

## Summary of the Terminal Evaluation Study

<b>I. Project Outline</b>		
<b>Country :</b> Sri Lanka		<b>Project title :</b> Project for Improving School Management to Enhance Quality of Education with Special Reference to Science and Mathematics
<b>Issue/Sector :</b> Basic Education		<b>Cooperation scheme :</b> Technical Cooperation Project
<b>Division in charge :</b> JICA Sri Lanka Office		<b>Total cost :</b> 390 Million Yen
<b>Period of Cooperation</b>	<b>(R/D):</b> Aug. 12. 2005 October 2005 – December 2008	<b>Partner Country’s Implementing Organization :</b> Ministry of Education, Provincial Ministries of Education, Zonal Education Offices (ZEOs)
		<b>Supporting Organization in Japan :</b> N/A
<b>Related Cooperation :</b> JICA Master Plan Study for the Development of Science and Mathematics in the Primary and Secondary Levels in the Democratic Socialist Republic of Sri Lanka		
<b>1. Project Background</b>		
<p>(1) Human Development Indices, including those for education sectors, are relatively high in Sri Lanka among developing countries. For example, the adult literacy rate is 92% for both males and females, and the net enrollment ratio of primary pupils is 95%. However, there are several issues regarding “quality of education,” especially for the subjects of science and mathematics. The recent results of the GCE O/L (Examination of General Certificate of Education of Ordinary Level) show that the pass rates for the subjects in the arts stream, such as mother languages, history, social studies, were between 70% and 80%. However, the pass rates for science and mathematics were between 40% and 50%, and they tend to be worsening in the past several years.</p> <p>(2) JICA conducted the “Master Plan Study for the Development of Science and Mathematics in the Primary and Secondary Levels” in Sri Lanka for the period of three years from 2002. The Study aimed at improving science and mathematics education at the primary and secondary levels; however, the Study Team found that the low academic performances in the subjects were caused not only by subject specific issues but also by inefficient school management. As a result, “Educational Kaizen Activities” were introduced in several selected schools as a pilot project aiming at improving school management. The “Educational Kaizen Activities” apply “Kaizen” exercises such as implementation of the 5S (Seiri, Seiton, Seiso, Seiketsu and Shitsuke), which is a well-known concept in Japan as well as in Sri Lanka, into the education sector.</p>		

- (3) Based on the positive results of the pilot activity in the Master Plan Study, the technical cooperation project for “Improving School Management to Enhance Quality of Education with Special Reference to Science and Mathematics” was commenced from October 2005. The project aims to improve the quality of education and reduce regional disparity through the introduction and implementation of Educational Kaizen Activities for the improvement of school management with the facilitation of Zonal Education Offices (ZEO). The project provided assistance for ZEOs and schools in 5 educational zones to implement Educational Kaizen Activities and facilitated officers in ZEO to monitor activities at schools. In addition, CoSM (Committee for Science and Math) was formed and Lesson Study exercises were conducted for science and 100 box calculation and IMaCS (calculation drills) were introduced for math.

## **2. Project Overview**

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

1. Quality and equity of education is improved in the target zones.
2. Sustainable system to improve school management is expanded from the target schools to the non-target schools and from the target zones to the non-target zones

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

A sustainable system to improve school management is established in the target zones

### **(3) Outputs**

1. Kaizen Activities on educational management are introduced and conducted in the ZEOs.
2. Educational Kaizen Activities on school management are introduced and conducted in the target schools with the facilitation of ZEOs
3. Subject-based Educational Kaizen Activities on Science and Math are introduced and conducted in the target schools with the facilitation of the ZEOs.
4. Vertical linkage (National, Provincial, Zonal and school levels) and horizontal linkage (among the target schools) are established.

### **(4) Inputs (As of September 2008)**

#### **Japanese side :**

Japanese Experts: Total of 67.74 man-months in 8 different areas

Equipment: 4.8 Million JP Yen

Activity Expenses: 29.8 Million JP Yen, Block grant for ZEOs and schools: 38.3 Million JP Yen

Training in Japan : 6 persons

#### **Sri Lankan Side :**

Counterparts: 8 persons

Office space for the Project Team in the Ministry of Education and 5 target ZEOs

Local Cost: 9.25 Million Sri Lankan Rupees for block grants for ZEOs (year 2007 and 2008) and schools (year 2008), travelling expenses for monitoring, workshops, etc.

II. Evaluation Team			
Members of Evaluation Team	Leader	Ms. Noriko SUZUKI	Resident Representative, JICA Sri Lanka Office
	Education Cooperation	Ms. Chisa HARA	Director, Basic Education Division 1, Basic Education Group, Human Development Dept., JICA Headquarters
	Cooperation Planning 1	Ms. Akane TOTANI	Associate Expert, Basic Education Division 2, Basic Education Group, Human Development Dept., JICA Headquarters
	Cooperation Planning 2	Ms. Kotohi INOUE	Assistant Resident Representative, JICA Sri Lanka Office
	Evaluation and Analysis	Ms. Tomoko Tamura	Consultant, Kaihatsu Management Consulting Inc.
Period of Evaluation	27/08/2008~ 14/09/2008		Type of Evaluation : Terminal Evaluation
III. Evaluation Results			
1. Achievement of the Project			
(1) Inputs			
Inputs were made as planned both by Japanese and Sri Lankan sides.			
(2) Activities			
Most of the planned activities in the PDM were implemented successfully as planned. However, the formation of Committee of Science and Math (CoSM) and activities on science education were slightly delayed.			
(3) Outputs			
All the expected Outputs of the Project have nearly been generated as follows:			
• Output 1			
Educational Kaizen Activities were introduced and are continuously implemented in all target ZEOs. As a result, the administration and management efficiency of the ZEOs as well as communication among the ZEOs staff were improved.			
• Output 2			
Educational Kaizen Activities on school management were introduced and are continuously implemented in all target schools. Various positive changes in school management were observed in the target schools, such as improvements in school culture, teaching and learning environment, attendance rates and incentive of teachers and students, participation of parents and community. ZEOs conducted monitoring of activities at schools but in some cases, they could not visit schools as frequently as planned.			
• Output 3			
Educational Kaizen Activities on science and mathematics education were introduced and are continuously implemented in all target schools. The target schools are actively conducting activities on science and mathematics introduced by the Project, such as 100-box calculation, IMaCS and Lesson			

Study. Quality Education Circles (QECs) on science and mathematics in the ZEOs and schools had developed various kinds of teaching and learning materials, and they are utilized in classrooms. ZEOs conducted various workshops on science and mathematics for teachers.

▪ Output 4

Decision making bodies for Educational Kaizen Activities were established and the meetings are conducted regularly at national, provincial, zonal and schools levels. Progress of the Activities and future plans are discussed and decided in the meetings and vertical linkage among these bodies has been strengthened through these meetings. As for the horizontal linkage, the target and non-target schools shared their experiences and achievements mainly in National and Zonal conventions. The Project Team and the counterparts are in the process of documenting practical manuals on the Activities, which will be utilized by the Sri Lankan side for the expansion after the completion of the Project period.

(4) Project Purpose

The target ZEOs and schools are planning to incorporate Educational Kaizen Activities into their annual plans from the next year onwards, and to conduct the Activities as a part of their regular works. Currently, the Ministry of Education (MOE) and the Provincial Ministries of Education (PMOE) are seeking approvals of their higher authorities on the proposed plans and budget of the Activities for the year 2009. The target ZEOs had already started dissemination of the Activities to non-target schools. They plan to increase the number of target schools in 2009. Thus, the Project Purpose is expected to be achieved by the end of the Project period on the condition that there is institutional and financial commitment from the Sri Lankan side.

(5) Overall Goals

There is a possibility for the Project to contribute to attaining the Overall Goals in the near future. Even now, the Project is contributing to the attainment of the Overall Goal 1, as academic achievements in National Exams were improved in some target ZEOs and schools. Some target schools became popular among the community as a result of the positive improvement created by the Project activities. There are several encouraging factors for attaining the Overall Goal 2. For example, there are already several non-target schools in the target ZEOs which are conducting the Activities. The Kaizen Units, which will coordinate and facilitate dissemination of the Activities, were established in MOE and PMOE.

## **2. Summary of Evaluation Results**

(1) **Relevance (Very High)**

- The project purpose is consistent with the education policy of Sri Lanka and the ODA policy of the Japanese government to Sri Lanka. The framework for the education sector in Sri Lanka, or the “Education Sector Development Framework and Programme 2006-2010” (ESDFP), also stresses the importance of school management and science and mathematics education.
- Educational Kaizen Activities proved to be effective in improving the office management of ZEOs and the environment and culture of schools, which contributed to the improvement of the quality of education. Several target schools in rural areas gained popularity and recognition among the

community due to the changes and improvements made by the Project activities.

- Target zones and schools were selected from remote rural areas and war-affected areas, in consideration of the need to address the issue of “equity of education”.

**(2) Effectiveness (High)**

- All the expected Outputs of the Project have nearly been generated and the Project Purpose is expected to be attained by the end of the project period.
- However, the following needs should be further addressed: (a) further strengthening of the vertical linkage among the stakeholders at national, provincial, zonal and school levels; (b) appropriate and timely budget allocation; (c) continuous facilitation of Lesson Study and effective use of IMaCS<sup>1</sup> ; and (d) technical and institutional capacity building of Kaizen Units.

**(3) Efficiency (Medium)**

- The planned inputs have been provided and most of the planned activities have been implemented successfully. More concrete results in science education could have been achieved if activities on science were introduced earlier.
- The four expected Outputs have been produced through the Educational Kaizen Activities at zonal and school levels.
- In order to achieve more concrete Outputs in Educational Kaizen Activities on science and mathematics, the following points should be followed up: (a) continuous monitoring from ZEOs to schools; (b) ensuring correct understanding of the concepts and teaching method of IMaCS; and (c) effective facilitation and appropriate subject knowledge input in Lesson Study workshops.

**(4) Impact (High)**

- In the target zones, several non-target schools have already started to implement Educational Kaizen Activities.
- MOE considers Educational Kaizen Activities as a model case to be applied on a larger scale for the improvement of school-based management within the framework of ‘Programme for School Improvement (PSI)’. MOE started a discussion with the Finance Commission to amend the regulation of the Quality Inputs<sup>2</sup>, so that it will also be utilized for Educational Kaizen Activities.
- The concept of IMaCS was incorporated into the curriculum and the respective Teachers’ Instructional Manuals for Grades 5 and 8 and there is a plan to introduce it into the curriculum and manuals for other grades as well.

**(5) Sustainability (Medium)**

- All the target ZEOs and schools are confident that they will continue and expand the Educational Kaizen Activities even after the completion of the Project.
- MOE and provincial authorities are making institutional and financial arrangements to expand Educational Kaizen Activities into non-target ZEOs and schools. They are seeking approval from higher authorities on financial proposals for the Activities in the year 2009.

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<sup>1</sup> “Improvement of Mathematical Calculation Skills”. A series of calculation drills for students (G1-9) developed by the Project.

<sup>2</sup> Existing funds of the Sri Lankan government which are distributed to schools for the use of improvement of quality of education.

- Printing and distribution of IMaCS and effective and regular implementation of Lesson Study are issues to be further followed up.
- Kaizen Units were just formulated recently in MOE and PDEs. Institutional and technical capacity of the Units should be further strengthened so that they will effectively function as focal points in disseminating Educational Kaizen Activities to non-target ZEOs and schools.

### **3. Factors that facilitated the realization of the effects of the Project**

#### **(1) Factors concerning Planning**

- The Project provided block grants for the target schools for the 1<sup>st</sup> and the 2<sup>nd</sup> years and PMOEs provided them for the 3<sup>rd</sup> year as planned. This transition of the responsibility for the financial assistance for the Activities encouraged PMOEs to make continuous budgetary arrangements necessary for the Activities even after the completion of the Project.
- The addition of “Output 4” at the time of the Mid-term Evaluation was an effective arrangement and contributed to the enhancement of the sustainability of the effects of the Project.

#### **(2) Factors concerning the Implementation Process**

- Just after the commencement of the Project, the security situation in the Northern and the Eastern regions of Sri Lanka worsened due to the escalation of the civil war and ZEOs and schools in Jaffna and Trincomalee zones experienced a lot of hardships. However, even when Japanese experts could not visit these places, the Project continued to provide necessary assistance through local experts, thus making it possible for them to achieve remarkable outcomes.
- The block grants for schools proved to be an essential resource for implementing the plans for Educational Kaizen Activities. The block grants were utilized effectively for the following reasons: (a) rules and regulations were established so that the schools could use the grants in a timely and creative manner, (b) the Project Team guided the schools by providing necessary advice on the planning and the implementation of the Activities and appropriate accounting procedures for the grants, and (c) the QECs handled the actual accounting of the grants in a transparent manner.
- The need to train teachers on appropriate teaching methods of the IMaCS and the importance of providing follow-up assistance to slow learners were highlighted at the time of the Mid-term Evaluation. After that, the target ZEOs and schools actively got involved in these issues by obtaining technical assistance from the Project Team.

### **4. Factors concerning the implementation process**

- Delays in the establishment of CoSM and the development of science activities influenced the progress of Output 3 to a certain extent. Lesson Study was introduced and conducted in the target ZEOs and schools; however, it was not confirmed whether the Lesson Study workshops are conducted at schools regularly and effectively.
- There was a plan for the ZEOs to visit all the target schools at least once a term. However most of the ZEOs could not do so regularly, due to various reasons such as the unavailability of vehicles, lack of public transportation, the excessive amount of other duties, security problems, etc. In particular, it was difficult for the ZEOs to pay regular visits to the target schools in very remote areas.

## **5. Conclusion**

### **(1) Successful implementation of Educational Kaizen Activities at schools and ZEOs**

The Educational Kaizen Activities are confirmed as being successfully introduced and implemented by the target ZEOs and schools, and several visible changes are brought in office/school environment, office/school management and even academic performance through the process of implementing the activities. Activities directly related to the improvement of quality of education are implemented both in schools and ZEOs.

Educational Kaizen Activities together with the block grant, which is under school's discretion, enhanced the ownership and motivation of principals, teachers, parents and communities, which resulted in changes to school culture. Activities directly related to the quality of education are conducted both in schools and ZEOs.

### **(2) Educational Kaizen Activities for science and math**

IMaCS is recognized as an effective tool to strengthen students' ability of calculation. The problem of slow learners has been dealt with through efforts to identify them and follow-up on them. Currently, IMaCS is used in the particular session separately from ordinary mathematics classes. The direction of incorporating the IMaCS concept to the mathematics curriculum is an effective measure to maximize complementary aspects between mathematics lessons and IMaCS.

Lesson Study undertaken in the Project has provided teachers with opportunities to assess and improve their lessons by themselves. It has also given chances for teachers to observe their colleagues lessons and learn from them. The target schools are practicing lesson studies in cooperation with In-service Advisors (ISA) and subject directors. This cooperation between schools and ZEOs will form a ground that lesson studies will continue in institutional settings.

### **(3) Incorporation of the outcomes of the Project into the overall system of school improvement**

MOE is promoting the Programme for School Improvement (PSI) under the ESDFP 2006-2010, which is to develop school-level capacity and responsibilities. Educational Kaizen Activity is a good example to strengthen school-level ownership and commitments and could be utilized in PSI.

Educational Kaizen Activities will be a part of or merge with school development plans, together with other factors of teacher development, student achievement, and material and facility development. In addition MOE is currently discussing the possibility of increasing the amount of Quality Inputs for Educational Kaizen Activities with the Finance Commission.

As a whole, the overall system of school improvement consists of strengthened capacity at school level, a school development plan, and an appropriate amount of funding to fulfill the plan is being developed. Educational Kaizen Activities will be a pilot case for this system of school improvement.

Vertical linkage is important to implement school improvement in the line of education administration. SEIKA, ZEIKA, PEIKA, and NEIKA, as decision making bodies for education improvement and school management, are expected to strengthen vertical linkage and work cooperatively and complementarily for the betterment of a schools situation.

## **6. Recommendations**

### **(1) Educational Kaizen Activities focusing on the quality of education**

Educational Kaizen Activities implemented at schools are focusing on activities directly related to the quality of education, mainly developing teaching material to enhance students' activities and understanding. These activities need to be continued as the quality of education is central to education development.

### **(2) Importance of funds to be utilized at the school level**

For the target schools to improve the quality of teaching through Educational Kaizen Activities, the block grant provided by the Project played a vital role. After the Project, special funds will be allocated to the target and some non-target schools for several years. It is vital that an appropriate amount of funding will be provided to schools in proper timing.

### **(3) Dissemination to non-target schools and zones**

For dissemination of Educational Kaizen Activities to non-target schools and zones, functions of ZEOs and PDEs as well as Kaizen Units to raise awareness and conduct monitoring are vital. Their capacity to disseminate necessary information and monitor school activities needs to be strengthened.

### **(4) Distribution of IMaCS**

Based on the understanding of effectiveness of IMaCS to strengthen students' ability of calculation, MOE has decided to distribute IMaCS to all the target schools and some additional schools, from Grade 1 to Grade 5 in 2009. However, measures should be considered to provide IMaCS from Grade 6 to Grade 9 as well. At the same time, efforts to reproducing IMaCS in cheaper and easier ways need to be considered.

### **(5) Continuation of Lesson Studies**

Efforts to make use of the Plan-Do-See process of lesson studies, applying student-centered and activity-based practices, in daily lessons need to be encouraged. For this, supports from ISA and Subject Directors, including support to create an enabling environment, are indispensable.

Lesson studies will also be important as a continuously effective tool for improvement of lesson delivery, good facilitation by experienced teachers as well as input of subject knowledge.

### **(6) User-friendly manual for Educational Kaizen Activities**

For wider and appropriate dissemination of the Educational Kaizen Activities into the non-target zones and schools, it is crucial to gather all the necessary information, skills and knowledge into a practical and useful manual to be utilized by MOE, PDEs and ZEOs.

### **(7) Education as a national minimum and minimizing disparities**

Basic education is a national minimum and provision of a minimum level of education nationwide is crucial. While strengthening capacity at school level, it is important to make efforts of minimizing disparities.

## **7. Lessons Learned**

### **(1) Educational Kaizen Activities and education sector policy framework**

The Project is considered a part of Sri Lankan Government policy framework of 'Programme for



School Improvement (PSI)'. However, project activities are focused mainly on activities at school and zonal levels and not sufficient effort was made by the Project to clearly incorporate the Project activities and outcomes into the PSI. The Project should have been implemented with more consideration on the policy framework and the link between the Project and the overall system of school improvement.

(2) Definition and significance of 'Kaizen' and '5S'

Positive changes observed at schools are caused by the bottom-up and participatory approach taken in the problem identification, planning and implementation of the Project. It should be noted that this is not a direct result of 5S activities, such as filing. Explaining the significance and definition of 5S activities at ZEOs which are handling various administrative works and at schools is necessary.

Since 'Kaizen' and '5S' are not commonly used terms in education sector, its definition should have been clearly explained and shared among all the stakeholders at the very beginning of the Project. It became rather difficult to appropriately manage the Project because of the difference in understanding of the definition and meaning of these terms.

(3) Strengthening School based management and reducing inequality among schools

It should be noted that although it is important to strengthen capacity of schools for school based management, MOE and local education administrations should take necessary measures to reduce inequality among schools.

(4) Lesson Study

Efforts to make use of the Plan-Do-See process of lesson studies, and applying student-centered and activity-based practices in daily lessons need to be encouraged. Lesson studies will be important as a continuously effective tool for the improvement of lesson delivery, good facilitation by experienced teachers as well as inputs of subject knowledge.