


**MINUTES OF MEETING BETWEEN  
THE JAPANESE PREPARATORY STUDY TEAM AND  
THE AUTHORITIES CONCERNED OF  
THE GOVERNMENT OF THE REPUBLIC OF KENYA ON  
JAPANESE TECHNICAL COOPERATION FOR  
STRENGTHENING OF MATHEMATICS AND SCIENCE EDUCATION (SMASE)**

The Japanese Preparatory Study Team (hereinafter referred to as “the Team”), organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. Shinichi Ishihara, visited the Republic of Kenya from 27<sup>th</sup> Aug to 9<sup>th</sup> Sep 2008 in order to agree on the details of the Strengthening of Mathematics and Science Education (SMASE) (hereinafter referred to as “the Project”).

During its stay in Kenya, the Team exchanged views through a series of discussions with the Ministry of Education (hereinafter referred to as “Kenyan side”) on the formulation of the Project. As a result of the discussions, both the Kenyan side and the Team jointly drew up the Project in the document attached hereto.

Nairobi, 9<sup>th</sup> September, 2008



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



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Mr. Shinichi Ishihara  
Leader  
Japanese Preparatory Study Team  
Japan International Cooperation Agency  
Japan

**ATTENDANCE LIST**

The meetings between the Kenyan side and the Team regarding the Project were held mainly in Nairobi from 28<sup>th</sup> August to 9<sup>th</sup> September, 2008. The participants are listed below:

**Kenyan Side****Ministry of Education**

Prof. Karega Mutahi	Permanent Secretary
Prof. George Godia	Education Secretary
Mr. Enos Oyaya	Director, Quality Assurance and Standards
Mrs. Leah K. Rotich	Director, Basic Education
Mr. M. S. Twahir	Senior Deputy Director, Basic Education
Mrs.C.A. Ondiek	Senior Deputy Director, Secondary Education
Mr. Gabriel Lengoiboni	Secretary, Teachers Service Commission
Mr. Majani Alex Tom	Senior Assistant Director, Quality Assurance and Standards
Mr. Robert M.Omosa	Assistant Director, Education / SMASSE Desk Officer
Mr. Simiyu Njalale	Representative, Chief Finance Officer
Mr. Boniface N. Gitau	Provincial Director of Education, Nairobi
Mr. P. M. Makite	Provincial Director of Education, North Eastern
Mr. K. K. Misoi	Provincial Director of Education, Western
Mr. H. I. Kiburu	Provincial Quality Assurance and Standards Officer, Central
Mr. Francis M. Muraya	Provincial Quality Assurance and Standards Officer, Eastern
Mr. Francis C. Shikanda	Provincial Quality Assurance and Standards Officer, Rift Valley
Mr. John Owino	District Education Officer, Busia District
Mr. Kilonzo Musilu	District Education Officer, Thika District
Ms. Florence Kisirkoi	Deputy Director, Field Services, Kenya Institute of Education
Mr. William Mwita	Course Coordinator, Kenya Education Staff Institute
Mr. P. M. Miano	Kenya National Examinations Council
Mr. George Kirimi	Principal, Murang'a TTC
Mr. Isaac K. Mwangi	Principal, Thogoto TTC
Mr. Vitalis O. Gode	Tutor, Kilimambogo TTC
Mr. Kariuki D. Gichuki	Tutor, Murang'a TTC
Ms. Wainaina Wairimu	Tutor, Murang'a TTC
Ms. Lydia W. Magu	Tutor, Thogoto TTC
Mr. Joseph Njuguna Ruth	TAC Tutor, Kiambu East
Ms. Damaris N. Ndura	Key Resource Teacher, Machakos Primary School
Ms. Emma M. Mbuthia	Key Resource Teacher, Ayany Primary School, Nairobi




**Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA)**

Prof. Samuel K. Katia	Chairman, Board of Governors
Mrs. Peula Lelei	Director
Mr. Michael Waititu	Subject Administrator, Physics / Chair of M&E Task Force
Mr. Kithaka Njogu	Subject Administrator, Mathematics / Chair of Editorial Board
Mrs. Lynette Kisaka	Subject Administrator, Biology / Secretary of SMASE-WECSA
Mr. Patrick Kogolla	Subject Administrator, Chemistry/Coordinator, Primary INSET

**Japanese Side**

**Preparatory Study Team**

Mr. Shinichi Ishihara	Director, Basic Education Division II, JICA
Mr. Tatsuhiro Mitamura	Senior Program Officer, Basic Education Division II, JICA
Mr. Shimpei Taguchi	Associate Expert, Basic Education Division II, JICA

**JICA Kenya Office**

Mr. Yoshiyuki Takahashi	Resident Representative
Mr. Kyosuke Kawazumi	Deputy Resident Representative
Ms. Tomoko Maekawa	Assistant Resident Representative
Mr. Samuel K. Kibe	Consultant (Education)

**The Project Team**

Mr. Keiichi Naganuma	Expert, Chief Advisor/ Project Coordinator
Ms. Hazuki Uchiyama	Expert, Science Education
Mr. Noriaki Tanaka	Associate Expert

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## ABBREVIATIONS AND ACRONYMS

ASEI	Activity, Student, Experiment, and Improvisation
BoG	Board of Governors
CEMASTEА	Centre for Mathematics, Science and Technology Education in Africa
CT	Cluster Trainer
DEO	District Education Officer
DPC	District Planning Committee
HOD	Head of Department
INSET	In-Service Education and Training
JICA	Japan International Cooperation Agency
KRT	Key Resource Teacher
KSh	Shillings (Kenya Currency)
M&E(TF)	Monitoring and Evaluation (Task Force)
MOE	Ministry of Education, Kenya
MOU	Memorandum of Understanding
M/S	Mathematics and Science
PDM	Project Design Matrix
PDSI	Plan, Do, See, and Improve
PTTC	Primary Teachers' Training College
QASO	Quality Assurance and Standards Officer
R/D	Record of Discussions
RT	Regional Trainer
SbTD	School based Teacher Development
SMASE	Strengthening of Mathematics and Science Education
SMASSE	Strengthening of Mathematics and Science in Secondary Education
TAC	Teacher Advisory Centre
TCTP	Third Country Training Programme
TICAD	Tokyo International Conference for African Development
TSC	Teachers' Service Commission
WECSA	Western, Eastern, Central and Southern Africa
W/S	Workshop

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## **I. Project Framework**

On the basis of the proposal of the Project, the two parties have discussed and agreed on the Project framework, including Project Design Matrix, Plan of Operation, Training Structure, Project Organization, Cost Estimate, etc. The details of the agreed documents are annexes 1-7. The major points of the Project Framework that have been agreed upon are as follows:

### **1. Title of the Project**

Strengthening of Mathematics and Science Education (SMASE)

### **2. Duration of the Project**

The duration of the Project will be five (5) years from January 2009 to December 2013.

### **3. Project Components**

The Project consists of two components;

- (1) Kenya Component
- (2) SMASE-WECSA Component

### **4. Objectives of the Project**

#### **(1) Kenya Component**

##### **1) Overall Goal**

Capability of young Kenyans in Mathematics and Science is upgraded.

##### **2) Project Purpose**

Quality of mathematics and science education at Primary and Secondary school levels in Kenya is strengthened through INSET.

#### **(2) SMASE-WECSA Component**

##### **1) Overall Goal**

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

##### **2) Project Purpose**

Capability of INSET providers to implement ASEI/PDSI based INSET in member countries is strengthened

### **5. Expected Outputs**



(1) Kenya Component

- A system of National INSET for Regional Trainers is established at CEMASTEА.
- A system of Regional INSET and Regional Workshop is established at PTTCs.
- Existing system of Cluster INSET is strengthened.
- Secondary Mathematics and Science teachers' ASEI/PDSI practices in classroom are enhanced.
- Role of CEMASTEА as resource centre for Mathematics and Science education is strengthened.

(2) SMASE-WECSA Component

- ASEI/PDSI based INSET providers from member countries are trained.
- SMASE-WECSA network is strengthened.
- Role of CEMASTEА as resource centre for Mathematics and Science education in Africa is strengthened.



## **II. Kenya Component**

### **II-1. Primary Education Sector**

#### **1. Target**

- The Project will target all primary schools. However, private schools will be required to share costs. The number of target public and private primary schools is 26,104 (Economic Survey, 2008).
- The Project will target two (2) subjects; Mathematics and Science.
- 60,000 teachers who are currently teaching Mathematics and Science at grade 6,7 and 8 will be capacitated through Cluster INSET, which will be conducted annually.
- Approximately 20,000 headteachers/deputy headteachers per year will be sensitized for Cluster INSET management and ASEI/PDSI lesson practice in the classroom.
- At the district and zone level, 5,600 Cluster Trainer will be selected and capacitated. 1,100 TAC tutors and 1,258 QASOs/deputy QASOs (8 provincial, 150 district and 1,100 zonal) will be capacitated to manage and monitor Cluster INSET and sensitize headteachers.
- At the regional level, 320 PTTC tutors in 19 public PTTCs will be capacitated as Regional Trainers.

#### **2. Curriculum and Training Structure**

- Considering the huge number of the primary school teachers and the importance of realizing INSET impact on teachers' classroom practices, the Project aims to strengthen the existing Cluster INSET by introducing the ASEI/PDSI approach and institutionalising the INSET.
- The Cluster INSET requires trainers with adequate M/S content knowledge, pedagogical experience and skills, and facilitation capacity. It also requires managers with capacity to organize cluster meetings and encourage teachers to undertake desired activities. The Project will capacitate these personnel through National and Regional INSET and District Workshops.
- In the first year of the Project (2009), cycle 3 of PTTC M/S Tutors INSET will be carried out to conclude INSET which started in Phase II.
- From the year 2010, primary INSET will start at the national level, subsequently cascading to the regional and cluster levels. National INSET will focus on primary school level.
- INSET/WS curricula, training manuals and materials will be developed and produced for use at national, regional and cluster levels. The development will be based on bottom-up



approach, considering first and principally how the Cluster INSET would impact on M/S teachers' classroom practices.

- CEMASTEА will be responsible for the development of primary INSET curriculum, training manuals and materials, based on needs survey and reviews of other INSET programs, such as SbTD. In the process of curriculum development, CEMASTEА will consult with PTTC tutors, TAC Tutors, KRTs and other specialists in the field of primary education.
- After each cycle of INSET at national, regional and cluster levels, CEMASTEА will review its results and feed back to the following annual cycle.
- The contents and delivery system of the INSET and Workshops are shown in following tables;

Objectives and Delivery System of INSET and Workshop

(1) INSET

Level	Objectives	Participants	Trainers	Venue	Duration	Management
National	To enhance classroom practices at primary school	Regional Trainer (RT) (320)	CEMASTEА Academic Staff	CEMASTEА	2 weeks	CEMASTEА
Regional	level through introduction of ASEI/PDSI	Cluster Trainer (CT) (5,600)	RT (320)	PTTCs (19)	2 weeks	DPC
Cluster	sessions in cluster INSET.	M/S teachers grade 6-8 (60,000)	CT (5,600)	Cluster schools (3,300)	5 days	DPC

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(2) Workshops (WS)

Level	Objectives	Participants	Trainers	Venue	Duration	Management
National	Sensitisation on SMASE INSET & ASEI/PDSI	PTTC Principals (19) and Deans of curriculum/ HOD(38)	CEMASTEА Academic Staff	CEMASTEА	5 days	CEMASTEА
Regional	Sensitisation on Cluster INSET management and monitoring/ supervision of ASEI/PDSI practices	TAC Tutors (1,100) P-QASO /Deputy (8) D-QASO /Deputy (150) Z-QASO(1,100)	RT (320)	PTTCs (19)	5 days	DPC and CEMASTEА
District	Sensitisation on supervision of ASEI/PDSI classroom practices	Headteachers/ deputy headteachers (20,000 per year)	D-QASO, TAC-T, Z-QASO (450)	INSET centre (108) and other venues	1 day	DPC

- The importance of the School-based INSET to mobilize M/S teachers at the school level was discussed for the purpose of better impact on teaching activities. However, it is considered premature to implement the SMASE School-based INSET at this stage. It is recommended that level of M/S teachers' motivation after Cluster INSET and headteachers' leadership after sensitization Workshop be assessed and the possibility to implement the SMASE School-based INSET be considered at the Mid-term evaluation of the Project. This will facilitate the process of learning from the activities implemented during the proposed phase.

### 3. INSET and W/S Management Structure

- Current DPC will be expanded for effective implementation of the primary INSET and

WS by incorporating principals of public PTTCs, QASOs in charge of primary and one representative each of PTTC M/S Tutors, Kenya Primary Headteachers District Association, Zonal QASO, TAC tutors and Cluster Trainers.

- Composition and management of DPC meetings will depend on the agenda and guidelines developed by stakeholders.
- Expanded DPC will bear principal responsibility to manage and administrate Regional and Cluster INSET as well as Regional and District WSs, coordinating with MOE, CEMASTEА and any other stakeholders.
- CEMASTEА will be in charge of the management of National INSET and WS, and oversees DPCs activities.

#### **4. Provision of Training Materials**

- Based on the needs survey and training curriculum, CEMASTEА and JICA will analyze and determine materials to be provided for quality INSET. It is recommended that Cluster INSET needs to operate under the actual limitation of the given situations at the school level, making use of locally available materials and improvisations for sustainability.
- The needs survey to determine INSET curriculum will be conducted between January and May in 2009.

## **II-2. Secondary Education Sector**

### **1. Target and Curriculum**

- The Project will target all secondary schools. However, private schools will be required to share costs. The number of public and private secondary schools is 6,485 (Economic Survey, 2008).
- Through National and District Workshops, all secondary school principals will be capacitated on school leadership and management to promote ASEI/PDSI classroom practices.
- CEMASTEА will continue to conduct INSET at the secondary level. The Project will develop INSET content on lesson study in order to further enhance M/S teachers' ASEI/PDSI practices with the support of strengthened school leadership of principals.
- INSET curriculum will incorporate the concept of School-based / Internal Quality Assurance of ASEI Classroom Practice to enhance and support M/S teachers' ASEI/PDSI practice in the classroom. INSET programme will capacitate the ability and leadership of



District Trainers and M/S Heads of Department (HOD).

## 2. Training Structure

- The delivery system of the National and District Workshop is shown in following tables;

Level	Participants	Venue	Duration	Management
National	Selected principals (360)	CEMASTEА	5 days	CEMASTEА
District	Principals (6,125)	INSET centre	5 days	DPC

## III. SMASE-WECSA Component

- Since the commencement of the SMASSE regional component, SMASE-WECSA network has substantially contributed to the promotion of M/S education and INSET systems in member countries. This could not have been realized without the commitment of MOE, and capability and human resource of CEMASTEА.
- TICAD IV, held in May 2008, adopted the Yokohama Action Plan in which the Government of Japan made a commitment to expand SMASE projects for 100,000 teachers, to promote experience-sharing among SMASE-WECSA member countries and to provide teacher training in M/S education for SMASE-WECSA member countries.
- The Project will continue its activities for the SMASE-WECSA component in the following three areas;

### 1. Capacitation of INSET providers in member countries

- The Project will continue to provide the TCTP at CEMASTEА and capacitate regional human resource in the field of M/S education. CEMASTEА will conduct M&E and give necessary follow-up technical support to member countries.
- Curriculum and training materials of TCTP will be reviewed for the further development and refinement of the ASEI/PDSI approach.



## **2. Strengthening of the SMASE-WECSA network**

- As a result of the SMASE-WECSA regional cooperation, a large number of countries have made various efforts to promote M/S education in their countries with a lot of lessons learnt, innovative actions and thoughts shared. SMASE-WECSA network will be strengthened to promote sharing of information and interaction for the mutual benefit among member countries.
- Due to the expansion of SMASE-WECSA, establishment of sub-regional groupings (for example, on geographical or linguistic basis), which will bring more effective interactions among member countries, should be considered.

## **3. Roles of CEMASTEAs as resource centre is strengthened**

- CEMASTEAs has started technical discussions with African Union (AU) in the area of Teacher Development of the Second Decade of the African Educational Development. This kind of strategic alliance with other regional or international organizations should be considered.

## **IV. Inputs**

### **1. Kenyan side**

- 1) Buildings, offices and other facilities necessary for INSET activities
- 2) Assignment of adequate Kenyan full-time academic counterpart personnel at CEMASTEAs
- 3) Assignment of adequate non-academic personnel at CEMASTEAs
- 4) Expenses necessary for the project activities to be implemented in Kenya
- 5) Expenses for repair, maintenance and improvements of CEMASTEAs facilities

### **2. JICA side**

- 1) Dispatch of long-term experts
- 2) Dispatch of short-term experts as need arises
- 3) Training of Kenyan counterpart personnel in Japan and in third countries
- 4) Provision of training materials and equipment for INSET activities
- 5) Expenses necessary for SMASE-WECSA activities
- 6) Local operation cost for administration of the Project

- Tentative estimated cost for above inputs 3), 4), 5) and 6) is 600,000,000 KShs. The



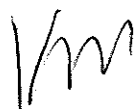
budget allocation shall be reviewed annually based on the agreed workplan.

## **V. Project Management Structure**

- The Project will be managed at national and district levels and will include all required decision-making bodies. For further details, see ANNEX 4 and 5.
- Permanent Secretary, MOE, as the Project Director, will bear overall responsibility for the administration and implementation of the Project.
- Education Secretary, MOE, as the National Project Coordinator, will coordinate the administration of the Project.
- Director/BoG, CEMASTEА, as the Technical Project Manager, will be responsible for the technical matters of the Project.

## **VI. Measures to be taken by the Kenyan side before and during the project period**

- The legal status of CEMASTEА should be reviewed to entrench the function of CEMASTEА.
- CEMASTEА academic staff should be increased proportionately to cope with increased workload at the primary level.
- INSET materials and equipment supplied to INSET centres will remain the property of MOE to be used by DPCs.
- Harmonisation of INSET programmes for primary and secondary schools should be completed.
- The Kenyan side shall make the identified contributions over the period of five (5) years for the implementation of INSET and W/S. The overview of the cost estimate is shown below and the detailed information is shown in ANNEX 7. The budget allocation shall be reviewed annually based on the agreed workplan. The current budget for CEMASTEА can accommodate the cost below for 2008/09.



<b>KFY</b>	<b>TOTAL (KSh.)</b>
2008/09	5,199,000
2009/10	118,194,000
2010/11	192,194,000
2011/12	192,194,000
2012/13	192,194,000
2013/14	99,234,000
<b>TOTAL Cost</b>	<b>799,209,000</b>

## VII. Way Forward

<b>Date</b>	<b>Event</b>	<b>Remarks</b>
September to October, 2008	Finalisation of the Project Document	
October – November, 2008	Internal Assessment Procedure of JICA	Internal assessment procedure for the final approval at JICA Headquarters.
November, 2008	Signing of Record of Discussions (R/D)	R/D is the official document of the Project between JICA and the Kenyan authorities.
January, 2009	Commencement of the Project	

The above schedule will depend on the progress of the preparation by both sides.

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## **ANNEX LIST**

1. Project Design Matrix
2. Plan of Operation
3. INSET Training & Sensitizing Workshop Schedule 2009 - 2013
4. Management Structure
5. Roles of Various Committees
6. INSET and W/S Structure
7. Cost Estimate of INSET Training Sensitizing Workshop



## Project Design Matrix (PDM) : Kenya Component

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

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

Duration: 5 years from January 2009 to December 2013

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<b>(Overall goal)</b> Capability of young Kenyans in Mathematics and Science is upgraded.	(a) Performance in National Examinations at primary and secondary education (b) Results of original achievement tests, such as SPIAS at the secondary level	Kenya National Examinations Council SMASE M&E report	
<b>(Project Purpose)</b> Quality of Mathematics and Science education at Primary and Secondary school levels in Kenya is strengthened through INSET.	By the end of the project, the results of the lesson observation by following monitoring tools reach the targeted figures;  (Primary level) (a) Lesson Innovation Index (target figure: 3.0) (b) ASEI/PDSI Check List (target figure: 2.0) (c) Lesson Observation Index (target figure: 2.0) (d) Student Participation Index (target figure: 2.5)  (Secondary level) (a) ASEI/PDSI Check List (target figure: 3.0) (b) Lesson Observation Index (target figure: 3.0) (c) Student Participation Index (target figure is 3.0)	SMASE Project M&E reports	
<b>(Output)</b> 1. A system of National INSET for Regional Trainers is established at CEMASTEAs.  2. A system of Regional INSET and Regional workshop is established at PTTCs.  3. Existing system of cluster INSET is strengthened.	By the end of the project: 1 (a) 4 cycles of training materials and programs for the National INSET for the primary education are developed. 1 (b) Over 250 Regional Trainers are trained at CEMASTEAs. 1 (c) National INSET for the primary education at CEMASTEAs obtain mean of over 3 on the scale of 0 to 4 in the Quality of INSET Assessment Index.  2 (a) Regional INSET for Cluster Trainer at PTTCs is carried out four times. 2 (b) At least 5,600 Cluster Trainers are trained. 2 (c) Over 1,000 TAC Tutors and 8 provincial, 140 district and 1,000 Zone QASOs are trained. 2 (d) Regional Trainers obtain mean of over 2.5 on the scale of 0 to 4 in the overall assessment of Capacity Building Index at the Regional INSET at PTTCs. 2 (e) Regional INSET at PTTCs obtain mean of over 2.5 on the scale of 0 to 4 in the Quality of INSET Assessment Index.  3 (a) A guideline/manual on management of M/S INSET for primary school teacher is developed. 3 (b) At least 60,000 primary school teachers drawn from every cluster in the country participate in Cluster INSET.	1. SMASE Project M&E reports.  2. SMASE Project M&E reports.  3. SMASE Project M&E reports.	Other programs do not adversely affect teachers' participation.



<p>4. Secondary M/S teachers' ASEI/PDSI practices in classroom are enhanced.</p> <p>5. Role of CEMASTEAs as resource centre for M/S education is strengthened.</p>	<p>4 (a) INSET and workshop contents for introducing lesson study are developed.</p> <p>4 (b) 360 principals are trained at National workshop.</p> <p>4 (c) Over 6,000 Principals are trained at District workshop.</p> <p>5 (a) At least 8 newsletters are published and distributed.</p> <p>5 (b) At least 2 titles on ASEI/PDSI practices are published and distributed.</p>	<p>4. SMASE Project M&amp;E reports.</p> <p>5. SMASE Project M&amp;E reports.</p>	
<p>(Activities)</p> <p>1-1 To assess INSET training needs of primary M/S teachers.</p> <p>1-2 To develop manuals and materials for National/Regional/Cluster INSET.</p> <p>1-3 To develop/review monitoring and evaluation tools for National/Regional/Cluster INSET.</p> <p>1-4 To conduct National INSET for Regional Trainers at CEMASTEAs.</p> <p>1-5 To organise workshops for PTTC Principals and Deans of Curriculum/heads of M/S department on understanding of SMASE INSET &amp; ASEI/PDSI classroom practices.</p> <p>1-6 To carry out monitoring and evaluation on quality of National INSET.</p> <p>1-7 To carry out monitoring and evaluation on impact of National INSET.</p> <p>2-1 To conduct national sensitisation workshop for DEO, QASO, TAC Tutor.</p> <p>2-2 To select Cluster Trainer.</p> <p>2-3 To provide PTTCs with training materials/apparatus as necessary for regional INSET and workshop.</p> <p>2-4 To develop the workshop contents and materials by CEMASTEAs.</p> <p>2-5 To organise Regional workshops.</p> <p>2-6 To conduct Regional INSET for Cluster Trainers at PTTCs.</p> <p>2-7 To carry out monitoring and evaluation on quality of Regional INSET.</p> <p>2-8 To carry out monitoring and evaluation on impact of Regional INSET.</p> <p>3-1 To provide training materials/apparatus as necessary for Cluster INSET and District Workshop.</p> <p>3-2 To conduct Cluster INSET.</p> <p>3-3 To conduct District workshop.</p> <p>3-4 To carry out monitoring and evaluation on quality of the cluster INSET.</p> <p>3-5 To carry out monitoring and evaluation on the impact of cluster INSET and ASEI/PDSI classroom practices.</p> <p>3-6 To develop handbook on management of primary INSET system in accordance with MOE policy.</p> <p>4-1 To assess the current situation of M/S teachers' ASEI/PDSI classroom practices.</p> <p>4-2 To develop INSET content for lesson study.</p> <p>4-3 To assess the current situation of capacity of school leadership on supervision of ASEI/PDSI classroom practices.</p> <p>4-4 To develop workshop content for principals.</p> <p>4-5 To conduct National workshop for selected principals.</p>		<p>(INPUTS)</p> <p><b>Kenyan side:</b></p> <p>1 Buildings, Offices and other facilities necessary for INSET activities</p> <p>2 Assignment of adequate Kenyan full-time academic counterpart personnel at CEMASTEAs</p> <p>3 Assignment of adequate non-academic personnel at CEMASTEAs</p> <p>4 Expenses necessary for the project activities to be implemented in Kenya</p> <p>5 Expenses for repair, maintenance and improvements of CEMASTEAs facilities</p> <p><b>Japanese side</b></p> <p>1 Dispatch of long-term experts</p> <p>2 Dispatch of short-term</p>	<p>The counterparts at CEMASTEAs and key trainers in the devolved cascade levels will be motivated enough to continue to work for the project</p>

4-6	To conduct District workshop for all principals.		
4-7	To carry out monitoring and evaluation on ASEI/PDSI classroom practices.	3	experts Training of Kenyan counterpart personnel in Japan and in third countries
5-1	To publish newsletters, manuals and reports.		
5-2	To establish networks with agencies/institutions involved in related activities.		
5-3	To organise symposia on good ASEI/PDSI classroom practices.	4	Provision of training materials and equipment for INSET activities
5-4	To compile good practices of ASEI/PDSI and disseminate.	5	Expenses necessary for SMASE-WECSA activities
		6	Local operation cost for administration of the Project
			<b>Preconditions:</b> Teachers' union support the project.

## Project Design Matrix (PDM): SMASE-WECSA Component

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

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

**Duration:** 5 years from January 2009 to December 2013

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<b>(Overall goal)</b> Quality of Teaching and Learning of Mathematics and Science in member countries is improved	(a) Practice of ASEI/PDSI Index obtain a mean of 2.5 on a scale of 0-4 (b) Quality of learning Index attains a mean of 2.5	M & E Reports	
<b>(Project Purpose)</b> Capability of INSET providers to implement ASEI/PDSI based INSET in member countries is strengthened	By the end of the project period: (a) Lesson Innovation Index attains a mean of 2.5 (b) INSET providers obtain a mean of 2.5 on a scale of 0-4 in the overall assessment of Capacity Building Index for INSET provision	SMASE Project Monitoring and Evaluation Reports	Policy frameworks in participating countries will be supportive of INSET for Mathematics and Science teachers
<b>(Outputs)</b> 1. ASEI/PDSI based INSET providers from member countries are trained.  2. SMASE-WECSA network is strengthened.  3. Role of CEMASTEAs is strengthened as resource centre for Mathematics and Science education in Africa.	1. By the end of the project period: a) TCTP at CEMASTEAs is carried out five times. b) At least 400 participants attend the TCTP at CEMASTEAs c) At least 40 sets of training materials are produced d) M & E tools applicable to member countries are developed and used  2. By the end of the project period: a) Regional conferences and SMASE-WECSA delegates meetings are held at least four times b) Increased number of countries participating in SMASE-WECSA activities and implementing INSET. c) Technical exchange notes: LOU, MOU etc.  3. By the end of project period: a) ASEI/PDSI prototype lesson plans, developed by member countries, are compiled and disseminated. b) At least 4 SMASE-WECSA newsletters are published.	1. SMASE Project M&E reports.  2. SMASE Project M&E reports.  3. SMASE Project M&E reports.	

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

Name: Strengthening of Mathematics and Science Education

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

Output	Activities	2009												2010												2011												2012												2013													
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
		<b>1. A system of National INSET for Regional Trainers is established at CEMASTEIA.</b>	1) To assess INSET training needs of primary M/S teachers. 2) To develop manuals and materials for National/Regional/Cluster INSET. 3) To develop/review monitoring and evaluation tools for National/Regional/Cluster INSET. 4) To conduct National INSET for RT at CEMASTEIA. 5) To organise workshops for PTTC Principals and Deans of Curriculum/heads of M/S department on understanding of SMASE INSET & ASE/PDSI classroom practices. 6) To carry out monitoring and evaluation on quality of National INSET. 7) To carry out monitoring and evaluation on impact of National INSET.																																																												
<b>2. A system of Regional INSET and Regional workshop is established at PTTCs.</b>	1) To conduct national sensitisation workshop for DEO, QASO, TAC tutor. 2) To select Cluster Trainer. 3) To provide PTTCs with training materials/apparatus as necessary for regional INSET and workshop. 4) To develop the workshop contents and materials by CEMASTEIA. 5) To organise Regional workshops. 6) To conduct Regional INSET for Cluster Trainers at PTTCs. 7) To carry out monitoring and evaluation on quality of Regional INSET. 8) To carry out monitoring and evaluation on impact of Regional INSET.																																																														
<b>3. Existing system of Cluster INSET is strengthened.</b>	1) To provide training materials/apparatus as necessary for Cluster INSET and District Workshop. 2) To conduct cluster INSET. 3) To conduct District workshop. 4) To carry out monitoring and evaluation on quality of the cluster INSET. 5) To carry out monitoring and evaluation on the impact of cluster INSET and ASE/PDSI classroom practices. 6) To develop the handbook for primary INSET system in accordance with MOE policy.																																																														

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Output	Activities	2009					2010					2011					2012					2013																			
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12				
4. Secondary M/S teachers' ASEI/PDSI practices in classroom are enhanced.	1) To assess the current situation of M/S teachers' ASEI/PDSI classroom practices.																																								
	2) To develop INSET content for lesson study.																																								
	3) To assess the current situation of capacity of school leadership on supervision of ASEI/PDSI classroom practices.																																								
	4) To develop the workshop content for principals.																																								
	5) To conduct National workshop for selected principals.																																								
	6) To conduct District workshop for all principals.																																								
	7) To carry out monitoring and evaluation on ASEI/PDSI classroom practices.																																								
5. Role of CEMASTEA as resource centre for M/S education is strengthened.	1) To publish newsletters, manuals and reports.																																								
	2) To establish networks with agencies/institutions involved in related activities.																																								
	3) To organise symposia on good ASEI/PDSI classroom practices.																																								
	4) To compile good practices of ASEI/PDSI and disseminate.																																								

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Annex 3

INSET Training & Sensitizing Workshop Schedule 2009 - 2013

1. PRIMARY LEVEL

Level	Venue	INSET / WS	Target	2009												2010												2011												2012												2013											
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
National	CEMASTA	National INSET	RT (320)	Cycle 3												Renewed Cycle 1												Renewed Cycle 2												Renewed Cycle 3												Renewed Cycle 4											
		National WS	PTTC Principal & Dean/HOD (57)																																																												
Regional	PTTC	Regional WS	TAC Tutor (1100) P-QASO (8) D-QASO /Deputy(150) Z-QASO(1100)																																																												
		Regional INSET	Cluster Trainer (5600)	Renewed Cycle 1												Renewed Cycle 2												Renewed Cycle 3												Renewed Cycle 4																							
District	INSET centre /cluster school	District WS	Headteacher /Deputy (20000)																																																												
		Cluster INSET	M/S teacher grade 6-8 (60000)	Renewed Cycle 1												Renewed Cycle 2												Renewed Cycle 3												Renewed Cycle 4																							

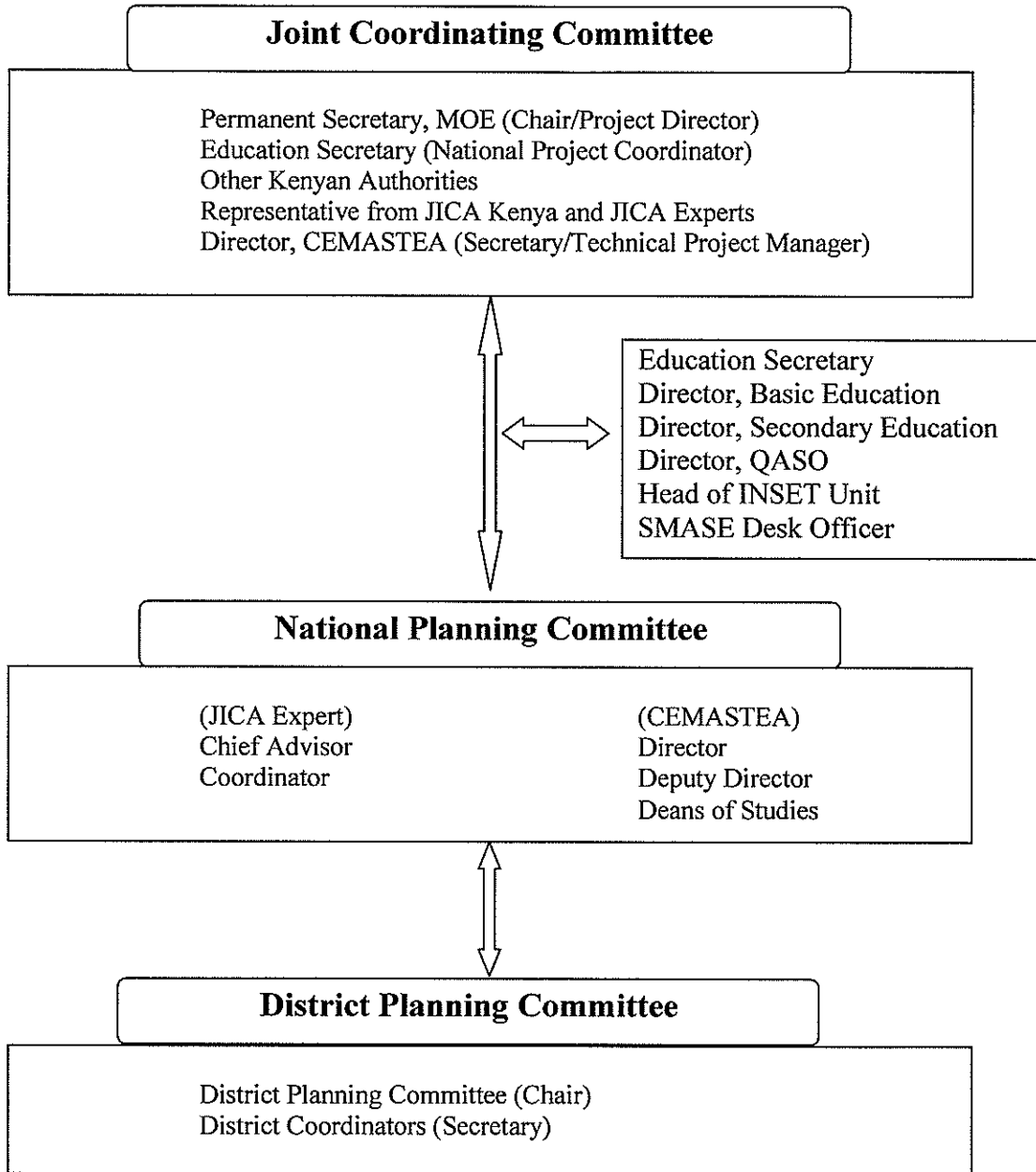
2. SECONDARY LEVEL

Level	Venue	INSET / WS	Target	2009												2010												2011												2012												2013											
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12												
National	CEMASTA	National WS	Principal (360)																																																												
		District WS	Principal (5,400)																																																												

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## MANAGEMENT STRUCTURE



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## ROLES OF VARIOUS COMMITTEES

### I . Joint Coordinating Committee (JCC)

The Joint Coordinating Committee, which consists both of the Japanese and Kenyan sides, will be established for the smooth and effective implementation of the Project.

#### 1. Functions

The Joint Coordinating Committee will meet at least once a year or whenever the necessity arises, in order to fulfill the following functions:

- (1) To approve the Annual Plan of Operation of the Project
- (2) To review the overall progress of the Project and achievement of the technical cooperation
- (3) To make decisions on major issues arising from or in connection with implementation of the Project.

#### 2. Composition

##### (1) Members

##### a) The Kenyan side

Permanent Secretary, MOE (Chair)  
Education Secretary, MOE  
Directors of Education, MOE  
Chief Finance Officer, MOE  
Director, External Resource Department, Ministry of Finance  
Secretary, Teachers' Service Commission  
Representative, Provincial Director of Education  
Chairman, Board of Governors, CEMASTE A  
Director, CEMASTE A (Secretary)

##### b) The Japanese side

Resident Representative, JICA Kenya Office  
Chief Advisor  
Members of JICA study team, to be dispatched when necessary



Officials of the Embassy of Japan in Kenya may attend the Joint Coordinating Committee meetings as observer(s).

Other member(s) accepted by the Chair, as necessary

## **II . National Planning Committee**

The National Planning Committee will run the project on a daily basis.

### **1. Functions**

- (1) To make annual working plan on the basis of the Plan of Operation
- (2) To monitor the progress of the project activities
- (3) To take responsibilities for project's procurement
- (4) To take daily administrative responsibilities of the Project
- (5) To manage INSET
- (6) To manage workshops
- (7) To manage SMASE-WECSA activities

### **2. Composition**

CEMASTE A:

Director

Deputy Director

Deans of Studies

JICA Experts:

Chief Advisor

Coordinator

## **III . District Planning Committee**

Main responsibility of DPC is to make District Annual Work Plan and to manage SMASE INSET activities.

### **1. Functions include the following:**

- (1) To manage funds for SMASE activities in the District
- (2) To prepare and implement budget for INSET and WS
- (3) To sensitize stakeholders in the district on the project activities
- (4) To prepare annual financial expenditure and SMASE training reports, and submit

to the MOE and copy to CEMASTEAs, District Heads Associations and PDE

- (5) To recruit trainers
- (6) To ensure INSET Centers are functional
- (7) To take custody of INSET materials and equipment at the INSET Center
- (8) To vet and appraise Trainers on their performance
- (9) To invite teachers, principals and QASOs for training
- (10) To monitor and ensure attendance by the teachers and headteachers for the training and workshops
- (11) To give feedback to TSC on district training

## 2. Composition

District Education Officer

District SMASE Coordinator (Secondary D-QASO)

District SMASE Coordinator (Primary D-QASO)

Principal of District INSET Center

Principal of PTTC

Representative, Regional Trainers

Chairperson of District, Kenya Secondary Schools Head Teachers' Association

Chairperson of District, Kenya Primary Schools Head Teachers' Association

District Trainers' representative

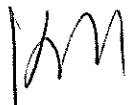
Representative, Z-QASO

Representative, TAC Tutor

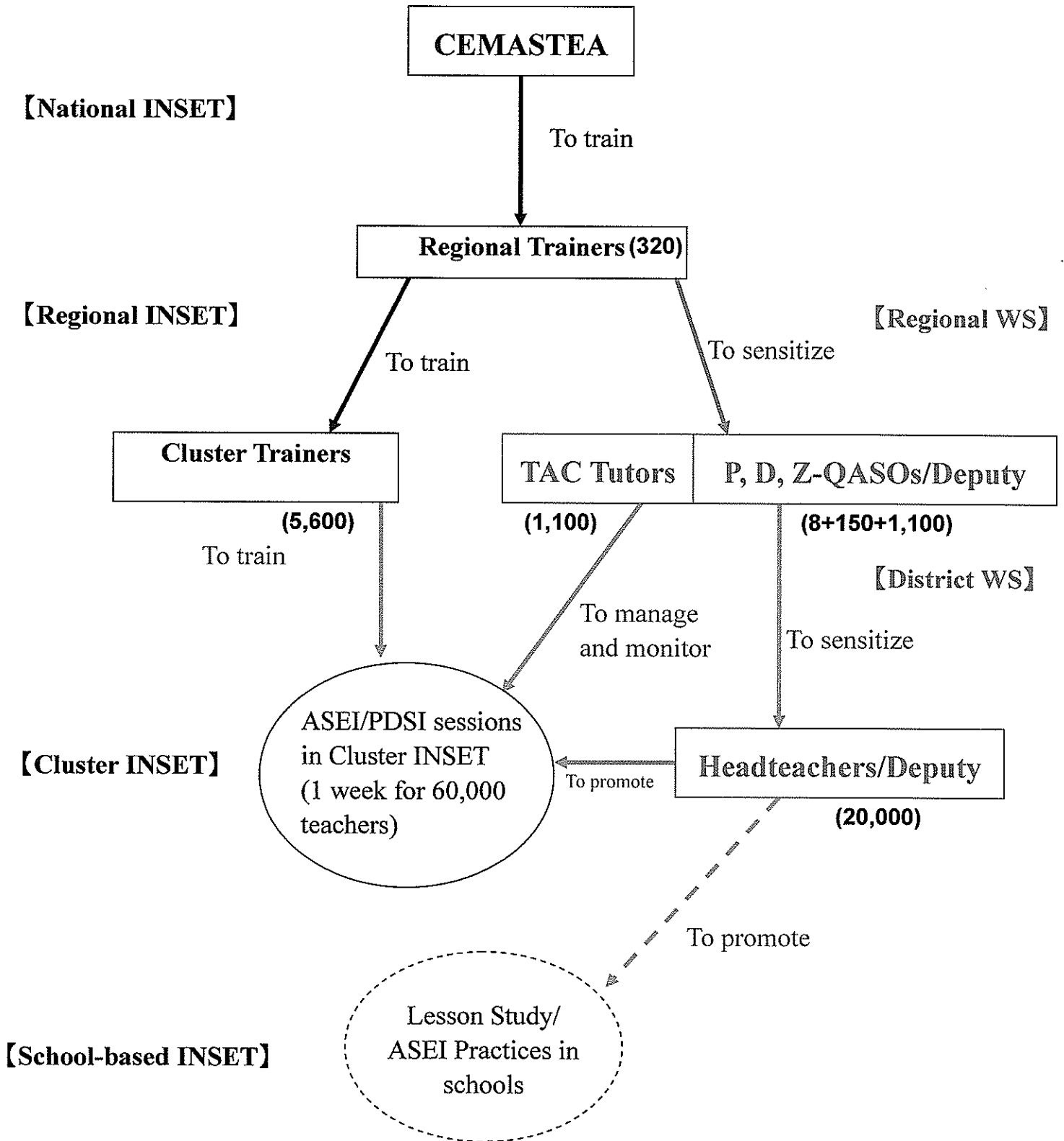
Representative, CT

Representative, TSC (staffing officer)

Representative, Cluster School Headteachers



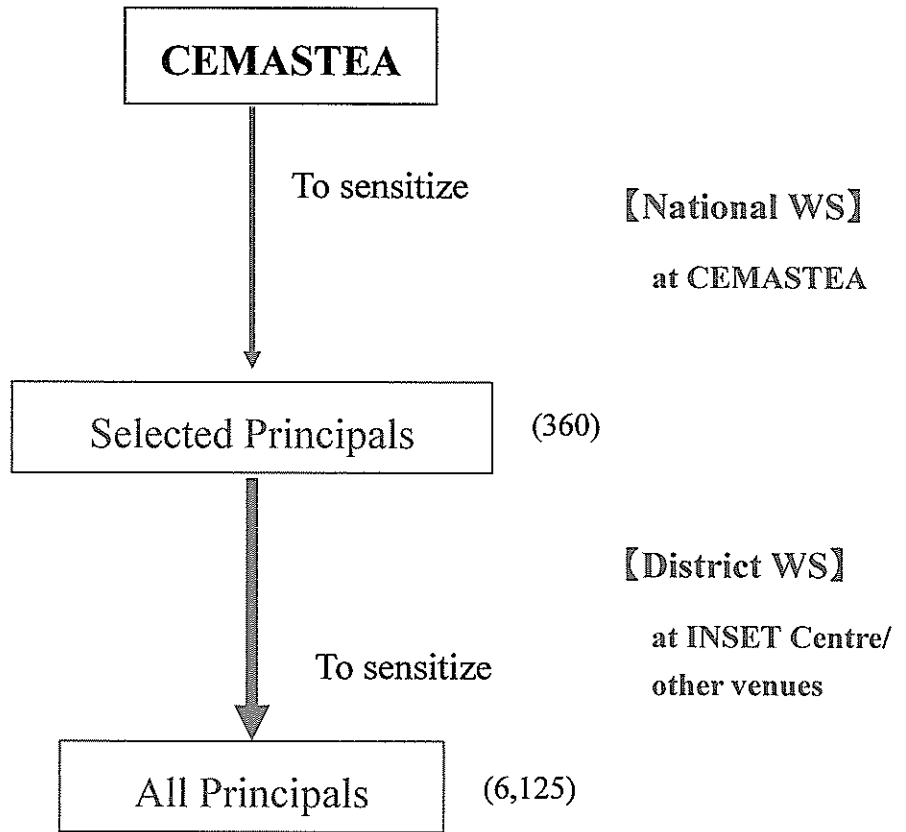
**INSET and W/S Structure in Primary Level**



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W/S Structure in Secondary Level



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**ANNEX 7 (1) Cost Estimate of INSET Training and Sensitization Workshop for Primary SMASE (KYF 2008-2013)**

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<b>KFY</b>	<b>TOTAL (Ksh.)</b>
<b>2008/09</b>	<b>5,199,000</b>
<b>2009/10</b>	<b>118,194,000</b>
<b>2010/11</b>	<b>192,194,000</b>
<b>2011/12</b>	<b>192,194,000</b>
<b>2012/13</b>	<b>192,194,000</b>
<b>2013/14</b>	<b>99,234,000</b>
<b>TOTAL Cost</b>	<b>799,209,000</b>

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**ANNEX 7 (2) Cost Estimate of INSET Training and Sensitizing Workshop for Primary SMASE (KFY 2008)**

Activities	Items	Number of Participants	Unit Cost (Ksh.)	Days	Subtotal (Ksh.)	Annual Cost (Ksh.)	TOTAL
National INSET	meal	320	1,000	13	4,160,000	4,800,000	5,199,000
	accommodation						
	transportation	320	2,000	1	640,000		
National WS	meal	57	1,000	5	285,000	399,000	
	accommodation						
	transportation	57	2,000	1	114,000		

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**ANNEX 7 (3) Cost Estimate of INSET Training and Sensitizing Workshop for Primary SMASE (KFY 2009)**

Activities	Items	Number of Participants	Unit Cost (Ksh.)	Days	Subtotal (Ksh.)	Annual Cost (Ksh.)	TOTAL
National INSET	meal	320	1,000	13	4,160,000	4,800,000	118,194,000
	accommodation						
	transportation						
Regional INSET	meal	5,600	1,000	13	72,800,000	88,160,000	118,194,000
	accommodation						
	transportation						
	facilitator allowance						
	meal						
Regional WS	acommodation	2,358	2,000	1	4,716,000	20,784,000	118,194,000
	transportation						
	facilitator allowance						
	meal						
	lunch						
District WS	transportation	20,000	0	0	0	4,450,000	118,194,000
	facilitator allowance						
	meal						

**ANNEX 7 (4) Cost Estimate of INSET Training and Sensitizing Workshop for Primary SMASE (KFY 2010)**

Activities	Items	Number of Participants	Unit Cost (Ksh.)	Days	Subtotal (Ksh.)	Annual Cost (Ksh.)	TOTAL
National INSET	meal	320	1,000	13	4,160,000	4,800,000	
	accommodation						
	transportation						
Regional INSET	meal	5,600	1,000	13	72,800,000	88,160,000	
	accommodation						
	transportation						
	facilitator allowance						
	lunch						
Cluster INSET	meal	60,000	200	5	60,000,000	74,000,000	192,194,000
	transportation						
	facilitator allowance						
	lunch						
	facilitator allowance						
Regional WS	meal	2,358	1,000	6	14,148,000	20,784,000	
	accommodation						
	transportation						
	facilitator allowance						
	lunch						
District WS	transportation	20,000	0	0	0	4,450,000	
	facilitator allowance						
	facilitator allowance						

**ANNEX 7 (5) Cost Estimate of INSET Training and Sensitizing Workshop for Primary SMASE (KFY 2011)**

Activities	Items	Number of Participant	Unit Cost (K.sh.)	Days	Subtotal (K.sh.)	Annual Cost (K.sh.)	TOTAL
National INSET	meal	320	1,000	13	4,160,000	4,800,000	
	accommodation						
	transportation						
Regional INSET	meal	5,600	1,000	13	72,800,000	88,160,000	
	accommodation						
	transportation						
	facilitator allowance						
	lunch						
	transportation						
Cluster INSET	meal	60,000	200	5	60,000,000	74,000,000	192,194,000
	transportation						
	facilitator allowance						
	lunch						
	transportation						
	facilitator allowance						
Regional WS	meal	2,358	1,000	6	14,148,000	20,784,000	
	accommodation						
	transportation						
	facilitator allowance						
	lunch						
	transportation						
District WS	meal	20,000	200	1	4,000,000	4,450,000	
	transportation						
	facilitator allowance						

**ANNEX 7 (6) Cost Estimate of INSET Training and Sensitizing Workshop for Primary SMASE (KFY 2012)**

Activities	Items	Number of Participants	Unit Cost (Ksh.)	Days	Subtotal (Ksh.)	Annual Cost (Ksh.)	TOTAL
National INSET	meal	320	1,000	13	4,160,000	4,800,000	
	accommodation						
	transportation						
Regional INSET	meal	5,600	1,000	13	72,800,000	88,160,000	
	accommodation						
	transportation						
	facilitator allowance						
	lunch						
Cluster INSET	transportation	60,000	200	5	60,000,000	74,000,000	192,194,000
	facilitator allowance						
	lunch						
	transportation						
	facilitator allowance						
Regional WS	meal	2,358	1,000	6	14,148,000	20,784,000	
	accommodation						
	transportation						
	facilitator allowance						
	lunch						
District WS	transportation	20,000	0	0	0	4,450,000	
	facilitator allowance						
	facilitator allowance						

**ANNEX 7 (7) Cost Estimate of INSET Training and Sestizing Workshop for Primary SMASE (KFY 2013)**

Activities	Items	Number of Participant	Unit Cost (Ksh.)	Days	Subtotal (Ksh.)	Annual Cost (Ksh.)	TOTAL
Cluster INSET	lunch	60,000	200	5	60,000,000	74,000,000	
	transportation						
	facilitator allowance	5,600	500	5	14,000,000		
Regional WS	meal	2,358	1,000	6	14,148,000	20,784,000	99,234,000
	accomodation						
	transportation	2,358	2,000	1	4,716,000		
	facilitator allowance	320	1,000	6	1,920,000		
	lunch	20,000	200	1	4,000,000		
District WS	transportation	20,000	0	0	0	4,450,000	
	facilitator allowance	450	1,000	1	450,000		

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添付資料3. 関係資料（教育セクターへの海外援助金額詳細）

**External Funding Breakdown**

Project	2007/08	2008/09
	Amount	Amount
<b><u>UNICEF</u></b>		
Preventive HIV/AIDS Services (KIE)	15,000,000	7,000,000
Early Childhood Education	28,095,400	28,096,200
Complimentary Education	31,788,250	31,788,250
Primary Education	74,894,800	
Communications, Partnerships & Participation	16,600,000	10,000,000
Emergency Education Response (Support to Peace Education)	26,140,000	10,000,000
KESSP	36,250,000	16,000,000
<b><u>USAID</u></b>		
Infrastructure Support for NEP	5,962,444	
Kenya Education Staff Institute -Capacity Building	17,500,000	15,500,000
The Mobile Task Team DEMMIS	30,450,000	15,500,000
Education Sector - Policy & Investment	29,435,455	31,000,000
MOEST - District Capacity Assessments	14,000,000	18,600,000
Integrating Sector - Policy and Investment	28,000,000	
Integrating HIV/AIDS in Education Strategy		12,400,000
<b><u>FTI</u></b>		
Fast Track Initiative (FTI)	3,083,080,000	3,083,080,000
<b><u>CIDA</u></b>		
Kenya Schools Improvement Project (KENSIP)	16,287,000	
	2007/08	2008/09
Kenya Education Sector Support (KESSP)	450,000,000	456,411,000
<b><u>WFP</u></b>		
Access to Basic Education	1,142,833,200	1,045,509,038
<b><u>JAPAN</u></b>		
SMASSE Project	173,258,220	25,800,000
<b><u>BELGIUM</u></b>		
Technical Assistance & Supply of Equip (VVOB)	46,457,150	48,000,000
<b><u>SAUDI ARABIA</u></b>		
Improvement of Education	5,000,000	
<b><u>ADB/ADF</u></b>		
Education III- Grant	5,610,495	220,000,000
Education III - Loan	72,740,000	730,000,000
<b><u>OPEC</u></b>		
Basic Education	300,000,000	380,000,000
<b><u>DFID</u></b>		
Kenya Education Sector Support (KESSP)	1,795,200,000	1,356,250,000
<b><u>IDA</u></b>		
Kenya Education Sector Support (KESSP)	1,400,000,000	1,400,000,000
<b>Total</b>	<b>8,844,582,414</b>	<b>8,940,934,488</b>







