

Summary of Final Evaluation

1. Brief of the Project		
Country:	the Republic of Malawi	Name of the Project: Strengthening of Mathematics and Science in Secondary Education through In-service Training in Malawi
Field:	Education, Basic/Primary/Secondary Education	Project Type: Technical Cooperation Project
Overseas Office in charge:	Malawi	Financial Input: 220-M JPY
		Implementing Organization: Ministry of Education
Term of cooperation:	(R/D):	August 3, 2005
	3 years Sep. 30, 2004 – Sep. 30, 2007	Consultant: none
		Related Project: Project for enhancing the capacity of DCE through constructing a demonstration secondary school (grant aid)

1-1 Background of the Project

In Malawi, “low quality of secondary education” has been recognized as one of the challenges in its education sector. It is no less true in teaching of mathematics and science, which is evidenced by the low academic performance of students. There is a great need for the development of experiment methods using appropriate technology and the improvement in teaching methodology. The Government of Malawi (GoM) has recognized this problem, and it has begun to formulate policies and strategies for teacher education and development for secondary schools. However, comprehensive actions are yet to be materialized.

Similar problems were identified in many other countries in the Region, and JICA started supporting those countries through utilizing experience of its technical cooperation project “Strengthening of Mathematics and Science in Secondary Education (SMASSE)”, which had been implemented in Kenya since 1998, with the aim of strengthening quality of mathematics and science education at secondary level. SMASSE had been widely recognized as a success, and it was crucial to make the most of its experience, for “south-to-south cooperation” which Japan was promoting. SMASSE thus established the regional network called SMASSE-WECSA

(Western, Eastern, Central and Southern Africa) in 2002. Malawi joined SMASSE-WECSA has been seeking for measures to improve mathematics and science education at secondary level through in-service training (INSET), with the cooperation of SMASSE Kenya, through activities such as “participation in national INSET in Kenya” and “conducting a trial INSET”. The necessity of such activities for mathematics and science in secondary education has been recognized, and they are also relevant to the policies and strategies of GoM. However, most of those activities were financed by the Budget for promoting Local Activities of a JICA expert (Education Planning Advisor) posted at Ministry of Education, and the financial and technical inputs were rather limited. It was judged that a technical cooperation project, as more to be expanded and more tangible effects of the support for improving mathematics and science education at secondary level through INSET were to be produced. This Project for Strengthening of Mathematics and Science in Secondary Education through In-service Training in Malawi (SMASSE INSET Malawi) was requested.

1-2 Outline of the Project

(1) Project Goals

① Project Purpose and Indicators

[Project Purpose]

Quality INSET for secondary Maths and Science teachers are provided by Core Trainers in SEED.

[Indicators]

- a) Every year, Quality INSET is conducted at over 3 INSET Centres in SEED.
- b) By the end of the project, Core Trainers obtain mean of over 3 on the scale of 0 to 4 in the Trainer Capacity Index administered by the Monitoring and Evaluation Team.
- c) By the end of the Project, cluster-level INSETs obtain mean of over 2.5 on the scale of 0 to 4 in the INSET Quality Index through Pre- and Post-INSET and session evaluation instruments administered by the Monitoring and Evaluation Team.

② Overall Goal and Indicators

[Overall Goal]

The quality of teaching of maths and science is improved in secondary schools in Malawi.

[Indicators]

By 2015, secondary maths/science teachers sampled nationally obtain mean of over 2.5 on the scale of 0 to 4 in the Teaching Quality Index administered by the EMAS of MoE.

(2) Outputs and Activities

① Core Trainers for cluster-level INSET are trained.

[Indicators]

By the end of the Project, over 36 Core Trainers undergo suitable training.

[Activities]

1-1 Set the TOR and recruitment criteria for Core Trainers.

1-2 Recruit Core Trainers.

1-3 Organize induction course for newly recruited Core Trainers.

1-4 Develop INSET manuals for Core Trainers.

1-5 Train Core Trainers at DCE and other institutions.

1-6 Assess the achievement of each Core Trainer and provide additional support where necessary.

② Physical and material environment for INSET is improved.

[Indicators]

By the end of the Project, over 3 INSET Centres are equipped according to the minimum standards set by the Project.

[Activities]

2-1 Set the designation criteria for INSET Centres.

2-2 Designate schools as INSET Centres in clusters.

2-3 Conduct the baseline study on the current physical and material environment at schools.

2-4 Set the minimum standards for INSET Centres and other schools.

2-5 Equip INSET Centres and other schools with necessary materials according to the standards.

2-6 Strengthen the function of DCE as a resource centre for INSET.

③ Secondary math/science teachers are trained at cluster-level INSET.

[Indicators]

a) By the end of the Project, over 3 cluster-level INSET are held at each INSET centre.

b) By the end of the Project, over 300 teachers complete the modules for cluster-level INSET.

[Activities]

3-1 Sensitize the teachers on the importance of INSET activities

3-2 Sensitize the teachers on gender issues in maths/science education.

3-3 Develop monitoring and evaluation tools for teaching and INSET.

3-4 Conduct the baseline study on the needs and capacity of teachers in methodology and subject knowledge.

3-5 Develop a curriculum for INSET.

3-6 Develop teaching and learning materials for INSET.

3-7 Conduct INSET at INSET Centres in clusters.

3-8 Monitor the teaching by teachers regularly during the term.

3-9 Conduct follow-up activities where necessary.

3-10 Develop a system to facilitate information sharing by teachers.

- ④ Leadership at school, divisional and Ministry level is strengthened in terms of INSET administration.

[Indicators]

By the end of the Project, over 90 headmasters and over 20 division and Ministry officials participate training sessions for strengthening their administrative capacity.

[Activities]

4-1 Sensitize the headmasters on the importance of INSET activities.

4-2 Organize training sessions for strengthening administrative capacity at school, divisional and Ministry level.

4-3 Publicize INSET activities through newsletters, circulars, websites, e-mails, etc.

4-4 Hold conferences for maths/science education to publicize the Project activities.

1-3. Input

Japan:

➤ Dispatch of Experts

Long-term (teacher training 24M/M)

Short-term (teacher training 8M/M)

Short-term (Third country experts from Kenya: 8 persons in 2005, 4 persons in 2006)

➤ Training of Counterpart Personnel in Japan, Kenya and other countries

Training in Japan (1 person in 2005, 2 persons in 2006)

Third country Training in Kenya (50 persons: 11 persons in 2004, 32 persons in 2005, 7 persons in 2006)

➤ Allocation of Budget

Operational Cost 48,875,000 JPY

Facilities and Training 19,209,000 JPY

Malawi:

➤ Assignment of Counterpart Personnel

➤ Assignment of Administrative Personnel

➤ Building and Facilities

➤ Allocation of Budget

➤ Budget for INSET 2007 (5-M Kw)

2. Final Evaluation Team

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May 26, 2007 ~ June 10, 2007

Type of Evaluation:
Final Evaluation

3. Evaluation

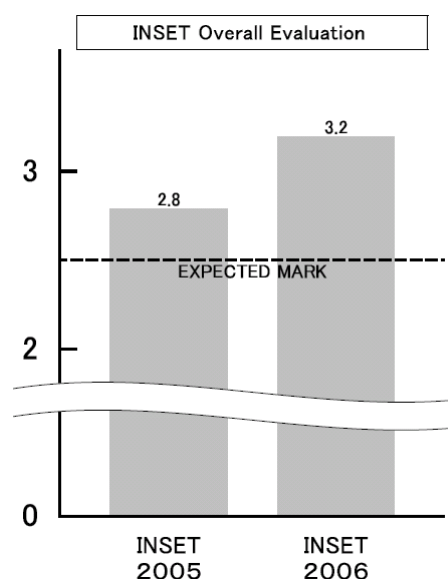
3-1 Achievement of the Project (Outputs, Project Purpose)

(1) Outputs

- The target number of Core Trainers was revised to thirty-six (36) after Mid-Term Evaluation. Forty-nine (49) teachers were trained for Core Trainers and the number of Core Trainers available is thirty-four (34) currently.
- Three (3) equipped INSET Centres are established as expected.
- Two INSETs were conducted at each INSET Centres. The 3rd INSET is scheduled in August 2007. Budget for this activity is committed by Ministry. The frequency and duration of INSET were reasonable taking into the considerations of follows; availability of training period, budget, preparatory activities, and teachers' adaptation. However, some teachers request to extend the duration to accommodate more topics.
- The number of teachers who participated in INSETs is reached to more than expected number of three-hundred (300). This number covers almost all Maths and Science teachers in SEED.
- The number of headteachers who participated in the training was ninety-five (95) against target number of ninety (90). The number of Division and Ministry officials who participated in the training was eighteen (18) against target number of twenty (20).

(2) The Project purpose

- According to INSET Overall Evaluation done by the teachers, the quality of INSET is improving as shown in the right Figure.
- According to INSET Session Evaluation, the quality of INSET sessions is improving from 3.3 (INSET 2005) to 3.5 (INSET 2006), which achieved the expected figure (2.5).
- According to INSET Overall Self-Evaluation done by the Core Trainers, the quality of INSET is also improving from 3.0 (INSET 2005) to 3.1 (INSET 2006), which achieved expected figure (2.5).
- Core Trainers' capacity is also evaluated as part of Overall Evaluation done by the teachers. It shows the proper quality and its improvement as 3.0 (INSET 2005) to 3.3 (INSET 2006), which achieved the expected figure (3.0).
- As shown in these indicators above, the teachers satisfied with INSET because they really felt their improvement in teaching and the students' change in their attitude towards Maths and Science. Core Trainers feel the effectiveness of INSET for the classroom teachers especially those who are teaching in Community Day Secondary Schools. Most of Core Trainers feel the improvement of the mastery of the methodology and subject contents as well as facilitation and management skills for INSET.



(3) Overall Goal

It is too early to see the achievement level of Overall Goal as of Final Evaluation. However, there are several positive signs of improvement of teachers' capabilities and students' participation through ASEI-PDSI approach. MoEST feels the importance of continuous professional development of teachers.

3-2 Evaluation by the Five Criteria

(1) Relevance: High

- INSET of the Project meets the needs of the teachers in SEED.
- It meets the national development policy of Malawi and Japan's ODA Policy.

(2) Effectiveness: Average

- Core Trainers improved their capacity.
- INSET sessions maintain an appropriate quality.

- ◆ Number of Core Trainers should be maintained and the training for headmasters/Ministry officials should be continued.

(3) Efficiency: High

- The Project fully utilized the existing resources.
- All the Inputs were utilized to promote the Project.
- Malawian Government commits the support for INSET.
- There is a good relation with SMASSE-WECSA.

(4) Impact: Not high

- Core Trainers improved their capacity.
- There are positive signs of the improvement of the teachers' teaching capabilities in SEED.
- Other divisions are interested in INSET.
- ◆ The responsible department of MoEST needs to be strengthened.
- ◆ It needs a concrete action plan of future INSET.
- ◆ It needs to secure budget for INSET continuously.
- ◆ ASEI-PDSI approach is already accepted but there should be various follow-ups for the teachers to utilize the approach correctly and effectively.

(5) Sustainability: High

- Successful implementation of the 3rd INSET is much expected.
- MoEST, SEED and DCE fully understand the importance of INSET and commit themselves to continue it.

3-3 Promoting Factors

- Teachers' needs to improve their skills and SMASSE answers to them.
- Appropriate assistance made by SMASSE-WECSA.
- Recommendations left by Mid-Term Evaluation Team and Malawian Government followed and answered to them.

3-4 Constraining Factors

- There was a period of Japanese Expert's absence because of the delay of its dispatch.
- Responsibility of the Project in MoEST was not clear before Mid-Term Evaluation.

3-5 Conclusion

Based on the above evaluation results, the Team concludes as follows:

(1) SMASSE INSET Malawi is achieving the Project purpose. Core Trainers are capacitated with the knowledge of ASEI-PDSI approach and the facilitation capacity of INSET. Teachers are satisfied with the quality of INSET and motivated to improve their practices in the classroom.

(2) These benefits should be maintained and developed with the conscious efforts of all the related organizations. DTED should be responsible for coordination, management and administration of INSET. DCE should academically support INSET implementation. SEED should be responsible at the implementation of INSET.

(3) The 3rd INSET should be prepared and implemented smoothly and effectively under the Malawian ownership. It will be a milestone of INSET system in Malawi.

3-6 Recommendations

(1) The Smooth Implementation of the Coming 3rd INSET

For the coming 3rd INSET in August, the Project now counts on more desirable conditions in terms of the human and financial resource. For the human resource aspect, four (4) full-time Subject Administrators have been deployed at SMASSE Secretariat since this April, and the National Project Coordinator has a favorable working condition as a result of a reduced duty at DCE. For the financial resource aspect, MoEST has committed for the budget necessary for meals, accommodations, transportations, allowances and teaching materials of the coming INSET, making a sharp increase from previous two (2) INSETs, in which MoEST budget covered only for allowances of teachers.

The Project Purpose will be finally achieved by the smooth preparation and implementation of the 3rd INSET under the Malawian ownership.

(2) The appropriate and timely disbursement of the INSET budget

About the INSET budget, the disbursement modality and the necessary coordination among the DTED, the SEED Office and district INSET Centres should be clarified. In order to secure the sustainable INSET budget in the future, divisional education offices and district INSET Centres should collaborate further to manage the disbursed budget for INSET and also promote the effective use of development funds collected from benefited schools.

(3) Clarification of responsible department at MoEST

In the response to the recommendation of the Mid-Term Evaluation, DTED is nominated as a fully responsible department for SMASSE activities in collaboration with EMAS and DHRM. DTED should be authorized as a full fledged department as soon as possible and should take direct responsibility in SMASSE INSET activities and the budget disbursement.

(4) Revision of the Project-related terms

Regarding to the wordings and terms of INSET training and trainer, misconcepts and deviations from normal usages are found. For the further diffusion of the Project experiences to other divisions, these defects in wordings should be revised in order to avoid any confusion, such as *Cluster INSET* (should be replaced with Division INSET), *Core Trainer* (Division Trainer).

3-7 Lessons learned

(1) Integration of Project's M&E to an existing monitoring system

For educational projects, it is required to set indicators to measure achievements of the educational quality, using indicators such as teacher and student's attitude change and lesson observation. Project monitoring for indicators should be regularized and integrated to an existing monitoring system.

This Project has PDM indicators such as the quality of INSET and the quality of teaching in classroom and the monitoring has been conducted independently by the Project Secretariat, which should have been done under the existing M&E system, capacitating the Divisional Education Office.

(2) Promotion and Support of INSET Centres' Self-help Efforts

This Project has observed many efforts by INSET Centres, such as the increase of the development fund fee at a center-school level, the collaboration with PTA for the logistical preparation of district INSETs, etc.

In the cascading INSET system, division INSET Centres give important foundations for INSET. Their self-help efforts and further participation of neighboring schools for the preparation of district INSETs should be promoted and supported by projects.

(3) Follow-up technical support to teachers

It is observed that those teachers are motivated to practice new methodologies in their classroom. INSET trainers should not only monitor teachers' practices by lesson observations, but also support them technically at a regular basis. Planning of teachers'

workshop, school-visiting, and lesson observation will help teachers to interact with other teachers to improve lesson-practice. Additionally, through these supports, INSET trainers will have more opportunity to grasp the needs of teachers.