

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

No. 1

DEPARTMENT OF EDUCATION, CULTURE AND SPORTS  
THE REPUBLIC OF THE PHILIPPINES

BASIC DESIGN STUDY REPORT  
ON  
THE PROJECT FOR ASSISTANCE TO  
SECONDARY EDUCATION INSTRUCTIONAL  
EQUIPMENT PROGRAM PHASE-II  
IN  
THE REPUBLIC OF THE PHILIPPINES

APRIL 1992

SYSTEM SCIENCE CONSULTANTS INC.

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## PREFACE

In response to a request from the Government of the Philippines, the Government of Japan decided to conduct a basic design study on the Project for Assistance to Secondary Education Instructional Equipment Program Phase-II and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines a study team headed by Mr. Koichi Miyoshi, Director of Second Basic Design Study Division, Grant Aid Study and Design Department, JICA, and constituted by members of System Science Consultants Inc. from January 29 to February 12, 1992.

The team held discussions with the officials concerned of the Government of the Philippines, and conducted a field study at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Philippines for their close cooperation extended to the team.

April 1992



Kensuke Yanagiya

President

Japan International Cooperation Agency





April 1992

Mr. Kensuke Yanagiya,  
President  
Japan International Cooperation Agency  
Tokyo, Japan

Letter of Transmittal

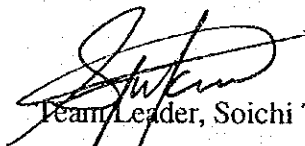
We are pleased to submit to you the basic design study report on the Project for Assistance to Secondary Education Instructional Equipment Program Phase-II in the Philippines.

This study has been made by System Science Consultants Inc., based on a contract with JICA, from January 24, 1992 to April 30, 1992. Throughout the study, we have taken into full consideration of the present situation in the Philippines, and have planned the most appropriate project in the scheme of Japan's grant aid.

We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA and the Ministry of Foreign Affairs. We also wish to express our deep gratitude to the officials concerned of the Department of Education, Culture and Sports in the Philippines, Philippine Office of JICA and Embassy of Japan for their close cooperation and assistance during our study.

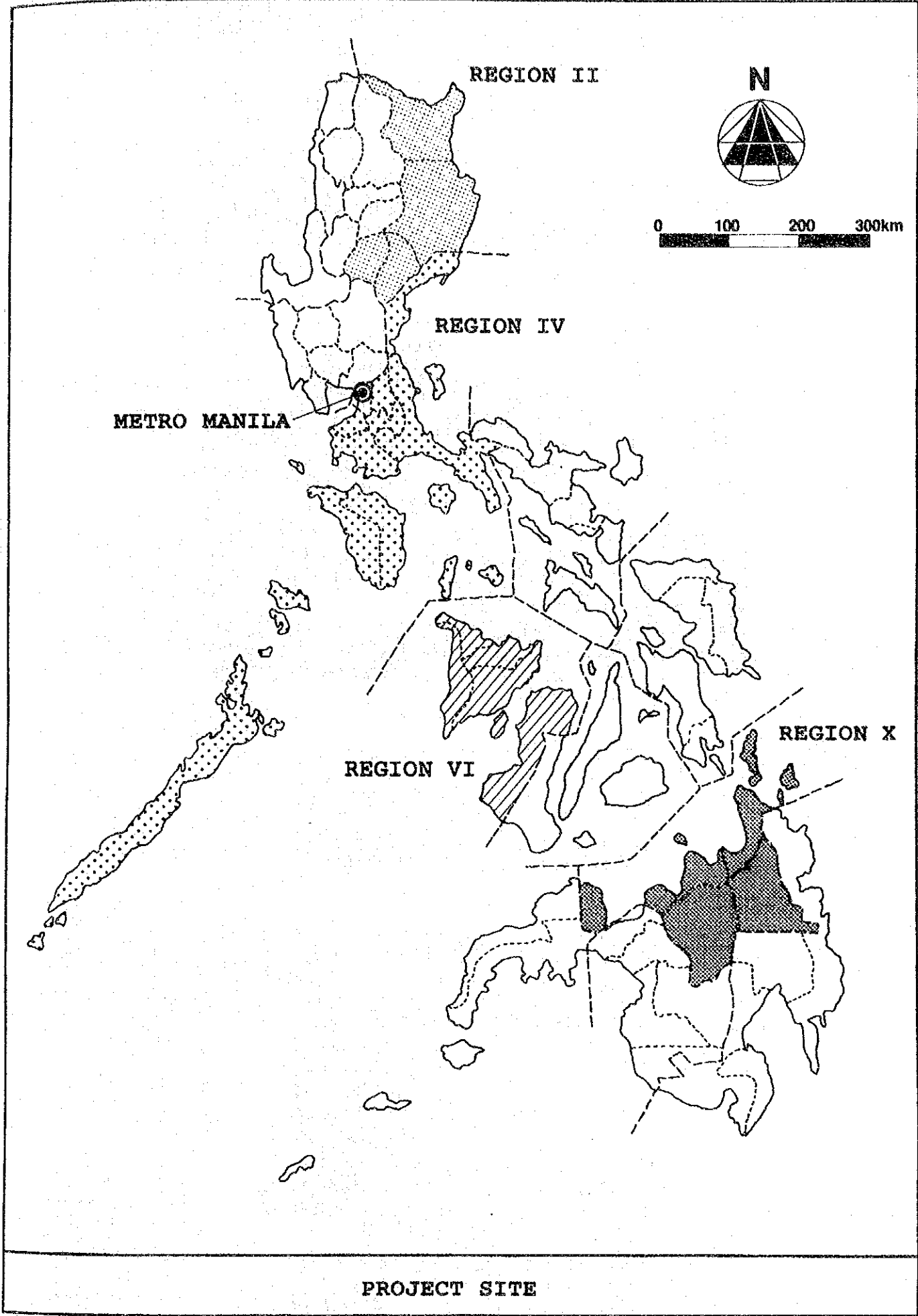
At last, we hope that this report will be effectively used for the promotion of the project.

Very truly yours,

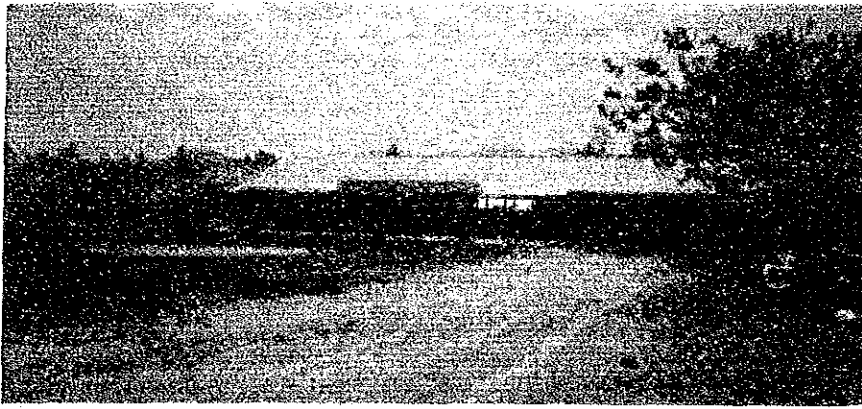


Team Leader, Soichi Takai  
Basic design study team on  
the Project for Assistance to Secondary  
Education Instructional Equipment Program  
Phase-II  
System Science Consultants Inc.

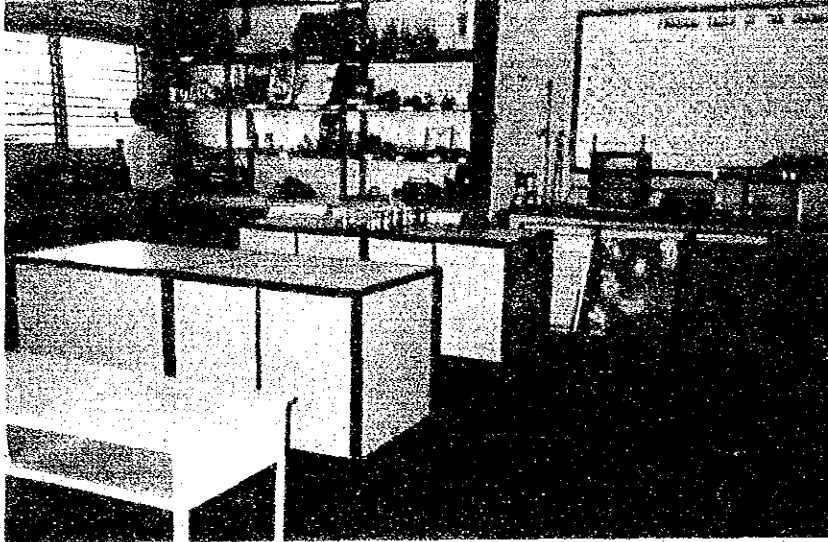








**Cavite Provincial High School (Region IV, #62)**



**Laboratory (Cavite)**



**Laboratory Equipment (Cavite)**

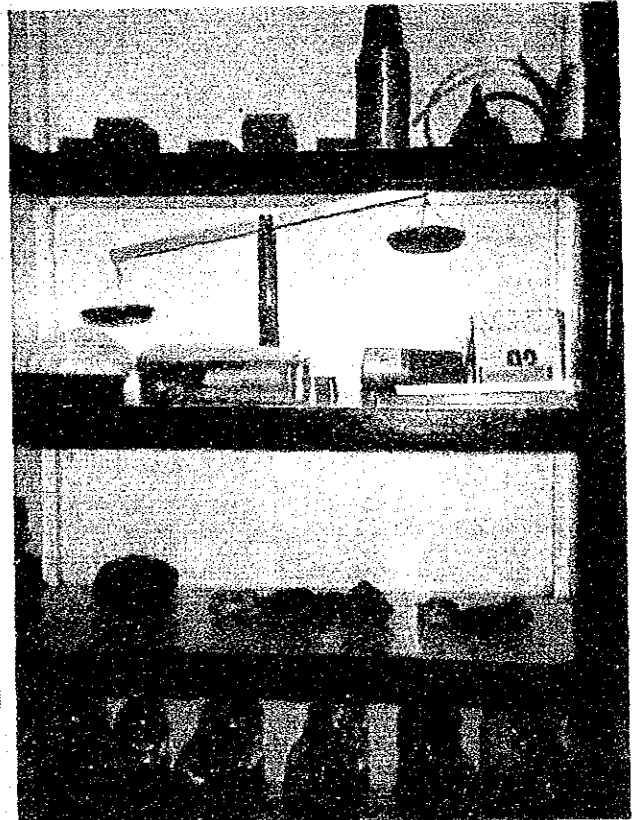
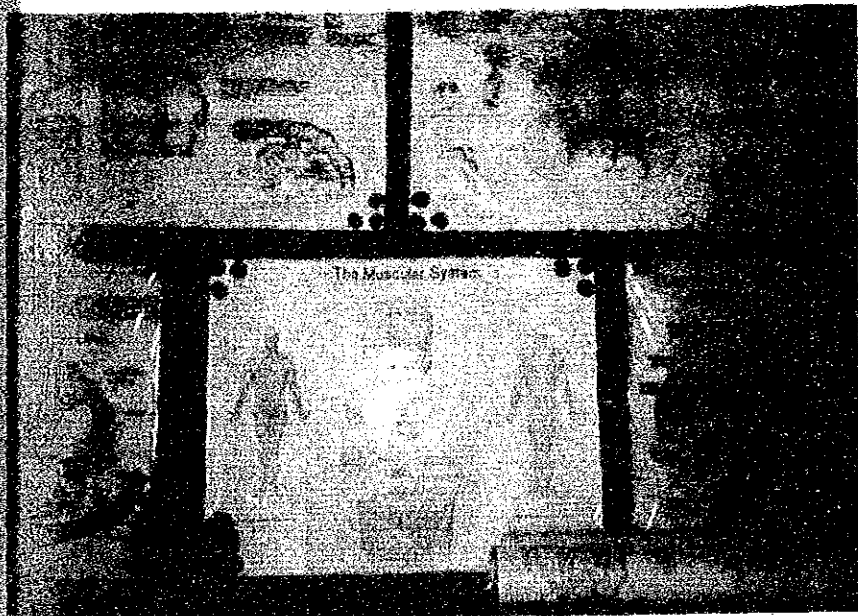




**School Building Construction Site by Japan's Grant Aid (Cavite)**



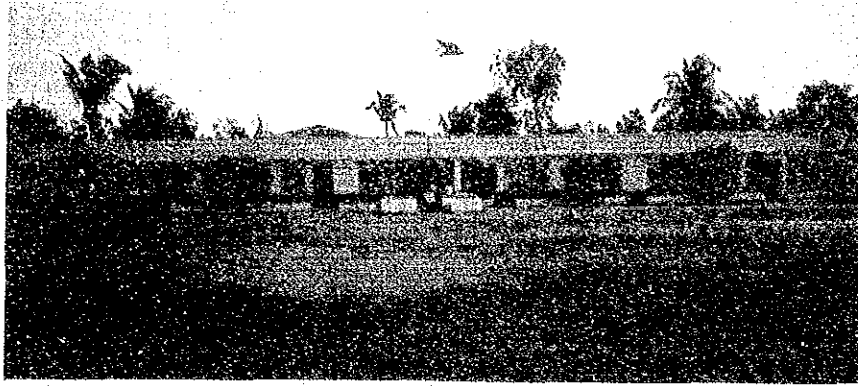
**Cabinet for Chemicals (Cavite)**



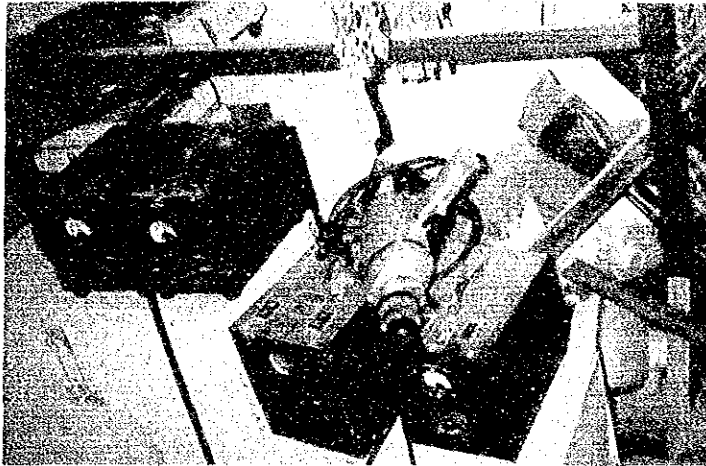
**Science Equipment (Region IV, Banilad Barangay High School, #49)**







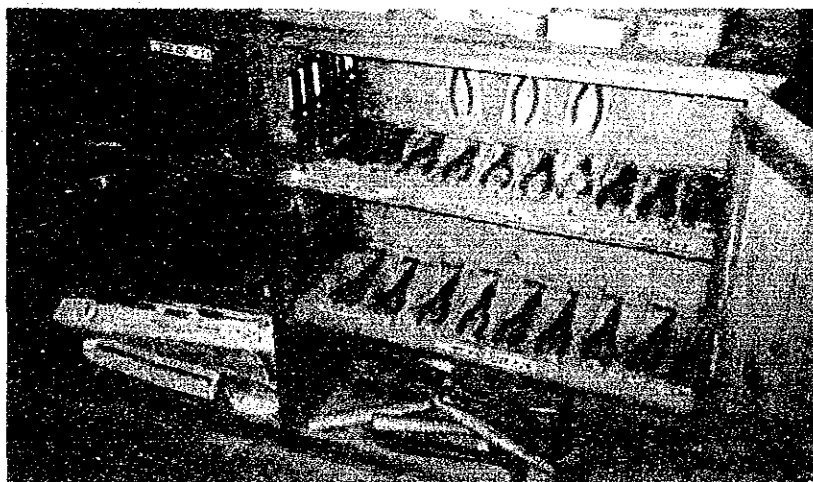
**Bukal Barangy High School (Region IV, #34)**



**Equipment for Industrial Arts (Bukal)**

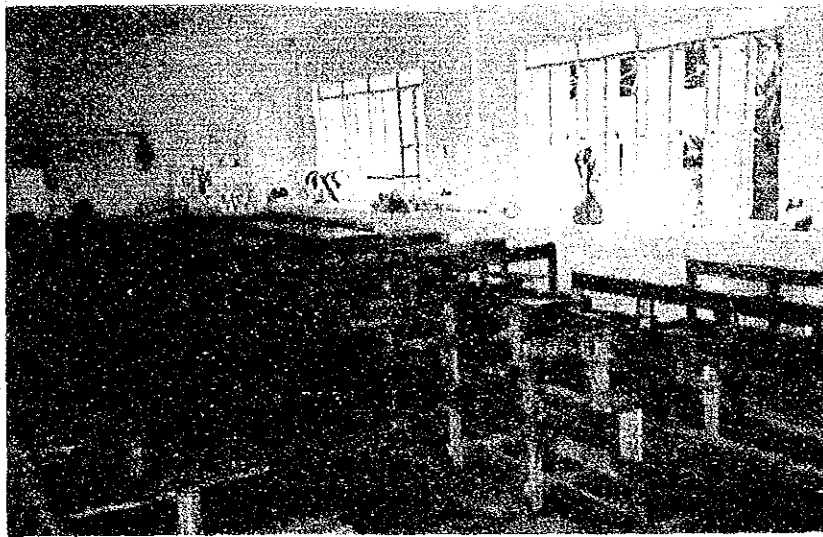


**Workshop (Bukal)**



**Equipment for Industrial Arts (Bukal)**





**Laboratory (Bukal)**



**Workshop for Home Economics  
(Jalandoni Memorial High School, Region VI, #178)**



**Laboratory(Jalandoni)**



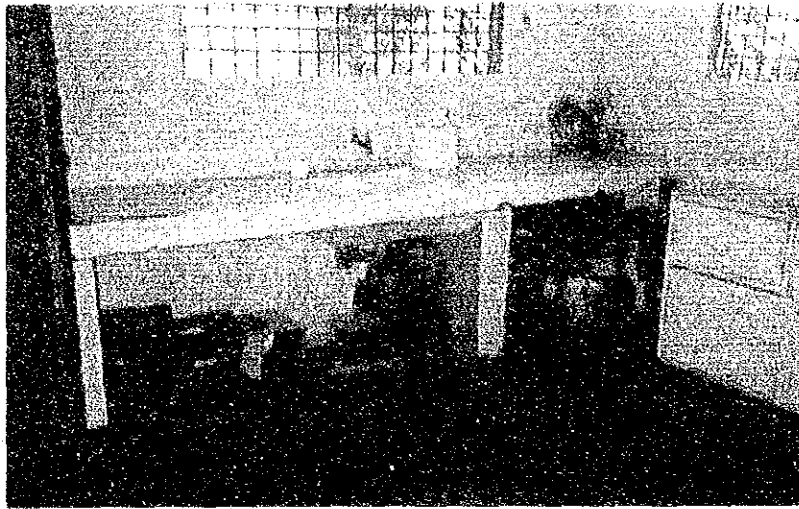


Jaro High School (Region VI, #180)

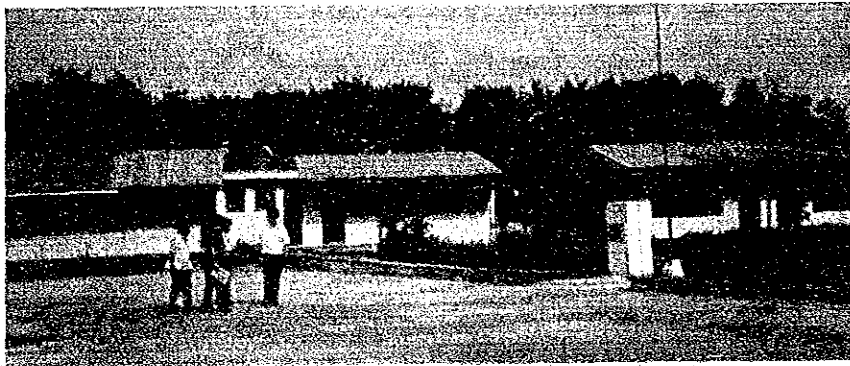


Laboratory (Jaro)





**Workshop for Home Economics (Jaro)**



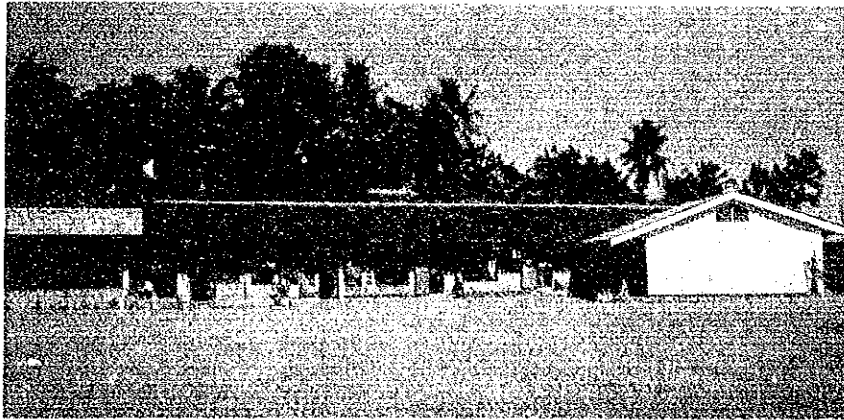
**R.G.Hechanova Barangay High School (Region VI, #179)**



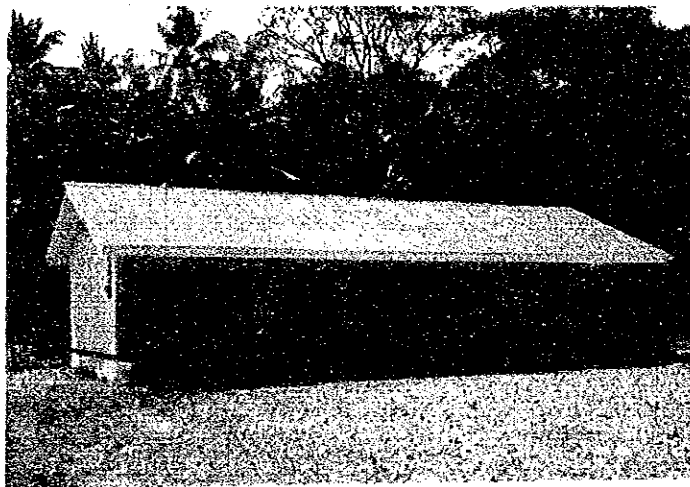
**Laboratory (Hechanova)**







**Lapasan Barangay High School (Region X, #235)**



**Newly Constructed Classroom Building (Lapasan)**



**Workshop for Home Economics (Lapasan)**





**Cabinet for Science Equipment (Lapasan)**



**Cabinet for Science Equipment  
(Agusan Newly Nationalized High School, Region X, #236)**





**Signing of Minutes of Discussions**



## SUMMARY





## SUMMARY

The Aquino government, emerged in February 1986, formulated the Medium-Term Philippine Development Plan for 1987 to 1992, and has been promoting measures aiming at correcting social inequalities. One of the significant measures is "development of education and human resource" to provide equal opportunity and improve the quality of education from the standpoint of the socially weak. Especially for the secondary education, Secondary Education Development Program (SEDP, 1988-93) was formulated to expand secondary education in the country. In accordance with the Constitution established in 1987, all public secondary schools have been nationalized since June 1988, and as a result of realization of free national secondary education the number of enrollment has risen.

The Bureau of Secondary Education (BSE) of the Department of Education, Culture and Sports (DECS), which administrate secondary education in the Philippines, make a progress survey of SEDP and prepare an annual report to revise the content and its targets. When SEDP was implemented, BSE, through establishment of the New Secondary Education Curriculum (NSEC), set up the educational standards and tried to enhance the quality of the secondary education by improving curriculum. In order to achieve that goal, providing of school facilities and instructional equipment, development and training of teachers, and assistance and support for school administration were being implemented. It is expected that by these means the quality of secondary education and the internal efficiency of the system will be improved and equality of educational opportunity will be expanded. Especially access to secondary education will expand by development of secondary schools in the areas under disadvantageous conditions.

The increase in enrollment of secondary schools required urgently to build school facilities, provide instructional materials and expand teaching staff. The Government of the Philippines which is facing financial difficulties has been implementing these policies through financial assistance from the following nations and international organizations as well as their own budget.

① Secondary Education Development Sector Program (SEDSP) funded by Asian Development Bank (ADB)

SEDSP by ADB will build school buildings of 673 secondary schools in the country, and provide furniture, office equipment and instructional equipment of science, mathematics, technology/home management.

- ② Philippine-Australia Science and Mathematics Education Project (PASMEP) by Australian International Development Assistance Bureau (AIDAB)

This project is composed of Teacher In-Service Training, Curriculum and Management Support Services Development, and Science Equipment all of which are closely related to each other. It also send experts and accept trainers, while it provides laboratory equipment of physics and chemistry for 378 secondary schools in the country.

- ③ United States Agency for International Development, Economic Support Fund (USAID-ESF)

This project is under direct control of Office of the President but not DECS, and it has built school buildings and provided equipment since 1986. In the implementation, a coordination is made with DECS, being located as part of SEDP.

- ④ School Building Construction Project by Japan's grant aid

At present the grant aid for the third phase project is being implemented since it started in 1989 in primary and secondary schools. In the project, 97 secondary school buildings in Regions V, VIII were completed by today, and 50 school buildings in Regions II, IV are under construction, totaling 147 buildings.

- ⑤ The Project for Assistance to Secondary Education Instructional Equipment Program (Phase I) by Japan's grant aid.

In Phase I, the grant aid was implemented for provision of the instructional equipment of science and technology & home management covering 210 schools in Regions V, VIII and completed by March 1992.

- ⑥ Others

National Science Fabrication and Training Center was established by the German Technical Cooperation (GTZ), and paper for printing textbooks was provided by Canadian International Development Agency (CIDA).

At present each secondary school faces a big problem of shortage of school buildings, classrooms, instructional equipment and materials, and requires to improve the quality and increase the number of teachers. It was calculated in School Year (SY) 1989-1990 that 18,079 classrooms, 4,595 science laboratories and workshop rooms would be required and the shortage of teachers amounted to 17,899 in the country. The number of students per one class is about 60-70 in average and textbook-student ratio is 1:7. As to instructional equipment, shortage of basic equipment especially for laboratory and workshop of science and technology & home management is serious. These problems have been accelerated due to increased number of enrollments since nationalization of

public secondary schools and free national secondary education by the Government.

Under such circumstances, the Government of the Philippines requested the Government of Japan for the grant aid for provision of required instructional equipment as Phase II following Phase I of the Project for Assistance to Secondary Education Instructional Equipment Program. The content of the request is as follows.

- ① Objective schools : 239 national secondary schools in Regions II, IV, VI and X.
- ② Objective fields : 6 subjects in 2 fields of Science (General Science, Biology, Chemistry, Physics), Technology and Home Management (Industrial Arts, Home Economics).
- ③ Objective equipment : Standard instructional equipment in the objective fields which is the same content as Phase I.
- ④ Transportation of Equipment : Transportation to each objective school undertaken by Japan side.

In response to the request, the Government of Japan decided to conduct a study concerning the Project for Assistance to Secondary Education Instructional Equipment Program Phase II (hereinafter referred to as "the Project") and JICA sent a study team from January 29 to February 12, 1992. The team studied current status of the instructional equipment, facilities, levels of teachers, etc., in the secondary schools in the objective areas. Then after the analysis of the significance and appropriateness of the Project, the basic design of the Project was formulated.

The current status of each region is as follows. In Region II where, one of the depressed areas in the country, the number of schools and educational opportunities are small, interest in secondary education has been enhanced and development of secondary education facilities is required to meet the need of increased number of enrollments. In Region IV, the largest region, which has the largest number of schools and students, there are disparities between the urban and rural areas due to poor educational environment in islands and rural areas. Region VI is located mainly in Panay island and western part of Negros Island where population is centralized and the number of schools and students is large. However 70 percent of population live predominantly in the poorest rural area in the country and any educational indicator is below the national mean. In Region X which is rich in natural resources the development of agro-industries is envisioned. Each educational indicator in secondary level is below national mean. It is required to develop human resources to meet the regional economic needs.

Although each region has its own situation, all of them face educational problems which are required to be solved especially in secondary education. Most of these regions are often hit by typhoons every year, and Regions II, IV have been already specified as objective areas of Phase III of the School Building Construction Project and it is expected that other objective regions will be included in the future School Building Construction Project. It is appropriate to take these regions facing secondary educational problems, as objective areas in the Project.

Phase I implemented in 1991 covered 210 schools in two regions but in this Project it is requested to cover 239 schools in four regions. It is appropriate to cover a maximum number of requested schools which are selected by the same selection criteria used in Phase I to enhance the effect of the Project.

As for the equipment, based on the result of phase I, it was requested that the same content of standard equipment of science and technology & home management with highest priority should be distributed to each school equally. However as there is a difference in scale and facility condition of each school, it would be proper to distribute equipment packages designed depending on the situation of each school, considering efficient use of equipment and reliable maintenance. It is significant to distribute equipment to a maximum number of requested schools to give an effect on the self-reliance efforts to achieve development of secondary education in the Philippines. It is considered from this standpoint that in the Project one package should be provided for one school.

The equipment for a school without facilities of laboratory and workshop is classified as Package A and the one for a school with facilities is as Package B. The content of equipment is set up in each package. Each equipment will be included into the following packages by each field depending on the situation of each school.

Field	Facility		Package
Science	Laboratory	Nil	As
	Laboratory	Exist	Bs
I.A & H.E	Workshop	Nil	At
	Workshop	Exist	Bt

Requested schools are classified into the following school groups which correspond to the combination of equipment package. The equipment for each school group will be a combination of each equipment package.

Facility		School
Laboratory	Workshop	Group
Exist	Exist	Bs/Bt
Exist	Nil	Bs/At
Nil	Exist	As/Bt
Nil	Nil	As/At

It is reliable and efficient that the transportation of equipment will be extended up to each school from Manila warehouse based on the evaluation of the results of Phase I. Therefore, in the Project, each equipment is delivered to Manila warehouse, packed in accordance with school group after inspection and distributed to each school.

Outline of the basic design study of the Project is described as follows.

- ① Objective schools are 239 schools in total in Regions II, IV, VI, X.

Region	School Group				Total
	Bs/Bt	Bs/At	As/Bt	As/At	
II	18	0	0	0	18
IV	50	39	4	14	107
VI	53	8	6	27	94
X	16	1	2	1	20
Total	137	48	12	42	239

- ② Objective equipment fields are 6 subject in 2 fields of Science (general science, biology, chemistry, physics, chemicals/consumables) and Technology & Home Management (industrial arts, home economics).
- ③ The content of equipment is set up depending on facility condition of laboratory and workshop. Outline of the content of equipment is as follows.

### List of Main Equipment

Equipment Fields	Equipment	No of Item Package		No. of Equipment Package		Total No. of Equipment
		A	B	A	B	
A. G.Science	Platform Balance	17	18	36	51	11,379
	Labo Repair Kit					
	Terrestrial Globe					
	Hand Lens Pulley Set, Others					
B. Biology	Dissecting Set, Microscope	11	14	38	56	12,412
	Human Anatomy					
	Chart Glasses					
	Others					
C. Chemistry	Triple Beam Balance	36	38	93	164	35,362
	Cabinet for Chemicals					
	Thermometer, Molecular					
	Model Kit, Periodical Table, Glasses, Others					
D. Physics	Mirrors, Dynamic Carts	33	34	86	115	25,919
	Magnets, Resonance					
	Apparatus, E. Motor					
	Photometer, Platform Balance, Others					
E. Home Economics	Sewing Machines	18	19	19	27	5,733
	Pressure Cooker, E. Iron					
	Kitchen Knife, Measuring					
	Spoons, Frying Pan Others					
F. Industrial Arts	Machinist Vise, Hack Saw	30	32	71	122	24,568
	Tester, Hammer					
	Tape Rule, Hand Saw					
	Wood Chisel Set Others					
G. Chemicals & Consuma- bles	Litmus Paper, Filter Paper,	40	57	40	57	12,705
	Nitric Acid, Sulfuric Acid,					
	Ethyl Alcohol, Reagents					
	Others					
Total		185	212	383	592	128,078

- ④ Transportation of equipment to each school will be undertaken by the Project.

The executing period of the Project is planned to be about 2.5 months for detailed design and 8 months for production and transportation of equipment. The executing agency of the Project is the Department of Education, Culture and Sports (DECS). The operation and maintenance of the equipment will be performed by each secondary school. The budget of each school necessary for operation and maintenance is financed by DECS, through each regional office of DECS.

Educational budget in the Philippines has been recently increasing year after year, reaching approximately 28.18 billion peso in 1990, which is about 12 percent of the national budget. Implementation budget for the secondary education program is composed of salaries for teachers and operation/maintenance expenses, amounting to 5.432 billion peso in 1992. Annual budget per one national secondary school is approximately 1.6 billion peso in average, and operation/maintenance budget is expected to be about 80,000 peso, which is around 5 percent of the whole budget. The increased amount of annual operation/maintenance expenses per one secondary school is estimated to be 7,300 peso. This is within 10 percent of the average annual operation/maintenance expenses per school, which is not so big an amount. DECS is to give priority in taking budgetary measures.

In SEDP, aiming at comprehensive development in 3,394 national secondary schools in the country, improvement of curriculum and school facilities are being proceeded by the assistance from overseas countries and international organizations. Construction of school buildings is projected for 820 schools, which is 24 percent of the whole national secondary schools through ADB Loan and Japan's grant aid. Equipments are provided for 673 schools by ADB Loan, 378 schools by Australian grant aid, 210 schools by phase I and 239 schools by phase II of the Project, 1,500 schools in total which is 44.2 percent of the whole national secondary schools. The Project is a significant part of SEDP as a multi-assistance with other countries and international organizations. It is expected that this type of assistance will be continued in the future also and the anticipation is great that it will contribute largely to the development of the secondary education in the Philippines.

The Project as a part of SEDP in the Philippines will greatly contribute to the development of the secondary education of the Philippines by providing instructional equipment. It is considered to be extremely significant that the Government of Japan should provide grant aid for the implementation of the Project.





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## 1. INTRODUCTION



# 1. INTRODUCTION

The Aquino government, emerged in 1986, formulated the Medium-Term Philippine Development Plan for 1987 to 1992 and have been trying to correct social inequalities with its slogans of recovering democracy, developing rural areas, and reducing regional differentials. Based on the recognition that the "development of education and human resource" is essential for achieving the goals, the government has taken a policy to provide equal opportunity and improve the quality of education from the standpoint of the socially weak. Especially in secondary education, the Secondary Education Development Program (SEDP) was formulated aiming at improvement in quality of secondary education and expansion of equal educational opportunities.

Thus the Government of the Philippines have taken various measures since June 1988 to expand educational opportunities by nationalization of public secondary schools and free national secondary education. However in the current status, shortage of basic instructional equipment especially for the fields of science and technology & home management is serious. The government has recognized the provision of instructional equipment in such fields is an essential factor for the achievement of SEDP's goals. The program is being implemented by the assistance from foreign countries and international organizations due to the financial difficulties in the Philippines.

Under such circumstances, the government formulated the Project for Assistance to Secondary Education Instructional Equipment Program for the purpose of realizing extensive use of equipment for laboratory and workshop in the fields of science and technology & home management in secondary education, increasing access to quality education and encouraging students to be more interested in natural science and technology, and requested the Government of Japan to provide grant aid for instructional equipment required for the Project as phase II following phase I implemented in 1991. In response to this request, the Government of Japan decided to conduct a study on the Project for Assistance to Secondary Education Instructional Equipment Program Phase-II (hereinafter referred to as "the Project") and Japan International Cooperation Agency (JICA) sent to the Philippines a basic design study team headed by Mr. Koichi, Miyoshi, Director of Second Basic Design Study Division, Grant Aid Study and Design Department, JICA, from January 29 to February 12, 1992. The study team confirmed the background and objectives of the request, explained the Japanese grant aid system to the government officers concerned of the Philippines, and confirmed the undertakings by both governments. The team conducted a field survey on the current status of instructional equipment, facilities, level of teachers etc. of secondary schools in the objective area, evaluated the significance and appropriateness of the Project and prepared a basic design of the Project.

This report is summation of the results of the above described study. Members of the survey team, itineraries, lists of interviewers, and minutes of discussions are attached in the Appendix 1.1 - 1.4.



## **2. BACKGROUND OF THE PROJECT**



## 2. BACKGROUND OF THE PROJECT

### 2.1 Outline of the Philippines

#### 2.1.1 Socio-economic Conditions in the Philippines

The economy under Aquino government emerged in February 1986 started to turn upwards from the low point, owing to the stimulative measures of expansion of governmental expenditures and gradual recovery of exports, and the economic growth rate recovered to reach 5 % in 1987 supported by strong recovery of consumer spending. In 1988 and 1989 the growth rate over 5 % was maintained and the business trend seemed to stabilize. However in 1990 it reduced to 3 % and marked minus in 1991. The Aquino government suffered a series of misfortunes since the attempt of coup-d'etate in December 1989 which triggered decrease of investment to the Philippines. The drought in Luzon which occurred in the same year continued for a long time, worsening the existing shortage of electricity; a big earthquake hit the northern part of the island in July 1990, causing a tremendous damage; in August a steep rise of oil price due to Gulf War and reduction of remittance from abroad due to unemployment of workers away from home accelerated international imbalance; in October a large scale typhoon recorded a number of the dead and destruction of buildings. Furthermore, in June 1991 the eruption of Mt. Pinatubo, recorded to be the largest in scale in this century, gave a destructive damage in the northern part of the island with an unmeasurable effect on the economy of the Philippines. Withdrawal of the U.S. bases of Navy and Air Force where 36,000 people used to be employed will also affect the economic growth rate in the Philippines from 1992 to 1993.

The Medium-Term Philippine Development Plan for 1987 to 1992 is aiming at reconstruction of economy and continuous growth with a main focus on correcting poverty, creating employment opportunities and realizing social equality with a slogan of 6.4% GNP growth rate during the period. However, because of the repeated natural disasters and situational changes in and out of the country, it is difficult to achieve the goal of 6.4%.

In these conditions, Foreign Investment Law 1991 was mandated by the Congress in July 1991 to realize basic liberalization of foreign investment although it is effective in a limited period of 3 years. Being a favorable information to foreign capital which seeks for high quality labor power at low cost, it is expected that the economy will retrieve little by little and net foreign deficit will remain below previous year levels due to the strong recovery of international price of agricultural products such as copra and the stimulative policies by the government in 4th quarter of 1991.

## **2.2 Outline of Education in the Philippines**

### **2.2 1 Current Status of Education in the Philippines**

#### **(1) Outline of Basic Education**

In 1988, 40 % of the population were under 15 years of age. Of the population over 89 % approx., are literate. In school year(SY) of 1990/1991, the net enrollment ratio (participation rate) was 99.10 % in the primary education and 54.71 % in the secondary education.

There is a relatively high level of net enrollment ratio but had been a strong needs in practice to improve the numerous problems such as shortage of facilities and instructional equipment/materials, imbalance in quality and number of teachers, limited budget and high dropout rate of students in low income group.

The Program for Decentralized Educational Development (PRODED), the development program in primary education, have been implemented for four years since 1982 with five components of physical facilities development, curriculum development, staff development, technical assistance and research/studies by the assistance of IBRD. The Secondary Education Development Program(SEDPP 1988/1993) started in 1988 when the first batch of students of PRODED entered the secondary level.

These two programs pursued several common targets such as improvement of achievement test level, decrease of dropout rate, rising the net enrollment ratio and adequacy of teacher-student ratio etc., and are closely related with each other.

#### **(2) National Educational Development Plan**

The Government of the Philippines issued Presidential Proclamation No. 480 declaring the period as the decade of Education for ALL(EFA) in accordance with the Constitution's mandate " that the State will protect and promote the right of all citizens to quality education at all levels...". The proclamation provided for the creation of a National Committee that will prepare the National Plan of Action to chart the direction of a national educational program as well as to formulate relevant policies for the implementation of the EFA.

Emphasizing the importance of basic education, EFA states as follows: "The primary goal of basic education is to meet basic learning needs or the knowledge, skills, attitudes and values necessary for people to survive, to improve the quality of their lives, and to continue learning. From 1990 to 2000, the education sector together with other sectors of society shall aim to provide basic education for all Filipinos." and addressed the following objectives:

- the institutionalization of early childhood development as a basic service for all children in the country;
- the improvement in the quality and efficiency of primary education;
- the eradication of illiteracy; and
- the provision of basic knowledge, skills and values that allows adults and out-of-school youth to improve the quality of their life and increase their opportunities to participate in the development process.

### (3) Budget for Educational Field 1990-1999

The Aquino Administration, which shows marked enthusiasm for educational revolution, expanded regularly the expenditures for social services in proportion to the economic growth rate which was improved from 1.9 % in 1986 to over 5 % in 1987 and maintained up to 1989. Education continued to constitute the bulk of social services expenditures, representing a share of 69 % in 1988 compared to only 62 % in 1987 and the DECS sector's proportion to total government expenditures rose to 10.89 % in 1989 and 12.07 % in 1990 from 9.31 % in 1988 (DECS budget by regions shown in Appendix 1.6 & 1.7).

National and DECS Budget (CY 1987/1990)

CY	(Unit : Thousand peso)			
	1987	1988	1989	1990
National Budget	194,266,000	162,250,000	216,585,233	233,508,000
DECS Budget	12,321,912	15,100,335	23,578,787	28,177,760
Percentage of DECS Budget	6.34%	9.31%	10.89%	12.07%

Source : National Coordination Board, Republic of the Philippines, 1991 Philippine Statistical Yearbook, Metro Manila, Dec., 1991, 10-16 Table 10.8

## 2.2.2 Secondary Education

### (1) Current State of Secondary Education

In SY(School Year) 1991/1992, the sector registered an enrollment of 2,891,592 for the national secondary schools, and 1,436,417 for the private schools. In SY 1990-1991, there were only 2,564,045 who enrolled in the national schools and 1,469,552 in the private schools. The significant increase in enrollment in national schools may be attributed to the free secondary school education which was mandated by Constitution in 1986 and implemented in 1988, and to the progress in primary education started by PRODED in 1982. The number of schools likewise grew to accommodate the rising

student population. In SY 1989/1990, there were 3,364 national secondary schools and 2,156 private high schools in the country. The figure rose to 3,394 and 2,156 in SY 1990/1991 for the national and private secondary schools, respectively. While the increase in the number of private schools is almost insignificant, that of the national schools is rather substantial. The number keeps growing because of the continuous establishment of national schools by legislation.

In SY 1989/1990, the national secondary school system grew into a teaching force of 75,950 and the public school sector became the country's biggest employment source and introduced the national salary system with common salary grades and schedule. In SY 1990/1991, the number reached 81,543, and further grew but the shortage of teaching force is still acute and the budget for 8,300 new items was released for CY 1991. The private secondary schools employed 41,145 teachers. The followings are the total number of graduates from primary schools, the number of children from 13 to 16 years old in the country, and each number of students, schools and teachers in secondary level of SY 1989/1990 and 1990/1991( the numbers by regions are shown in Appendix 1.11.).

#### Educational Statistics in Secondary Education

School Year	Graduates from Primary Level	No. of 13-16 age	No. of Student (Secondary)	No. of Secondary School	No. of Teacher (Secondary)
1989-1990					
National	1,175,744	-	2,516,729	3,364	75,950
Private	93,583	-	1,444,910	2,154	39,722
Total	1,269,327	5,446,073	3,961,639	5,518	115,672
1990-1991					
National	1,227,367	-	2,564,045	3,394	81,543
Private	99,838	-	1,469,552	2,156	41,145
Total	1,327,205	5,586,098	4,033,597	5,550	122,688

Source : DECS, Decs Statistical Bulletin 1989-1990, Metro Manila, 1990  
 DECS, Decs Statistical Bulletin 1990-1991, Metro Manila, 1991

The followings are the performance indicators in secondary education in SY1990/1991.

**Performance Indicators of the Secondary School Sector SY1990/1991**

Indicator	National School	Private School	National & Private
Gross Enrollment Ratio	45.90	26.31	72.21
Participation Rate	33.82	20.89	54.71
Cohort Survival Rate	74.97	78.79	76.41
Retention Rate	86.61	92.46	88.69
Graduation Rate	93.50	93.71	93.58
Dropout Rate	6.89	4.13	5.88
Completion Rate	70.09	73.83	71.50
Transition Rate	67.42	452.84	95.83
Repetition Rate	2.19	1.20	1.83
Gross Teacher-Student Ratio	1:32	1:36	1:33

Source : DECS, Decs Statistical Bulletin 1989-1990, Metro Manila, 1990  
 DECS, Decs Statistical Bulletin 1990-1991, Metro Manila, 1991

**GROSS ENROLLMENT RATIO :**

the total enrollment in a given level of education as a percentage of the population which according to national regulations should be enrolled at this level. It is a measure of the "capacity" of a region's elementary or secondary schools.

**NET ENROLLMENT RATIO(or Participation Rate) :**

the ratio of the enrollment in the school-age age to the total population of that age range.

**COHORT SURVIVAL RATE(CSR or Cohort Retention Rate) :**

the proportion of enrollees at the beginning grade or year who reach the final grade or year at the end of the required number of years of study.

**RETENTION RATE :**

the proportion of the enrollment in any school year that continues to be in school the following year.

**GRADUATION RATE :**

the proportion of pupils/students who finished Grade VI/Fourth Year in the present year to the number of pupils/students who enrolled in Grade VI/Fourth Year in the present year.

**DROPOUT RATE :**

the proportion of pupils/students who leave school during the year.

**COMPLETION RATE (used interchangeably with survival rate and retention rate) :**

the percentage of first year entrants in a cycle of education surviving to the end of the cycle.

**TRANSITION RATE (from primary to intermediate; from intermediate to secondary):**

the percentage of pupils who graduate from one level of education and move on to the next higher level.

**REPETITION RATE :**

the proportion of pupils who enroll in the same grade/year more than once to the number of pupils/students enrolled in that grade/year during the previous year.

**GROSS TEACHER-PUPIL RATIO/GROSS TEACHER-STUDENT RATIO :**

the proportion of the enrollment at a certain level in a given year to the number of authorized positions for teachers at the same level in the same year.

## (2) Conditions and Issues Surrounding Secondary Education

National secondary education became free and secondary school enrollment has risen but the participation rate can still be raised. It would necessitate additional school buildings, facilities/equipment and instructional materials. Even at its SY 1989/1990, the national secondary sector already required 18,097 classrooms, 4,595 science laboratories, and 4,595 workshop rooms. 1/ With the nationalization of all public schools, the need for additional school facilities became even greater. The newly nationalized secondary schools, which include the 2,500 barangay schools, had a shortage of 6,291 classrooms, 4,073 science laboratories, and 3,695 workshop facilities. 2/

The increase in enrollment would likewise require additional instructional support. More teachers and instructional materials would be required to cater to the instructional needs of the rising enrollment. The textbook-student ratio of 1:7 would have to be improved to widen access to the growing wealth of knowledge. More teachers would have to be hired as the class size of 60 or 70 became too big for effective learning. 3/ The non-provision of additional teacher items for the last two school years swelled the size of classes to unmanageable. The shortage of secondary school teachers in 1991 amounted to 17,899 in the country. 4/

Compounding the problem is many non-specialists who are already in the service in each school and this made the lack of subject specialists serious in national secondary schools. The dissolution of this constraint is indispensable for the quality education pursued in SEDP. Non-specialists in the service would, therefore, need intensive training to improve their professional competence. The level of performance of the secondary school sector can be, it is expected, raised provided the teaching competencies are improved and the required instructional support are provided.

1/2/3/4/ : BSE, DECS, Serving the Needs of the Secondary Education Sector, Annual Report 1991, Metro Manila, 1991, P7-8.



## **2.3 Related Programs**

### **2.3.1 Secondary Education Program**

#### **(1) Bureau of Secondary Education**

The Bureau of Secondary Education (BSE) in charge of secondary education field has to perform a three-fold function:

1. Conduct studies and formulate, develop and evaluate programs and educational standards for secondary education;
2. Develop curricular designs, prepare instructional materials, and prepare and evaluate programs to upgrade the quality of the teaching and non-teaching staff at the secondary level; and
3. Formulate guidelines to improve the secondary school physical plants and equipment, and general management of these schools.

These functions were articulated in the work targets of the BSE for CY 1991. The targets were geared to the needs of the secondary school sector, viz., better performance and provision of adequate instructional support.

#### **(2) Secondary Education Development Program**

In order to raise the level of performance of the sector, the Secondary Education Development Program (SEDP) was planned and has been implemented for five years since 1988. The main components of SEDP are Curriculum Development, Development of Staff and Development of Facilities. The centerpiece of the program is called as the New Secondary Education Curriculum (NSEC), the implementation of which is being supported by a school building program, teacher training, instructional materials development, research and technical assistance. With the new program intervention, it is expected that the quality of secondary education and the internal efficiency of the system will improve, the access to secondary education will expand, and the allocation of resources especially at the local level will be made equitable - thus raising the performance of the secondary education sector to the following target level.

**Target Level of Performance  
of the Secondary Education Sector under the SEDP  
(Revised targets following the results of PRODED)**

Performance Indicator	Pre-SEDP	SEDP
Participation Rate	51.52%	60.00%
Dropout Rate	5.80%	3.00%
Achievement Level	43%	60%
Cohort Survival Rate	72%	82%
Textbook - Student Rate	1:7	1:1
Teacher - Student Ratio	1:53	1:50

Remarks : PRODED = Program for Decentralized Educational Development for the development program in primary education which have been implemented since 1982. The increase of enrollment rate of secondary school, it is expected, will be accelerated by PRODED implementation and SEDP targets also were revised.

Source : BSE, DECS, Meeting the Needs of the Sector, Annual Report 1991, Metro Manila, 1991, P3.

### 2.3.2 Progress of SEDP

The progress of SEDP as of December, 1991 are described as follows

#### (1) Curriculum Development

The following table shows the status of the printing and distribution of instructional materials as of December 20, 1991.

#### Status of the Printing and Distribution of instructional Materials

(Unit : Item)

Target					Status as of Dec., 20, 1991			
Curricular Year	Kind of Title				Total Titles	Developed Titles	Printed (%)	Distributed (%)
	TXs	TMs	SMs	MFs				
1st Year	9	9	2		20	20	100	97.9
2nd Year	8	8			16	16	16	70.0
3rd Year	7	7		1	15	10	66	55.3
4th Year	7	7		1	15	4	0	0.0
<b>Total</b>	<b>31</b>	<b>31</b>	<b>2</b>	<b>2</b>	<b>66</b>	<b>50</b>	<b>66.5</b>	<b>62.6</b>

TXs = Textbooks      TMs = Teacher's Manuals      SMs = Supplementary Materials  
MFs = Modular Forms

Source : PMU-EDPITAF, DECS, Twelfth Quarterly Progress Report ADB Loan 898-PHI(SF)  
SEDP, Metro Manila, Dec., 1991.

There are, besides above program funded by ADB, several development programs of instructional materials proceeded by BSE.

The self-instructional modules are developed as the supplementary instructional materials to meet the learning needs of potential school leavers. The modules for second year English and Social Studies were submitted for evaluation.

Especially designed for oversized classes, the Individualized Learning Programs(ILPs), which were developed in a UNESCO - funded workshop, were designed to ease out learning difficulties in Science, Technology (Industrial Arts), Mathematics, English, Filipino, Values Education, Social Studies, and Physical Education/Health/Music at the first year level.

Desired Learning Competencies (DLCs) in eight fields were finalized. There thousand five hundred (3,500) copies were printed and distributed to the field. In the absence of textbooks and teacher's manuals the DLCs can serve as useful guide to the teacher.

## (2) Development of Staff

### 1). In-service training

BSE, to ensure the effective implementation of the NSEC, has been conducting the in-service training for trainers and teachers in eight fields of English, Filipino, Mathematics, Science, Social Studies, Values Education, Physical Education/Health /Music and Technology/Home Management (Industrial Arts and Home Economics). The Centers of Excellence (CENTREX) were established in five existing tertiary institutions for the training institutions for trainers.

- College of Education of the University of the Philippines for the training of trainers.(In-service training for trainers in Social Studies, Physical Education, Health and Music)

- University of the Philippines - Institute of Science and Mathematics (In-service training for trainers in Science and Mathematics)

- Marikaina Institute of Science and Technology (In-service training for trainers in Technology and Home Management)

- Philippine Normal College (In-service training for trainers in English and Filipino)

- Maryknoll College (In-service training for trainers in Values Education)

The centers for the teacher training have been established in Regional Leader Schools (RLSs) for secondary education. Teacher's Camp in Baguio have been used for national level training.

The training programs implemented in 1991 are ; 20 day training program for 408 fourth year regional trainers in six fields of English, Filipino, Social Studies, Values Education, Physical Education/Health/Music and Technology/Home Management at each CENTREXs ; 117 trainers in Science and Mathematics at one of the CENTREXs, UP-ISMED.

To further hone the training skills of the trainers, a week-long follow-up workshop was conducted by the BSE for the 566 public and private secondary school trainers. The workshop provided the Regional Project Management Committees (RPMCs) and the Divisional Project Management Committees (DPMCs) the opportunity to cooperate together and exchange each other with the regional trainers and explore all avenues for the efficient implementation of the mass training program.

In April 1991, a total of 28,528 third year public school teachers underwent training in 64 RLSs in eight fields and the 11,998 private secondary school teachers were trained by FAPE. The following table is the number of trainers and teachers trained by a series of programs in SEDP.

#### Target and Results on In-service Training

(Unit : No. of people)

Year Level	Trainers		Classroom Teachers	
	National	Private	National	Private
1st Year	927	280	37,514	11,415
2nd Year	428	289	33,864	12,418
3rd Year	532	300	28,531	11,998
4th Year	533	266	*28,329	11,563
Total	2,420	1,135	128,242	49,294
SEDP Target	1,872	1,872	68,590	20,000

\* including teachers scheduled to train in Summer (April to May) in 1992

Source : PMU-EDPITAF, DECS, SEDP Annual Report for 1989, Metro Manila, Dec., 31, 1989.

PMU-EDPITAF, DECS., SEDP Cumulative Annual Report for 1990, Metro Manila, Dec., 31, 1990.

PMU-EDPITAF, DECS., Twelfth Quarterly Progress Report ADB Loan 898-PHI (SF) SEDP, Metro Manila, Dec., 1991.

ADB, Appraisal of the Secondary Education Development Sector Project in the Philippines, Metro Manila, July, 1988.

It could be inferred from the above data that the project has exceeded its target with respect to in-service training. Besides above, the in-service training for 3,361 administrators (5,000 administrators in revised SEDP target) in national and private secondary schools is implemented. SEDP and BSE are conducting several kinds of training programs

## 2) Assessment of Trainers Training 5/

Section 4 of DECS Memo No. 187, s. 1991 states that only those trainers who will meet the performance standards set for the training assessment shall be issued certificate of proficiency as regional trainers for the mass training. In this connection, the BSE developed two instruments for this purpose. The Training Skills Rating Scale is used to rate the trainer's performance during the training sessions while the Behavior and Attitude Rating Scale is used to rate the trainer's behavior and attitude during the workshop.

At the Follow-up Workshop for year IV trainers held in Baguio City, the instruments were validated. The rating forms were prepared by the BSE staff and facilitators and monitors were requested to rate the trainers.

The final rating of a trainer was computed as follows:

Content (test given during workshop)	35%
Training Skills	35%
Behavior and Attitude	30%

The corresponding descriptive ratings are

95 - 100	Outstanding
85 - 94	Very Satisfactory
65 - 84	Satisfactory

The instruments were used for effective in-service and therefore the results was not considered part of the trainer's final rating. The results of the trainer assessment in the mass training may be much helpful for rating performance of trainers by each subject and each region. The results are shown in Appendix 1.9.

5/ BSE, DECS, Appendix B TRAINER ASSESSMENT, Annual Report 1991, Metro Manila, 1991, P55-61.

## 3). Linkage and network

A total of 199 slots for local fellowship of 3 months, and a total of 83 slots for short term (3 M/M each) and 6 slots for long term foreign fellowship are projected in SEDP. There may be some conversion of the foreign fellowship areas into local fellowship. The following table is the breakdown of projection and results as of December 1991.

**Status of Fellowships Availment**

(Unit : M/M)

Category	Projection	Availed		Total
		As of Dec. 1990	In 1991	
Local (Short-term)	597	490	88.33	578.33
Foreign (Short)	249	50	21	71.00
Foreign (Long)	192	0	0	0

Source : PMU-EDPITAF, DECS., SEDP Cumulative Annual Report for 1990, Metro Manila, Dec., 31, 1990.

PMU-EDPITAF, DECS., Twelfth Quarterly Progress Report ADB Loan 898-PHI(SF) SEDP, Metro Manila, Dec., 1991.

ADB, Appraisal of the Secondary Education Development Sector Project in the Philippines, Metro Manila, July, 1988.

The following is the breakdown of results in subject areas.

**Area of Study, Slot and M/M under Local and Foreign Fellowships**

Local Fellowships			Foreign Fellowships		
Area	No. of Fellows	M/M	Area	No. of Fellows	M/M
Science	20	60	Educational		
Math.	23	69	Dev., & Mgt.	2	4
English	22	66	Educational		
Filipino	26	78	Planning & Adm.	2	4
THM	32	64	Theory and Practice		
Values Ed.	24	72	of Value Educ.	7	21
PEHM	27	81	Distance Teaching		
Social Studies	25	75	and CAI	14	42
Computer Ed.	21	13.33			
<b>Total</b>	<b>220</b>	<b>578.33</b>	<b>Total</b>	<b>25</b>	<b>71</b>

Source : PMU-EDPITAF, DECS., Twelfth Quarterly Progress Report ADB Loan 898-PHI(SF) SEDP, Metro Manila, Dec., 1991.

Besides above linkage and network funded by ADB, there are overseas fellowships through foreign countries and international institutions which can be divided into training of staff of secondary schools and of management staff.

The general programs of fellowships are as follows /6

- i. DECS integrated Scholarship  
Short-term DECS integrated Scholarship program for 104 subject area teachers of Filipino, English, Values Education, Social Studies.

- ii. Singapore (Southeast Asian Ministers of Education Organization - Regional Language Educational Learning Center : SEAMEO-RELC)  
Fellowship to RELC, Singapore for 15 language teachers, department heads and supervisors in the courses of applied linguistics, developing listening comprehension skills, and organization, administration and supervision of language programs
- iii. United States (United States Information System : UNSIS)  
Inviting textbook writers and curriculum developers for short-term fellowships in the English language and the social science.
- iv. Malaysia (Regional Center for Education in Science and Mathematics : RECSAM)  
32 secondary teachers in science and math
- v. Japan (Japan Foundation)  
Study tour of 17 chiefs of secondary education divisions, outstanding principals and classroom teachers
- vi. Australia(PASMEP)  
A series of training on curriculum, materials development and equipment utilization for regional trainers in science and mathematics III and administrators of selected RLSs.
- vii. German(GTZ)  
Trainers' training for science and technology III.
- viii. Others.

6/ BSE, DECS, Meeting the Needs of the Sector, Annual Report 1991, Metro Manila, 1991, P32-34.

### (3) Development of Facilities

#### 1) Construction of school building

The school building projects supervised by DECS are: school building program funded by ADB, School Building Construction Project by Japan's grant aid and general program implemented by DECS. And there is another program for school buildings by United States Agency for International Development, Economic Support Fund (USAID-ESF) controlled by Office of the President.

#### School Building Program funded by ADB

The report of the Secondary Education Development Sector Project (SEDSP) by ADB addressed 673 school buildings construction during five years including providing furniture, instructional equipment and office equipment. SEDSP, on the scale of budget and number of schools projected, is biggest among all projects and the main program in SEDP.

The constructions of 388 secondary school buildings are ongoing from 1988 and scheduled to be completed by end of December 1991, dividing into 5 batches. The progress as of December 1991 is shown in the following table.

**Secondary School in Each Region Projected for Construction**

(Unit: Number of school)

Region	BATCH NUMBER					Total
	1st	2nd	3rd	4th	5th	
NCR	4	3	6	5	5	23
CAR	4	-	2	2	3	10
I	10	2	4	4	4	24
II	8	2	3	2	2	17
III	5	12	8	8	6	39
IV	12	7	9	11	8	47
V	3	6	9	8	6	32
VI	6	6	7	8	6	33
VII	5	7	8	8	6	34
VIII	6	7	7	6	4	30
IX	8	4	5	4	4	25
X	4	6	5	7	4	26
XI	6	6	7	6	5	30
XII	4	3	4	4	3	18
<b>Total</b>	<b>85</b>	<b>71</b>	<b>84</b>	<b>83</b>	<b>65</b>	<b>388</b>

Source : EDPITAF, DECS, Twelfth Quarterly Progress Report ADB Loan 898-PHI (SF) SEDP, Metro Manila, Dec., 1991.

**Progress of Construction under SEDSP (as of Dec., 1991)**

(Unit : Number of school)

Batch No.	No. of Sites	Contracted Sites	Accomplishment		Implementation	
			Completed	On-going	Target Year	Actual Year
1st	85	85	82	3	1989	1989-present
2nd	71	71	68	3	1989	1990-present
3rd	84	83	45	38	1990	1991-present
4th	83	72	-	72	1990	1991-present
5th	65	58	-	58	1991	1991-present
<b>Total</b>	<b>388</b>	<b>369</b>	<b>195</b>	<b>174</b>		

Source : EDPITAF, DECS, Twelfth Quarterly Progress Report ADB Loan 898-PHI (SF) SEDP, Metro Manila, Dec., 1991.

It could be inferred from the above tables that only 195 schools, 28.97% of the program target, has been completed, while 25.86% is still on-going and the remaining 304 schools, 45.18% of target, is yet to be identified and appraised.

The furniture are also being provided for these 388 schools. As of December 1991, the packages for 86 schools are delivered, the equipment for 86 schools are under procurement and the remaining 216 schools are on procedure stage for procurement and delivery.

**School Building Construction Project by Japan's grant aid**

This is the project to construct building with typhoon-proof structure in a prefabricated method for the public primary and secondary schools collapsed or semi-collapsed by the typhoon hit the Philippines in 1987. As to the secondary school, from phase I to phase III of this project, the construction of 147 school building was projected and 97 school buildings were completed by today.