付　属　資　料

１．合同終了評価ミニッツ

２．終了時評価用のPDM及び調査グリッド

３．アンケート（DOST－SEI及びシニア隊員作成分）

４．アンケート（調査団作成分）

５．アンケート集計結果

６．協力隊チーム派遣５年間にかかるミニッツ（1994年11月24日署名）

７．２年間延長期間にかかるミニッツ（1998年６月11日署名）

８．５年間終了時の合同評価報告書

９．プロジェクト派遣隊員リスト

10．協力隊チーム派遣の報告の流れ

1．合同終了評価ミニッツ

JOINT EVALUATION REPORT

BETWEEN

THE JAPANESE EVALUATION TEAM

AND

THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF

THE REPUBLIC OF THE PHILIPPINES

ON

THE PROJECT OF ENHANCEMENT OF PRACTICAL WORKS

IN SCIENCE AND MATHEMATICS EDUCATION

AT REGIONAL LEVEL

The Philippine Evaluation Team led by the Science Education Institute of the Department of Science and Technology (herein referred to as "DOST-SEI") and composed of the concerned Philippine authorities including DOST, the Department of Education, Culture and Sports (herein referred to as "DECS"), Bicol University, West Visayas State University, Ateneo de Davao University, and the Philippine National Volunteer Service Coordinating Agency (herein referred to as "PNVSCA"), and the Japanese Evaluation Team, organized and dispatched by the Secretariat of Japan Overseas Cooperation Volunteers, Japan International Cooperation Agency (herein referred to as "JOCV-JICA"), met and worked together in the Philippines from February 26 to March 15, 2001, to jointly review the progress and evaluate the results of the Project for Enhancement of Practical Works in Science and Mathematics Education at Regional Level (herein referred to as "the Project").

The findings, analyses and evaluation by the Joint Evaluation Team were compiled into this Joint Evaluation Report for the submission to all parties concerned.

March 15, 2001
Manila, The Republic of the Philippines

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JOINT EVALUATION REPORT
ON THE PROJECT OF
ENHANCEMENT OF PRACTICAL WORKS IN SCIENCE AND MATHEMATICS EDUCATION AT REGIONAL LEVEL
IN THE REPUBLIC OF THE PHILIPPINES

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LIST OF ACRONYMS AND ABBREVIATIONS

ADDU:	Ateneo de Davao University
BU:	Bicol University
DECS:	Department of Education, Culture and Sports
DOST:	Department of Science and Technology
DTP:	Division Training Program
INSET:	In-service Training
JICA:	Japan International Cooperation Agency
JOCV:	Japan Overseas Cooperation Volunteers
The Project:	Project for Enhancement of Practical Works in Science and Mathematics Education at Regional Level
NEDA:	National Economic and Development Authority
NTP:	National Training Program
Package Cooperation:	Package Cooperation for the Development of Elementary and Secondary Science and Mathematics Education
PNVSCA:	Philippine National Volunteer Service Coordinating Agency
RISE:	Rescue Initiative in Science Education
RSTC:	Regional Science Teaching Center
RTP:	Regional Training Program
SBTP:	School-based Training Program
STED:	Science Technology Education Division
Teacher Counterparts:	Teachers from selected schools whom the JOCV volunteers are assisting frequently
SEDIP:	Secondary Education Development & Improvement Project
SEI:	Science Education Institute
SMEMDP:	Science & Mathematics Education Manpower Development Project
Teachers:	Teachers to whom the Project gave substantial influence
NISMED:	National Institute of Science and Mathematics Education Development
WVSU:	West Visayas State University

1 INTRODUCTION

1-1 Background of the evaluation

The article 13 of the Minutes of Discussion signed on June 10, 1999 states "The JICA-JOCV and the Philippine authorities concerned will evaluate the Project jointly during the last six months of the cooperation period in order to examine the level of attainment of the project goal and objectives."

With about a few months left before the end of the Project, JOCV-JICA sent an Evaluation Team headed by Mr. Kazuo Sudo, Director of Recruitment and Domestic Affairs, JOCV- JICA to the Philippines from February 26, 2001 to March 16, 2001. The Philippine Team, composed of the representatives of DOST-SEI, DECS, PNVSCA, BU, WVSU, ADDU formed a Joint Evaluation Team together with the Japanese Team and conducted a survey, gathered necessary information for their analysis and had a series of discussion in line with its evaluation.

The Project was one of the components of the Package Cooperation for the Development of Elementary and Secondary Science and Mathematics Education (herein referred to as "Package Cooperation"), which was implemented up to May 31, 1999. However, the dispatch of the JOCV volunteers are continued for two years up to May 31, 2001. The Project involves various parties both from Japan and the Philippines. Considering that there would be a number of lessons to learn from the experience of the implementation of the Project, the joint evaluation team from both sides evaluated the Project in order to feed back the results of the evaluation for the effective implementation of the Project and other similar projects.

1-2 Objectives of the evaluation

The objectives of the joint evaluation are:

(1) To examine and confirm the progress and the results of the Project, and arrive on the achievements of the Project,

(2) To give recommendations to the people concerned on the Project on what should be done in securing its sustainability,

(3) To draw lessons from the evaluation results for other on-going and future projects, and

(4) To provide both Japanese and the Philippine sides with information which is required to discuss the sustainability and the needs for JOCV's cooperation.

1-3 Key issues addressed

(1) Efficiency: A measure of the "productivity" of the implementation: how efficiently are the inputs converted into outputs and achievement of outputs

(2) Effectiveness: A measure of the "accomplishment" of the project in terms of the

project purpose

(3) Impact: The positive and negative changes produced directly or indirectly by the project

(4) Relevance: The degree to which the objectives of the project are significant and worthwhile in relation to priority needs and concerns

(5) Sustainability: The extent to which partner institutions are able to pursue the objectives after project assistance from the donor ended

1-4 Methods of evaluation

The Project Design Matrix (PDM) or Logical Framework was prepared for evaluation based on the PCM method first. PDM is a document that clarifies the mutual relationship among 'Overall Goal', 'Project Purpose', 'Outputs', 'Activities', 'Inputs' and 'Assumptions'. Then the items for survey were derived from the view .of 'Efficiency', 'Effectiveness', 'Impact', 'Relevance', and 'Sustainability'.

1-5 Sources of information used for the evaluation

(1) Project documents such as Minutes of Discussion
(2) Reports of the JOCV volunteers and Japanese experts
(3) Reports prepared by the DOST-SEI
(4) Records of inputs from both Japanese and Philippine sides
(5) Questionnaires to people concerned

Number of questionnaires collected

	Taken by DOST-SEI	Taken by the Evaluation Team
DECS Central Office	-	1
DOST-SEI	-	1
PNVSCA	-	1
DECS Regional Office	6	6
RSTC	7	12
JOCV Volunteers	11	34
JOCV Senior Volunteers	-	3
JICA Experts	-	3
Teachers	91	100
Persons who had training in Japan	4	-

(6) Interviews with people concerned

Number of people interviewed

	Conducted by DOST-SEI	Conducted by the Evaluation Team
DECS Central Office	-	1
DOST-SEI	-	1
PNVSCA	-	1
DECS Regional Office	7	6
RSTC	16	12
JOCV Volunteers	11	11
JOCV Senior Volunteers	-	1
JICA Experts	-	3

1-6 Members of the joint evaluation team

1-6-1 The Japanese side

(1) Mr. Kazuo Sudo (Leader)
Director, Recruitment and Domestic Affairs Division, Secretariat of JOCV, JICA

(2) Mr. Nobuhiro Setoguchi (Education)
Former JOCV Senior Volunteer

(3) Ms. Mihoko Uramoto (Evaluation & Analysis)
RECS International Inc.

(4) Ms. Kiyoka Takeuchi (Planning & Coordination)
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1-6-2 The Philippine side

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(7) Mrs. Virginia P. Davide
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President, West Visayas State University
(12) Fr. Edmundo M. Martinez
President, Ateneo de Davao University

2 BRIEF DESCRIPTION OF THE PROJECT

2-1 Background

It has been recognized that there is a lack of human resources in the field of science and technology in the Philippines. The Government of the Philippines recognized that the development of the science and technology, especially the improvement of teachers' knowledge and skills in science and mathematics education is vital for the development of the Philippines' various industries. As a result, the Package Cooperation was introduced with the assistance of the Government of Japan through JICA.

A project involving JOCV volunteers was introduced as one of the components of the Package Cooperation in order to achieve the purpose of enhancement of practical works in science and mathematics education at regional level. The Project started in March 24, 1994 according to the Minutes signed by DOST, DECS, PNVSCA, ADDU, BU, WVSU and JICA Philippines Office. The JOCV volunteers were mainly assigned to the RSTCs in the above three Universities.

2-2 Duration of the Project

Seven years from Mar 24 1994 to May 31, 2001, including the extended period of two years from Jun 1, 1999 to May 31, 2001

2-3 Overall Goal, Project Purpose and Outputs

Overall Goal, Project Purpose and Outputs of the Project are defined as below.

(1) Overall Goal

'The performance of the elementary/secondary school students on science and mathematics is upgraded.'

(2) Project Purpose

'High quality science and mathematics classes with practical works are conducted by the teachers.'

(3) Outputs

a. RSTC's training programs and INSET system related training programs are held properly.
b. RSTC Counterparts and teachers including trainers have gained knowledge and acquired practical skills on practical works.
c. Laboratory equipment and tools are managed properly and used effectively.
d. Science and mathematics teachers have acquired skills on improvisation of low cost tools and materials used in the science experiment.
e. Both teachers and students became more interested in science and mathematics.

2-4 Target group

(1) Target group

Science and mathematics teachers of all the elementary and secondary schools in the target areas (Core target group: RSTC Counterparts, leader trainers and trainees of regional-level training)

(2) Target area

a. Region V
b. Region VI
c. Region XI

(3) Project site

a. DOST-SEI (Manila)
b. RSTC at Bicol University (Legazpi)
c. RSTC at West Visayas University (Iloilo)
d. RSTC at Ateneo de Davao University (Davao)

2-5 Implementing agencies

(1) Department of Science and Technology-Science Education Institute (DOST- SEI)
(2) Department of Education, Culture and Sports (DECS)
(3) National Economic and Development Authority (NEDA) through Philippine National Volunteer Service Coordinating Agency (PNVSCA)
(4) Secretariat of Japan Overseas Cooperation Volunteers (JOCV), Japan International Cooperation Agency (JICA)

3 FINDINGS AND ACHIEVEMENT

3-1 Japanese Inputs

(1) Input in terms of number of JOCV volunteers

	1994 – 1998	1999 - 2000	Total
DOST-SEI	3	1	4
BU-RSTC	9	3	12
WVSU-RSTC	7	5	12
ADDU-RSTC	8	3	11
Total	27	12	39

(2) Financial inputs (in million pesos)

	1994 – 1998	1999 - 2000	Total
Equipment	₱7.49	₱0.34	₱7.83
Operation	₱1.68	₱1.10	₱2.78
Total	₱9.17	₱1.44	₱10.61

* The above-mentioned amount of outlay does not include expenses for the dispatch of JOCV volunteers, their living allowances and other related expenses.

3-2 Philippine Inputs

(1) Input in term of personnel

DOST-SEI

	1994 – 1998	1999 - 2001	Average
Director	1	1	1
Specialists	2	2	2
Clerical staff	2	2	2

BU-RSTC

	1994 – 1998	1999 - 2001	Average
Directors	1	1	1
RSTC counterparts	4	4	4
Clerical staff	1	1	1
Other staff	7	7	7

WVSU-RSTC

	1994 – 1998	1999 - 2001	Average
Directors	1	1	1
RSTC counterparts	11	8	9.5
Clerical staff	1	1	1
Other staff	4	4	4

ADDU-RSTC

	1994 – 1998	1999 - 2001	Average
Directors	1	1	1
RSTC counterparts	4	-	-
Clerical staff	1	1	1
Other staff	1	1	1

* There are few permanent counterparts in ADDU-RSTC, though the JOCV volunteer worked with the approximately 210 Teacher Counterparts during the seven years.

(2) Financial interpretation of the inputs (in million pesos)

	1994 - 1998	1999 - 2000	Total
Personal Services	₱6.12	₱0.82	₱6.94
Maintenance & Operation	₱1.63	₱2.27	₱3.90
Building & equipment	₱15.40	₱ 0	₱15.4
Total	₱23.15	₱3.09	₱26.24

* Personal Service includes salaries of DOST-SEI and RSTC counterparts and PNVSCA personnel in charge of JOCV program.

3-3 Activities

The following reports were referred for making the tables below.

(1) Annex of Joint Evaluation Report (Dec. 11, 1999) : 1994 - 1998.

(2) Quarterly Reports of the Project by JOCV volunteers submitted to DOST-SET : 1999 - 2001

*Remarks

- Various kinds of scales were used in the above reports to measure the frequency of the program that the Project implemented. Any programs which lasted less than one day was counted as one event. The number of days was counted as the number of event in case of the programs which last more than one day.
- "+" shows that there are more events or programs but the number of them was not indicated in the above reports.
- " –" stands that the information is not available.

(1) BU-RSTC

Activities	Number of Event	Hours	No. of Participants	No. of School Benefited
RISE related	25	102	-	-
NTP related	5	-	-	-
RTP related	12	-	422	-
DTP related	14	-	294	-
Science Magic Show	7	-	680	-
Mobile School	45	-	-	7
Project Discover	6	-	940	-
Sky/Star Gazing	8	-	500	-
Peer Mentoring	51	-	-	-
SBTP	12	-	-	-
Workshop	17	-	639	-
Team Teaching	21	97	-	-
Computer skill	1	-	-	-
Summer Institute	1	-	-	-
Philippine Physics Society	1	-	-	-
Certificate Program for Sci. & Math. Teachers	1	56	35	-
Diploma Program in Chemistry	1	20	22	-
Short Term Training Program	5	64	-	-
Certificate Program on the Physical Science for General Science Teachers	3	52	35	-
Enrichment Program for Secondary Chemistry teachers	2	64	35	-
Certificate Program in Chemistry	3	96	16	-
Seminar on the Proper Use of Equipment for ESEP	2	16	10	-
Back-up Program	1	-	-	-
Seminar Workshop	2	-	-	-

(2) WVSU-RSTC

Activities	Number of Event	Hours	Number of Participants	Number of School Benefited
RISE	2+	-	595	-
Outreach	10	-	1805	-
Short term seminar Workshop	6	-	178	-
NTP related	9	-	-	-
RTP	17	21.5	252+	-
DTP	7	-	229	-
SEDIP*	4	-	104	-
SBTP	9	-	182	-
School Visiting	145	-	-	52
Pre-Service Training	12	-	349	-
Stargazing	57	-	20,244	-
NTP related	1	-	-	-
RTP related	7	21.5	252	-
RTP related	2	-	75	-
DTP related	4	-	169	-
Regional Seminar	2	-	376	-
SAMSI	2	-	105	-
In-service Training	1	-	239	-

*Secondary Education Development and Improvement Project

- 24 issues of newsletter were published. 3926 copies were distributed.
- 79 kinds of improvised materials were developed in the first five years.

(3) ADDU-RSTC

	Number of Event	Number of Participants	Number of Schools Benefited
Mobile Training	18	113	-
Summer Institute	36	146	-
Short Term Seminar	11	65	-
Mobile Teacher Training	10	844	-
NTP related	88	-	-
RTP related	150	-	-
DTP related	30	-	-
DECS-RMT Monitoring	6	-	6
SBTP related	48	-	-
Cluster training related	17	-	-
School Visit	211	-	57
Team Teaching	79	-	7
Delivery Skill	15		74
RISE	45		
Demo Teaching	N/A	1	1
Adaptation Workshop	2		2
PC Training	6		
Science Circus Show	42	9738	1
University of Mindanao			1
Physics Society	2		
Science Fair/Maths. Olympia	4		

- 3 Newsletters were printed and 844 copies were distributed.
- 38 kinds of improvised materials were developed and 983 sets of the prototypes were sold.