Republic of the Philippines
Department of Education

A PROJECT PROPOSAL

UPGRADING OF SCIENCE AND MATHEMATICS EDUCATION PROGRAM

SUB-PROJECT 1: Strengthening the Support System forSchool-Based INSET

Prepared by
Office of the Planning Service
Project Development and Evaluation Division

Proposed Upgrading of Science and Math Education Program

Sub-Project 1: Strengthening the Support System for School-Based INSET

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APPLICATION FOR JAPAN'S TECHNICAL COOPERATION

1. Date of Entry : Day_____ Month _____ Year_____

2. Applicant : Government of the Republic of the Philippine

3. Title of the Project :: Upgrading of Science and Math Education Program (USMEP) – Sub-Project 1: Strengthening the Support System of School-Based INSET for institutionalization

4. Implementing Agency: Department of Education (DepEd)

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5. Background of the Project:

5.1 Current Situation of the Sector

While over the years, there has been improvement in terms of providing access to basic education, there is still so much to be done to improve the academic performance of the public schoolchildren. The quality of Philippine basic education is far from being desired. The quality problem is evident in the results of the country's National Diagnostic Test administered in June 2003 and National Achievement Tests administered in March 2003 and 2004. The said tests results have shown that the performance of the public schoolchildren, particularly in the areas of science and math has been generally poor. It should be noted however, that significant improvements have been registered within a two-year period (June 2002 to March 2004), although the overall performance is still way below the desired achievement level.

Table 1. National Diagnostic Test (NDT) and National Achievement Test (NAT) Results: First Cohort (Grade IV in SY 2002-2003)

Subject Area	NDT (June 2002) Grade 4 MPS	NAT (March 2003) Grade 4 MPS		NAT (March 2004 Grade 5 MPS	
	Grade 3	Grade 3	Grade 4	Grade 3	Grade 4
English	42.14	53.73	41.80	49.92	48.66
Science	39.38	53.92	43.98	52.59	46.66
Math	38.45	48.82	44.84	59.45	49.08
Over-all	39.99	52.12	43.55	53.98	48.05

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Table 2: *National Diagnostic Test (NDT) and National Achievement Test (NAT) Results: Second Cohort (Grade IV in SY 2002-2003)*

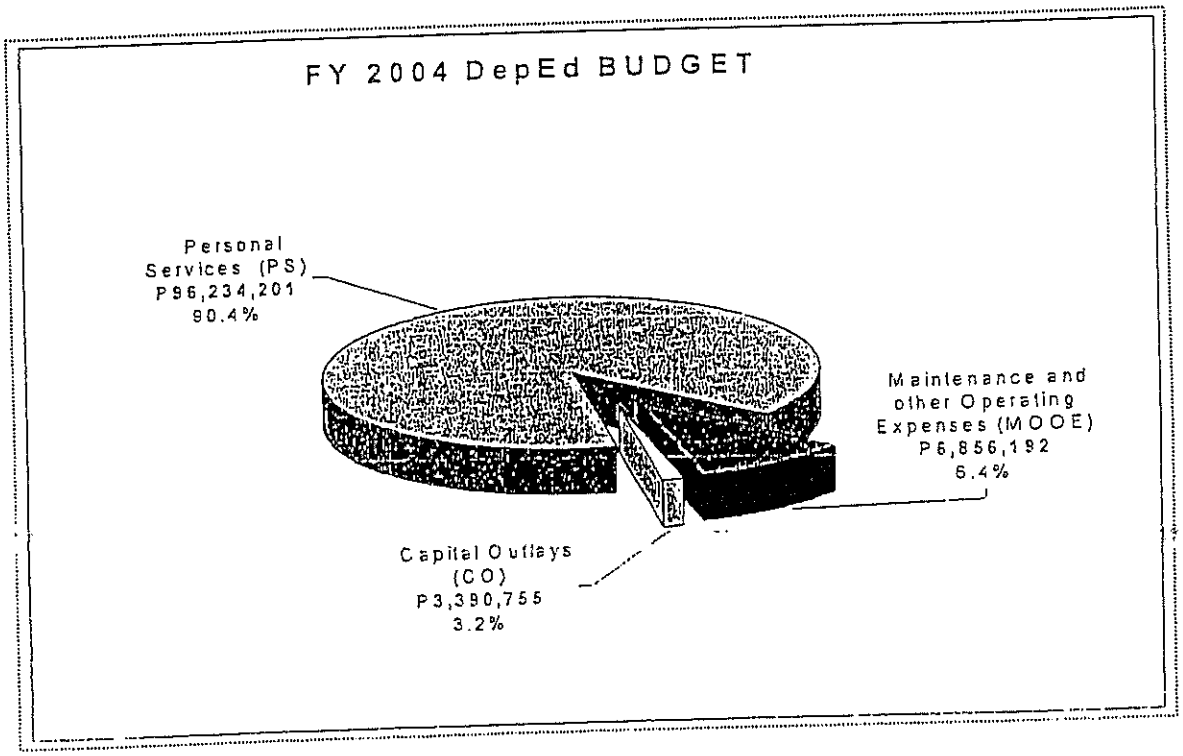
Subject Area	NDT (June 2002) First Year MPS	NAT (March 2003) First Year MPS	
	Grade 6	Grade 6	Year 1
English	29.67	44.24	41.48
Science	27.75	41.05	34.65
Math	26.71	34.92	32.09
Over-all	28.04	40.11	36.13

But far more alarming were the results of the testing conducted for incoming first year students in SY 2004-2005, where only about half of a percent of the examinees got scores within the 79-94 percent range and less that 20 percent got 50 percent scores, which is the start of mastery level. Majority of the students garnered scores of 49 percent and below.

Factors Affecting Poor Quality of Education

One of the reasons which contribute to poor quality of education is the gross inadequacy of financial resources to support an effective teaching-learning environment. The Philippine Constitution mandates that education shall be accorded highest priority in the allocation of national budget. However, while DepEd receives the biggest share in the national budget, about 90.4% of its budget is allocated to Personal Services (PS) to cover the salaries of teachers, and all other DECS personnel where the remaining 6.44% is allotted for Maintenance and other Operating Expenses (MOOE) and 3.2% for Capital Outlay. *Figure 1 shows the 2004 DepED Budget, By Expense Class.*

Figure 1



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The very limited allocation for Capital Outlay (3.2%) hinders the Department to build sufficient and decent classrooms and other equally important facilities such as science laboratory rooms and libraries. A big number of public elementary and secondary schools particularly those situated in the remote areas are not equipped with basic science and library facilities, which are indispensable to science education. In as much as DepED would want to provide each of the school with the needed basic facilities, the Department with its very limited resources has to prioritize the construction of additional classrooms to address the ever-increasing backlogs.

While the Department has been able to provide the public schools with sufficient textbooks (with textbook/pupil ratio of almost 1:1 in science and math in 2003), there is a need for the Department to provide the schools with supplementary learning materials such as workbooks, library books, etc. The provision of these learning materials is equally important to enhance the teaching-learning process. It is for this reason that while a number of Local Government Units are also providing textbooks to the public school system through the Special Education Fund (SEF), DepED is currently working on a Memorandum of Agreement with LGUs specifying that LGUs need not procure textbooks since this will already be covered by the Department's budget and that the Special Education Fund (SEF) of the Local School Board will be used instead to procure supplementary materials, among other priority expenditure items.

In terms of allocation for Maintenance and Other Operating Expenses (MOOE) which is only about 6% of the total DepED budget, the Department normally allocates 5% to training, which was only about P342.81 Million based on Year 2004 approved budget. If the estimated cost requirement to train 458,287 teachers nationwide at least once a year at P2,500 per teacher (for a 5-day training) is P 5.7 Billion, with the current level of basic education financing, DepEd's resources will never be enough to respond to the continuous training needs of teachers.

On the other hand, the Department is also confronted with problems related to the quality/capacity of its present human resources. The system lacks qualified public school teachers with science and math specialization. In a survey conducted by DOST-SEI in 2001, out of 35,970 science and mathematics teachers accounted for in the 4,310 participating schools, only 14% are BS Science Degree holders while a large majority (81%) comprise those with BS Education courses. Out of these 35,790 S&M teachers, less than 50% are qualified to teach science and math subjects. Qualified teachers are those whose major or minor field of study matched with the subject they are teaching. Even in the INSET attended by S&M teachers, these are mostly non-S&M related; and those who attended in science trainings, majority participated in general science. The findings of the study revealed that aside from having a high shortage of teachers with science and math specialization, the system is not also providing adequate in-service trainings on science and math to address the problem. Hence, there is a need for the Department to invest more on teacher training to improve the quality of teachers particularly in the areas of science and mathematics.

The problem on the quality of teachers in the public school system is exacerbated by the lack of instructional support the teachers get from the school heads. Strong instructional and managerial leadership from the school head is imperative to produce effective/well-performing schools. On the other hand, instructional monitoring and supervision of schools by the division and district supervisors is generally weak.

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In line with the provisions of RA 9155 otherwise known as "The Governance of Basic Education Act of 2001", the responsibilities and accountabilities of division/district supervisors and school managers have been given emphasis in support of the thrust on decentralization and school-based management. Specifically, the Division and District Supervisors are supposed to ensure that the quality of schooling improves through INSET, effective curriculum instruction, effective use of textbooks and instructional materials and student performance assessment. However, these functions are not effectively discharged by a large number of supervisors either due to lack of resources and/or capability to undertake instructional monitoring and supervision activities, particularly in the areas of science and mathematics. A big percentage of Division Supervisors who are designated as Science and Mathematics Supervisors are not specialists of said subject areas, more so, with the current pool of District Supervisors. In a survey conducted in selected divisions of Regions V, VI, VII and XI, a number of designated Division Science and Mathematics Supervisors are Masters of Administration and Supervision and Human Resource Management while some are Masters in the field of Agriculture. Likewise, most of the District Supervisors are Masters of Administration and Supervision and Educational Management which focused on administrative aspect of school management.

Similarly, a big number of school heads who are mandated not only as a school administrator but also to provide instructional support to teachers, cannot effectively perform such function particularly in terms of providing "expert" advice to teachers on science and mathematics instruction since they are not specialists in said subject areas.

5.2 Government's Development Policy for the Sector

The Medium-Term Philippine Development Plan 2004-2010 puts primacy on quality and accessible lifelong learning, from early childhood development to primary, secondary and tertiary learning.

As articulated in the current Medium Term Philippine Development Plan (MTPDP), basic education should be anchored on Education for All Global Movement and Millennium Development Goals. To achieve this, the government must deliver quality basic education, provide more resources to schools to widen coverage and improve the management of operations of the public school system. Specifically, the following are the basic education key strategies which will be pursued to attain the set goals and objectives in the MTPDP:

a) Strengthening Early Childhood Education
b) Closing the classroom gap
c) Installing distance learning system in conflict-affected areas
d) Upgrading Science, Mathematics and English Teaching and Learning in Formal Basic Education
e) Institutionalization of a More Focused Values Formation Program in Basic Education
f) Providing and Connecting Computers in Every Public High School for Teaching and Learning
g) Continuing the Implementation of the Optional High School Bridge Program
h) Upgrading the Quality of Pre-Service Teacher Education and Providing Continuum with In-service Training
i) Rationalization of the Basic Education Budget
j) Strengthening Madrasah Education
k) Strengthening Indigenous Peoples Education
l) Promoting School-Based Management

The thrust on Upgrading Mathematics, Science and English Teaching is anchored on the philosophy that these subjects are the foundation for lifelong learning. These subjects are the tools for the individual's capacity to systematically analyze and share ideas and knowledge necessary for further self-development and work. The quality of basic education graduates is determined by the adequacy and quality of the basic education curriculum, the quality of teachers, and the capacity of schools to adopt new technologies. In the next six years, efforts shall be focused on the following:

a) Upgrade the Formal Basic Education Curriculum. The secondary level curriculum shall be revised to complement the adjustments in the revised elementary education curricula. DepED shall provide basic science equipment, textbooks and other instructional materials to facilitate the teaching-learning process.

b) Upgrade the Quality of Science, Math and English Teachers. DepED shall work to improve in-service training of teachers, which includes education technology. Upgrading of teacher competence in instructional supervision will be extended to IP learning centers and Madaris. The DOST-SEI shall conduct training for 1,250 science and math teachers under project MUST or Mindanao Upgrading for Science Teachers; and 1,050 science and math teachers annually under project CARE or Capability Building for Rural Enhancement. DOST-SEI will also develop 10 science and math teaching modules each for different grades and year levels for teachers use.

c) Utilize existing good practices/models. DepEd shall expand and use the teaching innovations used in foreign-assisted projects such as the Basic Education Assistance for Mindanao (BEAM), Third Elementary Education Project (TEEP) and Secondary Education Development and Improvement project (SEDIP) as well as other programs and projects.

Decentralization Policy

The enactment of RA 9155 otherwise known as The Governance of Basic Education Act provides the Department of Education clearer direction towards deeper decentralization at the field levels, where decision-making is delegated to the lowest level of delivery of service. Within the context of decentralization, broad national policies and guidelines are centrally specified, but decisions regarding activities of the schools will be taken at the division and school levels. Regional administration is expected to take on the new roles of providing technical support and ensuring educational quality and accountability. DepEd Order 81, s.2003 sets out in detail the role delineations of key supervisory positions from the region, division and district levels and school heads in support of School-Based Management.

The thrusts on decentralization and school-based management is clearly specified in the Philippine Education For All 2015 Plan which boldly aims to provide basic competencies for everyone. Among the urgent/critical tasks under the EFA 2015 Plan is to make the school continuously improve better. Under this task, instruments for every school to assess its capabilities and performance in attaining EFA goals will be developed, propagated and adopted. The results of the assessment will be used as platform for identifying and implementing school and community actions for continuous and accountable improvement of school quality.

With the first five years of EFA, the key strategy to be pursued by the Department of Education is the Schools First Initiative (SFI). SFI acknowledges the need to reform the massive education bureaucracy in order to make it more effective at delivering outcomes, A key element to the success of this flagship initiative is the decentralization and local governance of education in the country. How does the Schools First work? SFI will adopt and apply the five core principles, as follows:

a) Schools shall be empowered to create solutions at their own level, given their own context and setting
b) Schools shall be owned and directed – not solely by the Department, not by the government – but principally by the community: teachers, school administrators, students, parents and the local officials themselves.
c) Schools shall be asked to mobilize themselves to increase participation, completion, retention and achievement. Schools shall be asked to raise their own standards based on the particular needs of and resources within their respective localities
d) Schools shall be empowered to take a more active role in the development and implementation of appropriate reform initiatives
e) Schools first recognizes the abilities of our schools – and our teachers – to succeed

To operationalize the Schools First Initiative, there is a need to capacitate the school heads in core management processes at the school level which include but not limited to the following: a) facilitating a participatory process of school assessment and school improvement planning that encourages the whole school and community to collectively own the results of the assessment and thus support the indicated improvements; b) resource generation; c) financial management; d) advocacy; and e) instructional supervision.

While the management of basic education has been/will be decentralized down to the school/community level, the roles of central, regional and division offices as part of the support system is very critical. Specifically, the roles of central and regional offices in policy/standard setting, strategic planning, sector monitoring and evaluation as well as ensuring that the division offices effectively take on their expanded line functions are vital to managing the decentralization process. In support of the Schools First Initiative, the main directions that the Department will explore at the division and regional levels, are as follows:

At the Division Level:
a) design and delivery of division-based technical, instructional and administrative support to schools
b) maintenance of school-level core data on performance indicators and tracking of academic progress of all schools in the division;
c) development of permanent 10-year rolling plans (grade 1 to Fourth Year) that outline long-term cumulative improvements in the quality of education provided to cohorts of children; and
d) improvements in the recruitment of teachers and promotion of staff linked to educational outcomes.

At the Regional Level:
a) monitoring of division-wide performance in the delivery of support to schools;
b) improvement in the delivery of outcomes of school-level performance in each division; and
c) continuous validation and quality control of data regarding quality of schools and divisions' performance.

5.3 *Existing Development Activities*

The Department of Education in its pursuit to raise the learning outcomes of pupils/students in public elementary and secondary schools has been implementing reforms/initiatives to improve achievement levels, reduce resource gaps and reengineer systems and structures. Several packages of foreign-assisted projects are currently being implemented by the Department, specifically to provide the following inputs and effect improvements in the system: i) classroom and other basic school facilities; ii) textbooks and other instructional materials; iii) training of teachers both on teaching methodology and content and of school heads on instructional supervision and school management; iv) capacity-building for education managers at different levels; v) teaching-learning innovations; and vi) establishing and/or upgrading the support systems in line with the decentralization thrust of the Department.

The priority on training of teachers and building the capacity of education managers at different levels is evident in five of the eleven on-going Foreign-Assisted Projects of DepED. Table 3 shows the list of FAPs with training component while ***Annex 1*** shows the summary matrix of all FAPs of DepEd.

Table 3. FAPs with Training component

PROJECTS	Training Activities
Basic Education Assistance for Mindanao (BEAM)	Under its Human Resource Development component, the project is supporting the training and support to teachers, particularly on Science, Math and English education. It also supports the training for School Heads and other Education Managers on Instructional supervision.
Fifth Country Program for Children (CPC.V)	The project is supporting the training for supervisors, school heads and teachers particularly in promoting child-friendly school system. Specific training areas are as follows: • Effective Teaching Learning (ETL) • Student Tracking System (STS) • Health Promoting Schools (HPS) • Protective, Inclusive and Gender Sensitive Education (PIGSE)
Third Elementary Education Project (TEEP)	One of the major component of this project is In-Service Training Program on school-based management under the policy of decentralization for School Heads, Instructional Supervision on the part of Supervisors and Content and Strategy for Teachers.
Secondary Education Development and Improvement Project (SEDIP)	The Project is supporting the training on improving teacher's subject knowledge and teaching skills and training of school heads in school planning and management
Strengthening of Continuing School Based INSET Program for Science and Mathematics Teachers(SBTP)	The project which was recently completed in April 2005 supported the conduct of School-Based Training Program for Science and Math Teachers in Regions V, VI, VII and XI

Project on Strengthening of Continuing School-Based INSET for Science and Math Teachers

The School-Based Training Program (SBTP) which was completed in April 2004 was a program of DepED and JICA which aimed at raising the achievement of pupils/students by training the teachers to improve their subject area competencies and their teaching strategies through a training program which is school-based and is focused on the specific challenges the teachers face.

SBTP began as a follow through of the national training conducted by the University of the Philippines Institute of Science and Mathematics Education in 1998. The program was then piloted in three regions namely, V, VI and XI. In 2002, the program was transformed into a Project Technical Cooperation between the Philippines and the Government of Japan through JICA. In 2003, Region VII has been included as one of project areas. The inputs of JICA are as follows: dispatch of Japanese Experts and Japan Overseas Cooperation Volunteers (JOCV), provision of science equipment and materials and training of DepEd personnel in Japan. On the other hand, the Department is financing the actual conduct of SBTP using its locally available resources and some amount from the training and development funds of the Central Office.

In SY 2004-2005, at least 63,311 teachers from elementary and secondary levels have been trained. As indicated in the progress reports of the project, initial results of SBTP show that teachers have developed high degree of self-confidence in handling science and math subjects as their mastery in these subjects were improved and the students became more interested in learning science and math concepts.

Baseline Assessment of the SBTP

The LaSallian Institute for Development and Educational Research (LIDER) was commissioned by JICA to undertake a study in 2003 to establish baseline data on math and science teachers' beliefs and practices. The baseline data provide the basis for evaluating and monitoring the SBTP's impact during (formative evaluation) and after (summative evaluation) the implementation. The general objective of the study was to document the status of selected teaching practices/behaviors in a sample of teachers in three regions of the country.

The result of the said study revealed that SBTP interventions may so far be making an impact to teachers on the cognitive level. That is, what might be seen in math and science classrooms during the conduct of the study was an appreciation and some understanding of the inquiry or problem-oriented but a failure to practice and realize the approach in an effective way. Thus, those in the SBTP programs still maintain the approaches they practiced before. As indicated in the study, there are many possible reasons for the impact as such. It is possible that teachers do not have a good understanding of the new approaches to math and science education. Or most probably the teachers need more time to effectively translate these ideas to practice.

End-of-Project Evaluation

The results of End-of-Project Evaluation commissioned by JICA last 2004 in the project areas shows that notable positive signs are observed that indicate on-going process of improvement although the results have not fully achieved a set of target indicators. Use of teaching aids increased beyond target indicating that the practical work approach is reflected in classes. Improvement is also found in teachers' questions in classes as the share of non-

declarative questions increased. Based on the survey conducted among 81 teachers who participated in the SBTP session for the secondary education on November 26, 2004, almost all teachers are gaining useful knowledge and skills through SBTP and also their perception of science or mathematics and attitude to teaching these subjects have changed. Teachers' improvement in subject knowledge, teaching skills and attitudes are also reported by a number of supervisors and teachers.

The evaluation also revealed that students who are under the tutelage of SBTP teachers show more positive and active attitude than before toward science and mathematics classes. They also show exploring attitude thinking for themselves fostered by participatory activities and experiments. It was also reported that in Region VI, pupils performance in diagnostic tests at the beginning and achievement tests at the end of school semester is considerably improving compared to their performance when the SBTP and those that have not. In Region XI, the average achievement scores particularly in Davao City have been continuously increasing since the SBTP has been launched.

The Evaluation Study concluded that the Project successfully promoted the activities of school-based INSET and contributed to improvement in teachers' knowledge, teaching skills and attitudes towards science and mathematics education by fully utilizing existing resources. However, these project gains have not been translated yet into improved pupil/student performance as shown in the NAT 2003 and 2004 Results (Table 4).

While it is expected that skills and knowledge of science and math teachers in Regions V and VI should have improved not only in cognitive level but in actual practice since the project has been implemented in the Regions for more than two to three years, the findings of the De La Salle Study (baseline assessment) and even the results of the 2003 and 2004 National Achievement Tests (NAT) administered by DepED proved otherwise. Like most of the regions nationwide, Regions V and VI are also way below the mastery level of 75% above.

But looking at the percentage points increase of the SBTP regions in NAT MPS (from 2003 to 2004), it is noted that there is very significant increase particularly in Secondary level and Mathematics subject. In Mathematics, Regions XI (21.79) and VI (14.35) surpassed the National figure of 13.37 percentage points increase while Regions V and VII, although below the national figure had very significant increase of 12.42 and 11.44 percentage points, respectively. At the elementary level, on the other hand, Regions V and VI also posted an increase in their MPS although the increase is not very significant while Region VII's MPS in Math has decreased by .44 percentage points and Region XI's MPS in Science has decreased by .28 percentage points. Table 5 shows the Percentage Increase/Decrease in MPS of SBTP Regions.

Table 4. National Achievement Test (NAT) 2003 and 2004 Results

ELEMENTARY AND SECONDARY

REGION	MATHEMATICS				READING COMPREHENSION				SCIENCE				OVERALL			
	Elem		Sec		Elem		Sec		Elem		Sec		Elem		Sec	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
I	46.27	53.43	33.31	50.48	42.49	52.28	41.56	50.90	44.23	49.59	34.91	39.31	44.34	51.77	36.65	47.01
II	42.22	45.82	32.31	46.94	38.83	45.96	40.81	50.25	41.4	44.60	34.92	37.07	40.84	45.46	36.07	44.75
III	45.56	51.85	30.82	43.20	41.51	50.19	39.33	47.87	43.67	48.26	33.55	35.12	43.59	50.10	34.63	42.06
IV-A	47.01	55.16	31.26	44.60	43.13	52.74	40.99	49.83	46.06	51.08	34.11	35.82	45.41	52.99	35.50	43.29
IV-B	45.91	47.66	31.96	47.91	42.2	45.89	40.21	48.66	44.9	44.66	34.15	37.49	44.35	46.07	35.47	44.68
V	44.12	47.74	29.46	41.87	41.16	46.61	38.25	46.94	43.38	45.21	32.62	34.32	42.89	46.52	33.49	41.0
VI	40.95	43.24	30.14	44.49	38.89	44.91	40.72	49.50	42.29	44.09	33.73	36.38	40.70	44.08	34.93	43.46
VII	42.88	42.44	32.00	43.44	40.43	44.46	42.67	51.10	43.56	42.31	35.09	35.28	42.28	43.07	36.66	43.27
VIII	50.24	54.86	41.11	62.15	47.74	54.58	49.55	59.47	48.86	51.45	40.15	46.05	48.95	53.63	43.67	55.89
XI	48.66	50.07	31.26	53.05	45.15	48.16	40.35	51.72	46.52	46.24	33.93	40.05	46.80	48.16	35.22	48.27
X	41.44	46.19	31.67	45.59	39.71	45.89	40.52	49.58	40.93	43.84	34.07	36.24	40.70	45.31	35.49	43.80
XI	48.66	50.99	31.26	47.02	45.15	49.45	40.35	49.97	46.52	47.93	33.93	37.53	46.80	49.36	35.22	44.84
XII	44.21	46.05	30.82	40.69	41.50	44.70	38.35	44.87	43.12	44.14	32.39	34.10	42.95	44.96	33.92	39.89
CARAGA	56.55	65.72	41.28	59.59	52.42	61.13	49.38	56.70	52.49	56.98	40.57	44.07	53.86	61.28	43.8	53.45
ARMM	45.95	44.73	32.36	40.86	42.23	44.37	31.65	40.60	39.45	41.20	30.58	32.54	42.65	43.43	31.55	38.00
CAR	40.27	44.30	31.74	45.93	39.31	47.42	45.60	54.45	42.00	43.02	36.50	36.94	40.50	45.91	38.02	45.77
NCR	40.26	44.64	30.10	44.89	38.07	45.05	42.97	51.62	41.70	44.06	35.29	36.05	40.00	44.59	36.17	44.18
PHILIPPINES	45.19	49.08	32.83	46.20	42.21	48.42	41.55	50.08	44.03	46.66	34.84	36.80	43.82	48.05	36.46	44.36

Table 5. Percentage Increase/Decrease in MPS of SBTP Regions (Percentage Points)

	Mathematics		*Science*	
	Elementary	*Secondary*	*Elementary*	*Secondary*
Region V	3.62	12.41	1.83	1.7
Region VI	2.29	14.35	1.80	2.65
Region VII	-0.44	11.44	1.25	0.19
Region XI	1.41	21.79	-0.28	6.12
National	3.89	13.37	2.63	1.96

While to date there is no in-depth evaluation study on the impact of SBTP to the pupils/students yet, it is safe to assume that if the support system will be (further) strengthened to assist teachers in the effective delivery of instruction whether it is in the form of instructional supervision by school heads and supervisors and the provision of instructional materials, the performance of pupils/students in National Achievement Tests will further improve.

Hence the SBTP End-of-Project Evaluation Study recommends the following should be pursued in order to sustain and further develop the quality of school-based training of teachers and to ensure that it contributes to the improvement in learning outcomes of pupils/students the following:

a) strengthen the capacity of school heads and district and division supervisors on instructional support, monitoring and supervision; and
b) improvement of facilities, equipment and teaching/learning materials

Indeed, the roles and responsibilities of school managers and district and division supervisors on instructional monitoring and supervision are very critical to improve learning outcomes. Based on RA 9155 provisions, school heads are now expected to perform the following functions; (i) supervise curriculum delivery, (ii) implement innovations, (iii) introduce alternative delivery scheme in formal system, (iv) localize curriculum, (v) evaluate learning achievement against the curriculum, (vi) ensure use of test results to improve teaching and learning, (vii) recommend changes in policies and curriculum standards; viii) and supervise the conduct of school-based training, among other functions.

Supervisors on the other hand are mandated to: (i) visit schools for curriculum supervision, (ii) provide technical assistance to school heads in matters of instructional supervision such as classroom observation techniques as well as management of facilities and resource mobilization, (iii) assist in the conduct of INSET including serving as resource person/facilitator, (iv) monitor desks, textbook or module deliveries/allocations, and (v) monitor implementation of ALS Programs. With the new sets of functions the school heads and supervisors are expected to perform, especially in providing instructional support to teachers so that the knowledge and skills gained by teachers during the SBTP are translated into actual practice in the classroom, it is imperative that they will be capacitated.

Equally important interventions needed by the schools to sustain the gains of the SBTP is the provision of instructional materials both for the teachers and pupils/students as well basic facilities such as science laboratory and library rooms. It is imperative therefore, that while DepED will continue to expand the SBTP to other regions, the Department needs to support further the deepening/strengthening of SBTP in the pilot regions through capacitating the support system.

It is on this context that DepEd is proposing the Upgrading of Science and Math Education Program (USMEP) for possible funding support from the Government of Japan. The said program, which generally aims to contribute to the goal of improved science and mathematics education, will build on the gains of the completed SMEMDP and on-going SBTP through the following sub-projects:

Sub-Project 1: Strengthening the Support System of School-Based INSET

The proposed Sub-Project aims to capacitate the school heads and supervisors on instructional supervision and strengthen the capacity of the system to continuously develop and reproduce supplementary learning materials. The Sub-Project which is the subject of this document will be processed under the Technical Cocperation Project of JICA.

Sub-Project 2: Science and Math Facilities Improvement Project.

The Sub-Project aims to construct science laboratory rooms and library/learning resource center in selected public elementary and secondary in Regions V, VI, VII and XI. This sub-project is proposed for consideration under the Grant-In-Aid of the Government of Japan.

6. Outline of Sub-Project 1. Strengthening the Support System of School-Based INSET

6.1 Over-all Goal. The overall goal of Sub-Project 1 is to contribute to the continuing improvement of pupil/student performance in science and mathematics subjects. *Annex 3* shows the Project Logical Framework.

6.2 Objectives. The proposed project specifically aims to:

a. enhance the capabilities of school heads, district and division supervisors and subject specialists in the central office in performing their respective roles as provided for in RA 9155, particularly in monitoring the conduct of school-based INSET and providing instructional supervision/support to teachers; and

b. strengthen the capacity of the system to continuously develop and reproduce supplementary instructional and INSET materials.

6.3 Outputs. The following are the expected outputs of the proposed Sub-Project:

a. Component 1. Training of school managers and district and division supervisors

Table 5. *No. of School Heads and Supervisors Trained, By Region*

Regions	*School Heads*		*District Supervisors*	*Division Supervisors*
	Elementary	Secondary		
V	3,049	399	195	52
VI	3,300	424	255	68
VII	2,826	727	210	56
XI	1,563	184	120	32
Total	10,738	1,279	780	208

b. Component 2. Strengthening the capacity of the system to continuously develop and reproduce Instructional Materials (IMs)

- 810 IM Writers Trained

Table 6. *No. of Writers Trained, By Region*

REGION	Number of Writers			
	Division		Region	TOTAL
	Elem	Sec.		
V	117	78	10	205
VI	153	102	10	265
VII	126	84	10	220
XI	72	48	10	130
TOTAL	468	312	40	810

- Three (3) Regional Education Learning Centers (RELCs) in Regions V, VI, and XI upgraded to function as Resource Learning Materials Center through the provision of IM printing and reproduction equipment

- 58,806 sets of Teacher and Student Support Materials reproduced and distributed to 50% of public elementary and secondary schools in the project regions

6.4 Project Activities

(a) Component 1. Capability building/training for school heads and district, division supervisors

As the SBTP scales up and the capacity of teachers improves, the need for resource persons become greater both in quantity and quality, thus the need for upgrading of resource persons. Among other key functions, school heads and district and division supervisors are expected to serve as facilitators/mentors of SBTP. As recommended by the SBTP End-of-Project Evaluation Study and in line with the thrust of DepED, school heads and supervisors as they perform their functions as instructional and INSET resource persons should have proper philosophy of education and learning, as well as capacity to observe the learners from broad, long-term and basic principles. Hence, the proposed capacity-building.

It is envisaged that one of the earliest tasks of the Project is to conduct the Training Needs Analysis (TNA) based on the redefined roles of school managers and supervisors and the main objectives of the project. The TNA and on-going related trainings of DepED will be the basis for the development/refinement of training designs to be adopted by the proposed project.

The training for school heads and district and division supervisors will focus on curriculum delivery (both content and strategy), instructional supervision and management, monitoring and evaluation of school-based INSET.

To deliver the training, the Project propose to utilize the services and expertise of leading Teacher Education Institutions and/or Centers of Excellence (COEs) in the

project regions. This strategy will build on the partnership already established by DepED with TEIs/COEs during the implementation of SBTP. The training program will have 2 cycles where Cycle 1 will be institution-based (in RELC or other institutions) while Cycle 2 which is enhancement trainings will be at the division and/or schools/districts clusters level.

(b) **Component 2. Strengthening the Capacity of Regions and Divisions to continuously develop and reproduce Instructional Materials (IMs)**

Organization and Training of Regional and Division IM Writers

The project will assist the project Regions and Divisions in organizing the Regional and Division IM Writers. At the regional level, this will be composed of Elementary and Secondary Science, Mathematics and English Supervisors and subject area specialists from the Teacher Education Institutions and/or the Regional Science and Technology Centers (RSTCs). The Regional IM Writers will be mainly responsible for the development, review of prototype and supplementary learning and INSET materials developed/to be developed by the divisions and reproduction of these materials for use by the different schools within the region.

On the other hand, the Division IM Writers who will be responsible for the development of IMs for the division and the review the of contents IMs prepared by teachers during the SBTP will be composed of master teachers; teacher scholars in the areas of English, Science and Mathematics; Division English, Science and Mathematics Supervisors and subject area specialists from TEIs within the division.

To capacitate the Regional and IM Writers, a training on materials development, editing, principles of instructional designing and desktop publishing will be supported under the proposed project.

Strengthening/Upgrading of the Regional Education Learning Centers (RELCs) through the Provision of IM Development and Reproduction Equipment

In line with the function of the Regions to develop prototype curriculum guides and instructional materials, the RELCs will be upgraded to function not only as the training center of the region but as the learning materials production center of the region as well.

The proposed project will adopt the establishment of Regional Learning Materials Center (RLMCs) which started under the Project for Basic Education (PROBE) Regions (Regions II, VII, IX, X and CARAGA) and in Region XI under the Basic Education Assistance for Mindanao (BEAM). The RLMC will act as the production points for all instructional materials for use by teachers and pupils/students. Please refer to *Annex 4* for the DepED Memorandum establishing the RLMCs in Regions II, VII, IX and X.

Under the PROBE, the core RLMC staffs were trained in Australia to acquire skills in materials development, editing, principles of instructional designing and desktop publishing. Each of the RLMC was equipped with printing/production equipment. As part of the sustainability efforts of the PROBE regions, equipment and facilities were augmented and upgraded in the RLMC, enabling it to enhance its production capability and networking with In-Service Facilitators (ISFs), materials developer and key people in

the education sector. The RLMCs played a critical role contributing to the effective implementation of the Basic Education Curriculum through the production of BEC-related materials and prototype lesson plans and teaching materials. To sustain the operation of RLMCs, the PROBE regions are currently using the printing and reproduction equipment for newsletters, brochures, test papers and other printing and reproduction requirements of the different schools divisions within the region for a minimal fee. With the gains of the RLMCs established under the PROBE, legislation to make the RLMC a permanent resource center in every region has been proposed. Draft resolutions are being prepared for endorsement to the different representatives of the congressional districts to initiate the passing of a bill to institutionalize the RLMCs.

In view of the above, the Regional Education Learning Centers (RELCs) of Regions V and VI will be upgraded under the proposed Project to function not only as a training center but also as a materials development and reproduction center of the region. Said regions will be provided with printing and production equipment as listed in *Annex 5*. It is expected that with the available equipment, the regions will be able to continuously develop supplementary learning and INSET materials for distribution to all schools within the region. This will indeed help the teachers in the actual teaching-learning process as they will no longer be solely dependent on the textbooks provided to them.

To operate and maintain the Center, the Project will utilize existing/regular staff of the Region. Necessary trainings will also be provided to Computer and Printing Machine Operators who will be involved in the actual development and reproduction of IMs. With regard to the maintenance of these equipment (during and after the project), the RELCs will be partly involved in an income generating activities such as the production of DepED forms, tests materials, newsletters and other printing requirements of the different divisions. The proceeds will be treated under trust receipts and not as trust fund as the later will be reverted to the Bureau of Treasury. Some of RLMCs under PROBE have been practicing this scheme to augment regional funds to maintain the equipment.

Development, Procurement and Reproduction of IMs

The SBTP sessions will continue to produce lesson exemplars in science and mathematics. Through the RELC cum RLMC, these lesson exemplars and other supplementary learning materials in science and mathematics developed by other programs/projects of DepED like PROBE, BEAM, TEEP, SEDIP and CPC V will be enhanced and replicated for use by the project regions. The project will also support the procurement of ready-made IMs for reproduction and distribution to schools.

6.5 Inputs from the Recipient Government

(a) *Financial Counterpart*. The GOP through local funds will cover the transportation and other traveling expenses of training participants. It will also cover the required VAT and/or custom duties for the printing and production equipment to be procured under the proposed project.

(b) *Counterpart Staff/Offices*

Education Development Projects Implementing Task Force (EDPITAF)

The day-to-day activities of the Proposed Project will be coordinated/managed by the Education Development Projects Implementing Task Force (EDPITAF). Under the Rationalization Plan of DepED, EDPITAF will serve as the Unified Project Management Office of all foreign-assisted projects of the Department. As the PMO of the Proposed Project, EDPITAF will basically perform liaison work with DepED Central Office, oversight agencies and donor agency in settlement of project issues both at the policy and operational levels; facilitate the delivery of equipment to the recipient regions; coordinate with the recipient regions and divisions in the conduct of regular monitoring of the project and submission of periodic project reports to DepED Management, GOP oversight agencies and funding institution.

National Educators Academy of the Philippines (NEAP)

Given the enhanced role of NEAP in managing training of teachers, school managers and supervisors, NEAP in collaboration with other DepEd Bureaus and Regional Offices will be the lead office which will handle the preparation/finalization of training design, selection/approval of training providers (individual trainors or institutions) and in managing/monitoring the actual conduct of training at the regiona level (RELC or institution-based).

(c) *Project Site Facilities*. The DepEd will provide office spaces to the JICA expert(s) at the central and regional levels. Moreover, office equipment, supplies and materials necessary for the implementation and coordination of project activities will also be provided to the expert.

6.6 Inputs from the Japanese Government

(a) *Dispatch of 2 Japanese Experts*. The Government of Japan will provide the services of two Japanese expert to oversee the implementation of the project as well as provide technical advice on math and science instruction.

(b) *Costs of Training.* While the GOP will shoulder the transportation costs and other traveling expenses of the recipient DepED personnel, it is proposed that JICA will cover the actual cost of conducting the training which will be delivered by selected TEIs in the project regions.

(c). *Provision of printing and production equipment* . It is proposed that the equipment listed in Annex 3 be provided to Regions V and VI. The corresponding VAT and/or custom duties will be covered by the GOP as discussed earlier.

6.7 Estimated Project Cost

The estimated cost requirements of the proposed project is P228.8 Million where P136.6 Million (59.7%) will be funded through Government of Japan (GOJ) while the Government of the Philippines (GOP) will cover the amount of P92.2 Million (40.3%). But of the P92.2 Million GOP counterpart, the required fresh money from the national Government is only P5.1 Million to cover the project management cost and taxes/duties for the equipment and procurement of ready-made IMs. The remaining amount of P83.6 Million will be taken from the regular/available budget of the regions and divisions. Table 7 shows the Summary of Cost Estimates, while Annex 6 shows the detailed computations.

Table 7: Summary of Cost Estimates

Activities	GOP		GRANT		TOTAL	
	PhP	JPY	PhP	JPY	PhP	JPY
1.0 Capability Building for School Heads, District, Division and Regional Supervisors	78,666,000	149,465,400	98,332,500	186,631,750	176,998,500	336,297,150
2.0. Development and Reproduction of IMs	10,955,790	20,816,001	24,827,715	47,172,660	35,783,505	67,988,661
3.0 Dispatch of Experts		-	10,800,000	20,520,000	10,800,000	20,520,000
4.0 Project Management Cost	2,280,000	4,332,000		-	2,280,000	4,332,000
TOTAL	91,901,790	174,613,401	133,960,215	254,524,410	225,862,006	429,137,811

7. Implementing Schedule

The Proposed Project will be implemented in 3 years starting from Q4 of 2005 to Q2 of 2008. *Annex 7* shows the detailed implementation schedule.

8. Implementing Agency: Department of Education

Main Functions/Activities

Mandate of DepEd: The Department of Education is the principal government agency responsible for education and manpower development. The Department is mandated to protect and promote the right of all citizens to quality basic education and shall take appropriate steps to make such education accessible to all. Thus, the Department shall establish, maintain and support a complete, adequate and integrated system of Basic Education (formal, non-formal and informal) relevant to the needs of the people and society.

Powers and Functions of DepEd Central Office: To attain its mandate and objectives, the DepEd has the authority, accountability and responsibility for the following:

a) Formulating national educational policies;
b) Formulating national basic education plan;
c) Promulgating national educational standards;
d) Monitoring and assessing national learning outcomes and,
e) Undertaking national educational researches and studies;

Regional Offices

a) Define regional educational policy framework which reflects the values, needs and expectations of the communities they serve;
b) Develop regional basic education plan;
c) Develop regional educational standards with a view towards benchmarking for international competitiveness;
d) Monitor, evaluate and assess regional learning outcomes;
e) Undertake research projects and develop and manage regionwide projects which may be funded through official development assistance and/or funding agencies;

f) Formulate in coordination with the Regional Development Council, the budget, utilization of resources, based on identified priorities in the implementation of regional development plan;

Division Offices.

a) Develop and implement division education development plans;
b) Plan and manage the effective and efficient performance of all personnel, physical and fiscal resources of the division, including professional and staff development;
c) Promote awareness of and adherence by all schools and learning centers to accreditation standards prescribed by the Secretary of Education; and
d) Supervise the operations of all public and private elementary, secondary and integrated schools, and learning centers

District Offices.

a) Provide professional and instructional advice and support to the school heads and teachers of schools and learning centers in the district or cluster;
b) Provide curricula supervision; and
c) Perform other functions as may be assigned by the Secretary, Regional Directors and Schools Division Superintendent

School

a) Set the mission, vision, goals and objectives of the school;
b) Create an environment within the school that is conducive to teaching and learning;
c) Implement, monitor and assess the school curriculum;
d) Develop the school education program and school improvement plan;
e) Offer educational programs, projects and services which provide equitable opportunities for all learners in the community;
f) Introduce new and innovative modes of instruction to achieve higher learning outcomes;
g) Administer and manage all personnel, physical and fiscal resources;
h) Provide opportunities for staff development;
i) Establish school community network; and
j) Accepts donations, gifts, bequest and grants in accordance with existing laws and policy of the department for the purpose of upgrading teachers competencies

9. Beneficiaries

The direct beneficiaries of capacity building activities are the School Heads, District and Division Supervisors and Regional Supervisors of Regions V, VI, VII, XI. However, the ultimate beneficiaries of the proposed project are the elementary pupils and secondary students of the project regions.

On the other hand, the teachers in the project regions will be the indirect beneficiaries wherein it is expected that instructional support to teachers will be strengthened/enhanced and instructional materials will be made available to them as

well as to pupils/students. Ultimately, it is expected that with the project inputs/outputs, the academic performance of pupils/students in the project areas will significantly improve. Tables 8 & 9 shows the number of Beneficiaries.

Table 8. Number of Direct Beneficiaries

Region	Number of Direct Beneficiaries				
	Writers	Regional Supv	Division Supv	District Supv	School Heads
V	195	6	78	195	3,448
VI	255	6	102	255	3,724
VII	210	6	84	210	3,098
XI	120	3	48	120	1,747
TOTAL	780	24	312	780	12,017

Table 9: Number Indirect and Ultimate Beneficiaries

Region	Number of Indirect Beneficiaries		Number of Ultimate Beneficiaries	
	Number of Teachers		Number of Students	
	Elementary	Secondary	Elementary	Secondary
V	30,490	3,990	879,636	339,176
VI	33,000	4,240	1,010,647	470,632
VII	28,260	2,720	917,766	379,215
XI	15,630	1,840	603,772	246,719
Total	107,380	12,790	3,411,821	1,435,742

Department of Education
LIST OF ON-GOING PROJECTS AND PROGRAMS
Nationwide
As of December 31, 2004

Project Title	Project Objectives/Description	Area Coverage	Implementation Period	ODA Source	Type of Assistance	Project Cost (In million Php) 3/		
						ODA counter-part	GOP counter-part	Total
Phil-Australia Basic Education Assistance for Mindanao (PA-BEAM) Stage 1 COMPLETED	Improvement of the quality of teaching and learning in basic education in Mindanao through enhancing the skills and knowledge of teachers and educational managers and addressing other community needs such as basic education for indegenous people and muslims Project Components/Inputs: • Management Capacity Development • Improved Access to Basic Education (Schools and communities with Special Needs) • Formulation of Stage 2 Project Design	Regions XI, XII and ARMM	2002-2004	AusAid	Grant	121.34 US$1.0=Php50.0	38.85	160.19
Stage 2	To improve the teaching and learning of basic education in Regions XI, XII and ARMM and to implement strategies that will provide opportunities for all children in these three regions to access quality education and develop key life skills. Project Components/Inputs: • Human Resource Development • Materials Development • Increasing Access • Project Management, Monitoring and Evaluation		2004-2008	AusAid	Grant	AUD 21.67	102.40	
Belgian Integrated Agrarian Reform Support Program (BIARSP) Phase III 2/	Provision of quality basic education in selected agrarian reform communities to help alleviate rural poverty and uplift the well-being of rural low income communities Project Components/Inputs: • School Repair • Elementary Education Quality Improvement thru procurement of goods • Literary and Numeracy Training for Out-of-School-Youth and adults	Regions VII, IX and ARMM	2003-2007	Belgian Administration for Development Cooperation (BADC)	Grant	No data available		

1/ Includes imputed cost.
2/ Reflects the education component only.
3/ Represents the total project cost (no available specific cost per r ce/municipality).

Project Title	Project Objectives/Description	Area Coverage	Implementation Period	ODA Source	Type of Assistance	Project Cost (In million Php) 3/		
						ODA counter-part	GOP counter-part	Total
Fifth Country Program for Children (CPC V) COMPLETED	Creation of an enabling policy environment to develop and replicate sustainable models of child-friendly schools and build a network of system and community support for the child-friendly school system Project Components/Inputs: • Trainings on i) Effective Teaching-Learning; ii) Health Promoting Schools; iii) Protective Inclusive and Gender Senstive Education; iv) Student Tracking System; and v) 8-week ECE curriculum in Grade 1 • Information Technology • LGU-community-school partnerships • Student Tracking System • Provision of basic teaching materials, trainers kits, library books, science equipment, school furniture and basic school supplies and water and sanitation facilities	Regions NCR, CAR, II, III, V, VI, VII, VIII, IX, X, XI, XII, XIII and ARMM	1999-2004	United Nations Children's Fund (UNICEF)	Grant	187.40 US$1.0=Php40.0	in-kind	187.40
Strengthening of Continuing School-Based INSET Program for Science and Mathematics Teachers (SBTP)	To contribute to the continuous improvement of pupil/student performance in Science and Mathematics subjects by strengthening the system of school-based INSET for elementary and secondary schools science and math teachers Project Components/Inputs: • Conduct of School-Based INSET • Equipment provision • Expert Services • Training in Japan • Project Management	Regions V, VI, VII, XI	2002-2005	JICA	Grant	54.72 US$1.0=Php50.0	96.12 1/	150.84
Educational Facilities Improvement Project, Phase VI (EFIP VI) Stage I & II Stage 1 COMPLETED	A two-stage program covering the construction of school buildings with toilets, basic science laboratory rooms; and furnishing/delivery of school furniture and basic science laboratory equipment (in-house teachers' training on the use and maintenance of the facilities/equipment provided is included) Project Components/Inputs: • School building/Basic Science Equipment & Furniture • Site Development Works • Civil Works (Water System, Electrical Works)	Region III	2002-2005	Government of Japan	Grant	746.50 US$1.0=Php50.0	122.21	868.71

1/ Includes imputed cost.

Project Title	Project Objectives/Description	Area Coverage	Implementation Period	ODA Source	Type of Assistance	Project Cost (In million Php) 3/		
						ODA counter-part	GOP counter-part	Total
Early Childhood Development Project (ECDP) 2/	Provision of child and family focused services designed to build on and improve existing health, nutrition and early education services for disadvantaged children aged 0-6 years Project Components/Inputs: • In-service Training for teachers, trainors, principals and supervisors • Provision of instructional materials • Strengthening partnerships in education	Regions VI, VII and XII (all schools in Grade 1 teachers and pupils)	1998-2004	World Bank (WB) / Asian Development Bank (ADB)	Loan	IBRD 162.00 ADB 140.00 US$1.0=Php50.0	65.00	367.00
Third Elementary Education Project (TEEP)	To improve the quality of public elementary education in poverty affected areas through: i) institutional strengthening of DepEd by providing managerial, professional and other resource support for elementary schooling nationwide; and (ii) improvement of learning achievements, completion rates and access to quality elementary education in the identified project provinces. Project Components/Inputs: • Civil Works • School and Classroom Kits • Textbooks & Instructional Materials • School Furniture • School Innovation Fund • In-Service Training Program • Consultancy Services	Social Reform Agenda (SRA) Provinces	1997-2005	World Bank (WB) / Japan Bank for International Cooperation (JBIC)	Loan	IBRD 4,308.90 JBIC 4,508.35 US$1.0=Php40.0	3,909.03	12,726.28
Secondary Education Development and Improvement Project (SEDIP)	To improve equitable access to quality public secondary education in poverty-affected areas by: i) improving the quality and relevance of secondary education in the target provinces; ii) increasing the rate of participation and completion of secondary education in the underserved areas within the target provinces; iii) supporting decentralization Project Components/Inputs: • Civil Works • Textbooks & Instructional Materials • In-Service Training • School and Office Equipment • School Furniture • School Mapping • High School Innovation Fund • Consultancy Services	Social Reform Agenda (SRA) Provinces	1999-2006	Asian Development Bank (ADB) / Japan Bank for International Cooperation (JBIC)	Loan	ADB 2,120 JBIC 2,398 US$1.0=Php40.0	2,287.60	6,805.60

Project Title	Project Objectives/Description	Area Coverage	Implementation Period	ODA Source	Type of Assistance	Project Cost (In million Php) 3/		
						ODA counter-part	GOP counter-part	Total
Mindanao Sustainable Settlement Area Development Project (MINSSAD) 2/	To alleviate poverty and improve the quality of life of the beneficiaries in the settlement areas and ensure viable and sustainable development Project Component/Input: • Construction/Rehabilitation of School Buildings • Procurement of desks/armchairs	Regions X, XI, CARAGA	2002-2007	JBIC	Loan	92.05 US$1.0=Php50.0	30.70	122.75
Social Expenditure Management Project II (SEMP II) 2/	Provide improvement in the implementation of key programs in education (DepEd) for activities covering the provision of key inputs for improving the quality of education. Project Components/Inputs: • School Buildings • Repair and Maintenance • Textbooks & Instructional Materials	All Regions (except ARMM)	2002-2005	World Bank	Loan	3,070.00 US$1.0=Php51.465	795.00	3,865.00

1/ Includes imputed cost

Institutionalization Plan for the School-Based Training Program SBTP
(2004-2007)

As early as the first quarter 2003, the Central Project Management Team (CPMT) has been trying to test the waters for expansion and the eventual institutionalization of SBTP. A 3-day orientation program for representatives from the non-SBTP regions was conducted at the Orchid Gardens Hotel in Manila. Representatives from the region were provided with the draft implementation manual and sessions with implementers of SBTP from Regions V and VI were conducted. It was unfortunate that nothing came out of that orientation program.

In March 2004, during the Year-End Assessment Meeting of the SBTP, the CPMT again invited representatives from non-SBTP regions for another orientation. The difference was, this time, superintendents and assistant superintendents were invited. The invitation of superintendents and assistant superintendents made a lot of difference in the expansion to non-SBTP divisions. As of July, the divisions of Mandaluyong, Taguig-Pateros in the National Capital Region and Gapan City, Nueva Ecija in Region III have started the implementation of SBTP. According to the report submitted by Calabarzon (Region IV-A) they have also started SBTP implementation in all their schools in all divisions. The CPMT however, has not monitored the implementation.

With the developments in the expansion to non –SBTP regions the CPMT is looking forward to expansion in more regions. CPMT is awaiting the confirmation of the implementation in Regions I and X. If the expansion trend continues, SBTP will be in at least nine (9) regions before the end of SY 2004-2005. This means that the target for expansion by SY 2005-2006 will only be 8 more regions.

Following the plan of operation, as provided for by the minutes of discussions on SBTP (2002, 2003), the CPMT is envisioning SBTP institutionalization (a cluster in every region) by SY 2006-2007. This will be achieved by continuously coordinating with the regions and divisions who are interested in conducting SBTP.

Submitted by:

Cleofe S. Velasquez-Ocampo
Member, CPMT

Noted:

Alice A. Panares 7/3/04
Alice A. Panares
Deputy Director, NEAP
CPMT Member

Annex 3

LOGICAL FRAMEWORK
USMEP - Sub-Project 1

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Assumptions
Goal: To contribute to the improvement of pupil/student performance in science and mathematics	* Improvement in National achievement Test results in science and mathematics in project areas 1/	Results of NAT	
Purpose: 1. Enhance the capabilities of school heads, district and division supervisorsin performing their respective roles as provided for in RA 9155, particularly in instructional supervision and monitoring the conduct ofschool-based INSET and; 2. Strengthen the capacity of the system to continuously develop and reproduce supplementary instructional and INSET materials	At least 80% of school heads and supervisors trained utilizedknowledge and skills on instructionalsupervision and monitoring/evaluation of school-based INSET At least 50% of elementary and secondary schools in the project areas utilized the IM materials developed/reproduced by RLMCs	* Outcome monitoring report of the project * Monthly supervision/monitoring reports ofschool heads and supervisors Periodic Project Reports	
Outputs: 1.1 School heads trained on management and monitoring of SBT instructionalsupervision (incudling contents on science and math subjects) 1.2 District and Division Supervisors trained on monitoring and evaluation of SBTP and on instructional supervision (incl.contents on science and math) 2.1 IM and INSET writers trained on the development of Instructional Materials and	* Training designed developed and approved * At least 12,017 elementary and secondary school heads trained * At least 780 District Supervisors and 208 Division Supervisors Trained * At least 780 Writersfrom Ros and DOs trained	* Approved Training Design * Training Report * Training Report * Training Report	

1/ region/divisions/schools in the previous and latest NAT and the targets set

REPUBLIKA NG PILIPINAS
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF EDUCATION, CULTURE AND SPORTS
DepEd Complex, Meralco Avenue, Pasig City

Office of the Secretary

MEMORANDUM to --

Undersecretaries
Assistant Secretaries
Bureau Directors
Regional Directors) Regions II, VII, IX and X
Schools Superintendents)

ESTABLISHMENT AND OPERATIONALIZATION OF REGIONAL LEARNING MATERIALS CENTERS (RLMCs) IN PRODE REGIONS II, VII, IX and X

1. In conformity with DECS Order No. 15, s. 1996, a Regional Learning Materials Center (RLMC) shall be established and operationalized within the DECS Regional Office in each of the PRODE focus regions.

2. The RLMC shall be mainly responsible for the development of prototype/supplementary learning materials for English (Grades 1-6; Years 1-4), science and mathematics (Grades 3-6; Years 1-2) and for the development of INSET materials.

Specifically, it shall have the following functions:

a. formulate plans and strategies consistent with the policies and procedures for the development of prototype/supplementary learning materials and INSET materials;

b. assess and identify the need for prototype/supplementary learning materials across the targetted subject areas and year-levels in liaison with superintendents, assistant superintendents, subject specialists, principals, inservice facilitators and teachers;

c. work closely with teacher educators in PRODE Teacher Education Institutions (TEIs) to develop and produce INSET materials, and with inservice facilitators in divisional lender schools (DLSs) and elementary lead schools (ELSs) to provide teaching/learning materials for inservice activities in the PRODE subjects;

prepare prototype/supplementary learning materials and INSET materials for regional, divisional, district and school-level use in coordination with classroom practitioners to ensure relevance of contents and appropriateness of quality;

e. provide technical advice and assistance to superintendents, assistant superintendents, subject specialists, principals and teachers who wish to prepare their own learning materials;

f. link up with the DECS Learning Materials Center (DLMC) in order that regional and/or divisional projects may be further developed by DLMC and/or tendered for commercial development;

g. provide technical assistance to DLMC in the latter's undertakings in the regions;

h. develop strategies that will ensure continuity of the center's services to regions, divisions, districts and schools;

i. consistent with DECS' policy on curriculum indigenization, plan and execute implementation programs associated with promotion of locally-developed and cost-effective teaching/learning materials;

j. coordinate with DECS and non-DECS offices and units regarding the introduction and adaptation of multimedia systems (e.g., non-print) to keep abreast with latest technologies and thereby ensure that learning materials are updated and relevant.

3. Each RLMC shall be staffed by full-time contractual personnel who shall maintain the day-to-day management and operations of the Center in coordination and collaboration with regional units and/or other appropriate field entities. Funds for personnel services and maintenance and operating expenses shall be provided by the Philippine Government while funds for the development/production/distribution of teaching/learning materials shall be provided by the Australian Government on a per project basis throughout the duration of the Project.

4. The DECS Regional Director shall be responsible for the overall governance of the RLMC. He/she shall likewise supervise region-wide promotion of teaching/learning materials development and ensure the viability of the centers as units responsive to regional, divisional, district and school needs.

5. For immediate dissemination and implementation.

RICARDO T. GLORIA
Secretary

Annex 5

Proposed List of Equipment ot be Provided to RELCs
in Regions V and VI 1/

Total Qty.	Unit	Item and Description	Unit Value (PhP)	Total Value (PhP)
2	unit	Projector Screen, Dalite	6,925.20	13,850.40
6	unit	Dot Matrix Printer, Epson LQ-2170	26,136.00	156,816.00
4	unit	Laser Page Printer, Hewlette Packard GP	36,360.00	145,440.00
4	unit	Duplicator with Stand, Risograph GR 3750	384,550.80	1,538,203.20
4	unit	Automatic Document Feeder, ADF @-702	42,600.00	170,400.00
4	unit	Keycard Counter	43,176.00	172,704.00
2	unit	High Capacity Docment Feeder, SF-3000	132,600.00	265,200.00
4	unit	Storage Cabinet, Steel, Gauge 20	3,840.00	15,360.00
12	unit	Uninterruptible Power Supply, Admale Brand	5,940.00	71,280.00
4	kit	Adobe Illustrator Software Kit	15,309.60	61,238.40
12	kit	Virus Protection	4,320.00	51,840.00
4	kit	Pagemaker Software Kit	8,630.40	34,521.60
12	kit	MS-Office 97 Software Kit	9,271.92	111,263.04
2	unit	Stapler/Folder, Plockmatic P-61-TC	209,280.00	418,560.00
2	unit	Collator, Plockmatic P310	259,200.00	518,400.00
2	unit	Benchtop Stapler, Electric, Nagel TAS-18	72,000.00	144,000.00
2	unit	Guillotine, EBA Multicul 4-460U	67,320.00	134,640.00
2	unit	Combo-Binder, Renz/34	29,400.00	58,800.00
2	unit	Jogger, Nagel Rimo 3	36,000.00	72,000.00
2	unit	Laminator, Attalam 320S	15,600.00	31,200.00
2	unit	Artist Plan Cabinet	6,480.00	12,960.00
2	unit	Artist High Stool	3,564.00	7,128.00
2	unit	Artist Drawing Table, SBTCOO75A	2,750.40	5,500.80
10	unit	Bench Trolley	2,880.00	28,800.00
12	set	Computer, Everex Brand (CPC, Monitor, Keyboard and Mouse)	63,000.00	756,000.00
2	unit	Protocopier, Sharp SF-20400 Accessories: Bin Sorter Reversing Auto Feeder	170,259.00	340,518.00
				5,336,623.44

disk B-cda/RLMCs.Equipment

1/ Based on the List of Equipment and Cost (+20%) provided under PROBE; specifications of equipment subject to upgrading based on current needs/available models.

Annex 6

UPGRADING OF SCIENCE AND MATHEMATICS EDUCATION PROGRAM (USMEP)
Sub-Project 1: Strengthening the Support System for School-Based INSET

Activities	GOP		GRANT		TOTAL	
	PhP	JPY	PhP	JPY	PhP	JPY
1.0 Capability Building for School Heads, District, Division and Regional Supervisors						
1.1 School Heads	72,114,000 2/	137,016,600	90,142,500	171,270,750	162,256,500	308,287,350
1.2 Regional, Division and District Supervisors	6,552,000 2/	12,448,800	8,190,000	15,561,000	14,742,000	28,009,800
2.0. Development and Repeoduction of Ims		-		-	-	-
2.1 Traning of Pool of Writers	4,920,000 2/	9,348,000	6,150,000	11,685,000	11,070,000	21,033,000
2.2 Procurement of ready-made IMs	2,035,160 1/	3,866,804	8,140,640	15,467,216	10,175,800	19,334,020
2.3 Upgrading of the RELCs		-		-	-	-
2.3.1 Procurement of printing and reproduction equipment	533,662 1/	1,013,958	5,336,623	10,139,585	5,870,286	11,153,543
		-		-	-	-
2.3.2 Reproduction of IMs Supplies and Materials	3,466,968 2/	6,587,239	5,200,452	9,880,859	8,667,420	16,468,098
		-		-	-	-
3.0 Dispatch of Experts		-	10,800,000	20,520,000	10,800,000	20,520,000
4.0 Project Management Cost	2,280,000 1/	4,332,000		-	2,280,000	4,332,000
TOTAL	91,901,790	174,613,402	133,960,215	254,524,409	225,862,006	429,137,811

1/. Require new budget from the national government (a total of 4.8 M)
2/. Will betaken from the regular budget of recipient regions/divisions

Annex 6.1

1.1 CAPABILITY BUIOLDING FOR SCHOOL HEADS

SBTP Regions	Coverage		TOTAL	GOJ	GOP	TOTAL
	No. School Heads			Training Cost	Transpo Cost	GOP+GOJ
	Elem.	Sec		7,500/pax	6,000/pax	
V	3,049	399	3,448	25,860,000	20,688,000	46,548,000
VI	3,300	424	3,724	27,930,000	22,344,000	50,274,000
VII	2,826	274	3,100	23,250,000	18,600,000	41,850,000
XI	1,563	184	1,747	13,102,500	10,482,000	23,584,500
TOTAL	10738	1281	12,019	90,142,500	72,114,000	162,256,500

1.2 CAPABILITY BUILDING FOR DISTRICT AND DIVISION SUPERVISORS

Recipient Regions	COVERAGE					GOJ	GOP	Total
	Number of Divisions	Science, Math and English Division		District Supervisors (15/division)	Total	Training Cost	Transpo Cost	GOJ+GOP
		Elementary	Secondary			7500/pax	6,000/pax	
V	13	39	39	195	273	2,047,500	1,638,000	3,685,500
VI	17	51	51	255	357	2,677,500	2,142,000	4,819,500
VII	14	42	42	210	294	2,205,000	1,764,000	8,505,000
XI	8	24	24	120	168	1,260,000	1,008,000	2,268,000
TOTAL	52	156	156	780	1092	8,190,000	6,552,000	14,742,000

2.1 CAPABILITY BUILDING FOR IM WRITERS

Annex 6.2

REGION	Number of School Divisions	Number of Writers				GOJ	GOP	TOTAL GOP+GOJ
		Division (15/Division)		Region	TOTAL	Training cost (7500/day)	6,000/pax	
		Elem	Sec.					
V	13	117	78	10	205	1,537,500	1,230,000	2,767,500
VI	17	153	102	10	265	1,987,500	1,590,000	3,577,500
VII	14	126	84	10	220	1,650,000	1,320,000	2,970,000
XI	8	72	48	10	130	975,000	780,000	1,755,000
TOTAL	52	468	312	40	820	6,150,000	4,920,000	11,070,000

2.2 PROCUREMENT OF READY-MADE lms

Assumptions	Elementary	Secondary
Number of sets per school	10	8
Number of Schools	10,738	12,017
Total Number of Sets	107,380	96,136
Cost at P50/set	5,369,000	4,806,800
TOTAL COST		10,175,800
	GOP (20%	2,035,160
	GOJ (80%)	8,140,640.0

Annex 6.3

2.3 UPGRADING OF RELCs

2.3.1 PROCUREMENT OF PRINTING AND REPRODUCTION EQUIPMENT

SBTP Regions	Total Cost of Equipment	VAT (10%)	TOTAL
	GOJ	GOP	
V	2,668,312	266,831	2,935,143
VI	2,668,312	266,831	2,935,143
TOTAL	5,336,623	533,662	5,870,286

2.3.2 REPRODUCTION AND DISTRIBUTION OF IMS

SBTP Regions	NUMBER OF SCHOOLS				TOTAL	
	Elem	50%	Sec	50%	Schools	50%
V	3049	1525	399	200	3,448.00	1,724
VI	3300	1650	424	212	3,724.00	1,862
VII	2826	1413	272	136	3,098.00	1,549
XI	1563	782	184	92	1,747.00	874
TOTAL	10738	5369	1279	640	12,017	6,009
# of sch		53,690		5,116		58,806
No. of sets per school		10		10		20
Total # of sets		536,900		40,928		577,828
Cost of Repro		8,053,500		613,920		8,667,420
					GOP (40%)	3,466,968
					GOJ (60%)	5,200,452

Assumption: Every set cost P15.00

4.0 PROJECT Management Cost

Annex 6.4

PROJECT Management cost	Estimated Cost
Supplies and Materials (100,000/year)	300,000
Communication (10,000/year)	30,000
Travel (300,000/Year)	900,000
Meetings (50,000/Year)	150,000
Workshops (300,000/Year)	900,000
Total Estimated Cost	2,280,000

Annex 7

IMPLEMENTATION SCHEDULE

Activities	2005				2006				2007				2008			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.0 Capability Building for School Heads, District, Division and Regional Supervisors																
1.1 Traning of School Heads																
1.2 Training of Regional, Division and District Supervisors																
2.0. Development and Repeoduction of Ims																
2.1 Traning of Pool of Writers																
2.2 Procurement of ready-made IMs																
2.3 Upgrading of the RELCs																
2.3.1 Procurement of printing and reproduction equipment																
2.3.2 Reproduction of IMs Supplies and Materials																
3.0 Dispatch of Experts																

4．第二次事前評価調査結果から考えられる次期案件の方向性１（案）

フィリピン共和国理数科教育強化プログラム
(Upgrading of Science and Math Education Program: USMEP)
第二次事前評価調査結果から考えられる次期案件の方向性1（案）

人間開発部　課題アドバイザー　又地　淳

I.　総論

1．Basic Education Sector Reform Agenda (BESRA) や Schools First Initiative (SFI) といったセクターワイドな教育政策における SBTP の位置づけや目的を再度確認する必要がある。
2．比国側が SBTP を通して向上させたいと考えている教育の「質」がどのようなものなのかを改めて確認する必要がある。そのためには、まず、比国側が考える「学力」とはどのようなものを言うのか（現行の国家達成度試験で測ることのできるものなのか）、その上で、比国側が SBTP を通して向上させたいと考えている「教育の質」とはどのようものか等を確認する必要がある。「学力」や「よい授業」に関する比国側の意向を確認することは、今後の支援の方向性を考える上で、また後継案件の目標と効果を測る上で非常に重要である。
3．SBTP の功績は、それまで組織的かつ定期的に実施される現職教員研修がなかった比国において、継続的な教員研修の仕組みを創り軌道に乗せたことである。これだけでも、大きな成果と言って良い。
4．現職教員研修の仕組みづくりと言う点からは、必ずしも日本側の協力分野を理数科に限定する必要はないものの、日本側として理数科分野への協力には経験が豊富なところ、引き続き理数科分野協力を通して新しい仕組みを導入することは、日本側として取り組みやすいと思われる。
5．SBTP 的アプローチは、基本的に、同僚教員の指導法や授業案を共有し、互いに情報・意見交換、評価しあうことによって、手法や技術を拡大・浸透および強化していくためのアプローチである。したがって、SBTP が一定のレベルに達した以降、効果が上がりにくいと言う問題はその構造上必然的な問題とも言える。そのような意味で、SBTP は次の展開を考える段階に達したと考えられる。
6．今後の方向性としては、(1)「これまでの」SBTP アプローチを他リージョンや他のディビジョンに拡大する面的展開を支援するのか、(2)次なる段階の SBTP モデルを創るための支援をするのか、あるいは、(3)SBTP モデルとはまったく異なった新しいアプローチ（現職教員研修に限らず）の創出を支援するのか、がありうる。
7．日本側支援がなくなった後も引き続き自力で他リージョンに拡大させている現状を考えると、(1)は日本政府として敢えて支援する必要性は感じられない。(3)の可能性も考えられるが、現職教員研修の仕組みがある程度の評価を持って受け入れられ、その継続発展に関して課題が明らかになっていることを考えると、それらの課題に対処し、より効果が期待できる教員研修モデルを構築する意義（すなわち(2)）は高いと思われる。
8．その際に重要なことは、構造的に拡大・浸透と強化の性質を持つ SBTP 的アプローチに、優秀な教員をさらに伸ばす仕組みや、新しい技術や知識を学ぶことのできる仕組みをどのように付加するかである。そのような仕組み（モデル）を比国側と協働して作り上げることが後継案件として重要な眼目であると考える。

II.　比国の教育分野で見られた全般的な課題

1．今次調査で訪問した学校は、財政的にも人材的にかなり恵まれた部類になるため、必ずしも比国の現実を正しく反映しているとは言い難いが、授業に関しては、基本的な授業の流れに沿って授業[1]が行われており、少なくとも表面的には「良い」授業であった。
2．しかしながら、「形」だけに囚われる傾向があり、その「形」の意味するところが理解されないままに実

[1] 今回見学したほぼすべての授業は、一定の様式に従った指導案に基づいて行われていた。基本的な授業の流れは、「１．授業の準備活動（簡単なドリル）」、「２．前回授業の復習」、「３．その日の授業の導入と動機付け」、「４．グループ活動」、「５．活動結果の発表」、「６．発表に関するディスカッション」、「７．活動から得られた事実の一般化」、「８．一般化された知見の応用例」、「９．生徒がどれだけ理解したかどうかを確かめる簡単な確認問題」となっている。

施されているケースが多く見られた[2]。特に、活動が単に組み合わされているだけで、それらの活動が生徒の内面的な知的葛藤を産み出したり、パラダイムの変換を強いるような授業は皆無であった。

3. 同様に、SBTP のポスト・セッション(授業観察の後に行われる授業検討会)においても、決められた形式だけを追う傾向が見られ、深い部分での気づきを促すようなセッションは少なかった。また、ポスト・セッションの質はセッションのファシリテーター(司会者)の能力に大きく依存していた。
4. 今回見学したような比較的恵まれた学校の授業において観察された問題は、より条件の悪い学校においては、より深刻であることが推測される。

III. 先方要請書に関して

1. コンポーネント 1 に関して
   (1)先方に確認したところ、コンポーネント 1 の「校長・指導主事への研修」は、あくまでもSBTPに直接関連するマネジメントであり、一般的マネジメントは含まないとのこと。一般的マネジメントに関しては他のプロジェクトで対応している。
   (2)SBTP は継続的な教員研修として広く認められているものとしては唯一のものであり、これを継続発展させることは意義のあることと思われる。

2. コンポーネント 2 に関して
   (1)要請書で提案されている二つのコンポーネントの内、「コンポーネント 2: 施設改善(指導用教材印刷用機材の導入と活用)」については、その必要性に関して更なる検討が必要である。プロジェクト目標をどう設定するかにもよるが、いずれの場合にも、機材を導入することによる効果の広がりは期待できるが、不可欠とは言いがたい。先方が要請している機材は、SBTP に参加する教員が発表準備のために個人的に使用することが目的ではなく、開発された授業案を全州に配布するなど州全体の大量印刷に使用することを目的としている。本案件における印刷機材の必要性(および不可欠性)を説明でき、さらに持続的な活用方法と維持費の捻出について、州レベルでの詳細計画(中央にはある程度の計画はある)があることが確認された場合、リソグラフなどの廉価な機材で対応することは考慮に値するが、大規模な機材の投入に関してはさらなる調査が必要であろう。Region VII では、AusAID のプロジェクト PROBE の支援によって、Regional Learning Material Center (RLMC) に印刷機材が購入されたが、現在十分に活用されているとは言いがたい状況であった。SBTP の実施に不可欠であると言う目的で印刷・製本機材を要請していると言うよりは、リージョンとして印刷・製本機能を全般的に向上させたいがために印刷機材を要請している可能性が高く、それを正当化するための理由として SBTP に絡めて機材を申請している可能性がある。
   (2)他方、生徒用の補助教材や SBTP で開発された教材(指導案など)をリージョン全体に広く配布する必要性は何人かの学校長などからも指摘されており、リージョンの印刷機能を拡充することによるメリットは疑いのないところである。しかしながら、印刷・製本機能の拡充を、リージョン・レベルで行うのが適切なのか、ディビジョン・レベルが適切なのかについては更なる調査が必要である。

IV. SBTP を継続するための課題とそのためのアプローチ

今次事前評価ミッションにおけるヒアリングや授業見学から得られた情報を基に、SBTP で構築された現職教員研修システムを継続するために解決しなければならない課題を整理し、後継案件のアプローチを考えた。

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[2] 例えば、「グループ活動をとりいれた授業が良い授業」という理解があるらしく、今回観察した授業にはすべてグループ活動が取り入れてあったが、必ずしもグループ活動が必要でない場面にもグループ活動が取り入れられていたり、各グループが同じ活動を行った方が学習効果が高いような場合でも各グループに異なった活動をさせるなど、グループ活動を行うこと自体に重点が置かれており、その授業の中でなぜグループ活動を行うのかについて十分検討がされていないケースが散見された。

課題1：SBTP セッションに出席しても、新しく学ぶことが少なくマンネリ化している。

現行のセッションでは、ポスト・セッションをファシリテートする校長や指導主事の取り組み姿勢や知識・技術によって、SBTP セッションの質が大きく左右されること、ファシリテーターの介入力によって SBTP 参加者の学びの質が変わってくることが報告されている。

また、SBTP 導入から時間が経つにつれて参加者の参加意欲の減退が指摘されているが、その原因としては大きく二通りある。一つは、準備が面倒である、自らのコスト負担を強いられる、土曜日開催となった地区では週末に業務をしたくない等の消極的な理由、もう一つは、SBTP に参加して1、2年たつと参加しても新しく学ぶことがないという積極的な理由（やる気のある教員の不参加理由）によるものである。前者に関しては、主に制度や規則で対応すべき事項なので、ここでは触れない。後者に関しては、SBTP の効果そのものに関する事項なので、なんらかの対策が必要であるため、以下にその対策を中心に後継案件のアプローチを提案する。

・対策 1-1：新しい教科内容や指導方法を供給する。

1） 新しいことを学ぶ場を設定する。身近なものを使った教材作り[3]などの新しい教授法（指導法）や新しいコンテンツ（指導内容）を定期的に学ぶ機会を設定する。そのために各リージョンにおける RSTC (Regional Science Training Center)や大学・教員養成大学、また NEAP の持つ専門家ネットワークを活用する。

2） 指導主事、校長、教務主任の中で理科・数学の教科内容に精通した者を集めタスクフォースを作り、地元大学や地元専門家、JICA 専門家の技術支援を受けつつ内容理解度向上のための教材を作成したり、授業運営法を開発する。

3） 多人数学級での効果的授業運営法の紹介など、教員が直面している問題に対処するアプローチに関する授業法や教材の紹介等も行う。

対策 1-2：ファシリテーターの介入力を向上させ、セッションにおける議論の質を上げる。

1） SBTP のポスト・セッションの質を高めるためにはファシリテーターの質を上げる必要がある。ファシリテーターの質を上げるためにはファシリテーターの教授法に関する知識・技術と教科内容に関する理解度を上げる必要がある。今次調査で見学したセッションでは、主に指導主事がファシリテーターとなっていたが、ヒアリングによると、通常行われるセッションでは人数不足のために指導主事がファシリテーターとなるケースは少ないとのことである。一般的には校長や教科主任がファシリテートしているケースが多い。したがって、通常の SBTP セッションの介入力をあげるためには、指導主事を始め、校長や教科主任がファシリテーション・スキルを身につける必要がある。また、理数科を専攻していなかった（教えていなかった）ファシリテーターに対しては、基本的な理数科の知識を身につける必要も指摘されている。しかしながら、理数科を専攻していなかった指導主事や校長に対して、業務をこなしながら新たに理科数学の内容全体を身につけてもらうのは現実的ではないため、「良い理科授業の要素とは何か」、「良い算数の授業の要素とは何か」といったような典型的な授業例を、少なくとも理解してもらうことが必要となる。

課題2：SBTP で学んだことが実践されていない。

今次調査のヒアリングでは、各教員が SBTP で学んだことが教室レベルで実践されていないという問題が校長や指導主事から聞かれた。その理由の一つとしては、SBTP で扱う授業案が少人数（20 名程度）の生徒を対象としたものが中心で 70 名以上の生徒がいるような実際の教室では使えない、SBTP で学んだことを教員が教室レベルで実施しているかどうかをモニターする仕組みができていない等の理由があげられた。これらの解決策として、次のものを提案したい。

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[3] フィリピンパッケージ協力において、フィリピン大学国立理科数学教育開発センターで、身近なものを用いた教材作成法の指導は行っていたが、地方までは行き届いていない。したがって、そのような教材作成法自体が比国に受け入れられなかったわけではない。

対策 2-1: SBTP セッションで扱う内容を実情にあったものにする。

1) SBTP セッションで扱う内容を実情にあったものにする。多人数クラス向けの授業案の共有など、困難な状況におかれた教員の課題解決につながるようなテーマも取り扱う。

対策 2-2: モニタリング・システムの強化

1) SBTP で研修したことが教室で実践されているかどうかをモニターする。例えば校長や教科主任による授業観察は不可欠と思われる。
2) SBTP で学んだことが教室で実践されているかどうか、また実践されてないのであれば、なぜ実践されないのか、教員は現場レベルでどのようなニーズを抱えているのか等を確認し、フィードバックするモニタリング・システムを構築する。

対策 2-3: 各校における学校長、教科主任の関与を促進する。

1) 各校における学校長、教科主任の関与を促進する。各学校での教室レベルでの実践の責任は校長、やや大きな学校においては教務主任(Head of Department)にある。したがって、校長や教科主任が教室レベルでの授業観察を行う仕組みづくりとそのための技術を身につけることは必要と思われる。

以上述べたアプローチを指導主事、校長、教務主任の間で徹底するために、指導主事、校長、教務主任を対象とする継続的な SBTP 的研修を行う。これにより、タスクフォースから他の指導主事、校長、教務主任へ広げる過程で伝えるべき内容が薄まることを防ぐ。

V. 継続する上での留意点

総じて言えることは、他のリージョンに比国政府が自力で SBTP を広めていることからもわかるように、「形」としての教員研修としては根付き始めていると言ってよい。SBTP の継続のみならず、今後のフィリピンにおける教育案件形成において、重要となる点は次の 2 点である。

1) 教育の「質」の向上と言った場合に、その「質」とは具体的にどのようなことを指すのかを整理する必要がある。さらに、その「質」が比国にとって必要とされている「質」なのか[4]、またその必要性は指導主事や校長、一般教員にも共有されているのかについても整理しておく必要がある。

2) 「形」を取り入れるのが比較的得意な比国に対しては、新たな「形」を取り入れるような案件は比較的成果を出しやすい。次の段階として、できあがった「形」に対して「中身」あるいは「心」を入れることによって、質の向上を目指すのか、あるいは、別の「形」を導入することによって質の向上を目指すのか、アプローチを明確にしておく必要がある。

特に1)の「質」に関して、比国側プロジェクト関係者と共有しておくことが不可欠である[5]。目指すべき方向(質)について共通認識を持たないで案件を開始すると、比国側のニーズを満たすようなプロジェクト形成を困難とするばかりでなく、プロジェクトの成果に対する適正な評価も不可能となる。したがって、本案件と始める前にその点を十分に確認しておくか、本案件のコンポーネントのひとつとしてそのような

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[4] 例えば、獲得した知識を応用する能力や批判力を育てるのが教育の重要な役割であると言われているが、そのような能力が比国社会で一般に必要とされているのであれば、国家達成度試験問題や学校の試験の傾向もそれらの能力を試すような内容になるべきであろう。したがって、単に教え方の研修を行うだけではなく、研修で学ぶことが実際に活用されるような環境を作ることが重要になってくる。

[5]例えば、NEAP のディレクターMs. Tuy と SBTP の Central Project Management Team (CPMT) の責任者の一人である Ms. Cleofe は、「我々が伸ばしたい能力は、TIMSS (第 3 回国際理数科調査) と言うよりは OECD が実施した PISA (Program for International Students Assessment) で測られるような能力である」と明言し、当方からの「そのような考えは、各地方の指導主事や一般教員も共有しているか」との質問に対して、「少数には共有されていると思われる。ただ、共有されている場合にしても、彼らの評価は担当学校の国家到達度試験の結果で決まるため、そちらの成績を上げることに優先順位が置かれる傾向が強い」との返事が返ってきた。

確認作業を組み入れておく必要がある。

また、授業の「形」の導入についてある程度の成功を収めた比国に対して、次の段階の協力を設計するにあたっては、より高度かつ継続的な取り組みを要求されるので、比国側のニーズの正確な把握と対応策の設計のために詳細な調査を行う必要があるであろう。例えば、少なくとも以下の点は事前により詳細な情報を把握する必要があろう。

- これまで通り3つのリージョンを対象とするのか、あるいはリージョンを絞るのか。リージョンによって、RSTC との関係に大きな違いがある。
- これまで通り初等と中等を一緒に扱うのか、どちらかに焦点を絞るのか。
- これまで通り科目を数学と理科すべてを扱うのか、あるいは特に難しいと思われる物理系と数学に絞るのか。
- 誰(指導主事、校長、教科主任)のどのような能力を向上させるのか。対象となる層のバック・グラウンドや科目内容の理解がある人の割合はどれくらいか。
- 現地側において支援できるだけの質を備えた機関は存在するのか。リージョン・レベルでは存在するか。

添付資料1：構築・強化するキャパシティ

本案件で強化すべきキャパティの詳細を以下に挙げる。

何をするために必要なキャパシティか	誰のキャパシティ	どのようなキャパシティ(技術、知識、態度など)か	構築する方法
・ SBTP ポスト・セッションを運営する(司会する)	・ 一部の校長 ・ 全ての指導主事	・ 授業研究用のファシリテーション・スキル	・ 研修
・ SBTP ポスト・セッションで教科内容面に関して助言する(介入する)	・ 理数科のバック・グラウンドを持った指導主事及び校長 ・ 理数科のマスター教員	・ 深い教科内容知識 ・ 単元のつながりや実生活との連関に関する理解	・ 研修
・ SBTP で学んだことが、教室レベルで実践されているかどうかを確認し、助言する	・ 校長 ・ 必要に応じて指導主事	・ 授業観察手法 ・ 教授法に関する基本的知識 ・ 基本的な教科内容知識。	・ 研修
・ SBTP で学んだことが、教室レベルで実践されているかどうかを確認する仕組み作り。同時に、SBTP を改善するための情報収集の仕組み	・ 各リージョン	・ モニタリング・システムの開発	・ リージョンによる開発
・ SBTP において新しい技術・知識を学ぶ機会を設ける ・	・ 各リージョン ・ 大学(RSTC)、教員養成校 ・ 理数科のバック・グラウンドを持った指導主事	・ 新しい教授法(児童中心型、身の回りの物を使った実験器具活用法等) ・	・ 各リージョンにおける大学等とのネットワーク構築。
・ 実情にあった研修内容をSBTP で取り扱う ・	・ 各リージョン ・ 理数科のバック・グラウンドを持った指導主事	・ 多人数学級における指導法 ・	・ 研修

比国教育省提出用調査団レポート

Report
Preliminary Survey Team
for Upgrading Science and Mathematics Education Program
Japan International Cooperation Agency (JICA)
Survey period in the Philippines: March 6 to 25, 2006

Preliminary Survey Team for Upgrading Science and Mathematics Education Program is visiting the Republic of the Philippines from March 6 to 25, for the purpose of identifying issues related to science and mathematics education, especially improvement of teachers' capacity through School-Based Training Program (SBTP). During the team's stay in the Philippines, the team has a series of discussions with DepEd, some Regional and Divisional Office, as well as heads and teachers of schools, on the system, management and evaluation of SBTP. Following are the findings and recommendations of the team, which the team considered to be a basis and critical issues for formulation of the project.

Project outline as well as its components will be discussed when the succeeding mission visit the Philippines in June onwards.

1. General Context

1.1 Efforts to Education development by the Philippine government as well as development aid in education sector have to be planned and coordinated based on Basic Education Sector Reform Agenda (BESRA). The Proposed Project needs to be properly placed in and contributed to BESRA.

1.2 The proposed project will also need to contribute to decentralization of education development and to School First Initiative (SFI). SBTP needs to be developed as a part of School-based management approach.

1.3 During preceding period, the system of SBTP has been well developed and managed by concerned people in the Center and the Regions. There is also evidence that SBTP is contributing in improving in teachers' capacity. These good practices will be continued by these concerned people. Contribution from Japan needs to focus effectively on key issues including quality issues.

2. General Findings

2.1 The Team visited Region VI and VII and observed some classes as well as SBTP sessions. In the observed classes, the lessons are generally well planed and contributed in a manner that strengthens students understanding and thinking. SBTP sessions are carried out in a way to strengthen teachers understanding especially in pedagogical aspect and teaching skill. However, problem of misconception was observed, and pointed out by the concerned people. Some teachers are losing their interests in participating in SBTP sessions because they feel there are not many new things to learn.

3. Recommendation

3.1 In order for SBTP to continuously to improving teachers' knowledge and skill, intervention by appropriate resource person and facilities in terms of both subject matter and teaching indispensable.

3.2 The role of school heads and Division/District supervisors are important as they are in a

potion to organize SBTP as a part of overall school management, create enabling environment, and also they are responsible for quality issues of teaching. However, training, and improving knowledge of school heads and supervisors especially in subject matter have certain limits, because of their responsibility in wider management issues as well as background.

3.3 For continuous inputs to maintain and improve the quality of SBTP, developing and mobilizing locally available human resources is a key. Developing and strengthening the relations with teacher education institutions as well as Regional Science Training Centers (RSTCs), which is already exist in some Regions, will be one of the strategies. Teacher Educational Institutions (TEIs) and RSTCs could be a source of resource person for SBTP. It is also worth to seek possibility of continuous education of in-service teachers at TEIs and RSTCs. From TEIs and RSTCs viewpoint, contribution to SBTP can be considered as their extension work and admitted in the accreditation system. By participating in SBTP, TEI faculties can get feedback from in-service teachers, which is of great benefit for improving contents of pre-service training.

3.4 For school teachers to understand and deliver good lessons which encourage students understanding and thinking, not only understanding the theory but observing good lessons in practice is of grate use, where interactions between teachers and students exist to encourage students to use higher order thinking skills. These good lessons may include some cases found in other countries. Providing teachers with such occasion will contribute to improving their teaching.

3.5 At the same time of improving the quality aspect of SBTP, it will worth to examine the institutional aspect of SBTP such as placing SBTP in teachers' career development. However, such institutional aspect always goes side by side with quality aspect.

3.6 To select appropriate approaches to improve teachers' teaching method and academic achievement, it is recommendable to make clear the absolute academic achievement levels of teachers and students. That is why it is necessary to get the information not only the results of National Achievement Test (NAT) or the Regional Achievement Test (RAT) but the test contents themselves, or/and detail results of TIMSS 2003 or other original tests. Otherwise, some diagnostics exams should be implemented.

3.7 The component to strengthen capacity of developing instructional materials need to be considered not on its own but in relation to overall objective and activities of the proposed project, and it is too early to determine this component.

4. Conclusions

4.1 In the proposed projects, various small but concrete measures need to be taken, including those mentioned above. And to do so, mobilizing local human resources as well as financial resources are crucial in terms of sustainability, together with limited in amount but effective inputs from Japan.