriate" mentioned that the selection of trainers to go abroad was not fair. Another respondent mentioned that a communication among TSC, Kenya Institute of Education, and CEMASTEAs should be strengthened.</p> <p>(-) The coordination system in CEMASTEAs with districts is limited in terms of organizational system. For example, (i) there is no person in charge of specific district; (ii) when the inquiry from districts comes to the Director of CEMASTEAs, there is no specific mechanism how to follow them up; (iii) the previous year Monitoring reports are not fully read or understood by those who go to the districts in the following year; and (iv) the evaluation reports written by CEMASTEAs are not fully fed-back to districts.</p>	<p>Project records</p> <p>Questionnaire and Interview to MOE</p> <p>Interview to counterpart/National trainers</p> <p>Interview to district trainers/District planning committee</p> <p>Interview to teachers(trainees)</p> <p>Interview to JICA Experts</p>
<p>Ownership</p>	<p>Ownership was established at MOE and CEMASTEAs, but weak at District INSET Centres.</p> <p>(+) MOE is phrasing "SMASSE" in KESSP.</p> <p>(+) Expenses were distributed appropriately from MoE and Districts in the implementation of the project.</p> <p>(+) Out of 38 C/P respondents, 23 answered that the ownership was totally established in MoE; whereas 13 answered that it was slightly established.</p> <p>(+) Ownership was established at CEMASTEAs. 26 out of 9 C/P respondents answered that it was totally established, and only 9 answered that it was slightly established.</p> <p>(+/-) Although ownership was observed at the District INSET Centres through interview survey, according to the questionnaire survey, only 18 C/P believe that ownership was "fully established" at the District INSET Centres, whereas 14 believe that it was "slightly established".</p>	<p>Personnel/Budgetary Documents</p> <p>Interview to MOE</p> <p>Questionnaire and Interview to counterpart/National trainers</p> <p>Interview to JICA Experts</p>

Evaluation Grid: Strengthening of Mathematics and Science in Secondary Education (SMASSE) in Kenya Phase II
Evaluation: Achievements of the Project and Implementation

<p>Evaluation Items (Overall)</p>	<p>Result of Study and Indicators</p>	<p>Data Source/ Method of Data Collection</p>
<p>Achievements of Overall Goal (Overall goal) Quality of Mathematics and Science Education at secondary level in member</p>	<p>It is difficult to conclude that the practice of ASEI lessons by ASEI lessons by mathematics and science teachers in member countries solely achieve the overall goal.</p> <p>It is difficult to grasp an accurate picture of ASEI conducted in current teacher training institutions in member</p>	<p>SMASSE Project Monitoring and Evaluation reports</p>

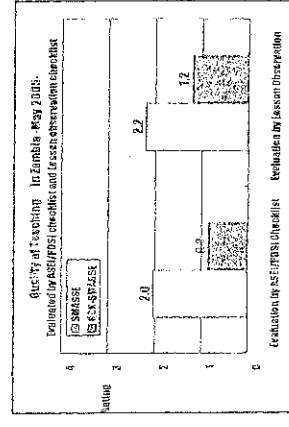
<p>countries is strengthened. (Indicator)</p> <p>Practice of ASEI lessons by mathematics and science teachers in member countries.</p>	<p>countries. In questionnaire survey to the WECSA member countries, Niger, Burkina Faso, Ethiopia, Zambia, and some respondents from Nigeria answered they ASEI is practiced little or not at all. To achieve the goal, the time from the TCTP and other activities are too short and too soon to evaluate. However, there is a positive aspect as well. According to the questionnaire survey to the WECSA member countries, 6 out of 9 respondents answered that teachers practiced ASEI well after TCTP.</p> <p>According to the questionnaire survey to the WECSA member countries trainees/officials, there were several positive responses; (i) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" teachers' capacity; (ii) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" their teachers' methodology; and (iii) 7 out of 8 respondents answered that TCTP "significantly increased" or "slightly increased" student's participation.</p> <p>Another positive aspect is, during the Phase II, new JICA Projects on mathematics and education were kicked off in 6 countries in Sub-Saharan Africa, and are to be examined to start in 3 countries.</p>	<p>- Questionnaire and Interview to counterpart/National Trainers</p> <p>- Interview to JICA Experts</p>
<p>Achievements of Project Purpose</p> <p>(Project Purpose)</p> <p>ASEI/PDSI lessons are practiced in teacher training institutions and secondary schools in member countries.</p> <p>(Indicator)</p> <p>By the end of the project, the results of lesson observation by ASEI/PDSI checklist and lesson observation instrument will obtain a mean of more than 2 on the scale of 0 to 4</p>	<p>In 2007, ASEI/PDSI lessons are partly practiced in teacher training institutions and secondary schools in member countries. However, the mean of the result of lesson observation by ASEI/PDSI checklist did not meet the expected indicator.</p> <p>The results of lesson observation by ASEI/PDSI checklist obtained a mean of 1.9, according to the SMASSE Impact Survey Result in 2007. (Project target Indicator=2.0)</p> <p>The results of lesson observation by lesson observation instrument obtained a mean of 2.1, according to the SMASSE Impact Survey Result in 2007. (PDM target Indicator 2.0)</p> <p>Although one indicator could not meet the expected achievement target, it is observed that participants of TCTP are practicing ASEI lessons in their own countries and the gap between SMASSE and Non-SMASSE teachers, observed by Lesson Observations and ASEI checklist, has been narrowed, which means that ASEI lesson approach can be diffused from participants of SMASSE trainings to Non-SMASSE teachers</p>	<p>- SMASSE Project Monitoring and Evaluation reports</p>
<p>Achievements of Outputs</p> <p>1. Trainers for ASEI/PDSI based INSET will be produced in member countries.</p>	<p>1-1. Regular Third Country Trainings were carried out for five times from 2004 to 2007, and Third Country Trainings for</p>	<p>- SMASSE Project Monitoring and Evaluation reports</p>

Figure 5. ASEI/PDSI Checklist and Lesson Observation Evaluation (2007)



Source: SMASSE Project Monitoring and Evaluation reports (2007)

Figure 6. ASEI/PDSI Checklist and Lesson Observation Evaluation (2005)



Source: SMASSE Project Monitoring and Evaluation reports (2005)

<p>(Indicators)</p> <p>1-1. INSET at the SMASSE INSET Centre is carried out 5 times</p> <p>1-2. At least 300 participants attend the INSET at the SMASSE INSET Centre</p> <p>1-3. At least 40 sets of training materials are produced.</p> <p>1-4. Monitoring and Evaluation tools applicable to member countries are developed and practiced.</p> <p>2. SMASSE National INSET Centre will be consolidated as resource centre for Mathematics and Science in Africa.</p> <p>(Indicators)</p> <p>2-1. ASEI/PDSI prototype lesson plans are developed by the participants from member countries.</p> <p>2-2. At least 10 newsletters are published.</p> <p>3. SMASSE National INSET Centre will function as secretariat of SMASSE-WECSA.</p> <p>3-1. Regional conferences are held at least 4 times.</p> <p>3-2. At least 6 Kenyan Academic Staff at National INSET Centre work for the SMASSE-WECSA secretariat.</p> <p>3-3. At least 30 African countries participate in SMASSE-WECSA.</p>	<p>particular countries were carried out for three times from 2005 to 2007 at CEMASTEIA.</p> <p>1-2. 775⁸ trainees participated in the Third Country Training or Country Focused WECSA Training.</p> <p>Table 13. Number of Participants of Third Country Training (2004-2007)</p> <table border="1"> <thead> <tr> <th></th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Regular Third Country Training</td> <td>42</td> <td>85</td> <td>95</td> <td>164</td> <td>170</td> <td>556</td> </tr> <tr> <td>Other Trainings</td> <td></td> <td></td> <td>219</td> <td></td> <td></td> <td>219</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>775</td> </tr> </tbody> </table> <p>Source: SMASSE Project Monitoring and Evaluation reports (2007)</p> <p>1-3. 40 sets of training materials were produced from 2004 to 2006.</p> <p>1-4. The Monitoring and Evaluation tools applicable to member countries are developed and practiced.</p>		2003	2004	2005	2006	2007	Total	Regular Third Country Training	42	85	95	164	170	556	Other Trainings			219			219	Total						775	<p>SMASSE Project Monitoring and Evaluation reports</p>										
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<p>2. SMASSE National INSET Centre will be consolidated as resource centre for Mathematics and Science in Africa.</p> <p>(Indicators)</p> <p>2-1. 192 ASEI/PDSI prototype lesson plans were developed by the participants from member countries from 2004 to 2006.</p> <p>2-2. No newsletters were published by September 2007.</p>	<p>SMASSE National INSET Centre will be consolidated as resource centre for Mathematics and Science in Africa.</p> <p>2-1. 192 ASEI/PDSI prototype lesson plans were developed by the participants from member countries from 2004 to 2006.</p> <p>2-2. No newsletters were published by September 2007.</p>	<p>SMASSE Project Monitoring and Evaluation reports</p>																																						
<p>3. SMASSE National INSET Centre will function as secretariat of SMASSE-WECSA.</p> <p>3-1. Regional conferences are held at least 4 times.</p> <p>3-2. At least 6 Kenyan Academic Staff at National INSET Centre work for the SMASSE-WECSA secretariat.</p> <p>3-3. At least 30 African countries participate in SMASSE-WECSA.</p>	<p>SMASSE National INSET Centre is functioning as secretariat of SMASSE-WECSA.</p> <p>3-1. 5 Regional Conferences were held from 2003 to 2007.</p> <p>Table 14. Summary of SMASSE-WECSA Conference</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Dates</th> <th>Venue</th> <th>No. of Participants</th> <th>Participating countries</th> </tr> </thead> <tbody> <tr> <td>3rd Regional Conference</td> <td>30th Jun-3rd July</td> <td>Accra, Ghana</td> <td>66</td> <td>18</td> </tr> <tr> <td>4th Regional Conference</td> <td>31st May-4th June</td> <td>Nelspruit, South Africa</td> <td>76</td> <td>21</td> </tr> <tr> <td>5th Regional Conference</td> <td>29th May-3rd June</td> <td>Gitarama, Rwanda</td> <td>60</td> <td>30</td> </tr> <tr> <td>6th Regional Conference</td> <td>29th May-2nd June</td> <td>Mbour, Senegal</td> <td>114</td> <td>32</td> </tr> <tr> <td>7th Regional Conference</td> <td>11th - 15th June</td> <td>Lusaka, Zambia</td> <td>167</td> <td>30</td> </tr> </tbody> </table> <p>Source: SMASSE Project Monitoring and Evaluation reports (2007)</p> <p>3-2. 4 Kenyan Academic Staff at CEMASTEIA work for the SMASSE-WECSA secretariat.</p> <p>Table 15. Kenyan Academic Staff Participating in Project Formulation and Baseline Survey (2007)</p> <table border="1"> <thead> <tr> <th>Country</th> <th>Dates</th> <th>Activity</th> <th>Personnel</th> </tr> </thead> <tbody> <tr> <td>Uganda</td> <td>22/08-16/09/2005</td> <td>INSET Curriculum Development</td> <td></td> </tr> </tbody> </table>	Year	Dates	Venue	No. of Participants	Participating countries	3 rd Regional Conference	30 th Jun-3 rd July	Accra, Ghana	66	18	4 th Regional Conference	31 st May-4 th June	Nelspruit, South Africa	76	21	5 th Regional Conference	29 th May-3 rd June	Gitarama, Rwanda	60	30	6 th Regional Conference	29 th May-2 nd June	Mbour, Senegal	114	32	7 th Regional Conference	11 th - 15 th June	Lusaka, Zambia	167	30	Country	Dates	Activity	Personnel	Uganda	22/08-16/09/2005	INSET Curriculum Development		<p>SMASSE Project Monitoring and Evaluation reports</p>
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Country	Dates	Activity	Personnel																																					
Uganda	22/08-16/09/2005	INSET Curriculum Development																																						

	26/10-29/10/2005	Development of baseline survey instruments and formulation of a PDM	
Nigeria	9/10-3/11/2005	Baseline survey	Mr. Gathambizi, Mrs. Kisaka
Nigeria	8/02-18/02/2006	1 st Ex-ante Evaluation Mission	Mr. Hattori, Mr. Waititu
Niger	6/03-18/03/2006	1 st Ex-ante Evaluation Mission	Mr. Naganuma, Mrs. Lelei
Niger	2/06-11/06/2006	2 nd Ex-ante Evaluation Mission	Mr. Sugiyama, Mrs. Lelei
Nigeria	14/06-24/06/2006	2 nd Ex-ante Evaluation Mission	Mr. Hattori, Mr. Waititu
Malawi	27/08-2/09/2006	Mid-term Evaluation Mission	Mr. Sugiyama
Uganda	18/02-24/02/2007	Mid-term Evaluation Mission	Mr. Sugiyama
Rwanda	24/02-3/03/2007	1 st Ex-ante Evaluation Mission	Mr. Sugiyama, Mrs. Kisaka
Senegal	6/05-13/05/2007	1 st Ex-ante Evaluation Mission	Mr. Sugiyama, Mrs. Kisaka
Burkina Faso	14/05-21/05/2007	1 st Ex-ante Evaluation Mission	Mr. Sugiyama, Mrs. Kisaka
Malawi	3/06-10/06/2007	Terminal Evaluation Mission	Mr. Sugiyama
Zambia	22/07-28/07/2007	Terminal Evaluation Mission	Mr. Naganuma
Senegal	19/08-2/09/2007	2 nd Ex-ante Evaluation Mission	Mrs. Lynette Kisaka
Rwanda	26/08-8/09/2007	2 nd Ex-ante Evaluation Mission	Mrs. Kariuki

Source: SMASSE Project Monitoring and Evaluation reports (2007)

3-3. 33 African countries are participating in SMASSE-WECESA (20 countries/region paid and 13 countries unpaid its membership fee.)

Table 16. Participating Countries in SMASSE-WECESA (2007)

PAID MEMBERS	UNPAID MEMBERS
Botswana, Burundi, Cameroon, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Swaziland, Tanzania, Uganda, Zambia, Zanzibar, Zimbabwe	Benin, Burkina Faso, Congo(Brazzaville), Cote D'Ivoire, Egypt, Gambia, Madagascar, Mali, Mauritius, Nanubia, Seychelles, South Africa, Sudan

Source: SMASSE Project Monitoring and Evaluation reports (2007)

Attainment of Important Assumptions

1. Member countries have or will have plans of developing Mathematics and Science Education at secondary level.
2. Support and understanding are obtained from member countries to SMASSE-WECESA activities sustain.
3. Training for enhancing ASEI/PDSI lesson continues in member countries.
4. Teacher training and INSET based on ASEI/PDSI continue
5. Policy frameworks in member

1. According to responds from member countries, Niger, Burkina Faso, and Zambia have plans of developing Mathematics and Science Education at secondary level. However, the government support on teacher training is not enough, they answered. On the other hand, although Ethiopia and Nigeria do not have policy for strengthening mathematics and science education, the government showed a keen interest on SMASSE.
2. Support and understanding are obtained from member countries to SMASSE-WECESA activities, according to the questionnaire survey to the WECESA member countries.
3. Training for enhancing ASEI/PDSI lesson is likely to be continued in member countries, since it is appreciated in the WECESA member countries.
4. Teacher training and INSET based on ASEI/PDSI is likely to be continued in member countries, since it is appreciated in the WECESA member countries.
5. In all the respondents' countries, policy frameworks in member countries are supportive of mathematics and science education.

- Questionnaire to trainees/education officers of the WECESA member countries
- Questionnaire and Interview to counterpart/National trainers
- Interview to JICA Experts

<p>countries are supportive of Mathematics and Science Education.</p>		
<p>Results of Inputs INPUTS by the Kenya side:</p>	<ol style="list-style-type: none"> Buildings, Offices and other facilities were provided adequately for the project. There are no full-time assigned Kenyan counterpart personnel at CEMASTE A, engaging only in this activity. All training activities are covered by 55 CEMASTE A academic staff. Support personnel at CEMASTE A are not assigned specifically for WECSA. All necessary support is covered by 25 non-academic staff, allocated for the whole activities of CEMASTE A. 	<ul style="list-style-type: none"> - Project Record - SMASSE Monitoring and Evaluation Report - Interview to JICA Experts
<p>2. Japanese side:</p>	<ol style="list-style-type: none"> Training of SMASSE-WECSA Counterpart personnel in Kenya was conducted as it was planned. Long-term Japanese experts were assigned for the whole period of SMASSE. Dispatch of long-term and short-term experts. Long-term Experts <ul style="list-style-type: none"> - Chief Advisor - Academic Advisor - Project Coordinator - Mathematics Education - Monitoring & Evaluation - Science Education Short-term Experts <ul style="list-style-type: none"> - INSET Management - Education Evaluation - Science Education - Mathematics Education (2) - Primary Education Necessary equipment was provided as whole activities for SMASSE. Necessary expenses for TCIP, equivalent to 95 million KES, were input for the implementation of the Project. 	<ul style="list-style-type: none"> - Project Record - SMASSE Monitoring and Evaluation Report
<p>Appropriateness of Implementation Process</p>		
<p>Implementation of Activities</p>	<p>Overall, the activities were appropriately implemented:</p> <p>(+) According to the questionnaire survey to the WECSA member countries trainees/education officers, all respondents answered that they would like to continue all activities in SMASSE-WECSA (TCIP, Conference, and Technical Transfer to the WECSA member countries which start JICA Project).</p> <p>(+) All respondents from CEMASTE A answered that they would like to continue all activities in SMASSE-WECSA (TCIP, Conference, and Technical Transfer to the WECSA member countries which start JICA Project)</p> <p>(+) According to the questionnaire survey to the WECSA member countries trainees/education officers, 9 out of 10 respondents responded that implemented activities were appropriate. One of the respondents answered that "The activities were focused and pupil centred. They make the teaching of lessons more enjoyable." (Zambia, SMASTE JTC Member)</p> <p>(+) Most C/P answered in the questionnaire that the ASEI/PDSI concept and subject contents were relevant for the trainees.</p> <p>(+/-) Many CEMASTE A trainers think it is necessary to conduct a needs assessment survey in participating countries, and to conduct needs-based trainings for various countries.</p> <p>Overall, the technical cooperation method was appropriate.</p>	<ul style="list-style-type: none"> - Questionnaire and Interview to counterpart/National trainers - Questionnaire to trainees/education officers of the WECSA member countries - Interview to JICA Experts
<p>Method of Technical Cooperation</p>		<ul style="list-style-type: none"> - Questionnaire and

	<p>(+) All respondents from WECSA member countries answered that the technical advises/guides given by SMASSE-WECSA were appropriate.</p> <p>(+) MOE welcomed the WECSA activities to disseminate the outcome that Kenya has received from SMASSE.</p> <p>(+) All respondents from CEMASTEAs answered that they would like to continue the activities in SMASSE-WECSA (TCTP, Conference, and Technical Transfer to the WECSA member countries which start JICA Project).</p> <p>(+/-) Many CEMASTEAs trainers think it is necessary to conduct a needs assessment survey in participating countries, and to conduct needs-based trainings for various countries.</p> <p>(+/-) Some CEMASTEAs trainers think it is necessary to sensitize the third country officials more in ASEI/PDSI contents.</p> <p>Overall, the project management structure was appropriate, in terms of its management system, decision making process, communication among stakeholders, etc.</p> <p>(+/-) According to the questionnaire survey to the WECSA member countries trainees/education officers, 5 out of 8 respondents answered that the management structure of WECSA was sometimes inappropriate in terms of communication among stakeholders (3 respondents), decision making process (2 respondents), monitoring system (2 respondents), and organizational structure (2 respondents). One respondent answered that other member countries should be technical experts, since it is a regional assistance.</p> <p>(-) In the questionnaire survey, some CEMASTEAs trainers mentioned that there was delayed response for the program and a lack of prior information about the WECSA member countries curriculum. It was difficult for trainers to teach without any previous knowledge of education in the WECSA member countries.</p> <p>(-) In some countries, criteria for selection of trainees was not fully cleared, the CEMASTEAs trainers commented.</p>	<p>Interview to counterpart/National trainers</p> <ul style="list-style-type: none"> - Questionnaire to trainees/education officers of the WECSA member countries - Interview to JICA Experts - Questionnaire and Interview to counterpart/National trainers - Questionnaire to trainees/education officers of the WECSA member countries - Interview to JICA Experts
Project Management Structure	<p>Ownership was partly established at MOE and CEMASTEAs.</p> <p>(+) All respondents from the WECSA member countries answered that the technical advises/guides given by SMASSE-WECSA were appropriate.</p> <p>(+) According to respondents from member countries answered, Niger, Burkina Faso, and Zambia have plans of developing mathematics and science education at secondary level.</p> <p>(+) Support and understanding are obtained from member countries to SMASSE-WECSA activities, according to the questionnaire survey to the WECSA member countries.</p> <p>(+) In all the respondents' countries, policy frameworks in member countries are supportive of mathematics and science Education.</p> <p>(+) MOE welcomed the WECSA activities to disseminate the outcome that Kenya has received from SMASSE.</p> <p>(+) All respondents from CEMASTEAs answered that they would like to continue the activities in SMASSE-WECSA (TCTP, Conference, and Technical Transfer to the WECSA member countries which start JICA Project).</p> <p>(+) Most C/P answered that the system of INSET at the African Regional level has been established in CEMASTEAs.</p> <p>(-) Some C/P mentioned that not clear policy is mentioned from MOE.</p>	<p>Questionnaire and Interview to counterpart/National trainers</p> <ul style="list-style-type: none"> - Questionnaire to trainees/education officers of the WECSA member countries - Interview to JICA Experts
Ownership		<p>Questionnaire and Interview to counterpart/National trainers</p> <ul style="list-style-type: none"> - Questionnaire to trainees/education officers of the WECSA member countries - Interview to JICA Experts

ANNEX 1-2. Evaluation Grid: Strengthening of Mathematics and Science in Secondary Education (SMASSE) in Kenya Phase II

Evaluation Questions: Relevance

Evaluation Items	Evaluation Result	Findings of the Study
<p>Relevance to the government policies</p>	<p>(Kenya and WECSA) Relevant</p>	<p>(Kenya) Overall goal and Project goal are relevant to the national policy of Government of Kenya (GoK). (+) In Economic Recovery Strategy (ERS), education is stated as one of four pillars. (+) In the shorter (popular) version of ERS, GoK states its commitment to conducting in-service training for teachers annually. (+) In Vision 2030, the document that aims at making the country a globally competitive and prosperous nation with a high quality of life by 2030, education is one of the key social pillars to achieve the objectives. In addition, it include a diagnostic view in quality and access of education; key issues ranging from inclusion, availability, learning processes and outcomes, and participation. Science, Technology and Innovation in education is envisaged as one avenue to achieve this status. (+) In Sessional Paper No. 1 of 2005, on Policy Framework for Education, Training and Research, the Ministry of Education observes that secondary education is characterised by poor performance in national examinations especially in core subjects such as mathematics and sciences. It also indicates that poor performance is observed as teacher shortages and inadequacies in pre-service training. (+) As a strategy to implement the policy on mathematics and science teacher training programme, the Ministry stated that it will in-service teachers to improve the teaching of these subjects. The mandate of the In-servicing has been granted to Centre for Mathematics, Science and Technology Education in Africa (CEMASTEIA). (+) In the Kenya Education Sector Support programme (KESSP), 2005-2010, in-service and teacher education is listed as one of these investment programmes. (WECSA) Overall goal and Project goal are relevant to the regional policy of Sub-Sahara Africa. (+) SMASSE-WECSA was approached by NEPAD in August 2004, to become NEPAD's flagship project in mathematics and science. (+) ADEA has given SMASSE-WECSA a Working Group on Mathematics and Science Education in Sub-Sahara Africa. (+) SACMEQ has joined ADEA and NEPAD by signing an MOU with SMASSE-WECSA on impact monitoring. (+) MOE in Kenya is willing to improve quality of teachers in Africa and supportive to disseminate the lessons learned in SMASSE Kenya.</p>
<p>Relevance to the Japanese ODA policies</p>	<p>(Kenya and WECSA) Relevant</p>	<p>(Kenya) Overall goal and Project goal was relevant to Japanese ODA policies. (+) In Medium-Term Policy on Official Development Assistance, there is a statement: "Japan will make efforts to ensure that assistance for basic education contributes to the improvement of vocational training and worker capacities in response to local needs and conditions." (+) BEGIN, a Japanese ODA Education initiative, "Basic Education for Growth Initiative" (2002) supports (i) technical cooperation in mathematics and science education and (ii) programs for quality of education. (+) In Assistance Program for Republic of Kenya (2000), Human Resource Development is the first priority in the aid guideline. (+) In JICA's Assistance Plan for Kenya (2006), (1) human resource development to contributes to economic growth and poverty reduction, and (2) enrichment of basic education. (WECSA) Overall goal and Project goal was relevant to Japanese ODA policies. (+) BEGIN states to promote a regional cooperation and an intention to participate in ADEA.</p>

<p>Relevance to the needs of target groups</p>	<p>(Kenya and WECSA) Relevant</p>	<p>(Kenya) Overall goal and Project goal was relevant to the needs of target groups: mathematics and science teachers in secondary schools. (+) MoE is in challenge of improving quality of teachers in mathematics and science subjects. There is no other in-service training in Kenya, both for primary and secondary education. (+) From the interview survey, Districts Education Officers reported that the mathematics and science were subjects with lowest scores in KCSE results. They are satisfied with the project aims to strengthen secondary school teachers in mathematics and science. (WECSA) Overall goal and Project goal was relevant to the WECSA member countries. (+) According to respondents from member countries answered, Niger, Burkina Faso, and Zambia have plans of developing mathematics and science education at secondary level. However, the government support on teacher training is not enough, they answered. (+) In all the respondents' countries, policy frameworks in member countries are supportive of mathematics and science education. (+) All 11 questionnaire respondents from the WECSA member countries answered that training in mathematics and science subject was necessary and needed indeed in their countries.</p>
<p>Relevance of the Program Approach in the Education Assistance in Kenya</p>	<p>(Kenya and WECSA) Relevant</p>	<p>(Kenya) The program approach was relevant in the education assistance in Kenya. (+) In the Kenya Education Sector Support programme (KESP), 2005-2010, in-service and teacher education is listed as one of these investment programmes. (+) World Bank, DfID, and UNICEF are the pool funding donors for the KESP. From the interview survey to a DfID official, SMASSE is relevant to its focused approach in teacher education, and mathematics and science subject. (+) JICA's challenge to target all the national teachers in secondary education is welcomed by both donors and MoE. (WECSA) The program approach was relevant in the education assistance in the WECSA member countries. (+) In all the respondents' countries, policy frameworks in member countries are supportive of mathematics and science education. (+/-) Some questionnaire respondents from the WECSA member countries answered that they want to have similar programs for other subjects, such as social science and language.</p>

Evaluation Questions: Effectiveness

<p>Evaluation Items (Overall)</p> <p>General Achievements of Project Purpose (Kenya) Quality of Mathematics and Science education at secondary level strengthened in Kenya.</p>	<p>Evaluation Result</p> <p>(Kenya) Achieved</p>	<p>Findings of the Study</p> <p>(Kenya) Quality of mathematics and science education at secondary level was strengthened in Kenya. (+) In 2007, Lesson innovation index achieved a mean of 3.5 (PDM target Indicator 3.0) in 5 point scale from 0 to 4. (PDM target Indicator 3.0) (+) In 2007, the result of lesson observation by ASEI/PDSI checklist was 2.3 (PDM target Indicator 2.0). (+) In 2007, the result of Lesson Observation Instrument 2.4 (PDM target Indicator 2.0). (+) In 2007, the result of assessment on the student participation in lesson was 2.5. It was increased from 2.0, observed in 2003/04. (+) According to the interview survey, DEO, district trainers, QASO, principals, and teachers' teaching skill in mathematics and science has been strengthened through the INSET. Teachers introduced more practices and experiments in the lesson, students started to participate more, and discussion among students was enhanced. In some schools, students attitude has been changed and enrolment of</p>
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<p>(WECSA) ASEI/PDSI lessons practiced in teacher training institutions and secondary schools in member countries.</p>	<p>(WECSA) There is a possibility to achieve.</p>	<p>Physics is improving compared to other optional subjects.</p> <p>(WECSA) Although one indicator could not meet the expected achievement target, it is observed that participants of TCTP are practicing ASEI lessons in their own countries and the gap between SMASSE and Non-SMASSE teachers, observed by Lesson Observations and ASEI checklist, has been narrowed, which means that ASEI lesson approach can be diffused from participants of SMASSE trainings to Non-SMASSE teachers.</p> <p>(+) The results of lesson observation by lesson observation instrument obtained a mean of 2.1, according to the SMASSE Impact Survey Result in 2007. (PDM target Indicator 2.0)</p> <p>(-) The results of lesson observation by ASEI/PDSI checklist obtained a mean of 1.9, according to the SMASSE Impact Survey Result in 2007. (PDM target Indicator 2.0)</p> <p>(Kenya) (Output 1)</p> <p>A system of training for the District trainers in mathematics and sciences are strengthened at the National INSET Centre.</p> <p>(+) As of July 2007, the number of Academic staff is 55 (increased from 54 in 2005), and the number of Non-academic staff is 25 (increased from 14 in 2005).</p> <p>(+) (1) 4 times trainings (Cycle 1-4) were conducted at the National Centre and (2) 1,139 District Trainers were trained in CEMASTE.A</p> <p>(+) In 2007, Cycle 4 of the National INSET, CEMASTE.A obtained a mean of 3.65 in the Quality of INSET Assessment Index (PDM target Indicator 3.0).</p> <p>(+) 40 sets of training manuals were printed (PDM target Indicator 14 titles)</p> <p>(+) According to the questionnaire survey of the C/P; 30 out of 37 answered that the District Trainers in mathematics and sciences were significantly strengthened at CEMASTE.A.</p>
<p>General Achievements of Output 1</p> <p>(Kenya) A system of training for the District trainers in Mathematics and Sciences are strengthened at the National INSET Centre.</p>	<p>(Kenya) Achieved.</p>	<p>(WECSA) (Output 1)</p> <p>Trainers for ASEI/PDSI based INSET are produced in member countries.</p> <p>(+) Regular Third Country Trainings were carried out for five times from 2004 to 2007, and Third Country Trainings for particular countries were carried out for three times from 2005 to 2007 at CEMASTE.A</p> <p>(+) 775¹ trainees participated in the Third Country Training or Country Focused WECSA Training.</p> <p>(+) 40 sets of training materials were developed. (PDM target Indicator 40 sets)</p> <p>(+) Monitoring and Evaluation tools applicable to member countries were developed and practiced.</p> <p>(Kenya) (Output 2)</p> <p>A system of INSET in mathematics and sciences is established in the Districts.</p>
<p>General Achievement of Output 2</p> <p>(Kenya) A system of INSET in Mathematics and Sciences is established in the Districts.</p>	<p>(Kenya) Mostly achieved, but the number of teachers participating in District INSET is decreasing and Capacity building index evaluated by</p>	<p>(+) 1381 District Trainers and 508 administrative personnel (115 for phase I and 393 for phase II) are working in the project</p> <p>(+) The mean of District INSET Assessment Index was 3.3, over the expected indicator of 2.5.</p> <p>(+/-) Basically, 4 times INSETs were carried out in the districts² and trained 14,581 teachers³ (2,350 for phase I and 12,231 for phase II). (See Figure 5)</p> <p>(+) There are three kinds of stakeholder trainings: principal training, DEO training, and QASO training. Besides, District Planning</p>

1 Including number of participants to be trained in October-November 2007.

2 The numbers of trainings conducted were 88(2004), 93 (2005), 93 (2006), and 100 (2007), respectively. Not all centers conducted 4 times trainings.

3 The number of teachers trained in the district were 16,362 (2004), 16,251 (2005), 14,690 (2006), and 14,581 (2007) respectively. The team assumes that the number of teachers trained for 4 times are equivalent to the number of year 2007, which is 14,581.

<p>(WECSA) SMASSE National INSET Centre is consolidated as a resource centre for Mathematics and Science in Africa.</p>	<p>M&ETF is less than 3.0.</p> <p>(WECSA) Achieved.</p>	<p>Committee is functioning well. Consequently, management system of District INSET is established as it was planned.</p> <p>(-) Average of General ability of District Trainer and Quality of facilitation in 2007 were 2.6 and 2.7, respectively. Therefore, the output has been "achieving". However, there is a significant improvement from the same indicators observed in 2004 (2.1 for both General ability of District Trainer and Quality of facilitator). Therefore, it is likely to be improved in near future. In addition, since CEMASTEAs checks write-ups of the District INSET, there is a support system from CEMASTEAs to District trainers, in the "Plan" and "Do" stages. On the other hand, a technical input or feedback system from CEMASTEAs to District trainers in the "See", and "Improve" are rather weak for the future development of District INSET.</p> <p>(-) There is a limited capacity on QASO, in terms of monitoring and quality assurance in ASEI/PDSI. Therefore, capacity of QASO needs to be strengthened to monitor ASEI/PDSI lessons regularly, with a certain quality, even without National trainers' accompany.</p> <p>(-) Conflicting schedule trainings should be coordinated by MoE and District Education Office.</p> <p>(WECSA) (Output 2) SMASSE National INSET Centre will be consolidated as a resource centre for mathematics and science in Africa.</p> <p>(+) 88 ASEI/PDSI prototype lesson plans were developed by the participants from member countries from 2004 to 2006.</p> <p>(+) 18 newsletters were published by September 2007.</p>
<p>(WECSA) General Achievement of Output 3 (Kenya) The role of SMASSE National INSET Centre and District INSET Centres is strengthened as resource.</p>	<p>(Kenya) National INSET: Achieved. District INSET Centre: Achieving.</p>	<p>(Kenya) (Output 3) The role of SMASSE National INSET Centre and District INSET Centres is strengthened as resource.</p> <p>(+) 18 newsletters were published by September 2007. (more than 10)</p> <p>(+) There is a positive perspective for District INSET Centres to be resource centre of the districts. In some centres, science equipment is rented to another school, and there are teachers and students who come to visit the centre to see their lessons. Therefore, once the capacity of districts is built, it would be regarded as resource centres.</p> <p>(+) Out of 37 C/P, 18 answered that a role of CEMASTEAs and District INSET Centres was "significantly strengthened" as resource centres of Kenya, respectively. The number of respondents who answered "slightly strengthened" was 19.</p> <p>(-) Basically, the districts prepared and produced INSET-training materials in all trainings. According to the interviews from C/P, Japanese Experts, and District trainers, even though some districts developed their own original materials on new topics, their capacity to develop original training materials is limited.</p> <p>(-) Average of General ability of District Trainer and Quality of facilitator in 2007 appeared to be "attaining".</p>
<p>(WECSA) SMASSE National INSET Centre functions as secretariat of SMASSE-WECSA.</p>	<p>(WECSA) Mostly achieved. (except # of academic staff)</p>	<p>(WECSA) (Output 3) SMASSE National INSET Centre functions as secretariat of SMASSE-WECSA.</p> <p>(+) 5 Regional conferences have been held between 2003 and 2007.</p> <p>(+) 33 African countries are participating in SMASSE-WECSA (20 countries paid and 13 countries unpaid its membership fee.)</p> <p>(-) No counterpart is engaging for WECSA activities specifically, but all the activities are covered by Kenyan Academic Staff at CEMASTEAs.</p>
<p>Contributing factors for the achievements of the Project Purpose:</p>	<p>(Kenya) (-) Intensive syllabus, insufficient incentives for District Trainers and M&E of District INSET are challenging factors.</p>	<p>(Kenya) (+) The Education Policy of Kenya supported the project. The ownership is strong in terms of its implementation commitment and financial commitment.</p> <p>(-) In the questionnaire survey, some C/P answered that many teachers are under pressure to complete their syllabus, or to "drill" students for examinations. Similarly, some C/P answered that surrounding environment of teachers cannot always practice ASEI/PDSI in their classrooms nor make a lesson plan.</p> <p>(-) No certificate of the status as a District Trainer is given by MoE.</p> <p>(-) Feedbacks of M&E to DPC and District Trainers should be strengthened.</p>

<p>(WECSA) No Negative Factors.</p>	<p>(WECSA) (+/-) According to respondents from member countries answered, Niger, Burkina Faso, and Zambia have plans of developing mathematics and science education at secondary level. However, the government support on teacher training is not enough, they answered. On the other hand, although Ethiopia and Nigeria do not have policy for strengthening mathematics and science education, the government showed a keen interest on SMASSE. (+) Support and understanding are obtained from member countries to SMASSE-WECSA activities, according to the questionnaire survey to the WECSA member countries. (+) MoE welcomed the WECSA activities to disseminate the outcome that Kenya has received from SMASSE. (+) CEMASTEAs counterpart has a strong commitment and willingness to continue the activities in SMASSE-WECSA. (TCTP, Conference, and Technical Transfer to the WECSA member countries which start JICA Project)</p>
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Evaluation Questions: Efficiency

Evaluation Items	Evaluation Result	Findings of the Study
<p>Input by Japan - Expert - Equipment - Trainings in Japan - Trainings in Third Countries - Expenses</p>	<p>Experts (Kenya) (WECSA) Appropriate</p>	<p>(Kenya) (WECSA) Japanese Experts (long-term and short-term) were dispatched appropriately in terms of (1) Number dispatched, (2) Period dispatched, and (3) Expertises. (+) Appropriate number of Japanese long-term and short-term experts with relevant expertise has been dispatched in a timely manner. (+) In the questionnaire survey, 30 out of 36 answered either "appropriate" or "mostly appropriate" for the long-term experts. (+) In the questionnaire survey, 28 out of 36 answered either "appropriate" or "mostly appropriate" for the short-term experts. (+/-) Some C/P who answered "inappropriate" requested to dispatch a Mathematics Expert, Physics Expert, Educational specialist, and Teaching & learning Expert. However, in terms of efficiency of the project, the Evaluation Team concludes that the input was adequate. (+/-) Most C/P who answered "inappropriate" would like to work much longer period with the short-term experts. However, in terms of efficiency of the project, the Evaluation Team concludes that the input was adequate. (Kenya) (WECSA) Equipment was provided appropriately in terms of (1) specification, (2) volume, and (3) period. (+) Most machines and equipment have been procured locally and provided in a timely manner. (+) In the questionnaire survey, 30 out of 35 answered either "appropriate" or "mostly appropriate". (-) In few District INSET Centres, DEO reported a problem in maintenance of equipment provided by the Project. Even though the maintenance is the responsibility of the District Planning Committee, some districts do not fully understand it. <u>The guideline of the maintenance should be reconfirmed.</u> (Kenya) (WECSA) Counterpart trainings of Kenyan counterpart personnel in Japan was appropriate in terms of (1) number, (2) requirement, (3) contents, (4) period, and (5) timing accepted.</p>
<p>Counterpart Trainings (Kenya) (WECSA) Appropriate</p>	<p>Counterpart Trainings (Kenya) (WECSA) Appropriate</p>	<p>(+) In the questionnaire survey, 23 out of 29 answered either "appropriate" or "mostly appropriate" for the counterpart training in Japan. (+) Japanese experts also reported that all the trainings were effective to improve the capacity of counterpart members.</p>

<p>Third Country Trainings (Kenya) (WECSA) Appropriate</p>	<p>(Kenya) (WECSA) Third Country trainings of Kenyan counterpart personnel were appropriate in terms of (1) number, (2) requirement, (3) contents, (4) period, and (5) timing accepted.</p> <p>(+) In the questionnaire survey, 23 out of 28 answered either "appropriate" or "mostly appropriate" for the third country trainings. (+) All Japanese experts also reported that all the trainings were effective to improve the capacity of counterpart members.</p> <p>(Kenya) (WECSA) Expenses by Japan for the implementation of the Project were appropriate in terms of its volume.</p> <p>(+) In the questionnaire survey, 27 out of 31 answered either "appropriate" or "mostly appropriate" for expenses covered by JICA.</p> <p>(Kenya) (WECSA) Counterpart members were adequate in terms of (1) Number, (2) quality, and (3) timing assigned. (+/-) No. of Academic staff 55 are allocated in the National INSET Centre (increased from 54). It is preferable, however, to be 60, to achieve the Strategic Plan of CEMASTE A (2007-2013). (See Table 3). (+/-) No. of Non-academic staff is 25 (increased from 14) in 2007. It is preferable, however, to be 62, to achieve the Strategic Plan of CEMASTE A (2007-2013). In fact, 20 out of 35 C/P respondents answered that the current non-academic staff is "inappropriate" in terms of its number and skill. However, JICA Experts suggest that if a survey to assess the efficiency of "out-sourcing" the restaurant, accommodation, and security management concludes it is better to "out-source" them, CEMASTE A should do so and the number would not necessarily be 62 non-academic staff.</p> <p>(Kenya) (WECSA) Expenses for the implementation of the Project were appropriate in terms of its volume. (+) In the questionnaire survey, 24 out of 30 answered either "appropriate" or "mostly appropriate" for expenses covered by MoE. (+/-) Some Japanese experts mentioned that some expenses can be more efficient. (-) Some C/P answered that there is a limitation on collecting SMASSE Fund in districts from poor parents.</p> <p>(Kenya) (WECSA) Buildings, Offices and other facilities necessary for the project members were provided appropriately in terms of (1) quality, (2) volume/scale, and (3) convenience. (+) All Japanese experts reported that the buildings, offices and facilities were provided from Kenyan side without any problems.</p> <p>(Kenya) (+) Commitment of MOE is high. CEMASTE A receives 40 million KES from GOK for its operation cost. (+/-) Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs. (+/-) Since 2004, 2 directors of National INSET Centre were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI⁴, KNEC⁵, School-based degree programmes, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>
<p>Expenses (Kenya) (WECSA) Appropriate</p>	<p>(Kenya) (WECSA) Expenses by Japan for the implementation of the Project were appropriate in terms of its volume.</p> <p>(+) In the questionnaire survey, 27 out of 31 answered either "appropriate" or "mostly appropriate" for expenses covered by JICA.</p> <p>(Kenya) (WECSA) Counterpart members were adequate in terms of (1) Number, (2) quality, and (3) timing assigned. (+/-) No. of Academic staff 55 are allocated in the National INSET Centre (increased from 54). It is preferable, however, to be 60, to achieve the Strategic Plan of CEMASTE A (2007-2013). (See Table 3). (+/-) No. of Non-academic staff is 25 (increased from 14) in 2007. It is preferable, however, to be 62, to achieve the Strategic Plan of CEMASTE A (2007-2013). In fact, 20 out of 35 C/P respondents answered that the current non-academic staff is "inappropriate" in terms of its number and skill. However, JICA Experts suggest that if a survey to assess the efficiency of "out-sourcing" the restaurant, accommodation, and security management concludes it is better to "out-source" them, CEMASTE A should do so and the number would not necessarily be 62 non-academic staff.</p> <p>(Kenya) (WECSA) Expenses for the implementation of the Project were appropriate in terms of its volume. (+) In the questionnaire survey, 24 out of 30 answered either "appropriate" or "mostly appropriate" for expenses covered by MoE. (+/-) Some Japanese experts mentioned that some expenses can be more efficient. (-) Some C/P answered that there is a limitation on collecting SMASSE Fund in districts from poor parents.</p> <p>(Kenya) (WECSA) Buildings, Offices and other facilities necessary for the project members were provided appropriately in terms of (1) quality, (2) volume/scale, and (3) convenience. (+) All Japanese experts reported that the buildings, offices and facilities were provided from Kenyan side without any problems.</p> <p>(Kenya) (+) Commitment of MOE is high. CEMASTE A receives 40 million KES from GOK for its operation cost. (+/-) Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs. (+/-) Since 2004, 2 directors of National INSET Centre were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI⁴, KNEC⁵, School-based degree programmes, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>
<p>Counterpart (Kenya) (WECSA) Appropriate but need to be followed by the CEMASTE A Strategic Plan (2007)</p>	<p>(Kenya) (WECSA) Counterpart members were adequate in terms of (1) Number, (2) quality, and (3) timing assigned. (+/-) No. of Academic staff 55 are allocated in the National INSET Centre (increased from 54). It is preferable, however, to be 60, to achieve the Strategic Plan of CEMASTE A (2007-2013). (See Table 3). (+/-) No. of Non-academic staff is 25 (increased from 14) in 2007. It is preferable, however, to be 62, to achieve the Strategic Plan of CEMASTE A (2007-2013). In fact, 20 out of 35 C/P respondents answered that the current non-academic staff is "inappropriate" in terms of its number and skill. However, JICA Experts suggest that if a survey to assess the efficiency of "out-sourcing" the restaurant, accommodation, and security management concludes it is better to "out-source" them, CEMASTE A should do so and the number would not necessarily be 62 non-academic staff.</p> <p>(Kenya) (WECSA) Expenses for the implementation of the Project were appropriate in terms of its volume. (+) In the questionnaire survey, 24 out of 30 answered either "appropriate" or "mostly appropriate" for expenses covered by MoE. (+/-) Some Japanese experts mentioned that some expenses can be more efficient. (-) Some C/P answered that there is a limitation on collecting SMASSE Fund in districts from poor parents.</p> <p>(Kenya) (WECSA) Buildings, Offices and other facilities necessary for the project members were provided appropriately in terms of (1) quality, (2) volume/scale, and (3) convenience. (+) All Japanese experts reported that the buildings, offices and facilities were provided from Kenyan side without any problems.</p> <p>(Kenya) (+) Commitment of MOE is high. CEMASTE A receives 40 million KES from GOK for its operation cost. (+/-) Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs. (+/-) Since 2004, 2 directors of National INSET Centre were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI⁴, KNEC⁵, School-based degree programmes, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>
<p>Expenses (Kenya) (WECSA) Mostly appropriate</p>	<p>(Kenya) (WECSA) Expenses for the implementation of the Project were appropriate in terms of its volume. (+) In the questionnaire survey, 24 out of 30 answered either "appropriate" or "mostly appropriate" for expenses covered by MoE. (+/-) Some Japanese experts mentioned that some expenses can be more efficient. (-) Some C/P answered that there is a limitation on collecting SMASSE Fund in districts from poor parents.</p> <p>(Kenya) (WECSA) Buildings, Offices and other facilities necessary for the project members were provided appropriately in terms of (1) quality, (2) volume/scale, and (3) convenience. (+) All Japanese experts reported that the buildings, offices and facilities were provided from Kenyan side without any problems.</p> <p>(Kenya) (+) Commitment of MOE is high. CEMASTE A receives 40 million KES from GOK for its operation cost. (+/-) Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs. (+/-) Since 2004, 2 directors of National INSET Centre were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI⁴, KNEC⁵, School-based degree programmes, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>
<p>Buildings, Offices and other facilities (Kenya) (WECSA) Appropriate</p>	<p>(Kenya) (WECSA) Buildings, Offices and other facilities necessary for the project members were provided appropriately in terms of (1) quality, (2) volume/scale, and (3) convenience. (+) All Japanese experts reported that the buildings, offices and facilities were provided from Kenyan side without any problems.</p> <p>(Kenya) (+) Commitment of MOE is high. CEMASTE A receives 40 million KES from GOK for its operation cost. (+/-) Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs. (+/-) Since 2004, 2 directors of National INSET Centre were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI⁴, KNEC⁵, School-based degree programmes, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>
<p>Contributing factors for the achievements Outputs</p>	<p>(Kenya) (+) Commitment of MOE is high. CEMASTE A receives 40 million KES from GOK for its operation cost. (+/-) Even though there was a strike or resistance for not receiving incentives in both National INSET and District INSET, C/P and district stakeholders are optimistic to receive them back to the training, since there are attracted in the contents of the INSETs. (+/-) Since 2004, 2 directors of National INSET Centre were changed. The effect on the project activities, though, was limited. Even though some counterparts at National INSET Centre and key trainers in the Districts are reassigned, there is no negative effect to the project. (-) According to C/P questionnaires and interviews from C/P and districts, 52% of C/P answered that there were other programs affected teachers' participation. Namely, KESI⁴, KNEC⁵, School-based degree programmes, Holiday tuition programs, Mock Exam, etc. Since teachers prefer to attend the other programs, it is preferable to avoid the conflicting schedule.</p>

⁴ Kenya Education Staff Institute (university training program)

⁵ Kenya National Exam Council Training

	(WECSA) No Negative factors	(WECSA) (+) All activities are appropriate, according to the questionnaire survey from WECSA member countries and C/P. (+) Support and understanding are obtained from member countries to SMASSE-WECSA activities, according to the questionnaire survey to the WECSA member countries. (+) Training for enhancing ASEI/PDSI lesson is likely to be continued in member countries, since it is appreciated in the WECSA member countries. (+) Teacher training and INSET based on ASEI/PDSI is likely to be continued in member countries, since it is appreciated in the WECSA member countries.
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Evaluation Questions: Impact

Evaluation Items	Evaluation Result	Findings of the Study
Appropriateness of achievements of Project Purpose for contributing to the Overall goal	(Kenya) (WECSA) Overall goal is appropriate, but the indicator of the goal is rather difficult to measure the overall goal.	(Kenya) (+/-) The overall goal requires the further definition on "capability" or "upgraded", however, the majority of CEMASTEAs staffs share the consensus that the Project aims to the development of the critical and logical thinking of students and the results of KCSE are not sole relevant indicator for the overall goal. Further study is necessary to find any significant correlation between INSET programs and SPIAS results. (+/-) It is difficult to achieve the goal in a short/medium period.
Achievement of Overall Goal	(Kenya) There is a possibility to achieve. (WECSA) There is a possibility to achieve.	(WECSA) (+/-) It is difficult to conclude that the practice of ASEI lessons only by those trainees of TCTP in WECSA member countries could achieve the Overall Goal. (+/-) It is difficult to grasp an accurate picture of ASEI practiced in current teacher training institution in member countries. In questionnaire survey to the WECSA member countries, Niger, Burkina Faso, Ethiopia, Zambia, and some respondents from Nigeria answered they ASEI is practiced little or not at all. To achieve the goal, the time from the TCTP and other activities are too short and too soon to evaluate.
	(Kenya) There is an increase in enrollment of Physics, an optional subject.	(Kenya) (+/-) According to trends of mean scores of SPIAS, there has not been observed a significant improvement. (+/-) In Chemistry and Physics, there is an improvement in "High Order", one of the five cognitive domains in SPIAS: preconception, information, understanding, application, and high-order. There are some influences that affect the improvement in "High Order"
	(WECSA) Number of countries showing interest to join SMASSE-WECSA Association is increasing.	(WECSA) (+) There is an increase in enrollment of Physics, an optional subject. (+) Number of countries showing interest to join SMASSE-WECSA Association is increasing.
	(WECSA) According to the questionnaire survey to the WECSA member countries, 6 out of 9 respondents answered that teachers practiced ASEI well after TCTP.	(WECSA) (+) According to the questionnaire survey to the WECSA member countries, 6 out of 9 respondents answered that teachers practiced ASEI well after TCTP.
	(WECSA) According to the questionnaire survey to the WECSA member countries/trainees/officials, there were several positive responses; (i) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" teachers' capacity; (ii) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" their teachers' methodology; and (iii) 6 out of 8 respondents answered that TCTP "slightly increased" student's participation.	(WECSA) (+) According to the questionnaire survey to the WECSA member countries/trainees/officials, there were several positive responses; (i) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" teachers' capacity; (ii) 9 out of 10 respondents answered that TCTP "significantly improved" or "slightly improved" their teachers' methodology; and (iii) 6 out of 8 respondents answered that TCTP "slightly increased" student's participation.
	(WECSA) Regional Conferences and other technical exchange activities have contributed to sensitize those high ranking officials of	(WECSA) (+) WECSA Regional Conferences and other technical exchange activities have contributed to sensitize those high ranking officials of

<p>Pre-conditions contributed the achievements of the Overall goal</p>	<p>(Kenya) No assumptions negatively affected the Overall goal except conflicting training programs. (WECESA) No assumptions negatively affected the Overall goal</p>	<p>WECESA member countries on the importance of INSET. (+) During the Phase II, new JICA Projects on mathematics and science education were started in 6 countries in Sub-Saharan Africa, and are to be started in 3 more countries. (Kenya) (+) No pre-conditions negatively affected to the overall goal, except conflicting training (described below). (-) In some districts, there are conflicting trainings going on during the period of District INSETs. (WECESA) (+) No pre-conditions negatively affected to the overall goal.</p>
<p>Other effects from the Project</p>	<p>(Kenya) (WECESA) Positive effects were observed from the Project.</p>	<p>(Kenya) Expected impact (+) The ownership of MoE has been enhanced by targeting all districts in Kenya. (+) INSET was incorporated as one of the important policies, in the Sessional Paper No. 1 of 2005, on Policy Framework for Education. (+) Participation in INSET became a mandate for all the national teachers. (+) Attitude has been changed even on non-mathematics and science teachers. (+) By targeting all districts in Kenya, the project approach is admitted by both donors and MoE, to complement the budgetary support program. (+) Even in the pilot districts in Phase I, the 5th District INSET was conducted. (+) By conducting a training for PTTC tutors, PTTC officials reported that ASEI/PDSI approach can be applicable even in primary education. Unexpected impact (+) Since the issue of non-paying incentives became a social topic in media, the project activity accidentally has been known to Kenyan society. (+) School management has been improved through principal training, conducted by the project. (+) Other education institutions started INSET based on ASEI/PDSI contents. (+) In a district, HJV/AIDs session was introduced in the District INSETs, which was not included in the National INSETs. (+) There was a positive change on non-secondary level of education system (WECESA) Expected impact (+) There is an increase in number of membership countries. (+) JICA Experts have been engaged to WECESA countries to promote technical cooperation in SMASE-WECESA. (+) Capacity has been built among C/P in CEMASTE.A. (+) Many officials in Ministry of Education in WECESA countries visited Kenya and were sensitized for SMASSE project and ASEI/PDSI. (+) It will be possible to utilize the trainers from the WECESA countries, not only utilizing from Kenya. Unexpected impact</p>

<p>(+) Coordination between NEPAD and AU will be strengthened. (+) ASEI/PDSI attracted even people in Arab region and Latin America region.</p>	
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Evaluation Questions: Sustainability

Evaluation Items	Evaluation Result	Findings of the Study
<p>Direction of Education Policy in the Education System in Kenya and WECSA (Policy Support)</p>	<p>(Kenya) Relatively high for CEMASTEAs, but fairly high for District INSET Centres. (WECSA) High.</p>	<p>(Kenya) (+) CEMASTEAs is positioned in the Teacher Education System of Kenya, in the Sessional Paper No. 1 of 2005, on Policy Framework for Education, Training and Research, the Ministry of Education. The result of questionnaire survey supports this fact. 79% of C/P respondents answered that CEMASTEAs will be positioned in the teacher education system in Kenya. (+) MoE has a strong commitment and ownership on continuing support and funding for activities of CEMASTEAs. (+/-) District INSET Centres are not recognized by the governmental document as INSET centres. (WECSA) (+) According to the questionnaire respondents from the WECSA member countries, 9 out of 10 answered that CEMASTEAs is positioned as a regional INSET centre for the SMASE-WECSA member countries.</p>
<p>Capacity of Management in terms of sustainability (Management System)</p>	<p>(Kenya) Fairly high, but need to be strengthened. (WECSA) Low, but current system is remained.</p>	<p>(Kenya) (+) CEMASTEAs has drafted the CEMASTEAs Strategic Plan (2007-2013). It describes future (planned) activities plan and management system of CEMASTEAs. (+) According to the questionnaire survey, 57% of C/P believe that CEMASTEAs has a management capacity to continue activities. (+) The administrative personnel will be increased according to the organization chart written in the CEMASTEAs Strategic Plan. (+) The organization by subject department is working well, according to the interview and questionnaire survey from C/P. (+) The regular meeting conducted among the Planning Committee members. (+/-) The performance based personnel system is not yet implemented in CEMASTEAs. (WECSA) (+/-) Most logistics are handled by mainly JICA Experts in the SMASE-WECSA Secretariat. Although some C/P responded that there should be a separate office/functioning unit to manage the activities, the management capacity to continue activities is adequate, according to JICA Experts.</p>
<p>Financial Capacity in terms of sustainability (Financial Capacity)</p>	<p>(Kenya) Fairly high, but need to be practical.</p>	<p>(Kenya) (+) MoE has a strong commitment to continue funding to CEMASTEAs activities, however, it needs to increase the running cost of CEMASTEAs to implement its Strategic Plan. (+) CEMASTEAs is positioned in the Teacher Education System of Kenya, in the Sessional Paper No. 1 of 2005, on Policy Framework for Education, Training and Research, the Ministry of Education. (+) There is a financial plan in the CEMASTEAs Strategic Plan (2007-2013). It describes future (planned) financial plan and strategy to continue training activities in CEMASTEAs. (+) The financial system in District INSET is already established by SMASSE Fund. (-) In CEMASTEAs, there is a limited finance capacity in terms of (i) detail and practical budgeting, and (ii) efficient expenditure to implement its Strategic Plan. (-) In some districts, there is a difficulty to collect SMASSE Fund from secondary schools, especially from poverty area and private</p>

		schools. (WECSA) (-) Both CEMASTEAs and WECSA member countries cannot finance for WECSA activities. (Kenya) (+) National trainers in CEMASTEAs have a technical capacity to plan, implement, and evaluate the National INSET. (+) Monitoring and Evaluation Task Team has a technical capacity to revise evaluation checklist and questionnaire. (-) The system of technical feedbacks from CEMASTEAs to District INSET trainers needs to be strengthened. (-) According to the questionnaire survey, 56% of C/P answered that the District INSET Centres have capacity, "only to a certain extent", to continue activities.
Technical Capacity in terms of sustainability (Technical Capacity)	(WECSA) Low. (Kenya) High, but technical input to District trainers should be strengthened.	(WECSA) (+) Both CEMASTEAs C/P and JICA Experts think that CEMASTEAs has a technical capacity to continue WECSA activities. (+/-) All C/P experienced a difficulty to conduct training in other language: French or Portuguese. (Kenya) (+) National trainers in CEMASTEAs have a technical capacity to plan, implement, and evaluate the National INSET. 39% of C/P respondents answered that they can disseminate the capacity to other districts. (-) The system of technical feedbacks from CEMASTEAs to District INSET trainers needs to be strengthened.
Capacity of counterpart in terms of sustainability (Dissemination Capacity)	(WECSA) High, but limited in other languages. (Kenya) High, but technical input to District trainers should be strengthened.	(WECSA) (+) Both CEMASTEAs C/P and JICA Experts think that CEMASTEAs has a technical capacity to disseminate ASEI in WECSA countries. (+/-) All C/P experienced a difficulty to conduct training in other language: French or Portuguese. (Kenya) (WECSA)
Consideration for social, cultural and environmental aspects	(Kenya) Mostly none. (WECSA) None	(+) No problems have been arisen by lack of consideration. (+/-) Some C/P mentioned in the questionnaire that the training activities should include teaching & learning for deaf, blind, and physically handicapped students.

ANNEX 2-1

List of Japanese Experts Dispatched to SMASSE Project from July 2003

No.	Name		From	To	FY	MM
1	Mr. Sugiyama Takahiko	Chief Advisor	1998/7/5	2007/8/31	1998	86.9 L
2	Prof. Takemura Shigekazu	Academic Advisor	1999/6/9	2006/6/30	1999	74.7 L
3	Mr. Naganuma Keiichi	Project Coordinator	2001/6/26	2007/8/31	2001	50.2 L
4	Mr. Tokuda Tomoki	Mathematics Education	2001/10/20	2006/6/30	2001	47.4 L
5	Mr. Hattori Hiromasa	Education Evaluation	2002/4/6	2007/8/31	2001	41.8 L
6	Mr. Inoue Tsunehiko	INSET Management	2003/8/24	2003/9/8	2003	1 S
7	Mr. Hamano Hiroshi	Education Evaluation	2004/4/1	2004/4/19	2003	1 S
8	Ms. Uchiyama Hazuki	Science Education	2004/10-	2007/8/31	2004	11.7 L
9	Mr. Baba Takuya	Mathematics Education	2006/6/10	2006/6/17	2006	0.2 S
10	Prof. Tsutaoka Takanori	Science Education	2006/8/24	2003/9/8	2006	0.2 S
11	Ms. Kono Saeko	Primary Education	2007/7/1	2007/7/16	2007	0.5 S

Summary Dispatch of Experts

FSY	Long term	Short term	Total
2003	5	2	7
2004	6	0	6
2005	6	0	6
2006	6	2	8
2007	4	1	5

ANNEX 2-2

List of Equipment provided by JICA (1)

Item	Specification (for Tender)	Qty	Supplier	Make/Model	KES		Exc. Rate (Ksh/JP)	JPY		JFY	Delivery	Sight
					Unit Price	Sub Total		Unit Price	Sub Total			
1 Desktop PC	Compaq EVO D310 (P4/ 2.4G/ 40G-HDD/ 15Mon/ WinXP/ MSOffice)	125	Desktop Solutions Kenya Ltd.	Compaq EVO D310	63,457	7,932,125	1.683	106,798	13,349,766	2003	Sep-03	CEMASTEAS & 30 District Centres (DC)
2 Laptop PC	P4/ 1.6G/ 20G-HDD/ WinXP/ MSOffice	4	Sciencescope	Toshiba Satellite A10-S167	110,872	443,488	1.683	186,598	746,390	2003	Sep-03	CEMASTEAS
3 Printer	Laser, B&W	40	Branded World Ltd.	EPSON 5900	18,000	720,000	1.683	30,294	1,211,760	2003	Sep-03	CEMASTEAS & 30 DC
4 Photocopier	A4 Digital PhotoCopy, Auto Document Feeder, 45ppm or faster	1	Gestetner	Gestetner 4502	463,000	463,000	1.683	779,229	779,229	2003	Sep-03	CEMASTEAS
5 Photocopier	A4 Digital PhotoCopy, Auto Document Feeder, 18 ppm or faster, Portable	1	MFI Office Solutions Ltd.	Kyocera Mita 1810	126,000	126,000	1.683	212,058	212,058	2003	Sep-03	CEMASTEAS
6 Copy Printer	Gestetner Copy Printer 5308b (with Ink 15, Master 10)	31	ANTCO	Ricoh Priport JP750	227,000	7,037,000	1.683	382,041	11,843,271	2003	Sep-03	CEMASTEAS & 30 DC
7 Velo Binder	Gestetner BMV270	1	ANTCO	Gestetner BMV270	160,000	160,000	1.683	269,280	269,280	2003	Sep-03	CEMASTEAS
8 Multimedia Projector	EPSON EMP 52	3	Desktop Solutions Kenya Ltd.	EPSON EMP 52	106,594	319,782	1.683	179,398	538,193	2003	Sep-03	CEMASTEAS
9 OHP	Ordinary Business Use	30	Desktop Solutions Kenya Ltd.	Intimas	17,112	513,360	1.683	28,799	863,985	2003	Sep-03	30 DC
10 OHP Screen	Tripod 70" x 70"	30	Desktop Solutions Kenya Ltd.	Intimas	10,695	320,850	1.683	18,000	539,991	2003	Sep-03	30 DC
11 Video Player	SONY DV323	30	PC World	SONY SLV ED323 SG	10,000	300,000	1.683	16,830	504,900	2003	Sep-03	30 DC
12 TV	SONY WEGA 34" XA34	30	New Tech Solutions Ltd.	WEGA KV34 XBR	90,195	2,705,850	1.683	151,798	4,553,946	2003	Sep-03	30 DC
13 Cabinet	Metallic, Heavy Duty, 60H, Double Door	60	ANTCO	same	12,000	720,000	1.683	20,196	1,211,760	2003	Sep-03	30 DC
14 Microscope	Leica BME Monocular 10 x 40	120	Sciencescope	Leica BME Monocular 10 x 40	22,388	2,686,560	1.683	37,679	4,521,480	2003	Sep-03	30 DC
15 Math/Science Books (Local)	1 set = 75 items. Book list can be obtained by SMASSE Office.	70	JIMCO Book Service	73 items	47,501.90	3,325,133	1.531	72,725	5,090,779	2003	Mar-04	70 DC
16 4WD Vehicle	Station Wagon Type, 1800cc - 2000cc, preferably 4WD	1	Toyota East Africa	RAV4	1,701,950	1,701,950	1.531	2,605,685	2,605,685	2003	Mar-04	CEMASTEAS
17 Desktop PC	CPU=P4, 2.4Ghz/ 40G-HDD/ 15Monitor/ Software=WinXP/ MSOfficeXP	90	Modern Business	IBM Think Centre A50p	69,000	6,210,000	1.531	105,639	9,507,510	2003	Mar-04	30 DC
18 Copy Printer	with Ink 15, Master 10, A4 Paper, Black & White	30	Copy Cat	Nashuatec 6123cp	175,000	5,250,000	1.531	267,925	8,037,750	2003	Mar-04	30 DC
19 Video Player	VHS, PAL & NTSC	30	Satellite Media	Sony ED333	10,450	313,500	1.531	15,999	479,969	2003	Mar-04	30 DC
20 OHP	Ordinary Business Use	30	Cyan Office	NOBO 2521	25,200	756,000	1.531	38,581	1,157,436	2003	Mar-04	30 DC
21 OHP Screen	70" x 70" Screen with Tripod	30	Cyan Office	NOBO	15,500	465,000	1.531	23,731	711,915	2003	Mar-04	30 DC
22 Cabinet	for Secondary School Laboratory, Metallic, Heavy Duty, 6 x 3 ft, Double Door	60	Multi Option		8,250	495,000	1.531	12,631	757,845	2003	Mar-04	30 DC
23 Microscope	for Secondary School Laboratory, Monocular 10 x 40	120	Manigate Agencies	LEICA BME	26,000	3,120,000	1.531	39,806	4,776,720	2003	Mar-04	30 DC
24 4WD Vehicle	4WD, 4200cc Diesel, 7 seater or above, Purchased in Japan	2		Nissan Patrol	2,362,671	4,725,342	1.531	3,617,249	7,234,499	2003	Mar-04	CEMASTEAS
25 Bus	Bus, 30 seats with all safety requirements by GOK.	2	GM East Africa	Isuzu 33seater	3,136,800	6,273,600	1.531	4,802,441	9,604,882	2003	Jul-04	CEMASTEAS
26 Laser Printer	Windows PC Compatible, Black & White, USB connection	30	Network Source	EPSON 6100	15,500	465,000	1.531	23,731	711,915	2003	Jul-04	30 DC
27 TV	34 inch Flat Screen	30	Street Camp	WEGA KV-AR34	115,500	3,465,000	1.531	176,831	5,304,915	2003	Jul-04	30 DC
28 Rehabilitation of CEMASTEAS	Laboratory, Classroom, Dining Room, Dormitory, Tenders for Local Constructors	1	N. K. Brothers	N. K. Brothers	63,909,101	63,909,101	1.531	97,844,834	97,844,834	2004	Dec-04	CEMASTEAS
Consultant Fee		1	Trad		8,000,000	8,000,000	1.531	12,248,000	12,248,000	2004	Dec-04	CEMASTEAS
29 Cabinet	for Secondary School Laboratory, Metallic, Heavy Duty, 6 x 3 ft, Double Door	60	ANTCO	Metallic, 6x3 Ft	8,000	480,000	1.339	10,712	642,720	2004	Feb-05	30 DC
30 Laser Printer	Windows PC & Mac Compatible, A4, Full Colour, 16ppm or faster, USB connection	1	Office Technologies	EPSON AcuLaser C4100	154,000	154,000	1.339	206,206	206,206	2004	Feb-05	CEMASTEAS

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List of Equipment provided by JICA (2)

31	Desktop PC	CPU=PI4, 2.4GHz/ 20G-HDD/ 15-LED Monitor/ USB Software=WinXP/ MSOfficeXP	90	Office Technologies	Fujitsu Scene X100	78,500	7,065,000	1.339	105,112	9,460,035	2004	Feb-05	30 DC
32	Laser Printer	Windows PC Compatible, A4, Black & White, 20ppm or faster, USB connection	30	Office Technologies	EPSON 6200L	19,500	585,000	1.339	26,111	783,315	2004	Feb-05	30 DC
33	Photocopier	with Auto Sheet Feeder, A4 Digital, Black & White, 45ppm or faster	1	MFI Office Solutions	KM5035	336,580	336,580	1.339	450,681	450,681	2004	Mar-05	CEMASTE A
34	Multimedia Projector	Input: Video, PC/Output: XGA, 3000 ANSI lumens or brighter	1	Avtech Systems	Emo EDP X300	183,150	183,150	1.339	245,238	245,238	2004	Mar-05	CEMASTE A
35	Public Address System	for Conference Room (p.u.100), Amplifier, Mixer, 2 Wireless Microphones, 1 Fixed Microphone	1	Avtech Systems	TOA, Amp-Mixer	135,690	135,690	1.339	181,689	181,689	2004	Mar-05	CEMASTE A
36	Copy Printer	with Ink 15, Master 10, A4, Black & White, 100ppm or faster, Paper Capacity 200 or more	21	MFI Office Solutions	Dupro 265	199,786	6,193,366	1.339	267,513	8,292,917	2004	Mar-05	CEMASTE A & 30 DC
37	Video Player	VHS, PAL & NTSC	30	Sanyo Armo	SANYO VR12	5,000	150,000	1.339	6,695	200,850	2004	Mar-05	30 DC
38	TV	34 inch Flat Screen	31	Sanyo Armo	SANYO CM34PF81	87,500	2,712,500	1.339	117,163	3,632,038	2004	Mar-05	CEMASTE A & 30 DC
39	OHP	Ordinary Business Use (2000 ANSI lumens or brighter, A4), with OHP Screen	30	Avtech Systems	Liesegang OHP2010	31,890	956,700	1.339	42,701	1,281,021	2004	Mar-05	30 DC
40	Microscope	Monocular, 100W Eyepiece with pointers, 3 Objectives (4x, 10x, 40x), Condenser	120	SEPU	Philip Harris	22,500	2,700,000	1.339	30,128	3,615,300	2004	Mar-05	30 DC
41	Math/Science Books (Import)	1 set = 75 items. Book list can be obtained by SMA SSE Office.	30	JIMCO Book Service	75 items x 30sets	185,542	5,566,260	1.686	312,824	9,384,714	2005	Mar-06	30 DC
42	Math/Science Books (Local)	1 set = 72 items. Book list can be obtained by SMA SSE Office.	110	SAVAN'S Book Centre	72 items x 110sets	18,762	2,063,820	1.686	31,633	3,479,601	2005	Mar-06	CEMASTE A & 100 DC
43	Desktop Computer	Pre installed MS Windows XP & MS Office	44	MFI Office Solutions	Mocer	49,500	2,178,000	1.735	85,883	3,778,830	2006	Mar-07	20 PTTC & 2DC
44	Laser Printer	A4, B&W, with 1 Toner cartridge	22	MFI Office Solutions	Kyocera	31,000	682,000	1.735	53,785	1,183,279	2006	Mar-07	20 PTTC & 2DC
45	Copy Printer	A4, B&W, with 10 Ink & 15 Meter	22	MFI Office Solutions	Duplo	215,786	4,747,292	1.735	374,389	8,236,552	2006	Mar-07	20 PTTC & 2DC
46	Television	29 inch Flat screen, Color	22	Hotpoint Appliances Ltd.	LG	27,844.83	612,586	1.735	48,311	1,062,837	2006	Feb-07	20 PTTC & 2DC
47	Video Cassette Player	VHS, NTSC/PAL	22	Hotpoint Appliances Ltd.	LG	4,422.42	97,293	1.735	7,673	168,894	2006	Feb-07	20 PTTC & 2DC
48	Overhead Projector	Ordinary Business Use (2000 ANSI lumens or brighter, A4) with Screen (70" x 70")	22	Avtech Systems Ltd.	GEHA	34,990	769,780	1.735	60,708	1,335,568	2006	Mar-07	20 PTTC & 2DC
49	Cupboard	Metallic, Heavy Duty, 6 x 3 ft, Double Door	44	MIBM Ltd.		11,000	484,000	1.735	19,085	839,740	2006	Mar-07	20 PTTC & 2DC
50	Primary School Science Kit	SEPU Original	100	School Equipment Production Unit	SEPU	16,600	1,660,000	1.735	28,801	2,680,100	2006	Mar-07	20 PTTC
51	Microscope	Monocular, 100W Eyepiece with pointers, 3 Objectives (4x, 10x, 40x), Condenser, Fixed Stage, Non-inclined Body, Illumination-mirror (Non-electric)	60	School Equipment Production Unit	Philip Harris	23,700	1,422,000	1.735	41,262	2,475,706	2006	Mar-07	20 PTTC
52	Photocopier	With Auto Paper Feeder, B&W	1	Other Technologies Ltd.	Toshiba	425,000	425,000	1.735	737,375	737,375	2006	Mar-07	CEMASTE A
53	Power Generator	22kVA-50Hz, 3-Phase	1	Mandae Kenya Ltd.	Olympian	1,318,788	1,318,788	1.735	2,288,097	2,288,097	2006	Mar-07	CEMASTE A
54	Color Laser Printer	A4, 20 ppm or faster, Paper cassette for 500 or more, PC/Mac Compatible	1	The Copy Cat Ltd.	Nashuatec	159,000	159,000	1.82183	289,671	289,671	2007	Jun-07	CEMASTE A
55	Desktop Computer	Pre installed MS Windows XP & MS Office	10	technology TODAY	Mixer Premium Micro ATX Tower	44,000	440,000	1.86418	82,024	820,239	2007	Jul-07	5DC
56	Laser Printer	A4, B&W, with 1 Toner cartridge	10	technology TODAY	HP LaserJet 1022	13,500	135,000	1.86418	25,166	251,664	2007	Jul-07	5DC
57	Copy Printer	A4, B&W, with 10 Ink & 15 Meter	5	The Copy Cat Ltd.	NRG CP6123	750,000	3,750,000	1.86418	1,398,135	6,990,675	2007	Jul-07	5DC
58	Television	29 inch Flat screen, Color	5	Hotpoint Appliances Ltd.	LG	27,844.83	139,224	1.82183	50,729	253,642	2007	Jun-07	5DC
59	Video Cassette Player	VHS, NTSC/PAL	5	Hotpoint Appliances Ltd.	LG	4,422.42	22,112	1.82183	8,057	46,264	2007	Jun-07	5DC
60	Overhead Projector	Ordinary Business Use (2000 ANSI lumens or brighter, A4) with Screen (70" x 70")	5	Avtech Systems Ltd.	GEHA	34,990	174,950	1.86418	65,228	326,138	2007	Jul-07	5DC
61	Cupboard	Metallic, Heavy Duty, 6 x 3 ft, Double Door	5	MIBM Limited	2900 Furniture	11,000	55,000	1.82183	20,040	100,201	2007	Jun-07	5DC
62	Microscope	Monocular, 100W Eyepiece with pointers, 3 Objectives (4x, 10x, 40x), Condenser, Fixed Stage, Non-inclined Body, Illumination-mirror (Non-electric)	20	Sciencescope Ltd.	Leica BME	34,500	690,000	1.82183	62,853	1,257,063	2007	Jun-07	5DC
Total							182,171,653			284,392,443			

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ANNEX 2-3

Kenyan Counterpart Training

(1) Kenyan Counterpart Trainee from July 2003 to Mid-term Evaluation (Oct. 2005)

No.	Name	Subject	Venue	From	To	FY
1	Mr. Muyanga Mutua	Physics Education	Hiroshima	8/20/03	10/13/03	2003
2	Ms. Grace Orado	Chemistry Education	Hiroshima	8/20/03	10/13/03	2003
3	Ms. Peula Lelei	Biology Education	Hiroshima	8/20/03	10/13/03	2003
4	Mr. Njogu Kithaka	Mathematics Education	Hiroshima	8/20/03	10/13/03	2003
5	Ms. Mary Wangechi Gaturu	Local Educational Administration	Sapporo	1/20/04	2/22/04	2003
6	Ms. Jane Jepkemboi Mtange	Local Educational Administration	Sapporo	1/20/04	2/22/04	2003
7	Mr. David Arimi	Biology Education	UP-NISMED	2/2/04	3/13/04	2003
8	Mr. Kipchumba K. Turnet	Biology Education	UP-NISMED	2/2/04	3/13/04	2003
9	Ms. Grace Wanjiku Matu	Biology Education	UP-NISMED	2/2/04	3/13/04	2003
10	Mr. Geoffrey G. Momanyi	Biology Education	UP-NISMED	2/2/04	3/13/04	2003
11	Ms. Lydia Muriithi	Biology Education	UP-NISMED	2/2/04	3/13/04	2003
12	Mr. Jeremia Ndiritu Gitahi	Chemistry Education	UP-NISMED	2/2/04	3/13/04	2003
13	Ms. Ruth Wangechi Kamau	Chemistry Education	UP-NISMED	2/2/04	3/13/04	2003
14	Ms. Gladys Aliviza Mwigusi	Chemistry Education	UP-NISMED	2/2/04	3/13/04	2003
15	Mr. Joseph Mathenge Kamau	Chemistry Education	UP-NISMED	2/2/04	3/13/04	2003
16	Mr. Peter Omutiti	Chemistry Education	UP-NISMED	2/2/04	3/13/04	2003
17	Ms. Rahab Wangari Chiira	Mathematics Education	UP-NISMED	2/2/04	3/13/04	2003
18	Ms. Gachahi Lilian Wairimu	Mathematics Education	UP-NISMED	2/2/04	3/13/04	2003
19	Mr. Matembo Lukongo	Mathematics Education	UP-NISMED	2/2/04	3/13/04	2003
20	Mr. Mnengwa Evans	Mathematics Education	UP-NISMED	2/2/04	3/13/04	2003
21	Mr. Paul Ndirangu Mwangi	Mathematics Education	UP-NISMED	2/2/04	3/13/04	2003
22	Mr. Aggrey A. Machanule	Physics Education	UP-NISMED	2/2/04	3/13/04	2003
23	Mr. Samuel E. Madaguda	Physics Education	UP-NISMED	2/2/04	3/13/04	2003
24	Mr. George Gitau	Physics Education	UP-NISMED	2/2/04	3/13/04	2003
25	Mr. John W. Kagika	Physics Education	UP-NISMED	2/2/04	3/13/04	2003
26	Mr. John L. Makanda	Physics Education	UP-NISMED	2/2/04	3/13/04	2003
27	Mr. J. M. Chahilu,	INSET Management	Hiroshima	2/24/04	3/28/04	2003
28	Mr. Wilson Chelagat	INSET Management	Hiroshima	2/24/04	3/28/04	2003

29	Ms. J. Kariuki	INSET Management	Hiroshima	2/24/04	3/28/04	2003
30	Mr. Solomon Katembu	INSET Management	Hiroshima	2/24/04	3/28/04	2003
31	Mr. Lawrence Kiwara	INSET Management	Hiroshima	2/24/04	3/28/04	2003
32	Ms. Lilian Mwalekwa	INSET Management	Hiroshima	2/24/04	3/28/04	2003
33	Mr. G. M. Njoroge	INSET Management	Hiroshima	2/24/04	3/28/04	2003
34	Mr. Jonathan M. Nyamai	INSET Management	Hiroshima	2/24/04	3/28/04	2003
35	Mr. Christopher Omosa	INSET Management	Hiroshima	2/24/04	3/28/04	2003
36	Mr. T. O. Opot	INSET Management	Hiroshima	2/24/04	3/28/04	2003
37	Mr. Mbugua Kabaki	INSET Management	Hiroshima	2/24/04	3/28/04	2003
38	Mr. Ernest K. Ngeny	Physics Education	Hiroshima	8/10/04	10/10/04	2004
39	Mr. Benjamin Kilonzo	Chemistry Education	Hiroshima	8/10/04	10/10/04	2004
40	Ms. Mary W. Kariuki	Biology Education	Hiroshima	8/10/04	10/10/04	2004
41	Mr. John Muiruri	Mathematics Education	Hiroshima	8/10/04	10/10/04	2004
42	Ms. Margaret N. MBAE	Teachers' Training Policy	Tokyo	9/5/04	9/18/04	2004
43	Ms. Rita Wamuyu Wahome	Biology Education	UP-NISMED	1/17/05	2/25/05	2004
44	Ms. Rita Nyokabi Kiarie	Biology Education	UP-NISMED	1/17/05	2/25/05	2004
45	Mr. Goffrey Musili Kalola	Biology Education	UP-NISMED	1/17/05	2/25/05	2004
46	Mr. Humphrey Kahuli Nengo	Biology Education	UP-NISMED	1/17/05	2/25/05	2004
47	Ms. Joyce Karauna Kimiti	Biology Education	UP-NISMED	1/17/05	2/25/05	2004
48	Mr. Ropkoi Joel Kiprono	Chemistry Education	UP-NISMED	1/17/05	2/25/05	2004
49	Ms. Jane Wambui Kariuki	Chemistry Education	UP-NISMED	1/17/05	2/25/05	2004
50	Mr. Moses Kahindi Kashuru	Chemistry Education	UP-NISMED	1/17/05	2/25/05	2004
51	Ms. Janet Kanja Muriithi	Chemistry Education	UP-NISMED	1/17/05	2/25/05	2004
52	Mr. David K. Kireru	Chemistry Education	UP-NISMED	1/17/05	2/25/05	2004
53	Mr. Kamau Muchiri	Mathematics Education	UP-NISMED	1/17/05	2/25/05	2004
54	Mr. Mohamed Abdinoor Dahir	Mathematics Education	UP-NISMED	1/17/05	2/25/05	2004
55	Mr. Benson Somba Manoo	Mathematics Education	UP-NISMED	1/17/05	2/25/05	2004
56	Mr. Francis Kamau Mwangi	Mathematics Education	UP-NISMED	1/17/05	2/25/05	2004
57	Mr. Katana Kapombe	Mathematics Education	UP-NISMED	1/17/05	2/25/05	2004
58	Mr. Leonard Wamalwa Wafula	Physics Education	UP-NISMED	1/17/05	2/25/05	2004
59	Ms. Jacinta Kathure Mung'atia	Physics Education	UP-NISMED	1/17/05	2/25/05	2004
60	Mr. Paul Gakuru Maina	Physics Education	UP-NISMED	1/17/05	2/25/05	2004
61	Mr. Joseph A. Rabari	Physics Education	UP-NISMED	1/17/05	2/25/05	2004
62	Mr. Eliud Kipkorir Menjo	Physics Education	UP-NISMED	1/17/05	2/25/05	2004

63	Mr. Apollo Apuko	Local Educational Administration	Sapporo	1/18/05	2/20/05	2004
64	Mr. Mosbei Daniel Keen Kibor	INSET Management	Hiroshima	2/22/05	3/27/05	2004
65	Mr. Owino Ouma John	INSET Management	Hiroshima	2/22/05	3/27/05	2004
66	Mr. Francis Mubia Muraya	INSET Management	Hiroshima	2/22/05	3/27/05	2004
67	Mr. Joseph Kiplangat Koech	INSET Management	Hiroshima	2/22/05	3/27/05	2004
68	Ms. Tomeyan Masaren Rosalyne	INSET Management	Hiroshima	2/22/05	3/27/05	2004
69	Ms. Catherine Kananu Irungu	INSET Management	Hiroshima	2/22/05	3/27/05	2004
70	Ms. Benta Achieng Akech	INSET Management	Hiroshima	2/22/05	3/27/05	2004
71	Ms. Mwanahamisi H. Bilashaka	INSET Management	Hiroshima	2/22/05	3/27/05	2004
72	Ms. Theresia Khabetsa Mbelase	INSET Management	Hiroshima	2/22/05	3/27/05	2004
73	Ms. Consolata Muthoni Kimuya	INSET Management	Hiroshima	2/22/05	3/27/05	2004
74	Ms. Assumpta Nekesa Obore	INSET Management	Hiroshima	2/22/05	3/27/05	2004
75	Ms. Mathenge Beatrice Wairimu	INSET Management	Hiroshima	2/22/05	3/27/05	2004
76	Mr. Kibanya Paul Gathitu	Physics Education	Hiroshima	8/9/05	10/9/05	2005
77	Mr. Oduor Stephen Edwin	Chemistry Education	Hiroshima	8/9/05	10/9/05	2005
78	Mr. Kiria Felix George Kiruja	Biology Education	Hiroshima	8/9/05	10/9/05	2005
79	Mr. Odindo Fredrick Oseno	Mathematics Education	Hiroshima	8/9/05	10/9/05	2005
80	Ms. Ombati Priscilla Kemunto	Mathematics Education	Hiroshima	8/9/05	10/9/05	2005
81	Mr. Omodi Opel	Master in Physics Education	Hiroshima	9/25/05	3/31/08	2005
82	Mr. Ogwel J. Carilus Ateng	Mathematics Education	Hiroshima	4/1/04	4/1/06	2004
83	Mr. Kisangi Albart Kayesa	Biology Education	Hiroshima	4/1/04	4/1/06	2004

(2) Kenyan Counterpart Trainee from Nov. 2005 to Oct. 2007

No.	Name	Subject	Venue	From	To	FY
1-40	40 District Trainers	Secondary Math/Science Edu.	Philippines	1/16/06	2/24/06	2005
41	Ms. Margaret R. Mutisya	Local Educational Administration for SSA	Japan	1/17/06	2/18/06	2005
42	Mr. Harun Mohammed Yusuf	INSET Management	Japan	2/14/06	3/19/06	2005
43	Ms. Damaris Mukami Mbogo	INSET Management	Japan	2/14/06	3/19/06	2005
44	Mrs. Margaret Wairimu Chege	INSET Management	Japan	2/14/06	3/19/06	2005
45	Sr. Magdalen M. Muinde	INSET Management	Japan	2/14/06	3/19/06	2005
46	Mr. Benjamin Vaati Muatine	INSET Management	Japan	2/14/06	3/19/06	2005

47 Mrs. Mary Laila Mwangi	INSET Management	Japan	2/14/06	3/19/06	2005
48 Mrs. Esther Chebet Maritim	INSET Management	Japan	2/14/06	3/19/06	2005
49 Mrs. Eunice Achieng Abade	INSET Management	Japan	2/14/06	3/19/06	2005
50 Mr. James Muriansi Ongati	INSET Management	Japan	2/14/06	3/19/06	2005
51 Mr. George Baresford Okeyo	INSET Management	Japan	2/14/06	3/19/06	2005
52 Mrs. Elizabeth Njugu Karani	INSET Management	Japan	2/14/06	3/19/06	2005
53 Mr. John Wachira Chiuru	INSET Management	Japan	2/14/06	3/19/06	2005
54-93 40 PTTC Tutors	Primary Math/Science Edu.	Malaysia	8/7/06	9/1/06	2006
94 Mr. Chepsebah Henry K Buttuk	Practice of Secondary Math/Science Education	Japan	8/8/06	10/8/06	2006
95 Ms. Jane Wangechi Kabui	Practice of Secondary Math/Science Education	Japan	8/8/06	10/8/06	2006
96 Mr. Tom Mboya Okaya	Practice of Secondary Math/Science Education	Japan	8/8/06	10/8/06	2006
97 Mr. Daniel Ngaru Muraya	Practice of Secondary Math/Science Education	Japan	8/8/06	10/8/06	2006
98 Mr. John Otieno Odhiambo	Practice of Secondary Math/Science Education	Japan	8/8/06	10/8/06	2006
99 Mr. Omosa Mounde Robert	Local Educational Administration for SSA	Japan	1/16/07	2/17/07	2006
100 Mr. Kairu James Kariuki	Local Educational Administration for SSA	Japan	1/16/07	2/17/07	2006
101-140 40 District Trainers	Secondary Math/Science Edu.	Philippines	1/21/07	2/16/07	2006
141 Mrs. Salome Papoi Akelo	INSET Management	Japan	2/13/07	3/18/07	2006
142 Mr. Stephen Mwaura Njoroge	INSET Management	Japan	2/13/07	3/18/07	2006
143 Ms. Anselia Ngithi Njiru	INSET Management	Japan	2/13/07	3/18/07	2006
144 Mrs. Leah Wairimu Ithondeka	INSET Management	Japan	2/13/07	3/18/07	2006
145 Mrs. Joan Rampei Muoti	INSET Management	Japan	2/13/07	3/18/07	2006
146 Mr. Peter Mwangi Nyaga	INSET Management	Japan	2/13/07	3/18/07	2006
147 Mr. Ishmael Baya K. Khamis	INSET Management	Japan	2/13/07	3/18/07	2006
148 Mr. Yussuf Abdi Abdullahi	INSET Management	Japan	2/13/07	3/18/07	2006
149 Mr. Thadeus Akello Awuor	INSET Management	Japan	2/13/07	3/18/07	2006
150 Mr. Isaac Kuya Aswani	INSET Management	Japan	2/13/07	3/18/07	2006

151	Moses Njue Karati	INSET Management	Japan	2/13/07	3/18/07	2006
152	Mr. Japheth Odhiambo O.	INSET Management	Japan	2/13/07	3/18/07	2006
153	Mr. Mugoh Simon Njeru	Practice of Secondary Math/Science Education	Japan	8/7/07	10/7/07	2007
154	Mr. Opere Martin Odhiambo	Practice of Secondary Math/Science Education	Japan	8/7/07	10/7/07	2007
155	Ms. Gisemba Irene Nyanchoka	Practice of Secondary Math/Science Education	Japan	8/7/07	10/7/07	2007
156	Mr. Ngoci Humphrey Njeru	Practice of Secondary Math/Science Education	Japan	8/7/07	10/7/07	2007
157	Mr. Mwachi Daniel Jackton	Practice of Secondary Math/Science Education	Japan	8/7/07	10/7/07	2007
158- 197	40 PTTC Tutors	Primary Math/Science Edu.	Malaysia	8/13/07	9/7/07	2007
198	Mr. John Oyuga	Higher Order Thinking and Creative Problem-solving in Student-centred Primary Mathematics Classrooms	Malaysia	2/27/06	3/17/06	2005
199	Ms. Serah Njeri Mburu	Action Research: Enhancing Teaching in Primary and Secondary Science	Malaysia	2/27/06	3/17/06	2005
200	Ms. Mercy Macharia	Action Research: Enhancing Teaching in Primary and Secondary Science	Malaysia	2/27/06	3/17/06	2005
201	Mr. Stanlus Nyamai	Action Research: Enhancing Teaching in Primary and Secondary Science	Malaysia	2/27/06	3/17/06	2005
202	Mr. Kennedy Thuo Karanja	Quantative Monitoring & Evaluation of Quality of Education	France	3/26/07	4/13/07	2006
203	Ms. Peula Lelei	Training Institute Management	Malaysia	8/11/07	8/21/07	2007
204	Mr. Nancy Wambui Nui	Training Institute Management	Malaysia	8/11/07	8/21/07	2007

ANNEX 2-4

List of Kenyan Personnel (SMASSE Members as of Sep. 2007)

1.	Mr. Peula Lelei	Admin.	Director CEMASTE A
2.	Mr. Michael Waititu	Physics	Subject Administrator
3.	Mr. Kithaka Njogu	Mathematics	Subject Administrator
4.	Ms. Lynnet G. Kisaka	Biology	Subject Administrator
5.	Mr. Patrick Kogolla	Chemistry	Subject Administrator
6.	Mr. Berege Cherutich Chesire	Physics	Academic Head
7.	Mr. Fred Odindo	Mathematics	Academic Head
8.	Ms. Mary Kariuki	Biology	Academic Head
9.	Mr. Daniel Matiri	Chemistry	Academic Head
10.	Ms. Nancy Wambui Nui	Mathematics	National Trainer
11.	Mr. Lukongo Matembo	Mathematics	National Trainer
12.	Mr. John Owuor Oyuga	Mathematics	National Trainer
13.	Mr. Paul Waibochoi	Mathematics	National Trainer
14.	Mr. Kamau Mwangi	Mathematics	National Trainer
15.	Mr. Ogwel Ateng	Mathematics	National Trainer
16.	Ms. Priscila Ombati	Mathematics	National Trainer
17.	Ms. Rahab Ciira	Mathematics	National Trainer
18.	Mr. Mugo Simon	Mathematics	National Trainer
19.	Ms. Mary N. Wakhaya	Mathematics	National Trainer
20.	Ms. Beatrice W. Macharia	Mathematics	National Trainer
21.	Mr. Khakina Peter	Mathematics	National Trainer
22.	Mr. Washuma Job	Mathematics	National Trainer
23.	Mr. George Gitau	Physics	National Trainer
24.	Mr. Muyanga Mutua	Physics	National Trainer
25.	Ms. Serah Njeri Mburu	Physics	National Trainer
26.	Mr. Leonard Omondi Opel	Physics	National Trainer
27.	Mr. Kibanya Paul Gathitu	Physics	National Trainer
28.	Mr. Ngeny Ernest Kiprono	Physics	National Trainer
29.	Mr. Maate Phillip	Physics	National Trainer
30.	Mr. Mboya Tom Okaya	Physics	National Trainer
31.	Mr. Rabari Joseph	Physics	National Trainer
32.	Mr. Makanda Livingstone	Physics	National Trainer
33.	Mr. Ngigi John Njau	Physics	National Trainer

34.	Mr. John Odhiambo Amimo	Physics	National Trainer
35.	Mr. Aketch Sebastian N	Physics	National Trainer
36.	Mr. Ndelela Masoka	Chemistry	National Trainer
37.	Ms. Grace Nyandiwa Orado	Chemistry	National Trainer
38.	Mr. Benjamin Kilonzo	Chemistry	National Trainer
39.	Mr. Kamau Joseph Mathenge	Chemistry	National Trainer
40.	Mr. Samuel K. Gachuhi	Chemistry	National Trainer
41.	Ms. Gladys Alivisia Masai	Chemistry	National Trainer
42.	Mr. Stephen E. Oduor	Chemistry	National Trainer
43.	Mr. David Kireru	Chemistry	National Trainer
44.	Mr. Isaac Gathambiri	Chemistry	National Trainer
45.	Ms. Mercy Wangui Macharia	Chemistry	National Trainer
46.	Mr. Okeyo Jackomanyo	Chemistry	National Trainer
47.	Mr. Edmond Makoba Kizito	Biology	National Trainer
48.	Mr. David M. Arimi	Biology	National Trainer
49.	Mr. George Kiruja	Biology	National Trainer
50.	Ms. Amina Sharbaidi	Biology	National Trainer
51.	Mr. Joseph Odhiambo	Biology	National Trainer
52.	Mr. Stanslus Nyamai	Biology	National Trainer
53.	Ms. Lydia Muriithi	Biology	National Trainer
54.	Mr. Joseph K. Thuo	Biology	National Trainer
55.	Mr. Albert Kisangi Kayesa	Biology	National Trainer
56.	Mr. Daniel Muraya	Biology	National Trainer
57.	Ms. Evelyn Wemali	Biology	National Trainer
58.	Mr. Maina George Gachara	Biology	National Trainer
59.	Ms. Jane Marete	Admin.	Secretary
60.	Mr. Alfred Mureithi	Admin.	Office Assistant
61.	Mr. John Thairu	Admin.	Driver
62.	Mr. John Kinyanjui	Admin.	Driver
63.	Mr. Ezekiel Njoroje	Admin.	Driver
64.	Mr. Kusimba Simiyu	Admin.	Driver
65.	Mr. Nelson Mugalla	Admin.	Driver
66.	Mr. Nahashon Ng'eno	Admin.	Driver
67.	Ms. Ann Wairimu	Admin.	Office Assistant
68.	Mr. J. Kihara Mwai	Admin.	Ag. Administrative Officer

69.	Ms. Dorollosa Okumu	Admin.	Housekeeper/Cateress
70.	Ms. Florence Mbaiya	Admin.	Cook
71.	Ms. Margaret Abing'o	Admin.	Laundry Assistance
72.	Ms. Jane Mwega	Admin.	Senior Support staff
73.	Ms. Wilkester Kemunto	Admin.	Support staff
74.	Mr. Henry Nyange	Admin.	Support staff
75.	Mr. Makarios Nyagwachi	Admin.	Watchman
76.	Mr. Julius Kibusi	Admin.	Cleaner/grounds man
77.	Ms. Alice M. Malesi	Admin.	Copy typist
78.	Mr. David N. Mwangi	Admin.	Artisan
79.	Mr. Joseph N. Thuku	Admin.	Watchman
80.	Mr. Tom N. Makwae	Admin.	Watchman
81.	Mr. Jacob K. Nkoroi	Admin.	Watchman
82.	Mr. N. Nyaga Ng'o	Admin.	Watchman

ANNEX 3

List of SMASSE District Centres

(1) List of SMASSE District Centres (Newly established from 2003 July)

No.	Venue of District Centre	District	Province
1	Nyamonye Girls High School	Bondo	Nyanza
2	Asumbi High School	Homa Bay/Suba	Nyanza
3	Kisumu Girls High School	Kisumu	Nyanza
4	Bishop Okoth Ojolla	Kisumu	Nyanza
5	Ulanda High School	Migori/Kuria	Nyanza
6	Kebirigo High School	Nyamira	Nyanza
7	Nyansiongo High School	Nyamira	Nyanza
8	Sironga Girls High School	Nyamira	Nyanza
9	Nyakach Girls High School	Nyando	Nyanza
10	Ahero Girls High School	Nyando	Nyanza
11	Agoro Sare High School	Rachuonyo	Nyanza
12	Ng'iya Girls High School	Siaya	Nyanza
13	Rang'ala	Siaya	Nyanza
14	Kyeni Girls High School	Embu	Eastern
15	Nguviu Boys High School	Embu	Eastern
16	Muthale Girls High School	Kitui	Eastern
17	Mulango Girls High School	Kitui	Eastern
18	Machakos Girls High School	Machakos	Eastern
19	Masinga Girls High School	Machakos	Eastern
20	Tala Girls High School	Machakos	Eastern
21	Vyulya Girls High School	Machakos	Eastern
22	Consolata, Gitaraka	Mbeere	Eastern
23	Kanjalu GSS	Meru North	Eastern
24	Kaaga Girls High School	Meru Central/Moyale	Eastern
25	St. Mary's Girls High School	Tharaka/Marsabit	Eastern
26	Isiolo Boys High School	Isiolo	Eastern
27	Migwani	Mwingi	Eastern
28	Moi, Siongiroi Girls High School	Bomet/T Mara	Rift Valley
29	Tenwek Secondary School	Bomet/T Mara	Rift Valley
30	Kaplong Girls High School	Bureti	Rift Valley
31	Tengecha Girls High School	Bureti	Rift Valley

32	Kaptagat Girls High School	Keiyo	Rift Valley
33	Moi Girls Kapsowar	Marakwet	Rift Valley
34	Moi Girls Eldoret	Uasin Gishu	Rift Valley
35	Loreto Matunda	Uasin Gishu	Rift Valley
36	Hill School	Uasin Gishu	Rift Valley
37	Bhati Girls High School	Nakuru	Rift Valley
38	Mary Mount Girls High School	Nakuru	Rift Valley
39	Menengai High School	Nakuru	Rift Valley
40	Naivasha Girls High School	Nakuru	Rift Valley
41	Njoro Boys High School	Nakuru	Rift Valley
42	St. Mary Girls High School	Narok	Rift Valley
43	St. Brigid's Girls High School	Tans Nzoia	Rift Valley
44	Nasokol Girls High School	Turkana/West Pokot	Rift Valley
45	Njonjo Girls High School	Laikipia/Samburu	Rift Valley
46	Nanyuki High School	Laikipia/Samburu	Rift Valley
47	Londiani Girls High School	Kericho	Rift Valley
48	Moi Tea Girls High School	Kericho	Rift Valley
49	Kapsabet Girls High School	Nandi North	Rift Valley
50	St. Mary's, Tachasis	Nandi South	Rift Valley
51	Kerugoya Girls High School	Kirinyaga	Central
52	Kianyaga Boys High School	Kirinyaga	Central
53	Karoti Girls High School	Kirinyaga	Central
54	Karima Girls High School	Nyandarua	Central
55	Nyandarua High School	Nyandarua	Central
56	Nyahururu Boys High School	Nyandarua	Central
57	Chinga Girls High School	Nyeri	Central
58	Nyeri High	Nyeri	Central
59	TumuTumu Girls High School	Nyeri	Central
60	Kangubiri Girls High School	Nyeri	Central
61	Gatanga Girls High School	Thika	Central
62	Karinga Girls High School	Thika	Central
63	Maryhill Girls High School	Thika	Central
64	Wajir Boys	Wajir/Ijara/Mandera/Garissa	North Eastern
65	BuruBuru Girls High School	Nairobi	Nairobi
66	Kenya High School	Nairobi	Nairobi

67	Statehouse Girls High School	Nairobi	Nairobi
68	St. George's Girls High School	Nairobi	Nairobi
69	Jamufuri High School	Nairobi	Nairobi
70	Moi Girls High School Vokoli	Vihiga	Western
71	Bunyore Girls High School	Vihiga	Western
72	Kaimosi Girls High School	Vihiga	Western
73	Lugulu Girls High School	Bungoma	Western
74	Cardinal Otunga Girls High School	Bungoma	Western
75	Bungoma High School	Bungoma	Western
76	Friends School Kamusinga	Bungoma	Western
77	Kolanya Girls High School	Teso/Mt Elgon	Western
78	St. Cecilia Girls High School Nangina	Busia	Western
79	Coast Girls High School	Mombasa	Coast
80	Matuga Girls High School	Kwale	Coast
81	Malindi High School	Malindi/Lamu/Tana River	Coast

(2) List of SMASSE District Centres (Pilot and In-Country District)

No.	Venue of District Centre	District	Province
1	Sengera Girls High School	Gucha	Nyanza
2	Sameta Boys High School	Gucha	Nyanza
3	Kisii High School	Kisii	Nyanza
4	Makueni Boys High School	Makueni	Eastern
5	St. Joseph Kibowezi Secondary School	Makueni	Eastern
6	Precious Blood Girls Kilungu	Makueni	Eastern
7	Chuka Girls High School	Meru South	Eastern
8	Sacho High School	Baringo	Rift Valley
9	Solian Girls High School	Koibatek	Rift Valley
10	Moi Girls High School Isinya	Kajiado	Rift Valley
11	Kahuhia Girls High School	Murang'a	Central
12	Murang'a High School	Murang'a	Central
13	Kamahuha Girls High School	Maragwa	Central
14	Njiiri High School	Maragwa	Central
15	St. Joseph High School Githunguri	Kiambu	Central
16	Kiambu High School	Kiambu	Central

