

SMASSE PROJECT

MONITORING AND EVALUATION

INFORMATION AND DATA
FOR MID-TERM EVALUATION

OCTOBER 2005

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SMASSE PROJECT MONITORING AND EVALUATION

SMASSE PROJECT
P.O. Box 30596, Nairobi

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CHAPTER 1

ATTENDANCE OF INSET

Preamble

a) The Cascade System

There are two levels of training; national INSET and district INSET. At the national level, National Trainers train District Trainers. At district level, District Trainers train all mathematics and science teachers in their respective districts. National INSET is conducted at the Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA). District INSET are carried out in selected secondary school that are called SMASSE District INSET Centres. So far there are 96 District INSET Centres.

During the project period, there are 4 cycles of INSET for both levels and each cycle is designed to take 10 working days.

b) Themes of INSET

The themes of INSET during the project period are stated below;

Cycle	Year	Theme
1 st	2004	Change of attitude
2 nd	2005	Hands on activities and ASEI lesson planning
3 rd	2006	Actualisation: Practice in the classroom
4 th	2007	Student growth and impact transfer

Synthesis

With reference to the Project Design Matrix, the following observations were made;

- INSETs were carried out two times.
- 900 and 1017 District Trainers participated in 2004 and 2005 INSET respectively.
- 16,362 teachers participated in District INSET in 2004 conducted in 83 centres.
- 16,251 teachers participated in District INSET in 2005 conducted in 96 centres
- Basic Criteria for the Award of a Participation Certificate

The basic criteria are the same for both the national and district level. INSET guidelines are:

Basic requirements:

- Over 90% attendance during the 10 days of INSET
- Practicing secondary school teacher within the district and with at least six periods per week on the timetable.

Participation in INSET

- Active participation in all activities at the INSET (discussions, hands on activities, peer teaching etc).
- Active participation, in all INSET activities at district level (planning, management, facilitation)
- General conduct

1.1 NATIONAL INSET ATTENDANCE

Table 1.1: Summary of National INSET Attendance per Cycle

Group	Cycle 1 (2004)				Cycle 2 (2005)			
	Mathematics	Physics	Chemistry	Biology	Mathematics	Physics	Chemistry	Biology
1	19	20	20	18	22	22	20	18
2	19	19	19	18	22	24	25	20
3	19	18	18	20	21	22	20	21
4	18	18	17	19	21	23	23	22
5	40	42	40	41	26	27	27	28
6	86	86	78	75	26	23	26	26
7	28	25	32	28	32	26	30	30
8					24	22	21	22
9					15	14	13	18
10					22	22	21	23
11					23	15	15	19
12					10	9	10	6
Totals	229	228	224	219	264	249	251	253
	900 (888 expected) 886 in new centres + 14 in Pilot Districts				1017 (949 expected) 981 Kenyans + 32 Malawians + 4 JOCV			

Table 1.2: Number of Cycles Attended

Cycle 1 (2004)

Gp.	INSET Date	District
1	11/01/04-24/01/04	Embu, Kirinyaga, Kisumu, Mbeere
2	01/02/04-14/02/04	Kericho, Nyandarua, Thika
3	15/02/04-28/02/04	Bondo, Nyando, Siaya, Trans Nzoia/West Pokot/Turkana
4	14/03/04-27/03/04	Machakos, Nyeri
5	04/04/04-17/04/04	Bomet/Trans Mara, Nairobi, Nakuru/Narok, Nandi South, Rachuonyo, Maragua
6	18/04/04-01/05/04	Bungoma/Teso/Mount Elgon, Bureti, Busia, Homa Bay/Suba, Uashin Gishu, Vihiga, Wajir/Ijara/Mandera, Kitui, Kwale, Meru North, Mombasa, Kiambu, Meru Central/Tharaka/Isiolo/Moyale/Marsabit, Mwingi, Nandi North, Nyamira
7	09/05/04-22/05/04	Keiyo/Marakwet, Kuria/Migori, Laikipia/Samburu, Bomet/Trans Mara, Siaya, Baringo, Kericho, Lamu/Malindi/Tana River, Kisumu, Bungoma/Teso/Mount Elgon, Vihiga

Cycle 2 (2005)

Gp	INSET Date	District
1	16/01/05-29/01/05	Kisumu, Embu, Nyando, Nyandarua
2	30/01/05-12/02/05	Nyeri, Bondo, Mbeere, Homa Bay/Suba
3	13/02/05-26/02/05	Thika, Migori/Kuria, Nyamira
4	27/02/05-12/03/05	Kirinyaga, Mwingi, Trans Nzoia/Turkana/West Pokot, Uashin Gishu, Baringo
5	13/03/05-24/03/05	Machakos, Nandi South, Kwale, Busia, Kericho
6	29/03/05-09/04/05	Meru Central/Tharaka/Isiolo/Moyale/Marsabit, Siaya, Bureti, Kakamega
7	10/04/05-23/04/05	Nairobi, Meru North, Trans Mara/Bomet, Vihiga, Zambia JOCV
8	24/04/05-07/05/05	Narok/Nakuru, Wajir/Ijara/Mandera, Malawi
9	08/05/05-21/05/05	Rachuonyo, Nandi North, Keiyo/Marakwet, Gucha, Malawi
10	22/05/05-04/06/05	Bungoma/ Teso/ Mount Elgon, Mombasa, Malawi
11	05/06/05-18/06/05	Laikipia/Samburu, Kitui, Malindi/Tana River/Lamu, Malawi
12	19/06/05-01/07/05	Koibatek, Baringo

1.2 DISTRICT INSET ATTENDANCE

Table 1.3: District INSET Attendance

Province	District	INSET Centre	2004		2005	
			April	August	April	August
Nyanza	Migori/Kuria	Ulanda Girls		265	223	
	Rachuonyo	Agoro Sare High		196		197
	Nyamira	Kebirigo Sec		151	144	
		Sironga Girls		185	194	
		Nyansiongo High		148	158	
	Nyando	Nyakach Girls	213		247	
	Kisumu	Bishop Okoth Ojolla	/	/	120	
		Kisumu Girls	351		218	
	Bondo	Nyamonye Girls	186		199	
	Siaya	Rang'ala	/	/	150	
		Ng'iya Girls	327		135	
	Homa Bay/Suba	Asumbi Girls		142	223	
<i>Gucha</i>	Sengeru Girls	224			274	
<i>Kisii</i>	Kisii High	280		205		
Eastern	Meru North	Kanjalu Girls		147		158
	Meru Central/Moyale/ Tharaka/Marsabit	Kaaga Girls		194		162
		St. Mary IGOJI		158		160
	Isiolo	Isiolo Boys		136		158
	Mbeere	Consolata Gitaraka	155		137	
	Machakos	Machakos Girls	244		248	
		Masinga Girls	190		175	
		Tala Girls	223		240	
	Mwingi	Migwani		190		160
	Embu	Kyeni Girls	183		163	
		Nguviu Boys	183		141	
	Kitui	Mulango Girls		306		168
		Muthale Girls	/	/		130
	<i>Meru South</i>	Chuka Girls		196		
	<i>Makueni</i>	Makueni Boys	131			240
Precious blood		83			125	
St. Josepf Kibowezi		77			158	
Rift Valley	Keiyo	Kaptagat Girls	/	/		162
	Marakwet	Moi Girls, Kapsowar		262		110
	Bomet/Trans Mara	Moi Siongiroi Girls		176		194
		Tenwek Boys		171		173
	Uasin Gishu	Moi Girls Eldoret		277	314	

		Loreto Matunda		145	170
	Tans Nzoia	St. Brigids	226		247
	West Pokot/Turkana	Nasokol Girls	220		183
	Laikipia/Samburu	Njonjo Girls		259	286
	Kericho	Moi Tea Girls	369		237
		Londiani Girls			149
	Nandi North	Kapsabet Girls	242		278
	Nandi South	St. Mary Tachasis		171	169
	Nakuru/Narok	Mary Mount GHS		151	145
		Njoro BHS		146	120
		Menengai HS		177	176
		Bahati GHS		162	160
		Naivasha GHS		143	139
		St. Mary GHS		91	96
	Bureti	Kaplong Girls		301	135
		Tengecha Girls			149
	<i>Koibatek</i>	Solian Girls		78	97
	<i>Baringo</i>	Sacho High		140	77
	<i>Kajiado</i>	Moi Girls, Isinya		46	56
Central	Thika	Mary Hill Girls	257		238
		Karinga Girls	129		126
		Gatanga Girls	165		156
	Nyandarua	Nyandarua high	239		269
		Karima Girls	210		195
	Kirinyaga	Kianyaga Boys	220		230
		Kerugoya Girls	218		224
	Nyeri	Nyeri High	271		214
		Chinga Girls	233		170
		Tumutumu Girls	262		211
		Kangubiri Girls			191
	<i>Murang'a</i>	Kahuhia Girls	109		145
		Murang'a High	192		217
	<i>Kiambu</i>	Kiambu High	105		113
		St. Joseph Githunguri	225		228
		Ngarariga girls	187		204
		Kirangari High	163		169
	<i>Maragwa</i>	Njiri High	208		107
		Kamahuha Girls	169		116
	N Eastern	Wajir/Garissa/Ijara/Mandera	Wajir Girls		79
Nairobi	Nairobi	St. George's Girls		92	70

		Statehouse Girls		96		100
		Buru Buru Girls		114		131
		Kenya High/Jamuhuri		96		160
Western	Vihiga	Vokoli Girls		450		260
		Bunyore Girls				215
	Bungoma/Teso/Mt. Elgon	Lugulu Girls		143		176
		Cardinal Otunga		132		120
		Bungoma high		144		166
		Friends Kamsinga Girls		182		230
		Kolanya Girls'		115		89
	Busia	St. Cecilia, Nangina		156	178	
	<i>Lugari</i>	Bishop Njenga sec		224		109
	<i>Kakamega</i>	Kakamega high		217		142
		Mukumu Girls		135		200
	<i>ButereMumias</i>	Butere Girls		200		149
	Coast	Malindi/Lamu/Tana River	Malindi high		145	
Mombasa		Coast Girls		228		200
Kwale		Matuga Girls		153	154	
<i>Kilifi</i>		Dr. Krapf Memorial Sec		116		71
<i>Taita Taveta</i>		Bura Girls' High		166		165
		Sub Total		7,669	8,693	8,477
	Ground Total		16,362		16,251	

Bold Italic: SMASSE Project Phase I District

CHAPTER 2

LESSON INNOVATION INDEX FOR NATIONAL TRAINEES

Preamble:

The Lesson innovation index (L.I.I) for INSET participants at CEMASTEIA (Also referred to as District INSET trainers) is one of the verifiable indicators of the achievement of the Project purpose. The indicator requires that by the end of the project period, the lesson innovation index will obtain more than 50% improvement through the administration of the instruments formulated by the project's Monitoring and Evaluation Task Force (M&ETF).

The Index for attitude was computed from mean values obtained from the Post-INSET questionnaire on the attitude towards teaching objectives and INSET system construction. Interpretation of results is said to be either "*needing effort*", "*attaining*" or "*attained*" using a 0-4 scale distributed as follows:

0-2 (needing effort)

2-3 (attaining) and

3-4 (attained)

Index for quality of teaching was computed from mean values of the Post-INSET questionnaire on attitude towards teaching approaches, work planning and assessment. Mean values from the Content/Pedagogy questionnaire, ASEI/PDSI checklist and Lesson observation instruments provided supplementary information.

The Index for quality of learning was computed from mean values of the Post-INSET questionnaire on attitude towards overcoming limitations and conducting practical work, Quality of participation questionnaire and SMASSE achievement tests.

Synthesis

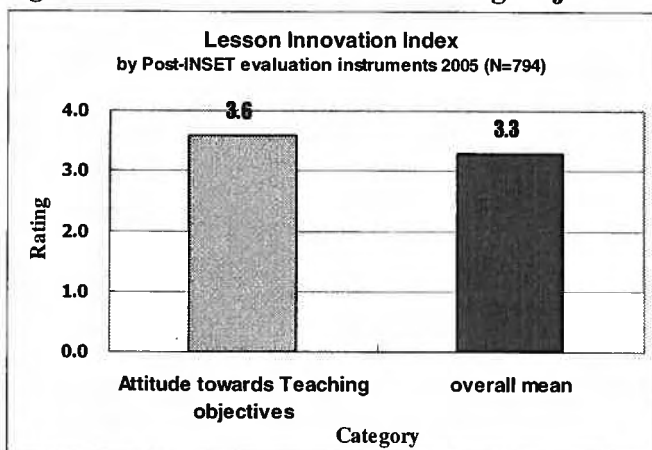
The mean for overall assessment of Lesson Innovation Index was 3.3, an indication that lesson innovation has "*attained*". This is confirmed by the means of the defining indices, (Attitude index 3.6; Quality of teaching index 3.2 and Quality of learning index 3.4) all of which have "*attained*".

Supplementary information from actual lesson observation and student achievement tests showed that the sustainability of the "*attained*" status needs strengthening. Practice of ASEI/PDSI in the classroom needs time and continued INSET for teachers to enhance impact transfer to the students and to upgrade the capability of young Kenyans in mathematics and science.

2.1 ATTITUDE

The Attitude index measured by Post-INSET evaluation instruments scored a mean of 3.6. The desired positive attitude change has “attained” and should be maintained through continued INSET.

Figure 2.1: Attitude towards Teaching Objectives



2.2 QUALITY OF TEACHING

The Quality of teaching index measured by Post-INSET evaluation instruments scored a mean of 3.4. The desired quality has “attained” but there is need to confirm this quality at the level of transfer from INSET to the classroom. This is evident from the low mean scores in the lesson observation although the sample size used in the lesson observation was very small.

Figure 2.2: Attitude towards promoting Quality of Teaching

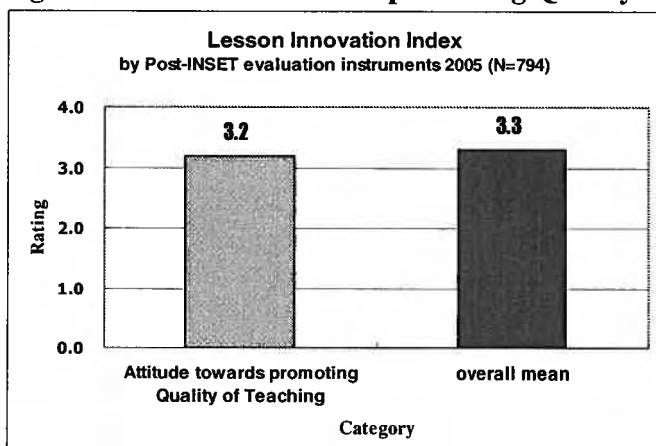
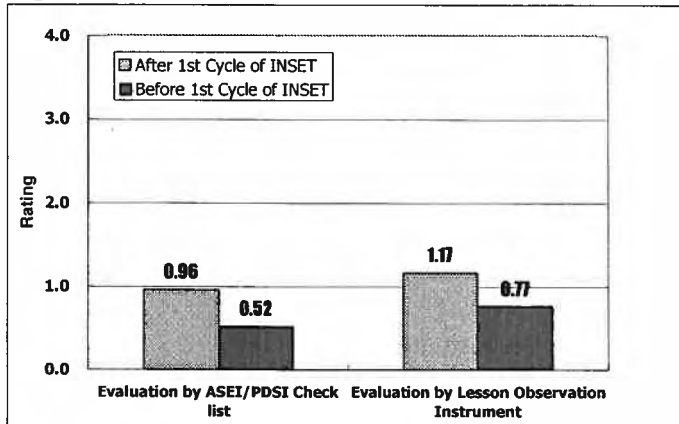


Table 2.1: Subject Mean: Content/Pedagogy evaluation (2005)-N=1017

	Content mastery	Pedagogical skills
Biology	2.9	1.2
Chemistry	3.4	1.2
Mathematics	3.1	2.2
Physics	2.4	2.3

Figure 2.3: ASEI/PDSI Checklist and Lesson Observation Evaluation



2.3 QUALITY OF LEARNING

The Quality of learning index measured by Post-INSET evaluation instruments scored a mean of 3.4 which is “attained”. This, however, is not seen in the quality of learning at the level of the students. There is need to confirm this quality through more classroom observations.

Figure 2.4: Lesson Innovation Index: Attitude towards promoting Quality of Learning

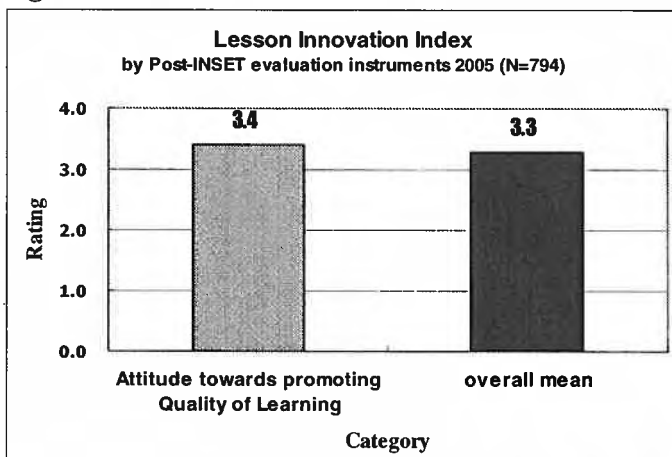
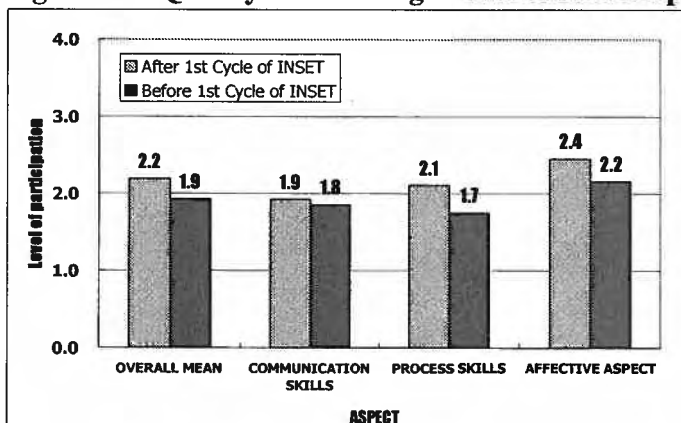


Figure 2.5: Quality of Learning: Level of student participation in the lesson



Preamble:

The graph that follow show the co-relation of the students' performance between KCSE (Kenya Certificate of Secondary Education) examinations and the SMASSE Project Impact Assessment Survey (SPIAS) achievement tests for each subject. There is high correlation as the value tends to 1. (Correlation value range from 0 to 1)

Synthesis:

The correlation coefficients are more than 0.6 in Mathematics, Biology and Chemistry implying that SPIAS achievement tests may be used as an indicator for assessing results of KCSE examinations. However, the correlation in Physics is moderate with a correlation coefficient of 0.50. This is mainly due to the fact that a small number of students in a school sat for Physics in the KCSE examination, thus bringing large sampling error for estimating the school mean.

Figure 2.6: Correlation of Biology Achievement Test and KCSE 2003 Result

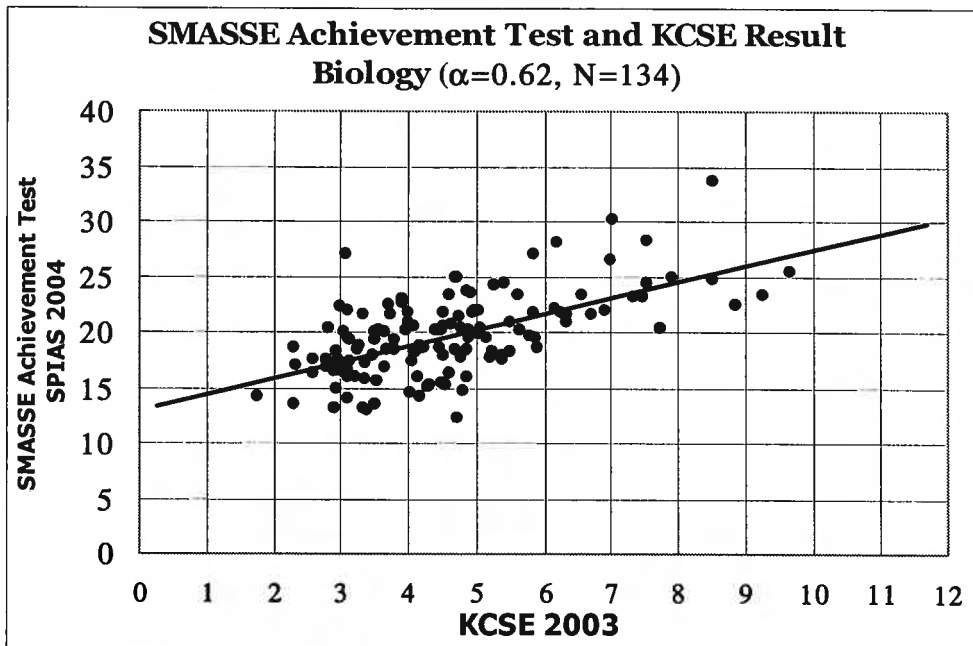


Figure 2.7: Correlation of Chemistry Achievement Test and 2003 KSCE Result

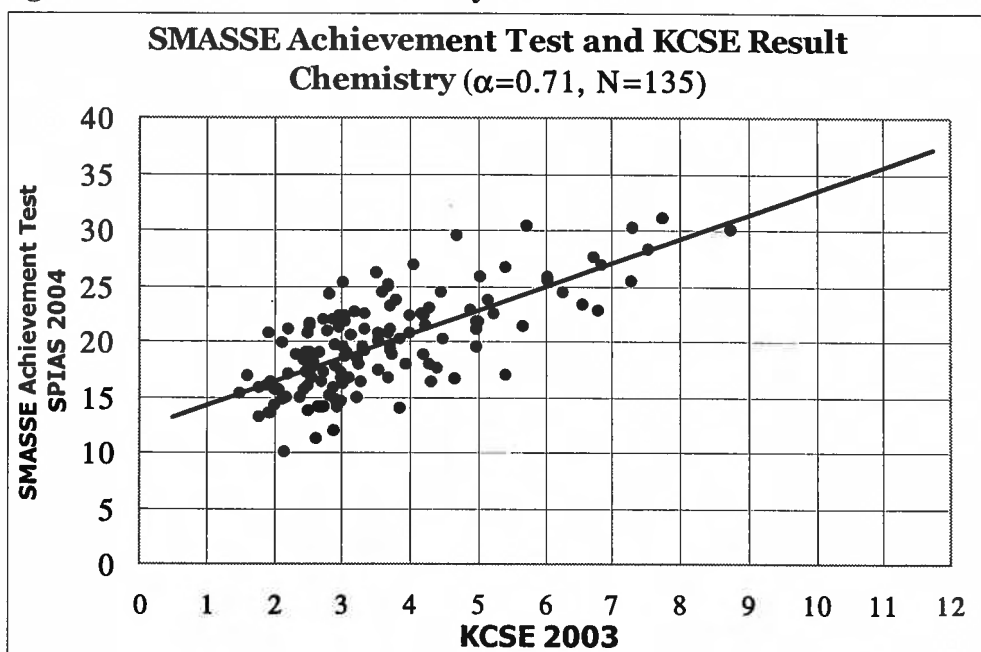


Figure 2.8: Correlation of Mathematics Achievement Test and 2003 KSCE Result

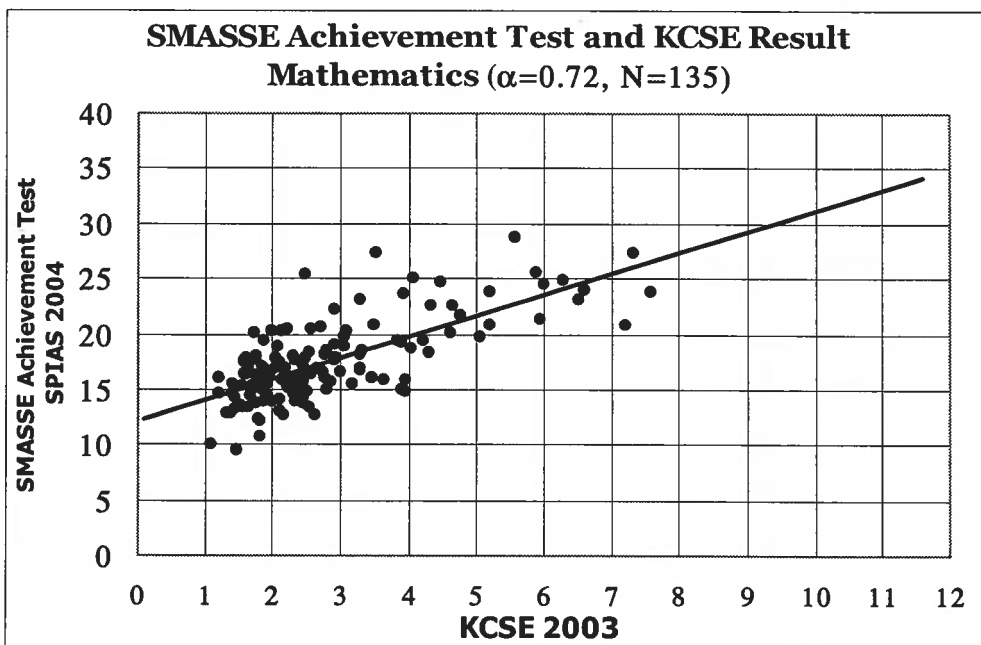
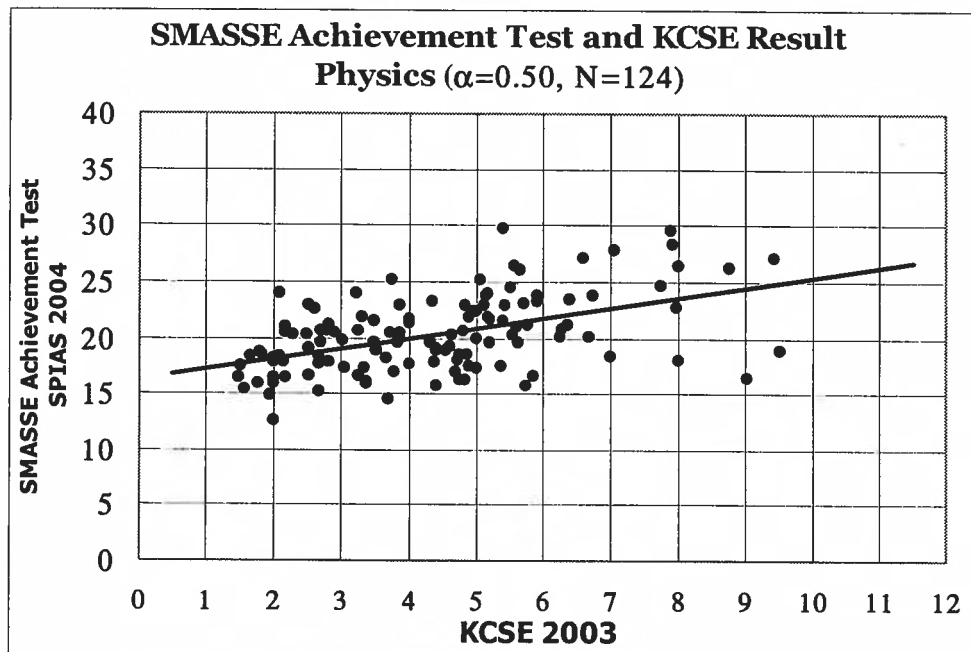


Figure 2.9: Correlation of Physics Achievement Test and 2003 KCSE Result



CHAPTER 3

NATIONAL STAFF

This chapter gives the number of personnel who have been and are involved in SMASSE Project activities since the start of Phase II in July 2003. It also shows the organization chart of national INSET staff and spells out roles and responsibilities of personnel at national and district levels.

3.1 NATIONAL INSET STAFF

Preamble

The first Phase of the SMASSE Project, dealt with fifteen out of seventy two districts in Kenya. Therefore only a small number of Personnel were required. In Phase II, the project's activities cover all districts; and expansion in terms of personnel was necessary. Coupled with that, the SMASSE project has relocated from KSTC to its own compound at CEMASTE. This relocation has necessitating an increase in both academic, administrative and support staff. The establishment for Kenyan academic staff is 61. Currently there are 54 Kenyan academic staff working for the project, 6 have since left and 1 is deceased. Out of the 54 academic staff in the project 7 are on Masters Degree official study leave in Kenya and Japan. There are 7 vacancies for national trainers to be filled in due course.

The 61 members of academic staff in the establishment are distributed as follows:

- 1 Head of SMASSE National INSET Centre
- 4 Subject Administrators
- 4 Academic Heads
- 52 National Trainers

3.1.1 SMASSE National INSET Staff

a) Kenyan National INSET Academic Staff

- | | |
|---------------------------------|------------------------------------|
| 1. Mr. Bernard Njuguna | Head of National INSET Centre |
| 2. Mr. Michael Waititu | Subject Administrator, Physics |
| 3. Mr. Obadiah Maganga | Subject Administrator, Mathematics |
| 4. Ms. Peula Lelei | Subject Administrator, Biology |
| 5. Mr. Patrick Kogolla | Subject administrator, Chemistry |
| 6. Mr. Berege Cherutich Chesire | Academic Head, Physics |
| 7. Mr. Kithaka Njogu | Academic Head, Mathematics |
| 8. Ms. Lynnet G. Kisaka | Academic Head, Biology |
| 9. Mr. Daniel Matiri | Academic Head, Chemistry |
| 10. Ms. Nancy Wambui Nui | Mathematics (editor) |
| 11. Mr. Lukongo Matembo | Mathematics |
| 12. Mr. John Owuor Oyuga | Mathematics |
| 13. Mr. Paul Waibochi | Mathematics |
| 14. Mr. Kamau Mwangi | Mathematics |
| 15. Mr. Fred Odindo | Mathematics |
| 16. Ms. Priscila Ombati | Mathematics |
| 17. Ms. Rahab Chiira | Mathematics |
| 18. Mr. Mugo Simon | Mathematics (on study leave-Kenya) |
| 19. Mr. Ogwel Ateng | Mathematics (on study leave-Japan) |

20. Ms. Mary N. Wakhaya	Mathematics
21. Mr. Paul Cheruiyot Ruto	Physics
22. Mr. George Gitau	Physics
23. Mr. Muyanga Mutua	Physics
24. Ms. Serah Njeri Mburu	Physics
25. Mr. Leonard Omondi Opel	Physics (on study leave-Japan)
26. Mr. Kibanya Paul Gathitu	Physics
27. Mr. Ngeny Ernest Kiprono	Physics
28. Mr. Maate Phillip	Physics
29. Mr. Mboya Tom Okaya	Physics
30. Mr. Rabari Joseph	Physics
31. Mr. Makanda Livingstone	Physics
32. Mr. Ndelela Masoka	Chemistry
33. Ms. Grace Nyandiwa Orado	Chemistry (on study leave-Kenya)
34. Mr. Benjamin Kilonzo	Chemistry
35. Mr. Kamau Joseph Mathenge	Chemistry (on study leave-Kenya)
36. Mr. Samuel K. Gachuhi	Chemistry
37. Ms. Gladys Alivisia Masai	Chemistry
38. Mr. Stephen E. Oduor	Chemistry
39. Mr. Michael Kimani Gacohi	Chemistry (on study leave-Kenya)
40. Mr. David Kireru	Chemistry
41. Mr. Isaac Gathambiri	Chemistry
42. Ms. Mercy Wangui Macharia	Chemistry
43. Mr. Okeyo Jackomanyo	Chemistry
44. Mr. Edmond Makoba Kizito	Biology
45. Mr. David M. Arimi	Biology
46. Ms. Mary Kariuki	Biology
47. Mr. George Kiruja	Biology
48. Ms. Amina Sharbaidi	Biology
49. Mr. Joseph Odhiambo	Biology
50. Mr. Stanslus Nyamai	Biology
51. Ms. Lydia Muriithi	Biology
52. Mr. Joseph K. Thuo	Biology
53. Mr. Albert Kisangi Kayesa	Biology (on study leave-Japan)
54. Mr. Daniel Muraya	Biology

There are 6 Japanese experts working with the Kenyan academic staff.

b) Japanese academic staff

1. Mr. Takahiko Sugiyama	Chief Advisor
2. Mr. Keiichi Naganuma	Project Coordinator
3. Prof. Shigekazu Takemura	Academic Advisor
4. Mr. Tomoki Tokuda	Mathematics Education
5. Mr. Hiromasa Hattori	Monitoring and Evaluation
6. Ms. Hazuki Uchiyama	Science Education

c) Kenyan non-academic staff at CEMASTEAM and KSTC

There also are 25 Administrative personnel, comprising of:

- 1 Ag. Administrative Officer
- 1 Ag. Maintenance Officer
- 2 Secretaries
- 2 Office assistance

1 housekeeper/cateress

6 drivers

1 cook

5 support staff

1 artisan

5 watchmen

c) SMASSE Project National Staff

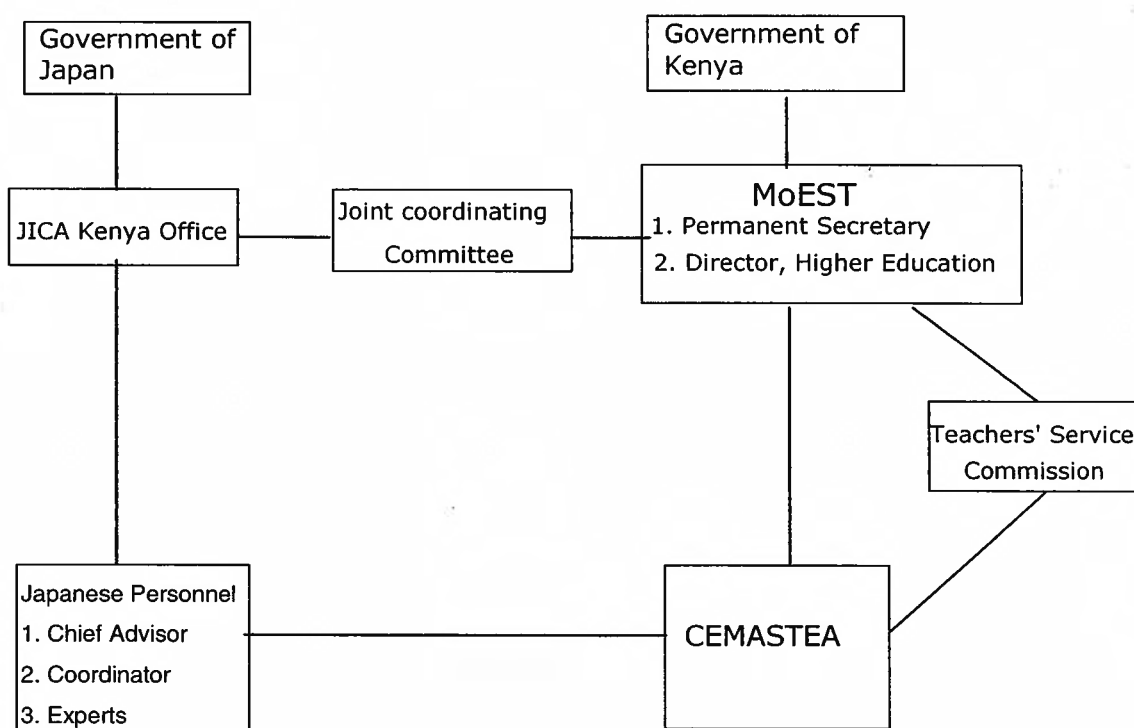
Apart from Kenyan academic and non-academic staff at CEMASTE, MoEST and JICA play a key role in planning and implementation of project activities. To date 104 people have been directly involved in project activities at national level. The table below shows the SMASSE national staff, their designation and the duration each has worked for the project.

Department	Name	Designation	Duration	
			From	To
Administration (4)	Mr. Enos Oyaya	National Coordinator, SDCIS-MoEST	2003/7	2005/1
	Mr. Bernard M. Njuguna	Head of National INSET Centre	1998/7	-
	Mr. Takahiko Sugiyama	Chief advisor	1998/7	-
	Mr. Keiichi Naganuma	Project Coordinator	2001/6	-
Mathematics (15)	Ms. M. K. Miheso	Subject administrator	1998/7	2004/5
	Mr. Obadiah Maganga	Subject administrator	2001/1	-
	Ms. Nancy Wambui Nui	National trainer	2000/5	-
	Mr. Kithaka J. Njogu	Academic Head	2001/1	-
	Mr. Lukongo Matembo	National trainer	2001/4	-
	Mr. John Githari Muiruri	National trainer	2003/5	Deceased
	Mr. John Owuor Oyuga	National trainer	2002/5	-
	Mr. Paul Waibochi	National trainer	2003/6	-
	Mr. Kamau Mwangi	National trainer	2003/6	-
	Mr. Fred Odindo	National trainer	2003/6	-
	Ms. Priscilla Ombati	National trainer	2003/6	-
	Ms. Rahab Chiira	National trainer	2003/6	-
	Mr. Mugo Simon	National trainer	2003/6	-
	Mr. Paul Chege	National trainer	2003/6	2004/3
	Mr. Ogwel Ateng	National trainer	2003/6	-
Ms. Mary N. Wakhaya	National trainer	2005/2	-	
Physics (15)	Mr. Michael Muchoki Waititu	Subject Administrator	1998/7	-
	Mr. Berege Cherutich Chesire	Academic Head	2000/4	-
	Mr. Paul Cheruiyot Rutto	National trainer	2000/7	-
	Mr. George Gitau	National trainer	2001/1	-
	Mr. Muyanga Mutua	National trainer	2001/2	-
	Ms. Serah Njeri Mburu	National trainer	2002/5	-
	Ms. Mildred Nyawade Ogutu	National trainer	2002/8	2003/7
	Ms. Margaret Mwaura	National trainer	2003/6	2004/11
	Mr. Lernald Omondi Opel	National trainer	2003/6	-
	Mr. Kibanya Paul Gathitu	National trainer	2003/6	-
	Mr. Ngeny Ernest Kiprono	National trainer	2003/6	-
	Mr. Maate Phillip	National trainer	2003/6	-
	Mr. Mboya Tom Okaya	National trainer	2003/6	-
	Mr. Rabari Joseph	National trainer	2003/6	-
Mr. Makanda Livingstone	National trainer	2003/6	-	
Chemistry (14)	Mr. Patrick Aluma Kogolla	Subject administrator	2002/7	-
	Mr. Daniel Mwangi Matiri	Academic Head	2001/1	-
	Mr. Ndelela Masoka	National trainer	2001/1	-

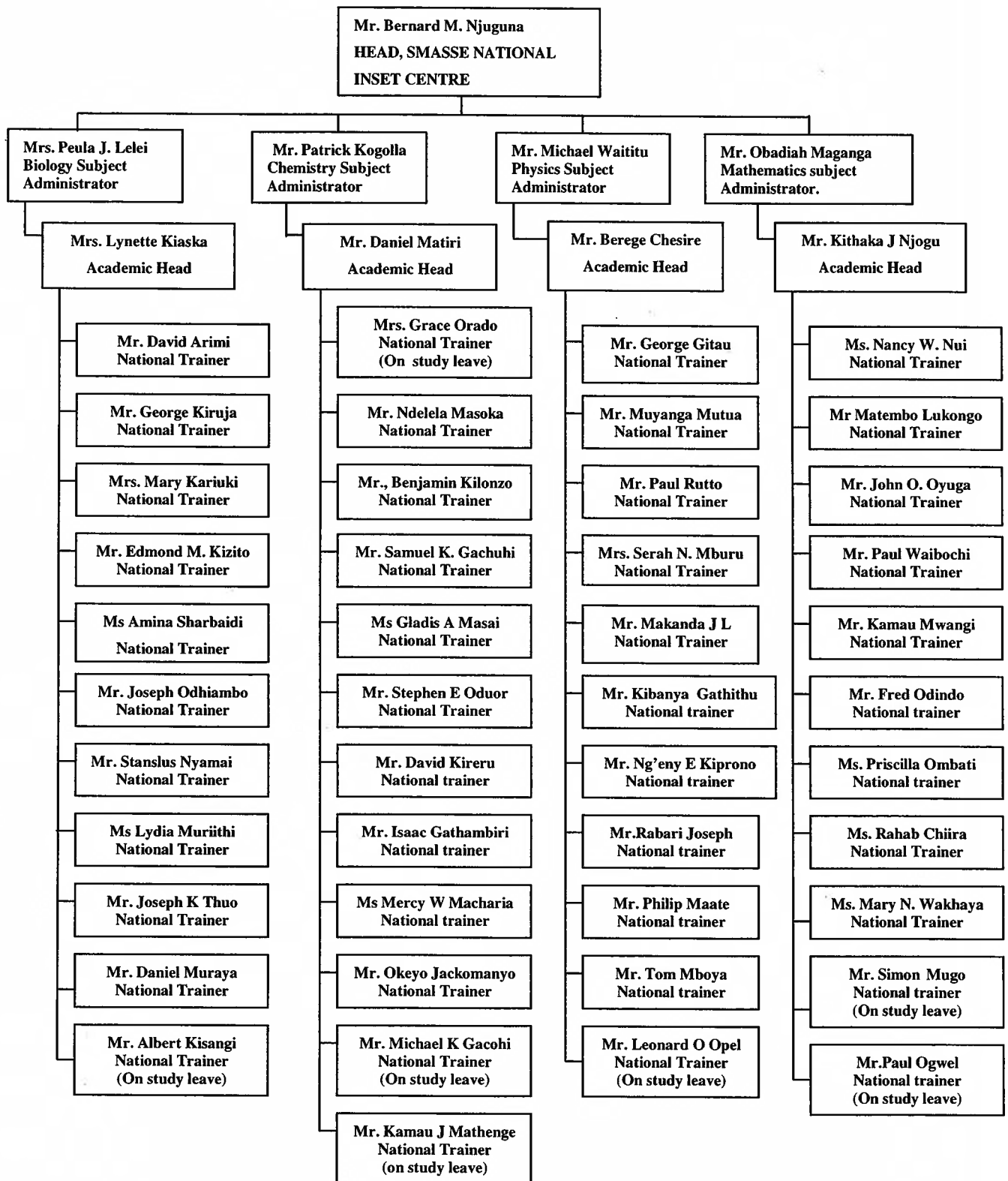
	Ms. Grace Nyandiwa Orado	National trainer	2001/1 -
	Mr. Benjamin Kilonzo	National trainer	2002/8 -
	Mr. Kamau Joseph Mathenge	National trainer	2003/6 -
	Mr. Samuel K. Gachuhi	National trainer	2003/6 -
	Ms. Gladys Alivisa Masai	National trainer	2003/6 -
	Mr. Stephen E. Oduor	National trainer	2003/6 -
	Mr. Michael Kimani Gacohi	National trainer	2003/6 -
	Mr. David Kireru	National trainer	2003/6 -
	Mr. Isaac Gathambiri	National trainer	2003/6 -
	Ms. Mercy Wangui Macharia	National trainer	2003/6 -
	Mr. Okeyo Jackomanyo	National trainer	2003/6 -
Biology (14)	Ms. Peula Jebet Lelei	Subject administrator	2000/8 -
	Ms. Lynette G. Kisaka	Academic Head	2001/1 -
	Mr. Edmond Makoba Kizito	National trainer	2000/5 -
	Mr. David M. Arimi	National trainer	2001/1 -
	Ms. Mary Kariuki	National trainer	2002/7 -
	Mr. Kaluli Nengo	National trainer	2002/8 -
	Mr. George Kiruja	National Trainer	2003/6 -
	Mr. Olima J. Were	National Trainer	2003/6 - 2004/1
	Ms. Amina Sharbaidi	National Trainer	2003/6 -
	Mr. Joseph Odhiambo	National Trainer	2003/6 -
	Mr. Stanslus Nyamai	National Trainer	2003/6 -
	Ms. Lydia Muriithi	National Trainer	2003/6 -
	Mr. Joseph K. Thuo	National Trainer	2003/6 -
	Mr. Albert Kisangi Kayesa	National Trainer	2003/6 -
Mr. Daniel Muraya	National Trainer	2003/6 -	
Monitoring &Evaluation(1)	Mr. Hiromasa Hattori	Monitoring and Evaluation	2002/4 -
Mathematics(1)	Mr. Tomoki Tokuda	Mathematics Education	2001/10 -
Science (1)	Ms. Hazuki Uchiyama	Science Education	2004/10
Academic Advisor (1)	Prof. Shigekazu Takemura	Academic Advisor	1999/6 -
Other Administrative Personnel (33)	Mr. Patrick Kibui	Principal, KSTC	1998/7 -
	Ms. Naomi Wangonya	Secretary, MoEST	1998/10 -
	Ms. Jully Omydour	Secretary	1999/4 - 2005/3
	Ms. Jane Marete	Secretary	1999/5 -
	Mr. Alfred Mureithi	Office Assistant	2000/12 -
	Mr. John Thairu	Driver	1999/2 -
	Mr. John Kinyanjui	Driver	2000/3 -
	Mr. Zakariah Kipkemoi Koskei	Driver	2002/7 - 2004/3
	Mr. Aggrey Mwalo	Driver	2001/9 - 2004/4
	Mr. Ezekiel Njoroge	Driver	2002/2 -
	Mr. Muhoro Thomas	Driver	2004/3 - 2005/6
	Mr. Kusimba Simiyu	Driver	2004/3 -
	Mr. James Wachira Mwangi	Driver	2004/7 - 2005/6
	Mr. Nelson Mugalla	Driver	2005/8 -
	Mr. Nahashon Ng'eno	Driver	2005/8 -
	Mr. Ann Wairimu	Office Assistant	2004/3 -
	Mr. J. Kihara Mwai	Ag. Administrative Officer	2003/8 -
	Mr. Jacson A. Muniale	Ag. Maintenance Officer	2003/8 -
	Ms. Dorollosa Okumu	Housekeeper/Cateress	2003/8 -
	Ms. Florence Mbaiya	Cook	2003/8 -
	Ms. Margaret Abing'o	Laundry Assistance	2003/8 -
	Ms. Jane Mwega	Senior Support staff	2003/8 -
	Ms. Wilkester Kemunto	Support staff	2003/8 -

	Mr. Henry Nyange	Support staff	2003/8 -
	Ms. Alice M. Malesi	Copy typist	2003/8 -
	Mr. David N. Mwangi	Artisan	2003/8 -
	Mr. Julius Kibusi	Cleaner/grounds man	2003/12 -
	Mr. Joseph N. Thuku	Watchman	2004/9 -
	Mr. Tom N. Nyakundi	Watchman	2004/9 -
	Mr. Jacob K. Nkoroi	Watchman	2004/9 -
	Mr. N. Nyaga Ng'o	Watchman	2004/9 -
	Mr. Makarios O. Nyagwachi	Watchman	2003/8 -
	Mr. Makarios Nyagwachi	Support staff	2003/6 -
MoEST (2)	Proffesor Karega Mutahi	Permanent Secretary/ Chairman JCC	2002/1 -
	Mr. David Siele	Director, Higher Education/National Coordinator	2005/1 -
JICA (3)	Mr. Yoshiaki Kano	Resident Representative	2004/5 -
	Mr. Jiro Inamura	Deputy Resident Representative	2004/4 -
	Ms. Riko Saito	Assistant Resident Representative	2004/4 -
	Mr. Samuel Kibe	Education Advisor	1998/7 -
Total 104			

3.1.2 a) Organisation Chart of SMASSE Project



b) Organisation Chart for National INSET Academic Staff



3.1.3. Functions of National INSET Centre

The National INSET Centre performs the following functions:

- Act as an advisory body to MoEST/JICA on technical, administrative and formulation of policy matters concerning the SMASSE Project
- In-service training of Mathematics and Science teachers, Inspectors, Principals and District Education Officers (DEOs), KSTC and Kagumo lecturers and conduct sensitization workshops and seminars for administrative personnel
- Act as a Regional and National mathematics and science Education Resource Centre
- Perform daily administrative and secretarial work of the project
- Plan, implement, organize, coordinate, supervise, guide, monitor and evaluate the project activities at all levels
- Communicate to all stakeholders involved in the project on important decisions and guidelines about the project from time to time
- Secretariat of the SMASSE-WECSA regional organization
- Training centre for Sub Saharan Africa
- Carries out M&E activities in 3rd countries
- Publish the Projects News letter and other publications
- Make and submit any reports to MoEST and JICA
- Develop, administer and review suitable monitoring and evaluation instruments and to analyze and publish results of the same as stipulated in the project design matrix
- Publish the projects newsletter and other publications
- Coordinating institution for ADEA working group on mathematics and science education in Sub Saharan Africa
- Perform any other duties spelt out in the Project Design Matrix

3.1.4. Duties and Responsibilities of National INSET Academic Staff

a) Head of National INSET Centre

The Head, National INSET Centre is also the Technical Manager of SMASSE project in Kenya and Chief Executive of SMASSE-WECSA association

Major duty is the general administration of the Project activities at all levels, which include the following responsibilities: -

- Link SMASSE with Teachers Service Commission, Japan International Cooperation Agency, Ministry of Education, Science and Technology, Districts, Regional Association member countries and other stakeholders
- Secretary to the SMASSE Joint Coordinating Committee (JCC)
- Implement decisions of JCC
- Co-ordinate activities of Subject Administrators
- Formulate project policy guidelines and activities for Project implementation including INSET programme for Kenya and Africa member countries
- Prepare and provide Project updates to all visitors
- Approve leave for National INSET Centre personnel
- Custodian of INSET facilities and materials
- Prepare, implement and control SMASSE budget
- Coordinate and attend District Planning Committee meetings and any other if need arises
- Coordinate and approve SMASSE District INSET budgets and Programmes

- Chair the SMASSE National Planning Committee meetings
- Chair the SMASSE Procurement Committee meetings
- Chair the SMASSE staff meetings
- Accounting Officer for SMASSE
- Co-ordinate Monitoring and Evaluation Task Force activities
- Coordinate selection and recruitment of Japanese counterparts, National and District Trainers
- Prepare and verify certificates issued to INSET participants at all levels
- Coordinate formulation and execution of subject policies at all levels
- Carrying out duties of a National Trainer
- Approve counterpart training curriculum in Japan and Philippines
- Coordinator of Association of Development of Education in Africa' (ADEA) Working Group on Mathematics and Science Education in Sub Saharan Africa
- Coordinate INSET Curriculum Design for Sub Saharan African countries
- Head/Chairman SMASSE Sub Saharan Association
- Select Trainers for the Third Country Training Programme for Sub Saharan African countries
- Sensitisation of Ministries of Education in Sub Saharan Africa about SMASSE-WECSA

b) Subject Administrators

Reporting to the Head of SMASSE National INSET Centre major duty is administration of subject department, which include the following responsibilities:

- Planning, organizing and coordinating the subject INSET activities at all levels of INSET
- Formulation and execution of subject policy at all levels
- Procurement and maintenance of records of equipment and materials in the subject department
- Coordinating and conducting the monitoring and evaluation of activities in the subject
- Chairing meetings of INSET subject department
- Member of the INSET Unit Planning Committee, Procurement Committee and recruitment panel
- Approving leave for members of the department (less than one day)
- Inducting new personnel (both Kenyan and Japanese) in the subject
- Promoting the subject at all levels (National, District and Regional)
- In-charge of either Gender issues, Publication, Research and Development or INSET Administration
- Assigning duties to National trainers in the subject
- Carrying out duties of a National Trainer in the subject
- Any other duties assigned by the Head of SMASSE INSET Unit

c) Academic Heads

Reports to the Head of National INSET Centre through the Subject Administrator
The major duty is academic matters of the department, which include the following responsibilities:

- Coordinating development, trial out and production of departmental in-service training materials
- Coordinating preparation and production of departmental in-service training programme
- Coordinating activities for designing/improving INSET curriculum
- Advising on academic matters in the department

- Coordinating requisition of materials for the department INSET
- Coordinating quality assurance of District in service training materials
- Preparing certification lists for participants
- Coordinating the development and production of Experiment Manuals
- Coordinating preparation and production of improvised materials
- Maintaining records of write-ups of all presentations by department staff
- Maintaining records and inventories for the department
- Carrying out duties of a national trainer in the subject
- Any other duties assigned by the head of SMASSE INSET Unit or subject administrator of the relevant department

d) National Trainers

Major duties and responsibilities

- Designing/improving INSET curriculum
- Developing, try out and production of INSET materials
- Identifying and requisitioning resources for development of training materials and for actual INSET
- Developing and producing improvised materials and experimental manuals
- Preparing and implementing INSET programme
- Facilitating INSET sessions
- Carrying out quality assurance on training materials/programmes from district trainers
- Monitoring and evaluating INSET activities at all levels
- Writing articles and news features for the newsletter
- Conducting research and analysing data
- Promoting the subject at all levels
- Promoting gender responsiveness in mathematics and science education
- Develop training manuals
- Carry out M & E activities in SMASSE-WECSA member countries
- Act as Third Country Experts to SMASSE-WECSA member countries
- Any other duties assigned by the Head of INSET Unit, Subject Administrator or Academic head of their respective department

e) Officer in charge of a Pilot district

This post exists for purposes of cascading and the main duties are:

- Act as a link between the district trainers/ district SMASSE coordinator and the national office
- Liaise with district trainers/coordinator on matters pertaining to planning and implementation of INSET at district level
- Coordinate checking of district INSET training materials and programme for quality assurance
- Promote project activities at district level

3.1.5. Duties of Non-Academic Staff

a) Administrative Officer

- Coordinate personnel matters for the non academic staff
- Coordinate activities of staff under his supervision
- Coordinate annual staff leave for the non-academic staff
- Proper maintenance of up to date staff records
- Liaise with heads of other departments
- Identification and recommendation on the training needs for the non academic staff
- Manage the centres transport department

b) Maintenance officer

- Creates, implements and monitors preventive maintenance program
- Supervises the maintenance of all buildings, electrical, plumbing and other mechanical facilities at the centre
- Ensures that Maintenance activities are carried out within established standards and specification
- Carries out requisition of equipment and materials for the department
- Liaising with external contractors regarding repair work
- Advises on physical planning for the centre

c) Housekeeper/Cateress

- Allocates duties to staff under her jurisdiction
- Ensures proper storage, utilization and maintenance of departmental facilities
- Coordinates the planning, costing and implementation of menus for meals offered by the centre
- Requisition of foodstuff, equipment and materials necessary for effective operation of the department
- Prepares rules and regulations governing the use of hostels, kitchen and dining hall facilities and ensures that they are prominently displayed
- Coordinates the maintenance of hostel and catering facilities in liaison with Maintenance officer
- Liaises with other departments on issues that require departmental cooperation
- Ensures proper day to day running of the laundry and hostels
- Keeps hostel room keys and issues hostel rooms to participants
- Issues cleaning materials and provisions for the participants
- Keeps inventories
- Ensures kitchen staff personal hygiene

d) Cooks

- Prepare, cook and serve food
- Ensures cleanliness of kitchen equipment, cutlery and crockery

e) Security Officers

- Gate keeping
- Patrolling the centre premises
- Ensure security of the centre

CHAPTER 4

DISTRICT STAFF

Preamble:

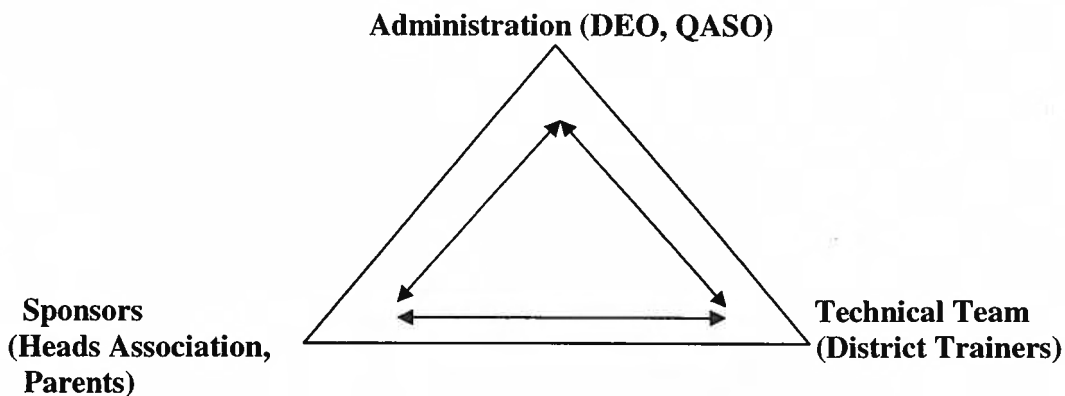
INSET System at the District Level

SMASSE Project conducts INSET through a cascade system. Training starts at the national level where the District Trainers are trained. District Trainers in turn train other mathematics and science teachers in the district. Training at national level is carried out from January to July at CEMASTEPA while at the district level it is carried out in April and August in the selected INSET centres. The management of INSET at the district level is done by the District planning committee (DPC).

For sustainability at district level, key stakeholders work together in harmony to ensure that the benefits of SMASSE INSET finally get to the ultimate beneficiary who is the learner. The stakeholders work as summarized in the triangle in Figure 4.1.

4.1 OFFICERS WORKING FOR THE PROJECT IN THE DISTRICT

Figure 4.1: Project Organization at the District Level



4.1.1 Roles of District Personnel

District Planning Committee (DPC)

The DPC manages INSET affairs at the district level. The members of this committee are: -

- DEO who is the Chairman
- Provincial coordinator
- District coordinator, secretary
- Principal of INSET Centres
- District heads representative, [SMASSE District treasurer]
- District Trainers representative

Functions of the district planning committee

- Collects funds for SMASSE project activities in the District
- Prepares a budget for the District INSETs
- Act as the accounting body for the money collected/received and spent in various Project activities in the District
- Sensitize stakeholders in the District on Project activities
- Organize and conduct seminars, workshops, etc. based on Project activities in the districts
- Prepares financial expenditure reports and submit the same to the National office and District Heads Association

Functions of Members of DPC

District Education Officer

- Chair District Planning Committee meeting
- Coordinate the selection and invitation of mathematics/science teachers for INSET in their district
- Plan and carry out sensitization of stakeholders on SMASSE Project activities in their districts
- Spearheads funding of INSET activities at district level (through D.E.B, District Secondary School Heads Association, etc.)
- Liaise with the National INSET Unit on monitoring and evaluation of the progress of SMASSE Project activities in their district
- Liaise with the National Office, PDE'S Office and other stakeholders on all aspects of SMASSE Project activities in their district
- Is a signatory to the SMASSE bank account

District Coordinator

- Records all deliberations of the District Planning Committee
- Liaises with head teachers of District training Centres for INSET activities in the District
- Coordinates the SMASSE Project activities during INSET at the district level
- Monitors and ensures attendance by the teachers during INSETs and keep a record on the same
- Prepares lists of successful teachers attending INSET at district level for certification
- Liaises with the National Office on monitoring and evaluation of progress of SMASSE Project activities in the district
- Coordinates the running of SMASSE INSET Resource Centres used by SMASSE Project in the district
- Keeps close contact with SMASSE Project head office, PDE's office and Head teachers in the District INSET centre on the progress of SMASSE project activities in the district
- Compiles INSET reports for onward submission to the National office within one month after conducting INSET and in accordance with INSET report format provided

Principal of District INSET Centre

- Liaises with the DEO's Office in their districts in the selection of teachers to attend the INSET at various levels in their districts
- Liaises with the District Coordinators in organizing the training centres/activities in their schools during INSET
- Guides and counsels teachers during INSET
- Sensitize head teachers through heads association meetings in the district to support, fund and attend INSETs
- Monitors the progress of teachers trained in their centres including those of their own school
- Is the custodian of facilities/equipment and materials supplied to the District INSET Centre
- Manages the welfare of teachers during INSET

Functions of District INSET Centre are: -

- A Centre for In-servicing at District level
- A Resource Centre for District Mathematics and Science Education
- A venue for all District Planning Committee meetings

Heads' Association Representative in the District

- Is the treasurer to the District SMASSE Project fund
- Takes an active and leading role in sensitizing and mobilizing other stakeholders on SMASSE Project activities in the district
- Spearheads the collection of funds to run SMASSE Project activities in the district
- Is a member of the District Panel for selection of mathematics and science teachers for INSETs
- Assists in guidance/counselling of teachers during INSET
- Is a member of the District Planning Committee
- Is a signatory to the SMASSE bank account

District Trainers Representative

- Is a member of the District Planning Committee
- Is a signatory to the SMASSE District Bank Account
- Coordinates the work of other trainers in the districts
- Coordinate implementation of INSET activities in the schools in liaison with District coordinator
- Keeps records of activities and facilities/equipment and materials provided to the District INSET Centre

District Trainers

- Participate in SMASSE Project activities at the school level as directed by the National Office
- Sensitize mathematics and science teachers on SMASSE activities at District and especially the school level
- Prepares and produces original INSET curriculum materials for District level
- Cares for the materials provided to INSET Centres

4.1.2 Distribution of officers working at the District Level

The number of administrative staff working in 72 districts is summarised in the table below. There are 96 SMASSE centres in whole country. Each SMASSE district has a DPC chairman, Treasurer, District Co-coordinator and Trainers representative.

Table 4.1 Officers Working at the Districts in 2005

Designation	No. of Officers
Principals of INSET centres	96
DPC chairman (DEO)	72
Trainers representative	72
Heads representative (Treasurer)	72
QASO (District Co-coordinator)	72
Total	384

The number of administrative staff who attended Stakeholders Workshop held at KSTC in the year 2004 is summarised in the table below.

Table 4.2 Stakeholders' workshop-August, 2004

Designation	No. of Participants
Principals of INSET centres	88
D.E.O's	72
Trainers representative	72
Heads representative (Treasurer)	72
QASO (District Co-coordinator)	72
Total	376

4.1.3 Number of Trainers Working in the District

The number of trainers working in the districts is summarised in the table below;

Table 4.3 Number of Trainers, April 2004

District	No. of Trainers
Bondo	13
Embu	24
Gucha	16
Kakamega	24
Kericho	16
Kiambu	48
Kirinyaga	24
Kisii	16
Kisumu	15
Makueni	36
Maragu'a	24
Mbere	15
Muranga	24
Nyandarua	28
Nyando	15
Nyeri	36
Siaya	16
Thika	24
TransNzoia	24
Total	438

Table 4.4 Number of Trainers, August 2004

District	No. of trainers
Baringo	16
Bomet/Transmara	26
Bungoma/Mt. Elgon/Teso	59
Buret	16
Busia	16
Butere Mumias	16
Homa-Bay/Suba	16
Kajiado	16
Keiyo/Marakwet	16
Kirifi	16
Kitui	15
Koibatek	16
Kwale	15
Laikipia / Samburu	15
Lugari	16
Malindi /Lamu/Tana	16
Meru North	12
Meru South	16

Meru Central / Tharaka / Moyale /Marsabit / Isiolo	36
Migori / Kuria	13
Mombasa	16
Mwingi	15
Nairobi	40
Nakuru	59
Nandi North	16
Nandi South	16
Narok	12
Nyamira	36
Rachuonyo	15
Taita Tabeta	16
Uasin Gishu	24
Vihiga	25
Wajir / Mand / Ijara	11
Total	684

Table 4.5 Number of Trainers, April 2005

District	No. of Trainers
Bondo	16
Busia	15
Embu	24
Homa Bay/ Suba	14
Kajiado	16
Kakamega	24
Kericho	24
Kiambu	48
Kirinyaga	24
Kisii	16
Kisumu	24
Kwale	16
Machakos	36
Mbeere	16
Migori	13
Murang'a	24
Nandi South	16
Nyamira	35
Nyandarua	25
Nyando	16
Nyeri	49
Siaya	24
Thika	37
Trans Nzoia	23
Uasin Gishu	24
Total	599

Table 4.6 Number of Trainers, August 2005

District	No. of Trainers
Baringo	16
Bomet/Transmara	25
Bungoma/Mt.Elgon/Teso	63
Bureti	28
Gucha	16
Kajiado	16
Keiyo	16
Kilifi	13
Kitui	25
Koibatek	16
Laikipia/Samburu	16
Lugari	16
Makueni	36
Malidi/Lamu/Tana	16
Maragwa	24
Meru Central/Tharaka/ Moyale/Marsarbit/Isiolo	34
Meru North	14
Mombasa	16
Mwingi	16
Nairobi	47
Nakuru	60
Nandi North	16
Narok	12
Rachuonyo	16
Taita Taveta	16
Vihiga	26
Wajir/Mandera/Ijara	16
Total	631

Table 4.7: Summary of The number of Trainers working at the Districts per Year

Year	Number trained at the National INSET	Number working at the District
2004	900	1122
2005	981	1230

Summary

From the above data, it is clear that, over 200 Administrative staffs have been working at the Districts for the project since July 2003. The number of District Trainers working at the Districts increased year by year. By 2005 there were over 1230 of them working at the Districts.

4.1.3 Administrators' Workshop Attendance

The number of Administrative staffs attending workshop is summarised in the table below;

Table 4.8 Principals' Workshop Attendance (2004)

Year	Group	Date	Venue	No. of participants
2004	1	1 st – 5 th March	Tabor Hill, Nyahururu	74
	2	3 rd – 7 th May	Tabor Hill, Nyahururu	98
	3	26 th – 30 th July	Mary ward, Nairobi	81
Total				253

Table 4.9 Principals' Workshop Attendance (2005)

Year	Group	Date	Venue	No. of participants
2005	1	4 th – 8 th July	CEMASTE A	74
	2	11 th – 15 th July	CEMASTE A	61
	3	12 th - 16 th September	CEMASTE A	69 + 6 Malawi +4 Uganda
Total				214

Table 4.10 QASOs' Workshop Attendance (2004, 2005)

Year	Date	Venue	No. of participants
2003	July	KSTC	86
2004	August	Kagumo TTC	178
2005	July	CEMASTE A	60
			324

Table 4.11 Summary of Administrators' Workshop Attendance (2004, 2005)

Type	2003	2004	2005	Total
Principles' workshop	-	253	214	467
QASOs' workshop	86	178	60	324
D.E.Os' workshop	-	-	47	47
Total	86	431	321	838

CHAPTER 5

QUALITY OF NATIONAL INSET

The quality of national INSET was determined using Quality of INSET Assessment Index and Capacity Building Index for National trainers.

5.1 QUALITY OF INSET ASSESSMENT INDEXES

5.1.1 Effect of National INSET on Attitude

The Effect of National INSET was assessed using the Pre- and Post-INSET instrument. The objective of administering the instrument was to determine the District Trainers attitude towards teaching of Mathematics and Science before and after the INSET, using the following criteria:

1. Category A: Attitude towards teaching objectives
2. Category B: Attitude towards teaching approach
3. Category C: Attitude towards work planning
4. Category D: Attitude towards overcoming limitations in teaching
5. Category E: Attitude towards conducting practical work
6. Category F: Attitude towards assessment
7. Category G: Attitude towards INSET system construction

National trainers at CEMASTE A administered the instruments. Data was collected using a 5-point ranking scale as shown below:

<i>Rank</i>	<i>Score</i>
Excellent	4
Good	3
Average	2
Fair	1
Poor	0

According to the set standards on the evaluation grid, INSET at CEMASTE A will have attained if the mean is greater than **3.0** on the 0 – 4 scale by the end of the project period. Using this criterion INSET at CEMASTE A is therefore “*attained*”.

SUMMARY

Table 5.1: Summary of Overall Mean Scores

Year	2004		2005	
	PRE	POST	PRE	POST
Subject				
Biology	2.7	3.4	2.8	3.3
Chemistry	2.7	3.5	2.9	3.3
Mathematics	2.8	3.5	2.9	3.2
Physics	2.8	3.4	2.9	3.4
Overall	2.7	3.4	2.9	3.3

5.1.2 Quality of National INSET Sessions

Preamble

National INSET participants evaluate the quality of INSET sessions they participate in using a Session Evaluation Instrument. The evaluation is based on the following aspect using the SMASSE Project 'Quality Criteria':

- How Motivating the session activities were
- How Interesting the session was
- The extent to which participants were involved in session activities
- How relevant the session activities were made with respect to participants' needs
- How time was managed in the session (The adequacy of time allocated for the session activities.)

The evaluation is based on a 0 – 4 rating scale where: 0 (poor), 1(fair), 2(average), 3(good), 4(excellent).

A National INSET session may be organised along any one or more of the following components which SMASSE Project refers to as 'Organisation Criteria':

- Plenary
- Practical
- Discussion
- Peer Teaching
- Feedback on Peer Teaching

National INSET sessions fall into two categories namely:

- General or Common Sessions where issues that cut across all subjects are discussed.
- Subject Sessions where issues specific to each subject are discussed in subject groups.

Table 5.2: Summary of Overall Session Mean Ratings

CRITERIA	SESSION	Overall Mean Rating	
		2004	2005
Quality Criteria	General Session	3.4	3.5
	Subject Session	3.5	3.7
Organisation Criteria	General Session	3.4	3.5
	Subject Session	3.5	3.7

Synthesis

The quality of General session 2004 and 2005 INSET had mean ratings of 3.4 and 3.5 respectively while that of Organization Criteria had an overall mean of 3.4 and 3.5 respectively.

The quality of 2004 and 2005 INSET sessions with respect to Quality Criteria of Subject session had mean ratings of 3.5 and 3.7 respectively and the quality with respect to Organization Criteria had an overall mean of 3.5 and 3.7 respectively.

Based on the set standard of mean ≥ 3.0 , the quality of national INSET sessions "attained".

GENERAL/COMMON SESSIONS

a) Quality Criteria

The overall mean ratings for quality criteria of the general INSET sessions for the year 2004 and 2005 are summarised in the table below.

Table 5.3: Overall Mean Rating: Quality Criteria

Quality Criteria	2004	2005
Overall	3.4	3.5
Motivation	3.7	3.5
Interest	3.4	3.5
Involvement	3.4	3.7
Relevance	3.7	3.5
Time management	3.1	3.3

Synthesis

Based on the set standard of mean ≥ 3.0 the quality of INSET sessions “attained” in both years

b) Organisation Criteria of the General Session

A summary of the overall mean ratings of the quality of 2004 and 2005 general INSET sessions with respect to organisation criteria.

Table 5.4: Overall Mean Rating: Organisation Criteria

Organisation Criteria	2004	2005
Plenary	3.4	3.5
Discussion	3.5	3.5
Overall	3.4	3.5

Synthesis

The quality of Plenary and Discussion aspects of general sessions of 2004 and 2005 INSETs was ≥ 3.0 , therefore “attained”.

SUBJECT SESSIONS

Given below is the summary data on participants’ ratings of National INSET Subject sessions. The data is presented in two sets:

- Ratings for the Quality Criteria
- Ratings for the Organisational Criteria

The overall mean ratings for quality and organisation criteria of the subject INSET sessions for the year 2004 and 2005 are summarised in the table below.

a) Quality Criteria of Subject Session

Table 5.5: Overall Subject Mean Rating: Summary for Quality Criteria

QUALITY CRITERIA	OVERALL MEAN RATING	
	2004	2005
Overall	3.5	3.7
Motivation	3.5	3.6
Interest	3.5	3.7
Involvement	3.6	3.8
Relevance	3.6	3.7
Adequacy of Time	3.5	3.6

b) Organisation Criteria of Subject Session

Table 5.6: Summary for Organisation Criteria

ORGANISATION CRITERIA	OVERALL MEAN RATING	
	2004	2005
Overall	3.5	3.7
Plenary	3.5	3.7
Practical	3.6	3.7
Discussion	3.5	3.7
Peer Teaching*	3.5	3.6
Feedback on Peer Teaching*	3.6	3.6

● Includes actual classroom teaching and feedback on the same

Table 5.7: Individual Overall Subject Mean Rating: Quality and Organisation Criteria

Quality Criteria	Overall Subject Mean Rating							
	2004				2005			
	Chem.	Bio	Phy.	Math	Chem.	Bio	Phy.	Math
Overall	3.4	3.5	3.4	3.6	3.7	3.7	3.7	3.6
Motivation	3.4	3.5	3.4	3.6	3.6	3.7	3.6	3.6
Interest	3.4	3.5	3.4	3.6	3.7	3.7	3.7	3.6
Involvement	3.5	3.5	3.5	3.7	3.8	3.8	3.7	3.7
Relevance	3.6	3.6	3.6	3.7	3.7	3.7	3.7	3.7
Adequacy of Time	3.4	3.5	3.4	3.5	3.6	3.6	3.6	3.6
Organisation Criteria	Chem.	Bio	Phy.	Math	Chem.	Bio	Phy.	Math
Overall	3.4	3.5	3.5	3.6	3.7	3.7	3.7	3.6
Plenary	3.3	3.5	3.4	3.6	3.7	3.7	3.7	3.6
Practical	3.5	3.5		3.7	3.8	3.8	3.7	3.6
Discussion	3.5	3.5	3.4	3.6	3.7	3.7	3.7	3.6
Peer Teaching*	3.3	3.5	3.6	3.5	3.5	3.7	3.6	3.6
Feedback on Peer Teaching*	3.4	3.5	3.7	3.6	3.5	3.7	3.7	3.6

* Includes actual classroom teaching and feedback on the same

Synthesis

From the data presented, the quality aspects of all the individual subject INSET sessions for 2004 and 2005 “attained” with respect to the set standards. The organisation aspects also “attained”.

5.2 CAPACITY BUILDING INDEX FOR NATIONAL TRAINERS

Preamble:

To determine the capacity index of National trainers, quality of INSET instrument (Ability of National Trainers to implement INSET) was administered to National trainers.

The instrument had two criteria i.e. Planning with items P₁ to P₈ and Doing/ implementation with items D₁ to D₉. The trainers and trainees were required to rate each item based on a 0 – 4 rating scale where 0- not at all; 1- a little; 2- fairly adequately; 3- adequately; 4- to a great extent.

The planning items were:

- P1- Make appropriate INSET work plans
- P2- Make preparation for appropriate and adequate INSET materials
- P3- Maintain equipment, apparatus and other training materials
- P4- Improvise training materials based on locally available resources.
- P5- Make suitable exposition materials for the INSET
- P6- Produce (print) INSET materials in time.
- P7- Plan to utilize the participatory approach.
- P8- Distribute tasks fairly.

The implementation items were:

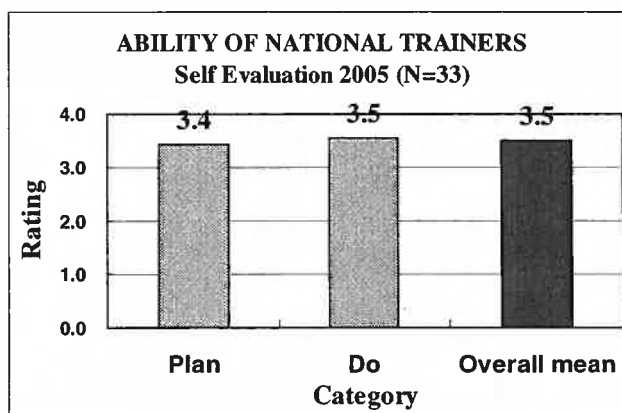
- D1- Implement INSET Work plans accordingly.
- D2- Manage time effectively
- D3- Make appropriate use of improvised teaching aids based on locally available resources
- D4- Make effective and efficient use of INSET materials
- D5- Utilize participatory approach well.
- D6- Facilitate INSET sessions effectively
- D7- Establish and maintain good rapport among trainers, participants and support staff.
- D8- Take registration of participants accordingly
- D9- Administer INSET evaluation instruments (session, pre-& post, content/pedagogy) accordingly

Summary

Table 5.9:
Capacity Index of National Trainers

	Self Evaluation
Overall Mean	3.5
Planning	3.4
Implementation	3.5

Fig 5.5:
Capacity Index of National Trainers



The national trainers rated themselves in both planning and implementation of INSET activities at National level as follows; Planning attained a mean score of 3.4 and implementation a mean score of 3.5 with the overall mean score being 3.5. This is an indicator that the set standards of a mean of 3.0 and above have been attained.

Therefore, it follows that the National trainers have confidence in planning and implementation of INSET at the National level.

Detailed information

Self evaluation on Planning by National trainers

P ₁	P ₂	P ₃	P ₄	P ₅	P ₆	P ₇	P ₈	Overall Mean
3.6	3.5	2.7	3.4	3.6	3.8	3.6	3.2	3.4

Self evaluation on implementation by National trainers

D ₁	D ₂	D ₃	D ₄	D ₅	D ₆	D ₇	D ₈	D ₉	Overall Mean
3.5	3.1	3.5	3.5	3.5	3.6	3.6	3.7	3.6	3.5

CHAPTER 6

QUALITY OF DISTRICT INSET

Preamble

The district trainers attend INSET at CEMASTE A to equip themselves with the knowledge and tools to conduct a similar INSET in their districts. This is in accordance with the SMASSE INSET organization, which utilizes cascade approach to disseminate information from the national INSET Unit to the classroom teacher.

M&ETF attends district INSET to observe and evaluate INSET activities in order to ascertain the quality of the information and skills being passed to the classroom teachers. The results obtained serve as feedback to improve the planning and implementation of future INSET.

6.1 CAPACITY BUILDING INDEX FOR DISTRICT TRAINERS

The capacity building index for District Trainers is determined using the following observation instruments developed by the M&ETF:

- Quality of INSET Instrument – for evaluating ability of District Trainers to implement INSET
- District INSET Checklist No.1 – for evaluating the quality of facilitation
- District INSET Checklist No.2 – for evaluating preparedness and material utilisation

Results obtained from Quality of INSET instrument and District INSET checklist No.1 instruments during 2004 and 2005 District INSET are summarized table below. In the tables in this chapter, a dash (-) represents no data available. (Centres established after first cycle)

6.1.1 Ability to Implement District INSET/ Quality of Facilitation

General ability to implement INSET at the District level was rated using **Quality of INSET Instrument**. The Instrument has four categories P, D, S and I based on the PDSI approach of Plan, Do, See and Improve.

The quality of facilitation was rated using District Checklist No 1. Categories rated include session organization (4 items) and session quality (4 items). Individual District Trainers are rated based on the session one is facilitating.

Table 6.1: Quantitative Summary

District	INSET Centre	2004		2005	
		General ability of district trainer(0-4)	Quality of facilitation (0-4)	General ability of district trainer(0-4)	Quality of facilitation (0-4)
Bomet	Moi Siongiroi	1.3	1.6	2.5	2.5
Trans Mara	Tenwek SS	2.1	2.2	2.1	-
Bondo	Nyamonye Girls	2.1	1.3	1.6	1.7
<i>Baringo</i>	Sacho High	-	-	2.6	2.9
Bungoma	Lugulu GHS	2.0	2.2	3.1	3.5
Teso	Cardinal Otunga	2.0	2.2	3.0	2.2
Mt Elgon	Bungoma HS	2.4	2.6	1.6	2.1
	Friends Kamusinga	2.2	2.5	2.3	2.7
	Kolanya	1.8	2.2	3.1	2.9
Bureti	Kaplong GHS	2.4	2.2	3.3	2.8
	Tengecha Girls*	-	-	3.1	2.9

Busia	Nangina	1.8	2.5	2.2	2.3
Butere	Butere Girls	-	-	2.3	2.5
Embu	Kyeni Girls	-	-	2.0	2.5
	Nguviu Girls	-	-	2.5	2.7
<i>Gucha</i>	Sengera Girls	-	-	1.7	1.8
Homa Bay/Suba	Asumbi	2.2	2.0	2.0	2.1
Kajiado	Moi Girls Isinya	-	-	2.0	2.0
Keiyo	Kaptagat*	-	-	2.9	2.6
Kericho	Moi Tea Girls	3.3	3.2	3.1	2.9
	Londiani GHS*	-	-	-	-
Kirinyaga	Kerugoya Girls	1.9	2.1	2.8	3.0
	Kianyaga Boys	2.0	2.4	2.9	2.5
<i>Kisii</i>	Kisii High	-	-	2.4	2.4
<i>Kilifi</i>	Dr. Krapf Memorial	-	-	1.0	1.6
Kisumu	Kisumu Girls	2.1	2.0	2.7	2.6
	Bishop Okoth*	-	-	1.8	2.5
Kitui	Mulango	1.9	2.3	1.6	2.1
	Muthale *	-	-	2.1	2.4
Kwale	Matunga GHS	2.8	2.3	3.0	3.0
Laikipia /Samburu	Njonjo GHS	1.9	1.8		
Machakos	Machakos GHS	-	-	2.9	2.6
	Masinga GHS	-	-	3.0	2.7
	Tala GHS	-	-	2.3	2.2
Malindi/Lamu/Tana	Malindi High	2.8	2.8	2.5	3.1
<i>Maragu'a</i>	Njiri High	-	-	1.7	2.3
	Kamahuha	-	-	2.5	1.9
Marakwet	Moi Kapsowar	1.7	1.9		
Mbeere	Consolata Gitaraka	1.7	1.4	2.4	2.6
Meru Central/ Tharaka/Moyale/ Marsabit/Isiolo	St Mary's GHS	2.8	2.8	1.8	2.0
	Kaaga GHS	3.1	3.4	2.0	2.4
	Isiolo BHS	2.6	1.7	2.0	3.0
Meru North	Kanjalu GSS	2.6	1.6	1.7	1.7
Migori / Kuria	Ulanda GHS	2.0	2.2	2.6	2.6
Mombasa	Coast GHS	2.0	2.1	2.3	2.3
<i>Murang'a</i>	Murang'a	-	-	2.0	2.6
	Kahuhia GHS	-	-	2.0	2.6
Mwingi	Migwani BHS	1.7	1.4	1.6	1.8
Nairobi	Kenya High	1.7	1.4	2.8	2.9
	Buru Buru	1.8	2.1	2.8	3.3
	State House	1.0	1.0	2.5	3.1
	St George's	1.9	1.8	2.1	2.2
Nakuru	Mary Mount	2.2	2.7	2.1	2.7
	Njoro BHS	2.1	2.1	1.5	1.7
	Menegani HS	2.3	2.0	3.1	2.7
	Bahati GHS	1.9	1.9	2.7	2.5
	Naivasha GHS	1.9	0.7		
Nandi North	Kapsabet GHS	-	-	2.9	2.5
Nandi South	St Mary Tachasis	0.8	1.0	1.9	1.4
Narok	St Mary GHS	2.6	2.3	2.6	2.7
Nyamira	Nyansiongo	2.0	2.0	2.8	2.8
	Kebirigo	2.4	2.8	2.0	2.0
	Sirongo	1.9	2.5	2.5	2.7
Nyandarua	Nyandarua High	2.1	2.1	2.1	1.9
	Karima Girls	2.1	2.2	2.1	1.9
Nyando	Nyakach Girls	1.5	2.0	2.3	2.7

Nyeri	Nyeri High	2.4	2.2	2.3	3.0
	Tumutumu Girls	1.7	2.6	2.3	3.0
	Chinga Girls	1.8	2.1	2.4	2.3
	Kangubiri Girls*	-	-	2.4	2.8
Rachuonyo	Agoro Sare HS	2.1	2.2	3.0	2.9
Siaya	Ng'iya Girls	1.7	1.0	1.9	2.3
	Rang'la*	-	-	2.2	1.7
<i>Taita Tabeta</i>	Bura Girls	-	-	0.9	1.4
Thika	Mary Hill Girls	2.6	2.4	2.7	2.6
	Karinga Girls	2.0	2.6	2.7	2.6
	Gatanga Girls	2.4	2.3	2.7	2.6
Trans Nzoia / Turukana West Pokot	Nasokol Girls	2.0	1.9	1.5	1.9
	St Brigid Girls	1.9	2.0	1.7	2.6
Uasin Gishu	Loreto Matunda	2.4	1.7	2.0	2.4
	Moi Girls Eldoret	1.2	1.5	2.5	2.8
Vihiga	Vokoli GHS	2.1	1.8	3.1	2.7
	Bunyore GHS*	-	-	2.9	2.7
Wajir/ Mandera/ Ijara	Wajir Boys	2.0	2.1	1.8	2.4
Overall mean		2.0	2.1	2.3	2.4

Italic:SMASSE Project Phase 1 District

Synthesis

District trainers' capacity building index evaluated by M&ETF is less than 3 therefore "not attained". According to the evaluation grid, the capacity index is expected to be over 3.0. More follow up activities are necessary in order to attain the expected standard.

6.1.2 Other Qualitative Information on Preparedness of INSET Centres

Preparedness of the district with regard to INSET rooms, laboratories, accommodation production of INSET materials and use of materials and equipment provide by the national office. A summary of findings by Monitoring and Evaluation Task Force are given below:

Table 6.2: Qualitative Summary Table

Aspects	General observations
Adequacy/suitability of programme	In most cases the programmes were adequate and suitable. However, some were not followed strictly. In some centres some aspects that were not supposed to have been in the programme had been included.
Time management	Most sessions started on time. However, time management was not good in some sessions. Some of the sessions took longer than scheduled on the programme; cases of over-planning and under-planning were observed.
Quality of facilitation	The quality of facilitation was relatively fair. However, in a number of cases, some trainers did not guide the participants during discussions but were advised by National office accordingly.
Level of participation	Generally, the participants were actively involved during the group discussions and in most plenary sessions. The attitude of participants seemed positive; in some cases low morale of participants e.g. reading newspapers while sessions were going on, was noted.

Nyeri	Nyeri High	2.4	2.2	2.3	3.0
	Tumutumu Girls	1.7	2.6	2.3	3.0
	Chinga Girls	1.8	2.1	2.4	2.3
	Kangubiri Girls*	-	-	2.4	2.8
Rachuonyo	Agoro Sare HS	2.1	2.2	3.0	2.9
Siaya	Ng'iya Girls	1.7	1.0	1.9	2.3
	Rang'la*	-	-	2.2	1.7
<i>Taita Tabeta</i>	Bura Girls	-	-	0.9	1.4
Thika	Mary Hill Girls	2.6	2.4	2.7	2.6
	Karinga Girls	2.0	2.6	2.7	2.6
	Gatanga Girls	2.4	2.3	2.7	2.6
Trans Nzoia / Turukana West Pokot	Nasokol Girls	2.0	1.9	1.5	1.9
	St Brigid Girls	1.9	2.0	1.7	2.6
Uasin Gishu	Loreto Matunda	2.4	1.7	2.0	2.4
	Moi Girls Eldoret	1.2	1.5	2.5	2.8
Vihiga	Vokoli GHS	2.1	1.8	3.1	2.7
	Bunyore GHS*	-	-	2.9	2.7
Wajir/ Mandera/ Ijara	Wajir Boys	2.0	2.1	1.8	2.4
Overall mean		2.0	2.1	2.3	2.4

Italic:SMASSE Project Phase I District

Synthesis

District trainers' capacity building index evaluated by M&ETF is less than 3 therefore "not attained". According to the evaluation grid, the capacity index is expected to be over 3.0. More follow up activities are necessary in order to attain the expected standard.

6.1.2 Other Qualitative Information on Preparedness of INSET Centres

Preparedness of the district with regard to INSET rooms, laboratories, accommodation production of INSET materials and use of materials and equipment provide by the national office. A summary of findings by Monitoring and Evaluation Task Force are given below:

Table 6.2: Qualitative Summary Table

Aspects	General observations
Adequacy/suitability of programme	In most cases the programmes were adequate and suitable. However, some were not followed strictly. In some centres some aspects that were not supposed to have been in the programme had been included.
Time management	Most sessions started on time. However, time management was not good in some sessions. Some of the sessions took longer than scheduled on the programme; cases of over-planning and under-planning were observed.
Quality of facilitation	The quality of facilitation was relatively fair. However, in a number of cases, some trainers did not guide the participants during discussions but were advised by National office accordingly.
Level of participation	Generally, the participants were actively involved during the group discussions and in most plenary sessions. The attitude of participants seemed positive; in some cases low morale of participants e.g. reading newspapers while sessions were going on, was noted.

Use of materials and equipment / INSET rooms	In most cases INSET rooms were well prepared and the laboratories were tidy. However, in some cases facilitation materials were being produced during the INSET. In some cases there was a shortage of materials provided by the national office due to the unexpected high turn out.
Modifications on session contents	Some trainers prepared good original materials for sessions not covered during the National INSET and even produced their materials using a computer. However, in some cases, there were no modifications in session content. Trainers used handouts given during national INSET without any modification.
Maintenance of records: attendance lists, requisitions, inventories, minutes of meetings	Generally, the attendance lists were well maintained. Good organization of files was noted in some centres. However records of materials, apparatus and equipment were not well maintained or non-existent in some centres. Financial records and minutes of meetings to prepare for INSET were also not available in some centres.
Use of Session Evaluation Instrument	Generally, session evaluation forms were well maintained by trainers. In some cases participants rated even aspects that were not included in the session e.g. peer teaching, practice
Quality of accommodation/meals	Generally, accommodation was acceptable; meals were of acceptable standards in quality and quantity except in a few cases where the meals were rather monotonous and even no cutlery was provided. In some cases participants opted to commute rather than stay at the centres.

6.2 QUALITY OF DISTRICT INSET ASSESSMENT INDEX

Preamble

The quality of district INSET measured through session evaluation instrument at the districts obtained a mean of over 2.5 on a scale of 0 to 4 in the quality of INSET assessment index.

The purpose of this analysis is to determine the quality of District INSET. The result of the quality of INSET is based on the analysis of session evaluation instrument as stated in the evaluation Grid 2(d) on the PDM. The session evaluation forms were administered in every session of all the INSETs during the period 2004-2005. Participants rated the sessions using a five Point Likert scale on a quality continuum from excellent (4) to poor (0). The session evaluation data was analysed with respect to two criteria; Quality criteria and organisational criteria.

There are 96 INSET centres, but 8 centre were established after cycle one. A sample of session evaluation data from 4 of the 88 (4.5%) district INSET centres where INSET was conducted was used in this analysis as a sample. A mean score for each quality category across all the organisational categories was computed for all sessions. The results are as indicated in table 6.3. The benchmark for the PDMs' attainment is a mean of over 2.5.

Summary

Observation

From table 6.3 the overall mean score for quality of District INSET is 3.3.

In the quality criteria category, the least observed rating of 3.0 was in the category of time management and the highest observed rating was in the category of Interest (3.5). In the organisational category, the plenary and feedback sessions were rated at 3.2 this was below the overall mean score of 3.3

Interpretation

The benchmark for attained quality of district INSET is a mean score of over 2.5. The overall mean score of 3.3 indicates that the quality of district INSET has “attained” with respect to the target score of 2.5 for output 2(d) on the PDM.

Table 6.3: Criteria Means

	Motivation	Interest	Involvement	Relevance	Time	<i>Organisational Criteria Mean</i>
<i>Quality. Organisation</i>						
Plenary	3.3	3.4	3.2	3.3	3.0	3.2
Practical	3.4	3.5	3.4	3.2	3.2	3.3
Discussion	3.4	3.4	3.4	3.3	3.3	3.4
Peer teaching	3.3	3.3	3.4	3.3	3.3	3.3
Feedback	3.2	3.3	3.3	3.3	3.1	3.2
<i>Quality Criteria Mean</i>	<i>3.3</i>	<i>3.4</i>	<i>3.4</i>	<i>3.3</i>	<i>3.2</i>	<i>3.3</i>