

Status of School Building Construction Project

	Region	No. of Schools	Implementation
Phase I	V	50	1989-1990
Phase II	VIII	47	1990-1991
Phase III	II & IV	50	1991-1992
Total		147	

USAID-ESF

This is a program for secondary school buildings including furniture and instructional equipment under control of Office of the President. The coordination with Office of the President was done by Office of the Planning Services in DECS to avoid the duplication with DECS projects. It is set up as one program within SEDP and is rather reflecting the intention of DECS on selection of schools.

The results and focus are shown below.

Status of USAID-ESF

(Unit : Number of school)

Region	Year of Start						Total	On-going	Projection	Total
	1986	1987	1988	1989	1990	1991				
NCR						6	6	1	2	9
CAR						8	8	13		21
I	4				7	11	22	40	6	68
II				1	1	27	29	65	3	97
III					1	2	3	27	15	45
IV					7	11	18	4	8	30
V					3	18	21	2	4	27
VI	1					17	18	10	4	32
VII					1	13	14	5	4	23
VIII	2	3			5	10	20	5	6	31
IX					6	11	17	2	5	24
X					3	10	13	4	3	20
XI					2	3	5	5	5	15
XII						8	8	8	6	22
TOTAL	7	3		1	36	155	202	191	71	464

Source : Office of the President, Economic Support Fund Secretariat, Master list of all recipient schools under ESF, Metro Manila, Dec., 27, 1991.

2) Provision of Instructional Equipment

The projects for provision of instructional equipment are ; SEDSP by ADB, Philippines-Australia Science and Mathematics Education Project (PASMEP) by AIDAB, and the Project for Assistance to Secondary Education Instructional Equipment Program by Japanese Government (JICA).

□ SEDSP by ADB

The equipment covering subject areas of general science, biology, mathematics, chemistry, physics, industrial arts and home economics for 673 secondary schools for which buildings are being constructed or scheduled, are provided as the progress is shown in the following table.

Status of Procurement of Instructional Equipment

(Unit : School)

Package	Procured		To be tendered in	Total
	1st Batch	2nd Batch	2nd Quarter 1992	
G.Science	156	296	221	673
Biology	*156	*296	221	673
Math I-IV	**156	**296	221	673
Chemistry		452	221	673
Physics		452	221	673
H.E.		***452	221	673
I.A.		452	221	673
Total	468	2,696	1,541	4,711

* Out of 16 items, 1 item is under evaluation for awarding.

** Out of 14 items, 1 item is under evaluation for awarding.

*** Out of 22 items, 16 items are under evaluation for awarding.

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

The 1st batch of general science, biology and mathematics I-IV is scheduled for delivery to recipient schools started December 1991 and is expected to be completed by first quarter of 1992. The second batch of 7 areas is currently being procured and scheduled for delivery to the recipient schools during the second quarter of 1992. From the above data it could be inferred that in terms of procurement of instructional equipment, 57.23% of the project's target has been procured and the remaining has yet to be procured.

The EDPITAF, in charge of this program, has been carrying out tender and procurement for each subject and also involved in the constraints of incomplete items with original specifications, defective items, shortage after delivery to warehouse, differences between samples and actually delivered items etc. Several suppliers and some item brands in serious case were transferred to the Suspended List in DECS. These caused re-tender, re-contract, replacement of defective items and therefore delayed delivery of equipment to recipient schools.

□ AIDAB

The 3rd year and 4th year science equipment were already distributed to 378 secondary schools in the country as one component in PASMEP 7/ PASMEP is consisted of A) Teacher In-Service Training, B) Curriculum and Management Support Services Development and C) Science Equipment which are being implemented with close relation to each other as shown below for attainment of the PASMEP objective; "to upgrade the quality and effectiveness of Science/Mathematics education at the secondary level".

A. Teacher In-Service Training	Australian Advisers	Advisory assistance for design, delivery and evaluation of teachers in-service training program in regions of 2, 7 & 10. Advisory assistance for design, operation and evaluation of in-Australia fellowships of trainers and educators.
	Trainers Training in Australia, 9 months	112 slots from 14 regions and 8 slots from UP-SMED/BSE
	Training in Australia 9 months	60 slots: 30 slots each for TTIs and RLSs
B. Curriculum and Management support Services Development	Financial assistance	Assistance to 3rd year and 4th year science and maths regional mass teachers training in regions of 2, 7 and 10
	Australian Advisers	Assistance to curriculum and management support services (several advisers for management support development, 2 advisers to coordinate study on DECS management systems, 2 for program identification workshop and 1 each for 6 workshops) Assistance to design/plan workshops, teach in the workshops with Philippines trainers, and evaluate utilization and effectiveness of workshops
	In Australia Training for Senior DECS Officials	5 slots for 1 month experiential program on management
C. Science Equipment	In-Country Workshops	Workshops for 390 participants to curriculum support services, 210 to management support services. (assistance covers participants' travel and per diem, trainers honoraria, operating costs and resource materials)
	Australian Advisers	1 long term (2 years) adviser and several short-term advisers for effective utilization of laboratory equipment supplied for year chemistry and physics
	Short-term Training in Australia Science Equipment	1 month training for 2 groups of 4 senior DECS staff Provision of laboratory equipment for Chemical and Physics in regions of 2, 7 and 10

Source : PASMEP/EDPITAF, Assistance Request Summary, Annual Report December 31, 1991 on PASMEP, Metro Manila, 1991.

Provision of instructional equipment by Japan's grant aid

In phase I, the instructional equipment of 2 fields covering 6 subjects area of science I-IV (general science, biology, chemistry and physics), and technology and home management (industrial arts and home economics) were provided for 210 schools in total ; 97 schools constructed by Japan's grant aid(50 schools in Region V and 47 schools in Region VIII) and 113 schools selected from Regions V and VIII. The equipment were already transported and distributed to each recipient school.

The 4 days in-service training for provided equipment was designed for 6 subjects teachers of each school at RLSs in Regions V, VIII. This training workshop expands the technical training done originally by the supplier and linked with EDPITAF. How to handle, assemble and maintain the equipment will be instructed by suppliers and the demonstration and practical experiment will be provided by CENTREX (Science by UP-ISMED and IA and HE by Markina Institute of Science and Technology).

The teachers trained in this workshop will amount to more than 1,000 and the provided equipment will be used for teaching in each school soon after the training. DECS highly appreciates it because of the contribution to the immediate effect in the service. The training workshop is scheduled to be held in July, 1992 after personnel changes in DECS.

As mentioned above, the assistance by the foreign countries and institutions to SEDP in the Philippines is provided under the coordination of DECS as one kind of multi assistance.

The number of secondary schools equipped with or projected to be provided by the SEDP related projects amounts to 1,261 and will reach to 1,500 including the requested number of secondary schools in the Project. It will account for 44.2% of all secondary schools as of SY1990-1991. The number of secondary schools implemented and planned by each region will be shown in the following table.

Region	ADB (planning)	AIDAB	JICA I	JICA II (request)	TOTAL	Number of Schools	Percentage in total
NCR	47	12			59	101	58.4
CAR	10	13			23	97	23.7
I	37	11			48	354	13.6
II	26	43		18	87	127	68.5
III	72	10			82	273	30.0
IV	81	10		107	198	473	41.9
V	59	11	105		175	313	55.9
VI	58	11		94	163	374	43.6
VII	63	91			154	205	75.1
VIII	51	12	105		156	284	54.9
IX	43	9			52	190	27.4
X	44	71		20	115	236	48.7
XI	53	63			116	195	59.4
XII	29	8			37	172	21.5
Others		3				3	
Total	673	378	210	239	1,500	3,394	44.2

Source : ADB, Appraisal of the Secondary Education Development Sector Project in the Philippines,

Metro Manila, July 1988.

PASMEP/EDPITAF, School List, Assistance Request Summary, Annual Report December 31, 1991 on PASMEP, Metro Manila, 1991.

JICA, Basic Design Report on the Project for Assistance to the Secondary Education Instructional Equipment Program, Tokyo, May 1990.

DECS, Profile of Proposed Recipient Schools, The Project for Assistance to the Secondary Education Instructional Equipment Program (Phase II), Metro Manila, Feb., 1992.

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

(4) Research and Study

The first four of the nine research topics endorsed by the SEDP Research Committee for implementation were undertaken in 1991.

- i. Roles of the BSE, OPS, Regional and Division Offices in the implementation of SEDP.
- ii. Government Subsidy to Private Education : A Review and Assessment.
- iii. Responsiveness of the BSEd Curriculum to the NSEC.
- iv. Secondary School Location Planning Study.

The next four research studies will be conducted in 1992

- i. Effective and Affordable Secondary Education.
- ii. Teacher Training Beyond SEDP.
- iii. An SEDP Oriented Guidance Program.
- iv. Tri-Dimensional Determinants of Managerial Effectiveness of Secondary School Principals.

(5) Others

Specialists like consultants are being hired in the areas of Research and Project Benefit Monitoring(PBM) and Evaluation, and Management Information System(MIS).

2.3.3 Outline of International Cooperation to SEDP

There are, besides aforementioned SEDP projects, Science Teaching Improvement Project by GTZ and grant aid of printing paper for textbooks by CIDA. The followings are the general guidance for the foreign assisted projects to SEDP.

Fund/Year	Components	Area	Details
ADB 1988/1994	Facilities	Nationwide	673 school buildings incl. lab. and furniture
	Equipment		Equipment of math I-VI, science and IA/HE for above 673 schools
	Curriculum and instructional materials		Development & printing of instructional materials
	Staff Development		In-service training: teachers & administrators training Fellowship: 199 local fellowship of 3 man months & 82 slots for short-term(3m/m) and 6 slots for long term fellowships
	Assistance to private secondary education Sector management, evaluation & research		private school teachers & administrators training Implementation of research topics
AIDAB 1989/1992	Teacher in-service training	II VII X Nationwide	Australian advisers Trainers and TTIs/RLSs staff training in Australia
		II VII X National	Financial assistance Australian advisers. In Australia training for Senior DECS officials.
		Nationwide	Financial assistance to in-country workshop operation
	Curriculum & management support services	Nationwide	Financial assistance to in-country workshop operation
		National	Australian Advisers Short-term training in Australia Provision of labo equipment for Chemical and Physics covering 118 schools
	Science Equipment	II VII X National	Provision of labo equipment for Chemical and Physics covering 247 schools
GTZ 1989/1992	Expert services Training Materials and equipment	National	Development of instructional equipment & expertise to develop science equipment
JICA 1989/199 1990/1991 1991/1992 1989/1991	Facilities	V	50 school buildings
		VIII	47 school buildings
		II & VI	50 school buildings
	Equipment	V & VIII	Science and IA/HE equipment for 210 schools
USAID-ESF 1986-	Facilities & Equipment	Nationwide	School building & equipment
CIDA 1991-	Printing papers for textbooks	Nationwide	1st year to 4th year

*Projects listed above are SEDP related only.

Source : ADB, Appraisal of the Secondary Education Development Sector Project in the Philippines, Metro Manila, July 1988.
PASMEP/EDPITAF, School List, Assistance Request Summary, Annual Report December 31, 1991 on PASMEP, Metro Manila, 1991.
JICA, Basic Design Report on the Project for Assistance to the Secondary Education Instructional Equipment Program, Tokyo, May 1990.
DECS, Profile of Proposed Recipient Schools, The Project for Assistance to the Secondary Education Instructional Equipment Program (Phase II), Metro Manila, Feb., 1992.
Office of the President, Economic Support Fund Secretariat, Master list of all recipient schools under ESF, Metro Manila, Dec., 27, 1991.
DECS, An Executive Brief on the Science Teaching Improvement Project, Metro Manila, 1990.

2.3.4 Budget for SEDP Projects

SEDP main components have been implemented under assistance of foreign countries and institutions. Therefore DECS have been appropriating the peso counterpart budget for each foreign assisted project, as shown below. The budget year in the Philippines from January to December is different from DECS school year in which is enrollment is from mid June up to end of March in the next year.

Peso Counterpart Budget for Foreign Assisted Projects

(Unit : 1,000 peso)

CY	Projects	Personal Services	MOOE	Capital Outlays	Total
1990					
	SEDSP (ADB)	12,117	435,539	660,793	1,108,449
	TRSBP I (JICA)	118	267	0	385
	PASMEP (AIDAB)	655	3,040	0	3,695
1991					
	SEDSP (ADB)	12,216	194,514	580,450	787,180
	PASMEP (AIDAB)	1,532	9,942	0	11,474
	STIP* (GTZ)	2,690	2,990	345	6,025
1992					
	SEDSP (ADB)	12,744	202,877	1,393,164	1,608,785
	TRSBP II (JICA)	221	0	0	221
	TRSBP III (JICA)	441	0	0	441
	PASMEP (AIDAB)	2,098	3,721	0	5,819
	STIP (GTZ)	2,557	4,082	5,500	12,139
	Equipment * (JICA)	476	376	852	

* Providing Educational Equipment Project

** The Project for Assistance to Secondary Education Instructional Equipment Program

Source : DBM; DECS, DECS Annual Budget 1990,1991,1992, Metro Manila, 1990,1991,1992

2.4 Current Status of Requested Regions

2.4.1 Socio-economic Conditions in the Requested Regions

(1) Region II

Cagayan Valley region, consisted of 5 provinces of Batanes, Cagayan, Isabela, Nueva Vizcaya and Quirino, is considered one of the depressed areas in the country. It accounted for the lowest GRDP in 1989, representing 2.3% in all of 5 provinces. This causes limited job opportunities and the lowest population level.

In the area of education, the region enjoys a high participation rate among the 7-12 years old and greater access of elementary graduates to secondary schooling owing to the increase in the number of secondary schools in barangay area. However it faces several problems; a) low achievement level in primary schools with the region ranking third lowest; b) limited special education services with gifted and handicapped children; and limited outreach of non-formal education causing literacy level which is below the national mean.

(2) Region IV

The Southern Tagalog region covering 11 provinces of Aurora, Rizal, Cavite, Quezon, Batangas, Laguna, Oriental Mindoro, Occidental Mindoro, Marinduque, Romblon and Palawan, is the largest and most geographically widespread region. In 1990, it posted the highest growth rate and population level. More than two-thirds of the population are inhabited in mainland provinces and the rest in the island provinces. Region IV ranked second in terms of GRDP, and accounted for 13.4% of GDP.

However there are glaring disparities in level of development and resources between the mainland Luzon provinces and the island provinces. In spite of the region's economic growth, about 65% of children live in rural areas and 35% in urban and economic growth centers face various forms of deprivation and are exposed to the social ills associated with urban life. These include sexual abuse and exploitation, drug problems, forced child labor, the phenomenon of street children, displacement and other difficult situations faced by children.

Region IV has a relatively better educational performance compared to other regions. It posted the highest achievement level in primary school in 1989 and every performance indicator in educational field is highly standing among the regions. However it will address the problem of access of special groups particularly those coming from the urban slums, rural poor, and cultural communities as well as the disabled, and other educationally disadvantaged groups.

(3) Region VI

The Western Visayas region of Aklan, Capiz, Iloilo, Antique and Negros Occidental is a major source of sugar and is richly endowed with metallic resources and fishing grounds. In 1989, its GRDP represented about 6.7% of the GDP, putting it in the median level vis-a vis the other regions. It is the fourth highest in population level. 40% of population is predominantly rural. In spite of these resources, the region is the second highest in terms of poverty incidence. Distribution of income is markedly inequitable, aggravating malnutrition especially among preschoolers.

The region did not well rate in any of the education indicators, registering levels of performance below the national mean. It is the second lowest, next only to ARMM, in achievement rate in primary schools

(4) Region X

Northern Mindanao, 6 provinces of Misamis Occidental, Misamis Oriental, Bukidnon, Agusan Del Sur, Agusan Del Norte and Surigao Del Norte, boasts of rich natural resources, including fertile agricultural lands, positive range, mineral and timber reserves and a long stretch of coastal areas. The region registered the seventh highest GRDP in 1989. Its population level ranked sixth lowest in the country.

The region is envisioned to become an agro-industrial center of the south, achieving and sustaining a high level of balanced economic growth and attaining a decent level of quality of life. This requires rational management and use of resources and, in particular, the development of its human resources.

In education, there is a growing demand for education services to pre-school children, but the government faces budget constraints. Nonetheless, some school divisions have organized classes in addition to those conducted in privately-owned schools and day care centers of DSWD. Meanwhile, the performance of the primary school system is mixed. The region enjoys a high participation rate but falls short of the national mean when it comes to cohort survival and achievement rates in primary level, ranking sixth lowest and fifth lowest among the 15 regions, respectively. In terms of literacy level, the region ranks better, with literacy rate rising above the national mean.

The following table is the comparative socio-economic indicators by each region (1989-1990).

Region	GRDP (million Peso)	Pop'n (1,000)	Pop'n Density per sq.km	Poverty Incidence	0-6 age Pop'n (1,000)	Literacy Rate	Achieve- ment Rate
NCR	33,526	7,832	12,466	32	1,343	98.10	60.61
CAR		1,150	609	45	218	86.40	55.76
I	*4,702	3,548	276	49	642	90.60	56.19
II	*2,455	2,341	90	48	480	88.40	50.29
III	8,792	6,191	34	38	1,107	93.70	60.00
IV	14,384	8,263	176	50	1,499	93.20	66.58
V	3,437	3,911	222	66	894	87.30	58.00
VI	7,154	5,379	267	62	1,125	87.70	46.83
VII	8,086	4,593	307	55	841	88.00	61.00
VIII	3,121	3,408	143	61	656	81.70	51.39
IX	+3,977	2,449	+164	56	495	80.40	54.08
X	5,937	3,503	124	51	694	90.50	52.08
XI	7,655	4,454	141	51	832	90.50	54.85
XII	+4,190	1,809	+117	54	374	78.30	59.00
ARMM		2,008		34	346	57.20	41.07
NATL	21,908	60,477	202	49	11,546	89.80	55.18

* includes CAR province

+ includes ARMM(Autonomous Region in Muslim Mindanao)

Source : National Committee on Education for All, NEDA, EDUCATION FOR ALL: Philippine Plan of Action 1991-2000, Volume one : Plan Document, Metro Manila, June 1991, P7.

2.4.2 Secondary Education in the Regions

The followings are current status of secondary school sector in each region requested and the performance indicators in Philippines secondary school sector in the Philippines are shown in the attached Appendix 1.10.

(1) Region II

Cagayan Valley Region ranks second lowest in the number of children of the 13-16 years, and also second lowest in the number of students and schools. Participation rate in national secondary schools in the third lowest, but sixth lowest when private schools are included, which shows private schools play an important role. However, the fact the dropout rate is third lowest in both national and private schools shows a high degree of motivation. Cohort survival rate and NCEE examinees' mean performance are slightly below the national mean.

(2) Region IV

Southern Tagalog Region covering largest area and biggest number of schools and children of 13-16 years ranks fourth highest in participation rate and the first in the number of students. Dropout rate, cohort survival rate and NCEE examinees' mean performance are all higher than national mean. It is expected that local interest in education had been greater before the nationalization of public secondary schools.

(3) Region VI

Western Visayas Region ranks highest in the participation rate of national schools, but ranks fifth when private schools are included, which shows the significance of national secondary schools is highly appreciated. The dropout rate ranks fourth lowest, and the cohort survival rate ranks first, but NCEE examinees' mean performance is second lowest, which shows the need for improving quality of education. The number of students per school including private schools is second highest in average next to NCR, which shows the shortage of number of schools.

(4) Region X

North Mindanao Region shows inferior education indicators in general in low participation rate, high dropout rate, low cohort survival rate, and low NCEE examinees' mean performance, all of which rank below national mean. It is urgently required to improve the quality of education, considering relatively small average number of students per school.

2.5 Background and Contents of the Request

2.5.1 Background of the Project

In 1987 Secondary Education Development Program (SEDP) was formulated in the Philippines to establish the secondary education system in accordance with the Constitution, aiming at improvement of the quality of secondary education and expansion of equal educational opportunities. However, each secondary school currently face a serious problem of shortage of basic instructional equipment, especially of science and technology & home management, hindering the growth of SEDP.

Under these circumstances, the Government of the Philippines requested in 1989 the Government of Japan to provide a grant aid for the provision for secondary education instructional equipment required for implementation of SEDP. In response to this request, Japanese International Cooperation Agency (JICA) conducted a basic design study in February 1990, and executed a grant aid for Region II and VIII as phase I. The Project is taken up as phase II for providing national secondary schools selected from Regions II, IV, VI, X with instructional equipment of science and technology & home management in response to meet the local needs for more equipment.

The Government of the Philippines formulated phase II after phase I of the Project for Assistance to Secondary Education Instructional Equipment Program to provide instructional equipment of these fields in secondary schools and enhance the quality of education, and then requested the Government of Japan for a grant aid.

2.5.2 Outline of the Request

(1) Objective Schools

Objective schools requested in the Project include 239 national secondary schools in Regions II, IV, VI, X. Regions II and IV are recipient areas for phase III of School Building Construction Project implemented by Japan's grant aid, and Regions VI, X are selected as high priority areas at local side (Regions VI, X are requested by Philippine side as objective areas of phase IV of School Building Construction Project). Situation in each region is different but they all face the problems of secondary education.

The number of schools requested in each region is as follows.

Region	Requested No. of School	No of School included in School Building Construction Project
II	18	18
IV	107	32
VI	94	-
X	20	-
Total	239	50

(2) Requested Fields

The instructional equipment in the following 6 subjects in 2 fields are requested.

Science

- A. General Science
- B. Biology
- C. Chemistry
- D. Physics
- G. Chemicals/Consumables

Technology & Home Management

- E. Industrial Arts
- F. Home Economics

(3) Requested Equipment

Requested equipment accord with the NSEC and follow standard equipment for secondary school. The content of equipment is almost the same as that of phase I selected based on the result of phase I. The equipment project by ADB was also designed by the same policy.

(4) Transportation of Equipment

It was requested that transportation of equipment should be undertaken by Japan side up to each objective school of final site.

3. CONTENTS OF THE PROJECT

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3.1 Objective of the Project

The Government of the Philippines have been trying to improve the quality of secondary education and expand the equal educational opportunities by implementing SEDP since 1988 by various assistance from foreign countries and international organizations due to it's financial constraint. Especially in former 2,500 barangay, municipal and provincial secondary schools which have been nationalized since 1988, the shortage or lack of basic instructional equipment is so serious that it is almost impossible for students to make an experiment or a workshop in the fields of science and technology & home management . Thus the government formulated the Project for Assistance to Secondary Education Instructional Equipment Program to dissolve the shortage or lack of instructional equipment, realize extensive use of equipment for laboratory and workshop in the fields of science and technology & home management in secondary education, increase access to quality education and encourage students to be more interested in natural science and technology. The purpose of the Project is to provide required instructional equipment as phase II following phase I implemented in 1991.

3.2 Study and Examination of the Request

3.2.1 Justification and Necessity of the Project

(1) Project Sites

Project sites are four regions of Regions II, IV, VI, X requested following two regions of Regions II, IV implemented in phase I. Regions II, IV are recipient sites for phase III of School Building Construction Project implemented by Japan's grant aid, and Regions VI, X are the sites requested as high priority areas at Philippine side (Regions VI, X are the objective areas requested in phase IV of School Building Construction Project).

Justification of Project Sites

As stated in 2.4 Current Status of Requested Regions, 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 Region II, IV have been already specified as objective areas of phase III of School Building Construction Project and it is expected that other objective regions also

will be the additional objective areas of this project in the future. It is appropriate to consider these regions facing secondary educational problems as objective areas in the Project .

(2) Objective Schools

The requested objective schools confirmed through the survey are following 239 schools selected from the national secondary schools in Regions II, IV, VI, X, based on selection criteria prepared by EDPITAF (See Appendix 1.12)

Region II	18 schools
Region IV	107 schools
Region VI	94 schools
<u>Region X</u>	<u>20 schools</u>
Total	239 schools

Selection Criteria

The selection criteria set up by EDPITAF is as follows:

- 1) Schools to which high priority is given due to recipient school of School Building Construction Project by Japan's grant aid.
- 2) Schools with facilities of laboratory for science and workshop for technology/home management or with classrooms for these lessons.
- 3) Schools which are not equipped by any local or foreign assistance.
- 4) Schools equipped, before provision of equipment, with utilities such as electricity and water supply required for experiment and workshop.
- 5) Schools with over 200 students.

In phase I implemented in 1991 equipment were provided for 210 schools in 2 regions but in the Project it is requested to provide for 239 schools in 4 regions. It is appropriate to cover a maximum number of requested schools selected by the same selection criteria used in phase I for enhancing effect of the Project. However there is a big difference in scale and facility condition among selected schools. Therefore, as a result of discussion with the Philippines side on the matter of distributing equipment with the same content to every school, it is considered to be appropriate to classify requested schools based on each facility condition, and design equipment packages in conformity with this classification. It is also appropriate to classify requested schools depending on whether each school has laboratory and/or workshop and consequently utilize each equipment effectively.

(3) Requested Fields

The fields requested in the Project are two fields of science and technology/home management which are the same ones as phase I. Same policy was taken to provide equipment in the high priority fields for the maximum number of requested schools.

The requested fields are considered to be highly appropriate as, instructional equipment in the fields are insufficient and indispensable most of all fields in secondary education.

(4) Requested Equipment

The content of requested equipment is much the same as the one implemented in phase I which is in conformity with the Standard Equipment for Secondary Schools based on the NSEC. The equipment projects of ADB, etc. are also based on this standard.

Equal priority is given to any equipment in the request from a standpoint that equipment should be distributed equally to any school. However, as there is a big difference among objective schools in scale and facility condition, it is appropriate to design the equipment package depending on each condition of schools, considering sufficient use and reliable maintenance of equipment.

(5) Equipment Scale

Quantity necessary for one class divided into four groups in laboratory or workshop is required in each item as done in phase I. The average number of students per one class in the majority of schools is estimated to be more than 60 in the Project, while the average number of students per one class about 40 in phase I. Therefore it was discussed that the number of group in a class should be more than four but it was considered that the size of laboratory or workshop and facility condition in a school were improper for over four groups in a class and the number of group in a class should be unchanged as requested.

It was also discussed that the quantity of equipment should be increased for a big scale school with a larger number of classes per grade. However, as the objective of the Project is to provide equipment for a maximum number of secondary schools, give an impact on the self-reliance efforts to achieve development of secondary education in the Philippines and promote this, it is considered that basically the number of equipment package provided for each school should be one.

(6) Transportation

The range of the grant aid in phase I was specified to cover transportation to key stations in each region. In the Project it was requested to include the transportation up to each school in the range of grant aid. Based on the experience in phase I and studying

most reliable and realistic method of transportation it was agreed that it would be efficient to transport equipment packed for each school directly to final destination without handling at intermediate key stations. Thus, it is pertinent that the transportation up to each school should be covered by the grant aid as requested.

3.2.2 Study of Implementation and Operation Plan

(1) Operation budget

As stated in 2.2.1 Current status of Education in the Philippines, recently proportion of DECS budget in the whole national budget is likely to increase. DECS budget is composed of the three fields; A: Functions covering budget for all except projects, B: Locally Funded Projects, budget for local projects, C: Foreign Assisted Projects, budget covering cost to be undertaken by the Government of the Philippines in internationally supported projects. Each field has expenditure items of Personal Services, Maintenance and Other Operating Expenses, and Capital Outlays.

DECS budget for 1990 to 92 is shown in the following table.

Breakdown of DECS budget for CY 1990, 1991 and 1992

CY(Jan to Dec)	(in thousand pesos)		
	1990	1991	1992
Personal Services	19,111,681	19,330,171	25,096,154
MOOE*	4,210,644	4,329,627	4,505,088
Capital Outlay	3,571,475	3,068,823	3,405,471
Total Budget	26,893,800	26,831,886	33,006,713

Source : DBM

* Maintenance and other operating expenses.

As stated in 2.3.4 SEDP Budget, the budget covering cost to be undertaken by the Philippine side in each internationally supported project is appropriated by DECS. In the Project, necessary budget is to be appropriated as in phase I. However, personal expenses, communication and transportation expenses for implementation of the Project will be covered by EDPITAF budget. The said budget generally covers transportation cost, in-service training expense and cost for preparation in schools before delivery of equipment. In phase I, it was allocated for transportation and wiring work for electricity supply.

(2) Budget for secondary education program

Functions budget in DECS is further allocated in 7 fields, and the budget for Regional Operations is the largest of all, occupying 72.5% of the whole budget in 1992. Budget for Regional Operations is allocated to each Region (See Appendix 1.6) including budget for secondary education program. This budget, composed of salaries for teachers of all national secondary schools and operation/maintenance cost, varies in each school depending on position title and number of teachers, and scale of school.

Budget for secondary education program in 1992 covering each region is shown in the following table.

**Budget for
Implementation of Programs for Secondary Education**
(Unit : Thousand peso)

Region	Total	Region	Total
NCR	892,428	VI	650,615
CAR	475,981	VII	314,341
I	153,471	VIII	214,344
II	253,471	IX	294,755
III	462,351	X	337,184
IV	591,118	XI	337,184
V	393,489	XII	209,082
		Total	5,431,975

* Italic Figure : Objective regions

* Excluding budget for newly nationalized schools of 124,056 thousand peso.

Source : DBM

(3) Operation and Maintenance Cost

1992 annual budget for secondary education program and annual average operation and maintenance budget per school in objective regions are shown in the following table.

(Unit : Thousand peso)

Region	Annual Budget	Number of School	Annual Average Budget/School	Annual Operation/Maintenance Cost /School
II	253,471	127	1,995.8	99.8
IV	591,118	473	1,249.7	62.5
VI	650,615	374	1,739.6	87.0
X	294,755	236	1,249.0	62.4
ALL	5,431,975	3,394	1,600.5	80.0

Source : DBM

The proportion of annual average operation/maintenance cost in budget of secondary education program is currently estimated to be around 5%, about 8,000 peso per school. This budget includes all the expenses for transportation, utilities, materials,

portion of teachers' training and other operational matters. This budget for operation and maintenance which was realized to be distributed to each school by the nationalization of public schools has high priority in DECS budgetary measures. It is appropriate and enough to cover the amount to be expected to increase on operation and maintenance after implementation of the Project.

3.2.3 Study of Duplication or Relations with other projects assisted by foreign countries and international organizations

The relations with other projects are described in details in Section 2.3 Outline of Related Projects. Implementation record of the related projects is summarized in the following table.

Assistance	Executing Agency	Year of Implementation	Projected Schools
Building	ADB	1988-94	673
	JICA	1989-92	147
	TOTAL		820
Equipment	ADB	1988-94	673
	AIDAB	1989-92	378
	JICA	1989-91	210
	TOTAL		1,261

Objective schools of the Project, selected by selection criteria stated in Section 3.2.1 Justification and Necessity of the Project, do not include recipient schools in other related projects. SEDP aims at development of 3,394 national secondary schools as of SY1990-1991 and international cooperation projects already filed 24.1% for school building construction and 33.2% for provision of instructional equipment of whole national secondary schools. The Project which has no duplication with other equipment projects is expected to bring a great benefit as a part of multi-aid to SEDP by foreign countries and international organizations.

3.2.4 Basic Policy in Implementation of Cooperation

It is considered to be appropriate that the Project should be implemented by the grant aid of the Government of Japan as the effect, reality and executing capacity and ability in Philippine side of the Project was confirmed based on above studies, and the effect of the Project complies with a grant aid system. Therefore the outline of the Project will be studied and the basic design will be conducted on the premises of Japan's grant aid.

3.3 Outline of the Project

3.3.1 Executing Agency and Operational Structure

(1) Executing Agency

The executing agency of the Project is Department of Education, Culture and Sports (DECS). It was confirmed through field survey that DECS was responsible for all the services relevant to the execution of the Project.

(2) Operational Structure

EDPITAF, subordinate organization of DECS, is responsible for actual execution of the Project.

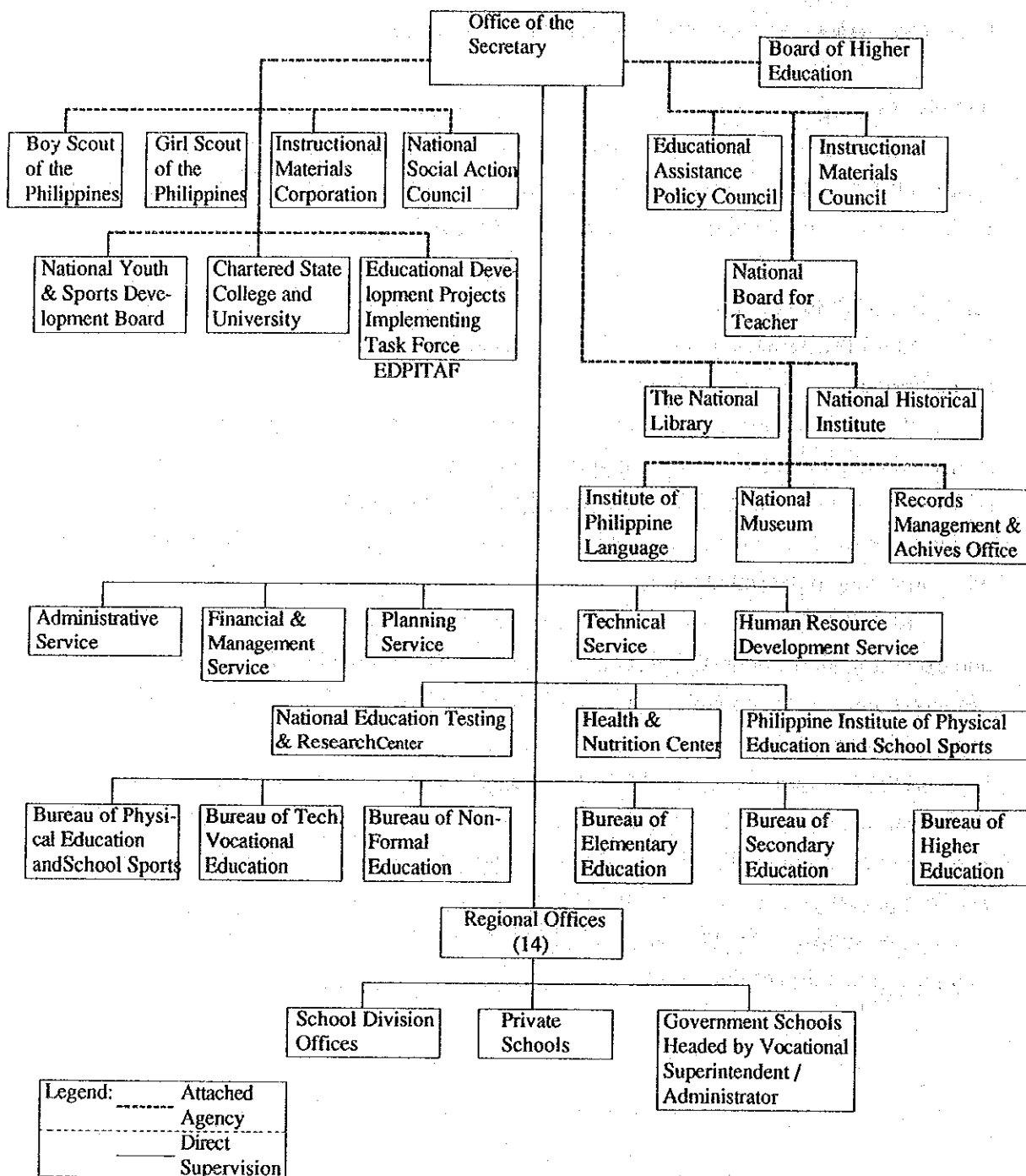
Research and Project Development Division is in charge of basic design study and Project Management Unit will set up a section for the Project in charge of all main tasks of foreign affairs and negotiation, budget request, formulation and execution of personnel projects, contract coordination, administrative operation. Technical Service Division also will participate in the actual service.

EDPITAF, responsible for providing technical advice in educational development and executing all the educational programs assisted by foreign countries and international organizations, has been involved in many projects. Currently the number of staff engaged is over 230.

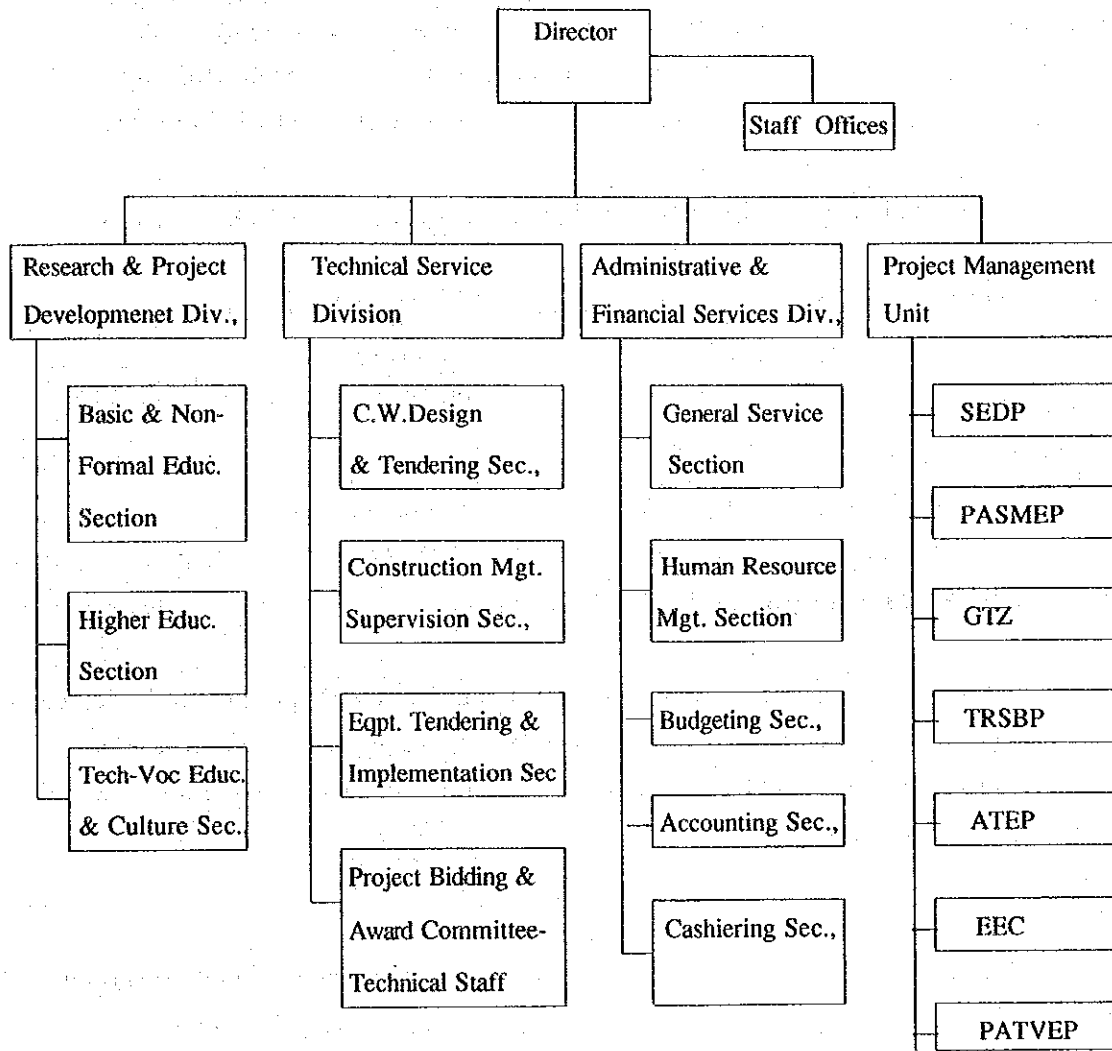
DECS possess a Regional Office in each of regions and administrate 126 school districts in the country which are further divided into 2,123 school zones. District office is set up in each school district, and Regional and District Offices performed acceptance services of equipment distributed in phase I.

The followings are the organization charts of DECS and EDPITAF which are in charge of execution of the Project.

ORGANIZATION CHART
DEPARTMENT OF EDUCATION, CULTURE AND SPORTS



**EDPITAF
ORGANIZATION CHART**



3.3.2 Fields in the Project

As a result of the Study and Examination of the Request stated in Section 3.2, objective fields in the Project shall be two fields covering six subjects; four subjects of general science, biology, chemistry, physics in science field and two subjects of industrial arts and home economics in technology & home management field. It is considered that chemicals & consumables are included in science field, but the basic concept is the same as the one in phase I.

Each subject is taught in each grade in accordance with the NSEC as follows.

Science :	First Grade	General Science
	Second Grade	Biology
	Third Grade	Chemistry
	Fourth Grade	Physics
Technology & Home Management :	First to Second Grade	Industrial Arts
	Third to Fourth Grade	Home Economics

3.3.3 Content of Equipment in the Project

Based on the result of the Study and Examination of the Request stated in Section 3.2, each package style in each field is designed based on classification criteria set up depending on facility condition of schools and the number of each equipment is adjusted in accordance with package style.

(1) Classification Criteria for Packaging

The equipment group designed for schools without laboratory and workshop is Package A and the group for schools with these facilities is Package B. The number of each equipment is also set up in each package. The following table show the package style in the fields.

Fields	Facility Condition	Package Style	
Science	Laboratory	Nil	As
	Laboratory	Exist	Bs
Technology/ Home Management	Workshop	Nil	At
	Workshop	Exist	Bt

(2) Classification Criteria for School

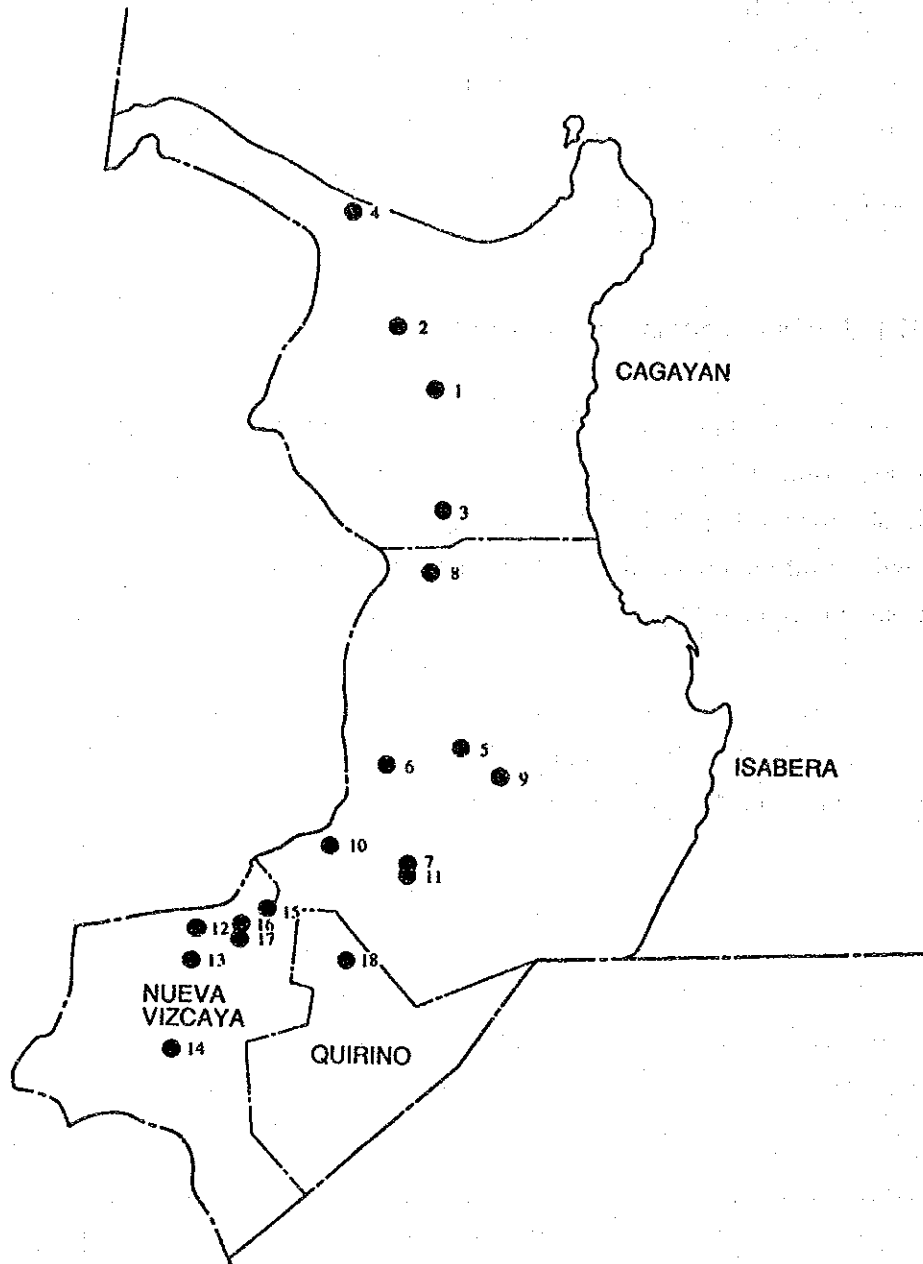
The requested schools are classified into following 4 groups depending on whether they have laboratory or workshop Equipment in accordance with combination of

each package style are provided for a school.

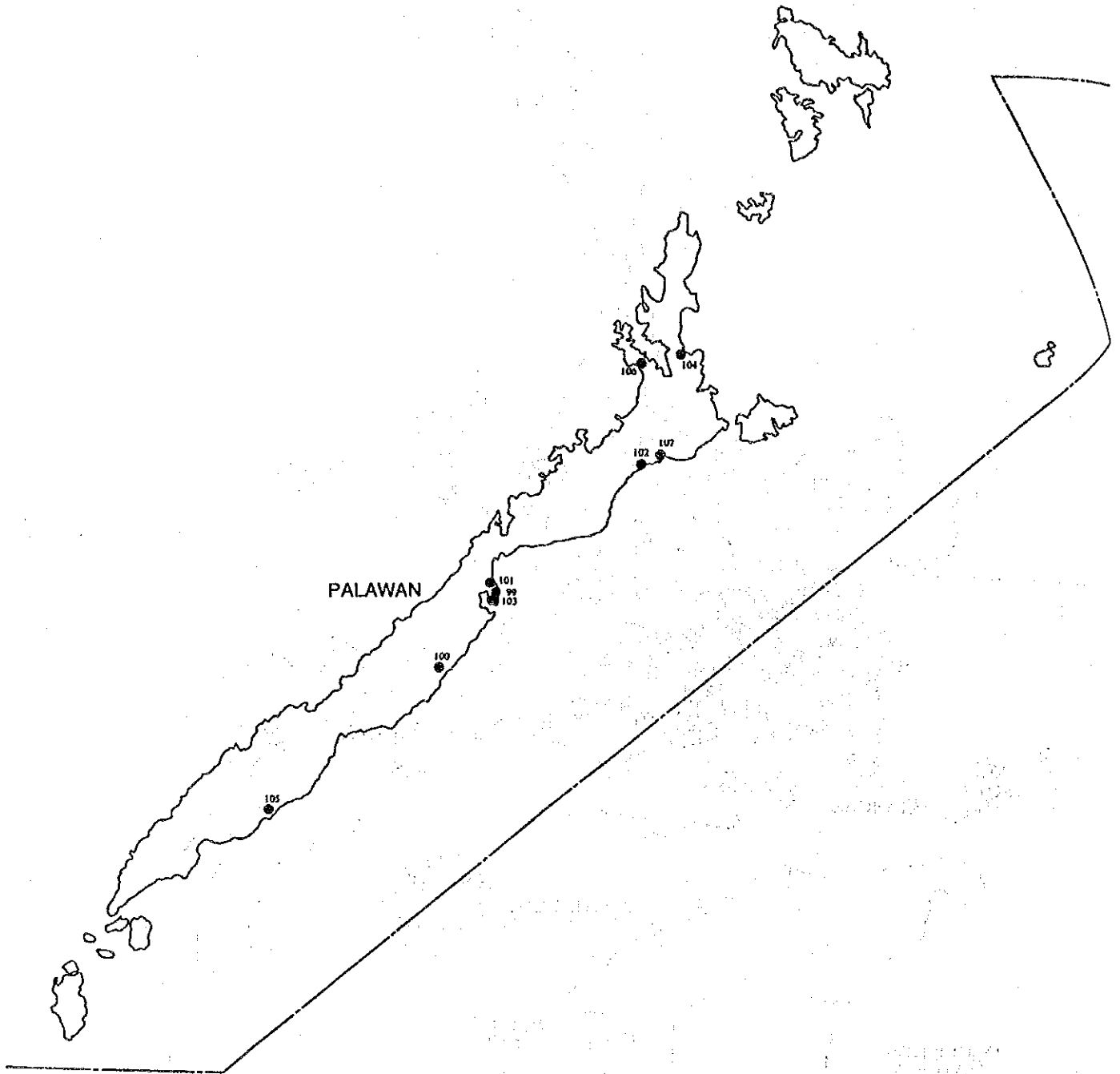
Facility Condition		Group of School
Laboratory	Workshop	
Exist	Exist	Bs/Bt
Exist	Nil	Bs/At
Nil	Exist	As/Bt
Nil	Nil	As/At

3.3.4 Distribution System of Equipment

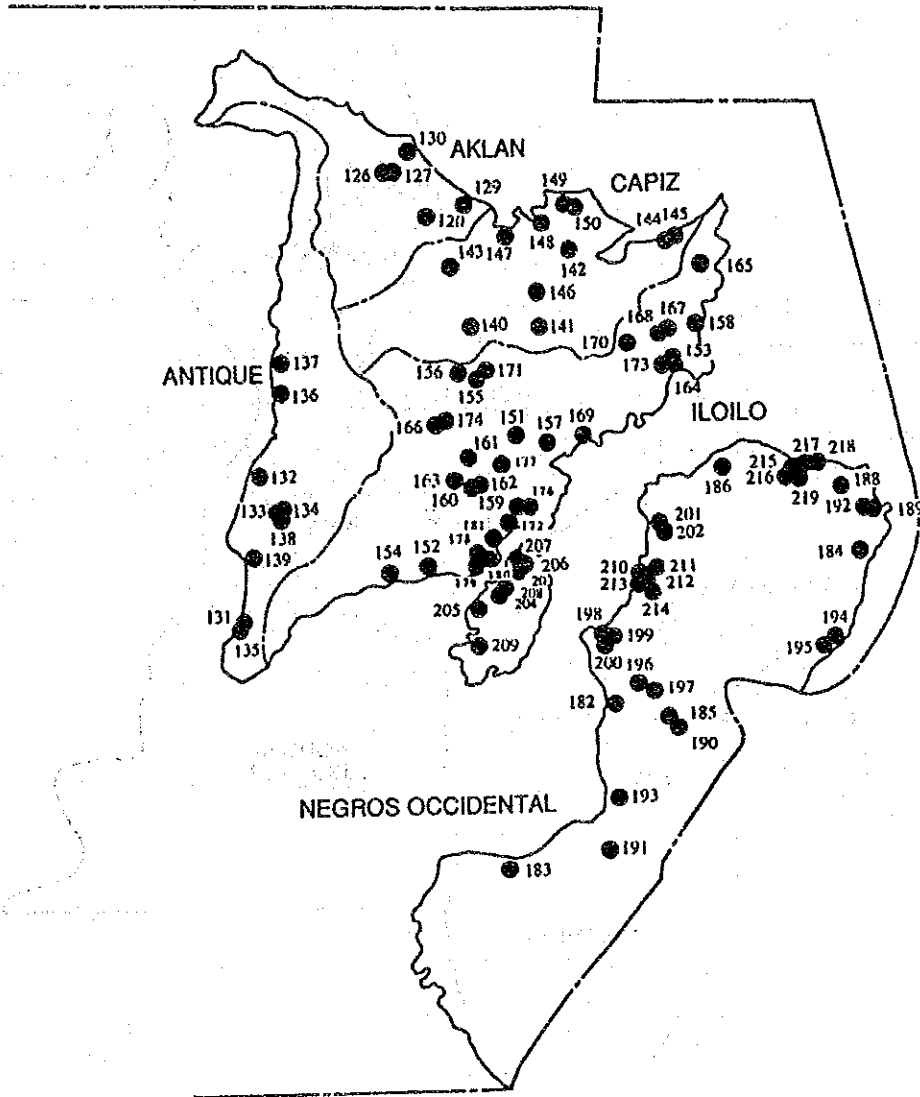
Every equipment is once delivered to Manila warehouse for packing in accordance with package combination for each school group after inspection and then distributed to each school. Several school districts covering neighboring schools are grouped into a transportation unit for smooth distribution. The location of requested schools in each region is shown in the next page.



REGION II

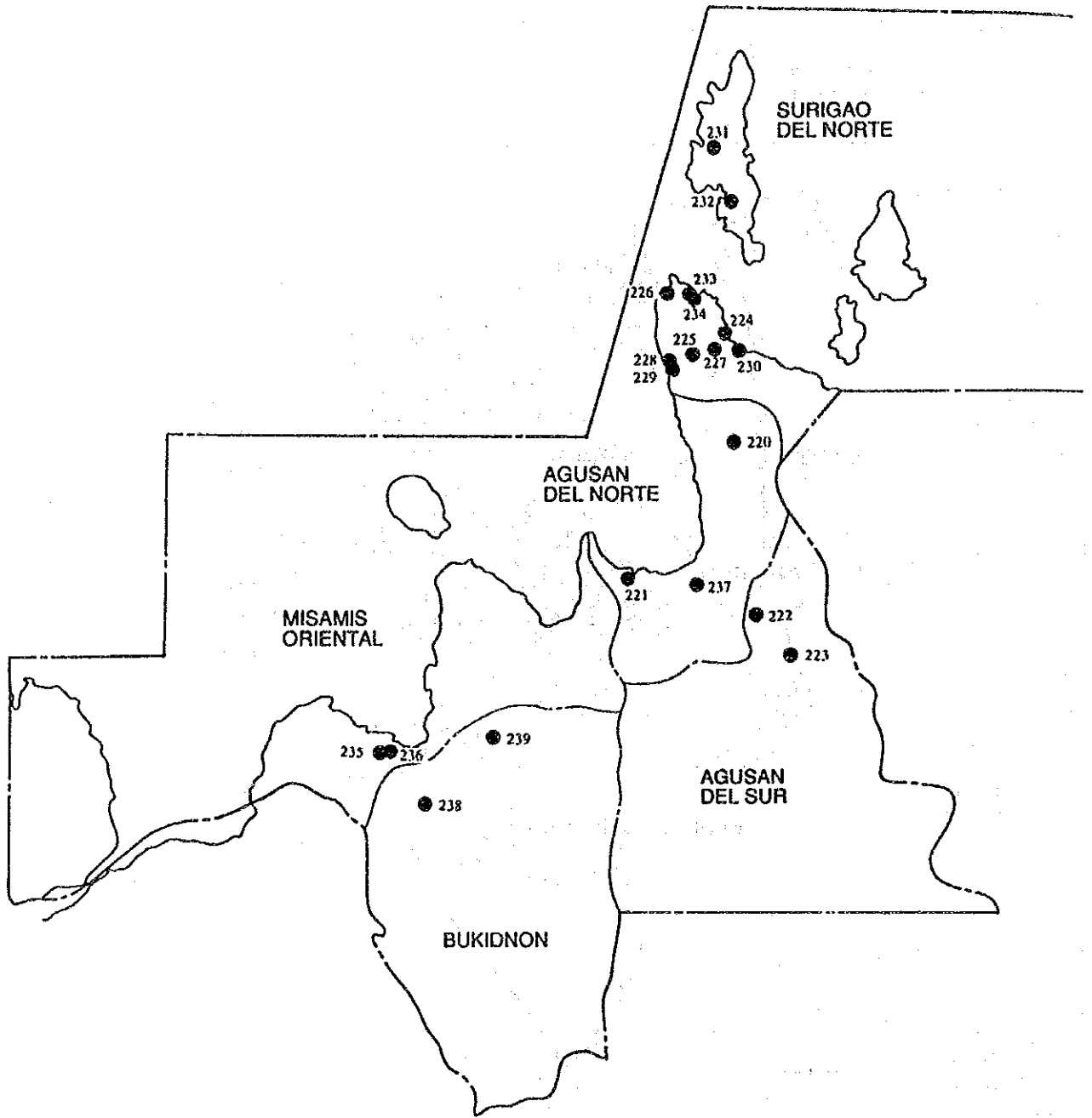


REGION IV (2)



X MOFAS

REGION VI



REGION X

3.3.5 Operation and Maintenance Plan

(1) Operation and Maintenance Plan

The equipment in the Project will be distributed through the executing agency, DECS to each national secondary school in Regions II, IV, VI, X.

Each school is responsible for operation and maintenance of these equipment. The annual budget of each school including operation and maintenance cost is appropriated by DECS as all the public schools were nationalized in June 1988. Salaries for teachers are directly paid by DECS and other budgets are through Regional, District and Zone Offices to each school.

(2) Operation and Maintenance Budget

It is estimated that the increased amount of operation and maintenance cost per national secondary school after the Project implementation is approximately 7,300 peso/year calculated as follows. This is equivalent to about 7.3% to 11.7% of annual operation and maintenance budget per school in each region, and 9.1% of national mean in 1992 as stated in Section 3.2.2. but the amount is not so large. It is considered that there is no problem in operation as DECS agreed to give priority to this operation and maintenance cost in budgetary measures.

Chemicals and Consumables	3,800 peso/year
Replacement and Parts	1,600 peso/year
Materials of IA & HE	1,200 peso/year
Increase of lighting and heating expense	700 peso/year
<hr/>	
Total	7,300 peso/year

4. BASIC DESIGN

4. BASIC DESIGN

4.1 Design Policy

The basic policy is to provide equipment packages designed on the facility conditions of objective schools to a maximum number of secondary schools based on the recognition that the Project is a part of SEDP aiming at improvement of 3,394 national secondary schools in the Philippines.

4.2 Study and Examination on Design Criteria

The criteria for selection of equipment of the Project is as follows.

- (1) Standard Equipment for Secondary Schools in compliance with the NSEC requested by the Philippines should be adopted based on the implementation results of phase I.
- (2) The content of the Project should facilitate the most efficient and maximum level of utilization of equipment, considering sufficiently the facility condition of objective schools.

4.3 Basic Plan

The Project scale is specified as follows.

4.3.1 Objective Schools

Objective schools are 239 schools in total of 18 schools in Region II, 107 schools in Region IV, 94 school in Region VI and 20 schools in Region X. They are classified into four groups depending on whether they have laboratory and/or workshop. (See Appendix 1.13)

50 recipient schools in phase III of School Building Construction Project in Regions II, IV are unconditionally regarded as schools with laboratory because it is constructed by Japanese grant aid.

The number of schools in each group per each region is as follows.

Region	Unit : No. of School				Total
	Group of School				
	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

Bs/Bt : School with laboratory and workshop

Bs/At : School with laboratory

As/Bt : School with workshop

As/At : School without laboratory and workshop

4.3.2 Equipment Package

One package is provided for each school regardless of the scale of objective schools. The combination of each package corresponds to the school group classified depending on the facility conditions of objective schools as stated in Section 3.3.3 Content of Equipment in the Project.

Namely, equipment package for each field is designed depending on whether there is a laboratory for science and/or workshop for technology and home management. The equipment for a school is a combination of each equipment package in each field.

Group of School	Combination of Package
Bs/Bt	Bs/Bt
Bs/At	Bs/At
As/Bt	As/Bt
As/At	As/At

4.3.3 Equipment Quantity

The equipment quantity required in a class divided into four groups of students for experiment and workshop is designed in accordance with the facility condition of each school and the necessity of equipment in the lesson.

(1) Science Equipment

A laboratory equipped with utilities such as water supply/drainage and electricity will be required for effective use of equipment. The number of each item is designed in

accordance with the necessity for experiment and the facility condition.

Schools with laboratory (Package Bs)

The number of each item basically should be four pieces per package from the principle that a class has four groups of students for experiment. The number of each item is set up as follows; one to two pieces for item used for the lesson and demonstration given by teacher himself or item which is less frequently used or relatively expensive, six to eight pieces for item made of breakable glass or item suitable for experiment in small group, and twelve to twenty - four pieces for test tubes frequently used for chemistry experiment.

The chemicals and consumables are to be provided with a minimum volume to be stored in each school in accordance with the NSEC.

Schools without laboratory(Package As)

The lesson and experiment can be performed only in a classroom for lecture. It is difficult to experiment in a class divided into four groups of students which can facilitate effective use of equipment. Thus the number of each item was basically set up to be 1/2 of Package Bs. However, the items used for lesson and demonstration given by teacher himself and glass items frequently used are unchanged in number and the item which cannot be used effectively is deleted. The chemicals and consumables are to be provided with a minimum volume, considering the difficulty of safety storage and use.

(2) Equipment of Industrial Arts and Home Economics

A workshop exclusively used for these subjects is generally required for effective use of the relative equipment. However, as most of the equipment in the Project is used for basic workshop practice, the number of each item is set up according to the facility condition of the schools as follows.

Schools with workshop (Package Bt)

The number of each item basically should be four pieces per package from the principle that a class has four groups of students for workshop. The number of each item is specified as follows; one to two pieces for items used for lesson and demonstration given by teacher himself or item which is less frequently used or relatively expensive.

Schools without workshop (Package At)

The workshop practice can be performed only in a classroom for lecture. It is difficult to practice in a class of four groups of students which can facilitate effective and safety use of equipment. Thus the number of each item was basically set up to be 1/2 of Package Bt. The items used for lesson and demonstration given by teacher himself or

items which can be used in a general classroom for lecture are unchanged in number, and the items which cannot expect safety practice and effective use are deleted. Instead of the important but deleted items, the fresh items with specification specified for use in a general classroom were added.

4.3.4 Equipment List Designed

(1) Selection of Equipment

Equipment in the Project was selected from the equipment list requested in two fields covering six subjects; four subjects (general science, biology, chemistry, physics) in science and two subjects (industrial arts, home economics) in technology/home management, including chemicals/consumables, considering Section 4.2 Justification and Necessity of the Project. Chemicals/Consumables are included in science equipment. As equipment necessary for each subject is selected per subject separately, the duplication of the same equipment item among subjects is acceptable.

(2) Quantity of Each Equipment Item

The number of each item in each package, after selection of equipment item in above (1), was set up based on the study of Section 4.3.3 Equipment Quantity. The number of school that corresponds to each package is shown in the following table.

Field	Package	Number of School
Science	As	54
	Bs	185
Technology and Home Management	At	90
	Bt	149

The equipment list of the Project is shown in the followings.

Items	Qty for one school in each package		Total Quantity in each package style		Total Quantity
	As	Bs	As×54	Bs×185	
A. General Science					
1 Platform Balance	1	2	54	370	424
2 Terrestrial Globe	1	1	54	185	239
3 Laboratory Apparatus Repair Kit	1	1	54	185	239
4 Water Analysis Outfit	0	1	0	185	185
5 Seismograph Model	1	1	54	185	239
6 Anemometer	1	1	54	185	239
7 Rain Gauge	1	1	54	185	239
8 Aneroid Barometer	1	1	54	185	239
9 Magnetizer	1	4	54	740	794
10 Hand Lens (Biconvex)	4	4	216	740	956
11 Pulley Set	2	4	108	740	848
12 Magnetic Compass	2	4	108	740	848
13 Stop Watch	2	4	108	740	848
14 Beaker (250ml)	3	6	162	1,110	1,272
15 Graduated Cylinder(50ml, plastic)	4	4	216	740	956
16 Graduated Cylinder(100ml, glass)	6	6	324	1,110	1,434
17 Tray, Wooden	4	4	216	740	956
18 Thermometer (-10°C to 100°C)	1	2	54	370	424
Sub-Total	36	51	1,944	9,435	11,379
B: Biology					
1 Mortar and Pestle	0	4	0	740	740
2 Pocket Magnifier	4	4	216	740	956
3 Petri Dish	6	6	324	1,110	1,434
4 Dissecting Set	2	4	108	740	848
5 Evaporating Dish	0	4	0	740	740
6 Erlenmeyer Flask 250ml	6	6	324	1,110	1,434
7 Test Tube 15mm	6	6	324	1,110	1,434
8 Test Tube 20mm	6	6	324	1,110	1,434
9 Glass Slide (box of 100)	2	4	108	740	848
10 Cover Glass (22mm x 30mm) box of 100	2	4	108	740	848
11 Triple Beam Balance	0	1	0	185	185
12 Compound Microscope w/t Lens Cleaning Set	2	4	108	740	848
13 Human Anatomy Chart with Overlays	1	1	54	185	239
14 Thermometer (-10°C to 100°C)	1	2	54	370	424
Sub Total	38	56	2,052	10,360	12,412
C. Chemical					
1 Triple Beam Balance	1	1	54	185	239
2 Beaker 250ml	6	6	324	1,110	1,434
3 Beaker 500ml	6	6	324	1,110	1,434
4 Iron Stand with base	2	4	108	740	848
5 Utility Clamp	2	4	108	740	848
6 Iron Ring	2	4	108	740	848
7 Electrolysis Apparatus	0	1	0	185	185

Items	Q'ty for one school in each package		Total Quantity in each package style		Total Quantity
	As	Bs	As × 54	Bs × 185	
8 PH Meter	0	1	0	185	185
9 Wire Gauge	2	4	108	740	848
10 Test Tube Holder	2	4	108	740	848
11 Test Tube Rack	2	4	108	740	848
12 Cork Borer/Stopper Set	1	1	54	185	239
13 Tripod	2	4	108	740	848
14 Test Tube Brush(Small)	2	4	108	740	848
15 Test Tube Brush(Large)	2	4	108	740	848
16 Spatula Set (small, medium, large)	3	6	162	1,110	1,272
17 Graduated Cylinder (Glass 100ml)	3	6	162	1,110	1,272
18 Reagent Bottle(250ml)	2	4	108	740	848
19 Reagent Bottle(500ml)	2	4	108	740	848
20 Reagent Bottle(1,000ml)	2	4	108	740	848
21 Funnel	3	6	162	1,110	1,272
22 Glass Rod (Stirring)	3	6	162	1,110	1,272
23 Medicine Dropper	3	6	162	1,110	1,272
24 Cabinet for Chemicals	1	1	54	185	239
25 Alcohol Burner	2	4	108	740	848
26 Pinch Cock	2	4	108	740	848
27 Mortar and Pestle	2	4	108	740	848
28 Evaporating Dish	3	6	162	1,110	1,272
29 Thermometer (-10°C to 100°C)	2	4	108	740	848
30 Thermometer (-10°C to 360°C)	1	2	54	370	424
31 Pipette (Plastic 1ml)	1	1	54	185	239
32 Pipette (Plastic 10ml)	1	1	54	185	239
33 Wash Bottle	4	4	216	740	956
34 Molecular Model Kit	1	1	54	185	239
35 Periodic Table, Wall Chart	1	1	54	185	239
36 Test Tube 15mm	12	24	648	4,440	5,088
37 Test Tube 20mm	6	12	324	2,220	2,544
38 Rubber/Glass Tubings	1	1	54	185	239
Sub Total	93	164	5,022	30,340	35,362
D. Physics					
1 Convex and Concave Mirrors	4	4	216	740	956
2 Demonstration Lens Set	1	1	54	185	239
3 Spring Balance, Newton	4	8	216	1,480	1,696
4 Spiral Springs Set	4	4	216	740	956
5 Meter Stick	4	4	216	740	956
6 Acceleration Recording Timer	1	4	54	740	794
7 Dynamic Carts	4	4	216	740	956
8 Electroscopes	1	1	54	185	239
9 Prism Set (Equilateral)	4	4	216	740	956
10 Magnet (U-Shape)	4	4	216	740	956
11 Magnet (Ring)	4	4	216	740	956

Items	Q'ty for one school in each package		Total Quantity in each package style		Total Quantity
	As	Bs	As × 54	Bs × 185	
12 Magnet (Alcomax)	4	4	216	740	956
13 Magnet (Bar)	4	4	216	740	956
14 Transistor Radio Demo Set	1	1	54	185	239
15 Multi Tester, Analog	1	4	54	740	794
16 Ripple Tank Apparatus	0	1	0	185	185
17 Logic Gates (Circuit Trainer)	1	2	54	370	424
18 Set of Tuning Forks	2	2	108	370	478
19 Resonance Apparatus	1	1	54	185	239
20 Electric Motor/Generator	2	4	108	740	848
21 Free Fall Apparatus	1	1	54	185	239
22 Photometer Set	1	1	54	185	239
23 Incandescent Optical Light Source for Optics Experiment	1	1	54	185	239
24 Scientific Calculator	4	8	216	1,480	1,696
25 Biconvex & Biconcave Lens Set	1	1	54	185	239
26 Pulley Set	2	4	108	740	848
27 Stop Watch	2	4	108	740	848
28 Magnetic Compass	2	4	108	740	848
29 Graduated Cylinder (plastic 100ml)	4	4	216	740	956
30 Graduated Cylinder (glass 10ml)	6	6	324	1,110	1,434
31 Beaker Set (250ml)	3	6	162	1,110	1,272
32 Beaker Set (500ml)	6	6	324	1,110	1,434
33 Thermometer (-10°C to 100°C)	1	2	54	370	424
34 Platform Balance with Set of Weights	1	2	54	370	424
Sub Total	86	115	4,644	21,275	25,919
As + Bs	253	386	13,662	71,410	85,072

Items	Q'ty for one school in each package		Total Quantity in each package style		Total Quantity
	At	Bt	At×90	Bt×149	
E. Home Economics					
1 Sewing Machines (Manual)	2	4	180	596	776
2 Pressure Cooker	1	2	90	298	388
3 Meat Grinder (Manual)	1	1	90	149	239
4 Electric/Gas Range (w/ Gas Cylinder)	0	1	0	149	149
5 Gas Stove	1	0	90	0	90
6 Blender	0	1	0	149	149
7 Mixer (Electric)	0	1	0	149	149
8 Hand Mixer	1	0	90	0	90
9 Casserole Set (with cover and 8 pieces)	1	1	90	149	239
10 Electric Iron	1	1	90	149	239
11 Set of Dinnerware	1	1	90	149	239
12 Set of Silverware	1	1	90	149	239
13 Glassware Set	1	1	90	149	239
14 Set of Frying Pan	1	1	90	149	239
15 Kitchen Knife Set	1	2	90	298	388
16 Cutting Devices	1	1	90	149	239
17 Mixing Bowl Set	1	1	90	149	239
18 Kettle	1	1	90	149	239
19 Bakeware Set	1	2	90	298	388
20 Set of Measuring Spoons	1	2	90	298	388
21 Set of Measuring Cups	1	2	90	298	388
Sub Total	19	27	1,710	4,023	5,733
F. Industrial Arts					
1 Stock and Die Set	2	4	180	596	776
2 Pipe Wrench Set	2	4	180	596	776
3 Pipe Vise	2	4	180	596	776
4 Hack Saw	2	4	180	596	776
5 Pliers, Diagonal Cutting	2	4	180	596	776
6 Screwdriver Set (Philips)	2	4	180	596	776
7 Utility Tester	1	4	90	596	686
8 Wire Stripper & Cutter	2	4	180	596	776
9 Hand Drill with bits	2	4	180	596	776
10 Metal Cutting Chisel	4	4	360	596	956
11 Hammer - Claw	2	4	180	596	776
12 Hammer - Ball Pein	2	4	180	596	776
13 Hammer - Cross Pein	2	4	180	596	776
14 Rule, Steel	4	4	360	596	956
15 Tape Rule (10', 33')	2	4	180	596	776
16 Tin Snip	2	4	180	596	776
17 Soldering Gun	1	4	90	596	686
18 Machinist Vise	1	4	90	596	686
19 Vise Grip Pliers	2	4	180	596	776
20 Bench Grinder	0	1	0	149	149
21 Hand Saw (Rip and Cross-cut)	4	4	360	596	956

Items	Q'ty for one school in each package		Total Quantity in each package style		Total Quantity
	At	Bt	At×90	Bt×149	
22 Hand Plane (Jack and Smooth)	4	4	360	596	956
23 Hand Brace	2	4	180	596	776
24 Zigzag Rule (Folding Rule)	4	4	360	596	956
25 Wood Chisel Set	4	4	360	596	956
26 Center Punch Set	2	4	180	596	776
27 C-Clamp	2	4	180	596	776
28 Bar Clamp	2	4	180	596	776
29 Carpenter's Square (Combination Type)	2	4	180	596	776
30 Try-Square	4	4	360	596	956
31 Electric Arc Welder	0	1	0	149	149
32 Marking Gauge	2	4	180	596	776
Sub Total	71	122	6,390	18,178	24,568
At + Bt	90	149	8,100	22,201	30,301

Items	Q'ty for one school in each package		Total Quantity in each package style		Total Quantity
	As	Bs	As×54	Bs×185	
G. Chemicals and Consumables					
1 Litmus Paper (Red, Blue)	1	1	54	185	239
2 Filter Paper (10 shts/pk)	1	1	54	185	239
3 Ph Paper	1	1	54	185	239
4 Zinc Plate	0	1	0	185	185
5 Copper Plate	0	1	0	185	185
6 Nichrome Wire	1	1	54	185	239
7 Copper Wire # 20	1	1	54	185	239
8 Lead Pellets 0.50kg	1	1	54	185	239
9 Sulfur Powder 0.25kg	1	1	54	185	239
10 Bromthymol Blue 0.5L	1	1	54	185	239
11 Ethyl Alcohol	1	1	54	185	239
12 Phenolphthalein 0.5L	1	1	54	185	239
13 Benedict Solution 0.5L	1	1	54	185	239
14 Copper Sulfate 0.5L	1	1	54	185	239
15 Carbon Tetrachloride 0.25kg	0	1	0	185	185
16 Nitric Acid 0.5L	1	1	54	185	239
17 Phenol 0.5kg	0	1	0	185	185
18 Iodine Solution (Crystal) 0.5L	1	1	54	185	239
19 Benzoic Acid 0.25kg	1	1	54	185	239
20 Naphthalene Balls 0.25kg	0	1	0	185	185
21 Iron Fillings 0.5kg	1	1	54	185	239
22 Sodium Hydroxide (Pellets) 0.5kg	1	1	54	185	239
23 Magnesium Ribbon 25g	1	1	54	185	239
24 Yeast 0.5kg	0	1	0	185	185
25 Calcium Oxide 0.5kg	1	1	54	185	239
26 Denatured Alcohol 0.5kg	1	1	54	185	239
27 Copper Dust 0.25kg	0	1	0	185	185
28 Calcium Carbide 0.25kg	1	1	54	185	239
29 Lead Nitrate (Crystal) 0.25kg	1	1	54	185	239
30 Potassium Iodide 0.25kg	1	1	54	185	239
31 Ferric Chloride 0.25kg	1	1	54	185	239
32 Potassium Ferricyanide 0.25kg	1	1	54	185	239
33 Potassium Chromate 0.25kg	1	1	54	185	239
34 Potassium Dichromate 0.25kg	1	1	54	185	239
35 Potassium Bromide 0.25kg	1	1	54	185	239
36 Boric Acid (Crystal) 0.25kg	1	1	54	185	239
37 Calcium Chloride 0.25kg	1	1	54	185	239
38 Ammonium Chloride 0.5kg	1	1	54	185	239
39 Zinc Nitrate 0.5kg	1	1	54	185	239
40 Sulfuric Acid 0.5L	1	1	54	185	239
41 Manganese Dioxide 0.25kg	1	1	54	185	239
42 Acetic Acid (Glacial) 0.5kg	1	1	54	185	239
43 Sodium Bicarbonate 0.25kg	0	1	0	185	185
44 Hydrogen Peroxide 0.25kg	0	1	0	185	185
45 Potassium Nitrate 0.25kg	1	1	54	185	239

Items	Q'ty for one school in each package		Total Quantity in each package style		Total Quantity
	As	Bs	As×54	Bs×185	
46 Potassium Chloride 0.25kg	1	1	54	185	239
47 Sodium Sulfate 0.25kg	1	1	54	185	239
48 Ammonium Solution 0.5L	1	1	54	185	239
49 Hydrochloric Acid 0.5L	1	1	54	185	239
50 Carmine Stain 25g	0	1	0	185	185
51 Xylene 0.5L	0	1	0	185	185
52 Methylene Blue 25g	0	1	0	185	185
53 Formaldehyde 0.5L	0	1	0	185	185
54 Calcium Nitrate 0.25kg	0	1	0	185	185
55 Magnesium Sulfate 0.25kg	0	1	0	185	185
56 Copper Sulfate (Crystal) 25g	0	1	0	185	185
57 Ammonium Hydroxide 0.5L	0	1	0	185	185
Sub Total	40	57	2,160	10,545	12,705

4.4 Implementation Plan

4.4.1 Implementation Policy

The executing agency of the Project is DECS and EDPITAF, a subordinate organization of DECS is responsible for actual implementation of the Project.

After the Exchange of Notes is concluded between the Governments of Japan and the Philippines, a contract of the implementation will be made with the Government of the Philippines by a Japanese consulting firm on the detailed designs and supervision, and by a Japanese trading firm on the supply of the equipment, respectively. The in-service workshop for technical training of teachers in the objective schools is held after distribution of equipment by technical experts from suppliers with linkage and cooperation with EDPITAF as well as CENTREX.

4.4.2 Undertaking of Both Governments

The Project is to provide the instructional equipment to the national secondary schools in Regions II, IV, VI, X as a part of assistance to secondary education instructional equipment program covering all over the Philippines. Undertaking of both governments for the Project is shown in the following table.

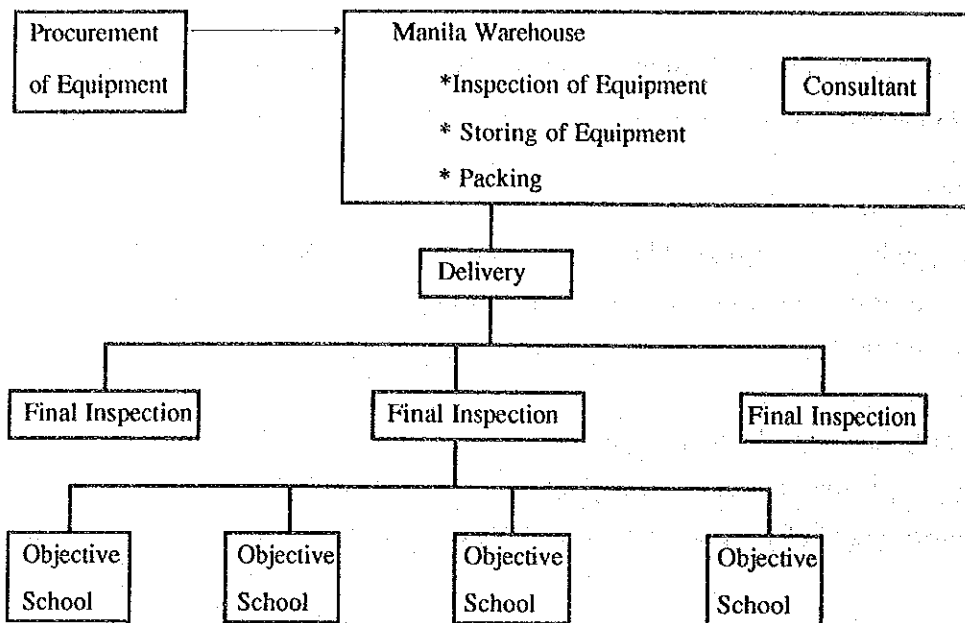
Items of Undertaking	Japan	Philippines
1. Equipment		
1) Procurement of equipment	○	
2) Inspection at Manila warehouse	○	
3) Operation training of equipment	○	
2. To secure storing space for equipment in each school		○
3. To provide utilities for schools		○
4. Transportation and custom clearance	○	
5. Procedure for tax exemption		○
6. Inland transportation	○	
7. To bear the commissions to Japanese foreign exchange bank for banking services for B/A (Banking Arrangement)		○
8. To accord convenient official services for Japanese nationals whose work may be required in connection with the Project at their entry into and departure from the Philippines and during their stay therein for the performance of their work		○
9. To maintain and use properly and effectively the equipment provided		○
10. To bear all expenses other than those to be borne by the grant aid		○
11. Procedures to get approvals necessary for the works, etc.,		○

4.4.3 Procurement Plan

Considering the Project is implemented by the grant aid provided by the Government of Japan, the following points should be noted in executing procurement and delivery.

- (1) Preparing specification which can secure a certain level of grade and quality as most of the equipment is for general use and the number of each item is large.
- (2) Sufficient consideration for transportation route, delivery schedule and combination of equipment package so that equipment can be distributed to each school of final destination without any trouble.
- (3) Preparation of distribution schedule to avoid confusion or error during transportation due to a difference in equipment package and a different combination of packages among schools and school groups.
- (4) Keeping a good relationship among three parties of the Government of the Philippines, Japanese consultant and Japanese trading firm through sufficient communication among them.
- (5) Utmost care to prevent any accident during delivery to warehouse, storage and transportation

The equipment in the Project do not include any one requiring large - scale installation works. After the equipment is procured, stored, inspected and packed for each school in Manila warehouse, the package of equipment is distributed to each school. The transportation will be arranged by Japanese trading firm. The packages are grouped into several adequate units in accordance with transportation route and transported to key schools set up for final inspection. After inspection, they are distributed to each school. The transportation flow chart is shown in the following table.



4.4.4 Supervisory Work

In supervisory work of procurement and distribution of equipment, a careful plan will be made before implementation based on sufficient discussion with the Philippine side. The following points should be noted in supervisory work.

- (1) The specification prepared by the vendor and sample of equipment if necessary will be studied carefully to confirm that there is no problem in implementation of the Project.
- (2) The procurement plan, delivery plan and work plan will be studied carefully to confirm appropriateness of the implementation program by vendor.
- (3) The details of the Project will be studied carefully for smooth transportation, delivery and handing over to each school. A field survey may be conducted if necessary to make sure of complete implementation.

4.4.5 Implementation Schedule

The implementation schedule is shown in the following table.

Implementation Schedule

	1	2	3	4	5	6	7	8	9	10	11	12
Detailed Design												
		(Field survey)										
			(Detailed design and preparation of tender documents)									
			(Approval of tender documents)							(Total 2.5 months)		

	1	2	3	4	5	6	7	8	9	10	11	12	
Procurement & Production													
		(Production, procurement and packing)											
								(Transportation)					
										(Total 8 months)			

4.4.6 Project Cost Undertaken by the Government of the Philippines

The project cost undertaken by the Government of the Philippines is estimated to be approximately P13.4 million.

5 PROJECT EVALUATION AND CONCLUSION

5. Project Evaluation and Conclusion

5.1 Project Evaluation and Conclusion

5.1.1 Effect of the Project

The secondary education in the Philippines has not produced sufficient educational effect due to insufficient instructional facilities and equipment, incomplete curriculum, etc., In consideration of such conditions, the Government of the Philippines formulated the SEDP aiming at improving the quality of secondary education and expanding the equal educational opportunities. According to the constitution mandated in 1987, 3,414 public secondary schools in the country have been gradually nationalized since June 1988 and also free secondary education became compulsory. The Project, following phase I implemented in 1991, is to provide national secondary schools in Regions II, IV, VI, X facing a problem of insufficient facilities and equipment with the standard equipment in the high priority fields of science and technology and home management..

It is expected that the Project will improve the quality of experiment and workshop training and raise the level of education.

The number of national secondary schools in the four objective Regions as of 1992 is 1,210 in total and the number of students is 877,426 in total. The number of objective schools of the Project is 239, which is 19.75%, and the number of students is 185,245, which is 21.11% of the whole. The details are shown as follows.

It is considered that the scale and effect of development in secondary education in objective Regions will be outstanding.

Region	Number of School			Number of Students		
	Total	the Project	Ratio	Total	the Project	Ratio
II	127	18	14.17%	93,148	10,592	11.37%
IV	437	107	22.62%	332,482	79,400	23.88%
VI	374	94	25.13%	322,603	84,774	26.28%
X	236	20	8.47%	139,193	10,479	7.50%
Total	1,210	239	19.75%	877,426	185,245	21.11%

5.1.2 Effect on Society of the Philippines

The Aquino government emerged in 1986 has been taking the policy to protect the economically weak with a main focus on "development of education and human resource". The development of secondary education through SEDP is one of the concrete policies as well as the center piece of them.

The Project will enable practical lessons using instructional equipment provided, and encourage students to get more interested in learning and more willing to continue learning under socially disadvantageous conditions. As a result, the level of education in objective regions will rise, and produce a number of human resource who acquire enough basic knowledge to receive higher level of education and meet the needs of employers.

5.2 Conclusion

SEDP aims at a comprehensive development of 3,394 national secondary schools in the country, and the Government of the Philippines has been seriously concerned in achieving the goal. The development of curriculum and school facilities are promoted by the assistance of ADB and foreign countries. In construction of school buildings, ADB loan project was implemented with target of 673 schools and School Building Construction Project phase III by Japan's grant aid is being implemented and will complete 147 schools. As a result 820 schools in total will be covered which is 24% of the whole national secondary schools.

In provision of equipment, ADB is providing equipment of science, mathematics and technology & home management with target of 673 schools and Australian aid already provided equipment of chemical, physics and mathematics for 378 schools in the country. The recipient national secondary schools of these assistance will be 1,500 school in total, reaching 44.2% of the whole schools.

It is expected that these assistance will be continued and make a tremendous contribution to the development of secondary education in the Philippines. The Project, as a significant part of SEDP, contributes to the program by providing instructional equipment.

It is extremely significant that the grant aid by the Government of Japan should be provided for the implementation of the Project.

5.3 Recommendation

It is recommended that the Government of the Philippines will undertake the following measures in order to proceed smoothly and effectively the execution of the Project as well as the operation and maintenance thereafter.

- (1) In distribution of equipment to each school, it is important that equipment should be inspected at key schools and handed over to each school smoothly as there are many school sites. Therefore, DECS/EDPITAF and each school should communicate to secure enough staff deployment and work space, and take necessary budgetary measures for service and work in accordance with delivery schedule without delay at each site.
- (2) Utilities indispensable for effective use of the equipment and facilities to store equipment in safety should be prepared.
- (3) Budgetary measures should be taken to cover maintenance cost for water supply, electricity, instructional materials and security which will increase by using the equipment provided in the Project.
- (4) In-service training should be held so that teachers can acquire sufficient understanding, knowledge and skills concerning how to use equipment in a lesson.

APPENDIX

1.1 Member of the Basic Design Study Team

Name	Speciality	Present Department
Koichi Miyoshi	Leader	Director, Second Basic Design Study Division, Grant Aid Survey Department, JICA
Soichi Takai	Instructional Equipment 1	System Science Consultants Inc.
Shunkichi Suzuki	Instructional Equipment 2	System Science Consultants Inc.
Kenzo Miyoshi	Cost Estimation	System Science Consultants Inc.

1.2 Study Team Survey Itinerary

Date	Itinerary	Description
1. Jan. 29 (Wed)	Tokyo - Manila	Meeting with JICA and Embassy of Japan
2. Jan. 30 (Thu)	Manila	Discussion with DECS
3. Jan. 31 (Fri)	Manila → Iloilo → Manila	Survey of secondary schools in Western Bisayas Region
4. Feb. 1 (Sat)	Manila	Discussion with DECS
5. Feb. 2 (Sun)	Manila	Team meeting and data analysis
6. Feb. 3 (Mon)	Manila → Cagayan de Oro → Manila	Survey of secondary schools in Northern Mindanao
7. Feb. 4 (Tue)	Manila	Discussion with DECS Visit of Regional Office of Southern Tagalog
8. Feb. 5 (Wed) (Arrival of Leader)	Manila Tokyo → Manila	A.M.: Discussion with DECS P.M.: Meeting with JICA and Embassy of Japan
9. Feb. 6 (Thu)	Manila	Discussion with DECS and Visit to NEDA
10. Feb. 7 (Fri)	Manila → Laguna → Capitez → Manila	Survey of secondary schools in Southern Tagalog
11. Feb. 8 (Sat)	Manila	Discussion with DECS Team meeting
12. Feb. 9 (Sun)	Manila	Data analysis
13. Feb. 10 (Mon)	Manila	Meeting on the draft Minutes of Discussion Reporting to JICA and Embassy of Japan
14. Feb. 11 (Tue)	Manila	Signing of Minutes of Discussion
15. Feb. 12 (Wed)	Manila → Tokyo	Departure

Ms. Lucina M. Delas Alas	Classroom Teacher, Bilaran Barangay High School
Ms. Estellita M. De Vela	Principal, Cavite Provincial Science High School
Ms. Constanca I. Nazareno	Principal, Bucal National High School

Regional Office of Region VI

Mr. Ricardo G. Lavallo	ES (Prov. Arts), Division of Iloilo City, DECS Region VI
Mr. Timoteo C. Arsulo	City Schools Superintendent
Dr. Consolacion N. Quinon	Assistant School Division Superintendent, Division of Iloilo

Secondary Schools in Region VI

Ms. Corazon M. Celebrado	Principal, Jalandoni Memorial High School
Mr. Jerry L. Lago	Officer-in-Charge, P.G. Hechazona Memorial High School
Mr. Julio M. Infante	Principal, Jaro High School
Ms. Helen h. Deguma	Officer-in-Charge, La Paz High School
Ms. Bibiana S. delos Reyes	Principal II, Ajuy National High School
Mr. Rex C. Villaruel	Principal, Banate National High School
Ms. Norma G. Loreda	Principal, Leganes National High School

Regional Office of Region X

Mr. Lucio G. Parantor Jr.	Chief, Secondary Education Division, DECS Region X
Ms. Celia Reyes	ES II (Science), Secondary Education Division, DECS Region X
Ms. Manuela G. Magtagas	Asst. Division Superintendent, DECS Region X

Secondary Schools in Region X

Ms. Lilia L. Puertas	Principal, City High School
Ms. Fe L. Pajo	Principal, Lapasan Barangay High School
Ms. Fe B. Baculio	Principal, Agusan High School
Mr. Rogelio Q. Mabao	Principal II, City High School (Bugo)
Ms. Myrna L. Mandawe	Principal I, Gusa High School
Ms. Enriqueta C. Pabilic	Principal, Bulua Barangay High School
Ms. Helen N. Garay	Classroom Teacher, Bulua Barangay High School
Ms. Feliza R. Galarpe	Classroom Teacher, Bulua Barangay High School

National Economic and Development Authority (NEDA)

Mr. Zenaida A. Jimenez	Officer
Mr. Romulo B. Halabaso	Officer
Mr. Paulo Rodelio M Halili	Officer

National Learning Resource Center for Teacher Training in Science and Mathematics Education

Mr. Kenichi Hiura	JICA Expert
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1.4 Minutes of Discussion

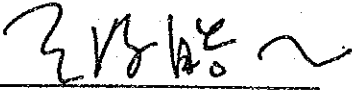
Minutes of Discussion
Basic Design Study
on
the Project for
Assistance to Secondary Education Instructional
Equipment Program - Phase II
in
the Republic of the Philippines

In response to a request from the Government of the Republic of the Philippines (hereinafter referred to as "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 (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines a study team, which is headed by Mr. Koichi Miyoshi, Director of Second Basic Design Study Division, Grant Aid Study & Design Department, JICA, and is scheduled to stay in the country from January 29 to February 12, 1992.

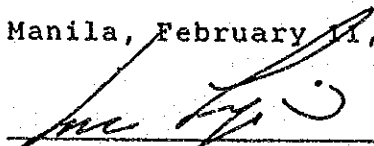
The team held discussions with the concerned officials of the Government of the Philippines and conducted a field survey at the study area.

In the course of discussions and field survey, both parties have confirmed the main items described in the attached sheets. The team will proceed to further works and prepare the Basic Design Study Report.



Koichi Miyoshi
Team Leader
Basic Design Study Team
Japan International
Cooperation Agency

Manila, February 11, 1992



Erlinda C. Pefianco
Undersecretary
Department of Education,
Culture and Sports

1. TITLE OF THE PROJECT

The title of the Project is "The Project for Assistance to Secondary Education Instructional Equipment Program-Phase II."

2. OBJECTIVE OF THE PROJECT

The objective of the Project is to provide necessary instructional equipment (hereinafter referred to as "the Equipment") for secondary schools in order to enhance the teaching of the new secondary education curriculum under the Secondary Education Development Program (SEDP).

3. IMPLEMENTING AGENCY

The implementing agency for the Project is the Department of Education, Culture and Sports (DECS) through the Educational Development Projects Implementing Task Force (EDPITAF).

4. PROJECT SITES

The DECS requested list of recipient schools for Regions II, IV, VI and X, shown in Annex 1, has been confirmed by the Team.

5. LIST OF REQUESTED EQUIPMENT

The DECS requested list of equipment for specific subject areas, shown in Annex II, has been confirmed by the Team.

6. DELIVERY OF EQUIPMENT

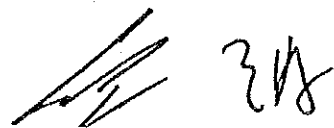
The delivery of equipment up to the final destination will be covered by the grant.

7. JAPAN'S GRANT AID PROGRAM

The Philippines side has understood the system of Japan's Grant Aid Program explained by the Team which include a principle for use of a Japanese consultant firm and Japanese contractors for the implementation of the Project.

8. NECESSARY MEASURES TO BE TAKEN BY THE PHILIPPINE SIDE

The Government of the Philippines will take the necessary measures listed in Annex III on the condition that the Grant Aid by the Government of Japan is extended to the Project.



ANNEX 1. LIST OF REQUESTED RECIPIENT SCHOOLS

The initial list of requested schools are listed below. The Government of the Philippines will send the complete list of and information on the requested schools on or before February 20, 1992.

NAME OF SCHOOL		DISTRICT
I. REGION II		
A. CAGAYAN		
1	Baggao High School	* Baggao
2	Caloagan Dackel High School	* Gattaran
3	Camasi High School	* Penablanca
4	Ballesteros High School	* Ballesteros
B. ISABELA		
5	Mabini High School	* Gamu
6	Callang High School	* San Miguel
7	Don Mariano Marcos High School	* Echague
8	Sta. Maria High School	* Sta. Maria
9	Benito Soliven High School	* B. Soliven
10	Ramon National High School	* Ramon
11	Highway Region High School	* Echague
C. NUEVA VIZCAYA		
12	Bintawan National High School	* Villaverde
13	Uddiawan National High School	* Solano
14	Lamo National High School	* Dupax del Norte
15	Diadi National High School	* Diadi
16	Paniki High School	* Bagabag
17	Murong Barangay High School	* Bagabag
D. QUIRINO		
18	Saguday National High School	* Saguday
II. REGION IV		
A. RIZAL		
19	Malaya Barangay High School	* Pililla
20	F.P. Felix Municipal High School	* Cainta
21	Antipolo Municipal High School	* Antipolo
22	Quisao Barangay High School	* Pililla
23	Tuna Balibago High School	* Binagman II
24	San Mateo Barangay High School	* San Mateo

* TRSBP Phase III Recipient.

	NAME OF SCHOOL		DISTRICT
B. LAGUNA			
25	Lingga Barangay High School	*	Calamba East
26	Masapang Barangay High School	*	Victoria
27	Dayap Barangay High School	*	Dayap
28	Pulong Sta. Cruz Barangay HS		Calamba
29	Kabulusan Barangay High School		Kabulusan
30	Los Banos Barangay High School		Los banos
31	Calamba Barangay High School		Calamba
32	Camp Vicente Lim Barangay High School		Canlubang
33	Canlubang barangay High School		Canlubang
34	Bukal Barangay High School		Liliw
35	Aplaya Barangay High School		Sta Rosa
36	Famy Comprehensive High School		Famy
37	San Juan Barangay High School		Kalayaan
38	Sampaguita Village Barangay High School		San Pedro
C. BATANGAS			
39	Laiya Barangay High School	*	San Juan
40	P. Paterno Memorial High School	*	Calaca
41	Lumbangan Barangay High School	*	Nasugbu
42	Wenceslao Trinidad Memorial HS	*	Laurel
43	Maabud Barangay High School	*	San Nicolas
44	San Pedro Barangay High School	*	Sto. Tomas
45	Sta. Clara Barangay High School	*	Sto. Tomas
46	Luksuhin Barangay High School	*	Calatagan
47	San Vicente Manalumpang BHS		Tuy
48	Bilaran Barangay High School		Nasugbu
49	Banilad Barangay High School		Nasugbu
50	Bayorbor Barangay High School		Mataas na kahoy
51	Tinurik Barangay High School		Tanauan
52	Boot Barangay High School		Tanawan
53	Cahil Barangay High School		Calaca
54	Sta Anastacia Barangay High School		Santo Tomas
D. BATANGAS CITY			
55	Tabangao BHS		Batangas City
56	Sto. Nino Barangay High School		Batangas City
57	Conde Labac HS		Batangas City

* TRSBP Phase III Recipient.

NAME OF SCHOOL		DISTRICT
E. CAVITE		
58	Caluangan Barangay High School	* Magallanes
59	Kaong Barangay High School	* Silang
60	Ligtong Barangay High School	* Rosario
61	Cavite Provincial Science HS	* Maragondon
62	Lumil Barangay High School	* Silang
63	Dasmaringas Relocation School-Annex	* Dasmaringas
64	Alfonso M. High School	* Alfonso
F. QUEZON		
65	Concepcion Barangay High School*	* Plaridel
66	Infanta Prov'l High School	* Infanta
67	Camohaguin Barangay High School	* Gumaca
68	Talipan Barangay High School	* Pagbilao
69	Paisa Barangay High School	* Tiaong
70	Amontay Barangay High School	* Pitogo
71	Tongohin Barangay High School	* Infanta
72	Baqupaye Barangay High School	* Mulanay
73	Ilayang Yuni Barangay High School	Mulanay
74	Abuyon National High School	San Narciso
75	Hinguin Brangay High School	Padre Burgos
76	Guinayangan Barangay High School	Guinayangan
77	Patnanungan Barangay High School	Pitogo
78	Dagatan Barangay High School	Dolores
79	Canda Barangay High School	Sariaya
G. AURORA		
80	Ditumabo Barangay High School	* San Luis
81	Dinalungan Barangay High School	Poblacion
82	Dilasag Barangay High School	Dilasag
H. MARINDUQUE		
83	Bangbang Barangay High School	Gasan
84	Matalaba Barangay High School	South
85	Tigwi Barangay High School	Torrifos
86	Tagum Barangay High School	Sta. Cruz East
87	Bognuyan Barangay High School	Gasan
88	Ipil Barangay High School	Sta. Cruz North
89	Argao Barangay High School	Mogpog
90	Cawit Barangay High School	Boac South

* TRSBP Phase III Recipient

NAME OF SCHOOL		DISTRICT
I. PALAWAN		
91	Sicsican Barangay High School	Puerto Princesa
92	Aborlan Barangay High School	Aborlan
93	Palawan Barangay High School	San Jose
94	Roxas N.C. High School	Roxas
95	Bahili Barangay High School	Puerto Princesa
96	Bato Barangay High School	Taytay
97	Abo-abo Barangay High School	Brookes Point
98	San Vicente Barangay High School	San Vicente
99	Caramay Barangay High School	Roxas
J. ROMBLON		
100	Alcantara Barangay High School	Tablas
101	Espana Barangay High School	San Fernando
102	Agnipa Barangay High School	Romblon
K. LIPA CITY		
103	Inosloban Marawoy Barangay High School	Lipa City
104	Sapak Barangay High School *	Lipa City
105	Anilao Barangay High School *	Lipa City
L. OCCIDENTAL MINDORO		
106	Looc Municipal High School	Looc
107	Barahan Barangay High School	Sta. Cruz
108	Concepcion Barangay High School	Calintean
109	Tilik Barangay High School	Lubang
110	Liqaya Barangay High School	Sablayan
M. ORIENTAL MINDORO		
111	Quinabigan Barangay High School	Pinamalayan
112	Dáyhagan Barangay High School	Bongabong
113	Bulbugan Barangay High School	Gloria
114	Barcenaga Barangay High School	Naujan
115	Alcadesma Barangay High School	Bansud

* TRSBP Phase III Recipient

NAME OF SCHOOL		DISTRICT
III. REGION VI		
A. AKLAN		
116	Liloan Barangay High School	* Malinao
117	Bulabud Barangay High School	* Malinao
118	Fr. Julian C. Raño Mem. H/S	* Balete
119	Camaliqan Barangay High School	* Batan
120	Nalook Barangay High School	* Kalibo
B. ANTIQUE		
121	Barasanan Barangay High School	* T. Fornier
122	Carit-an Barangay High School	* Patnongon
123	Egana Barangay High School	* Sibalom
124	Sido-San Juan Barangay H/S	* Sibalom
125	Gamad Sto. Tomas Barangay H/S	* T. Fornier
126	Laua-an Barangay High School	* Laua-an
127	Barbaza Barangay High School	* Barbaza
C. CAPIZ		
128	Taft National Barangay H/S	* Tapaz
129	Dacuton National Brgy. H/S	* Dumarao
130	Capagao National Brgy. H/S	* Panit-an
131	Lucero National Brgy. H/S	* Jamindan
132	Casanayan National Brgy. H/S	* Pilar
133	Dulangan National Brgy. H/S	* Pilar
134	Putian National Brgy. H/S	* Cuartero
135	Sapian National High School	Sapian
D. ROXAS CITY		
136	Balijuaqan Barangay H/S	* Roxas City
137	Baño National Brgy. H/S	* Roxas City
E. ILOILO		
138	Bolalacao Barangay High School	* Bolalacao
139	Barroc Barangay High School	* Oton
140	Pili Barangay High School	* Ajuy
141	Dapdap Barangay High School	* Tigbauan
142	Carvasana Barangay High School	* Calinog
143	Alibunan Barangay High School	* Alibunan
144	Camiro's Barangay High School	* Anilao
145	Carlos Lopez Nat'l. H/S	* San Dionisio
146	Don B. Jalandoni Sr. Nat. BH/S	* Zarraga
147	Acao Barangay High School	* Cabatuan
148	Tina Barangay High School	* Badiangan
149	Puyas Barangay High School	* Cabatuan

* TRSBP Phase IV Recipient

	NAME OF SCHOOL		DISTRICT
E. ILOILO			
150	Calmay Barangay High School	*	Janinay
151	Luca Barangay High School	*	Ajuy
152	Batad Barangay High School	*	Batad
153	Binabaan Barangay High School	*	Lambunao
154	Ardemil Barangay High School	*	Sara
155	San Luis Newly Nationalized HS	*	Sara
156	Banate National High School		Banate
157	Lemery National High School		
158	Malitbog Barangay High School		
159	Leganes National High School		
160	Ajuy High School		Ajuy
161	Lambunao Municipal High School		Lambunao
162	Alimodian National Com. H/S		Alimodian
F. ILOILO CITY			
163	Jalandoni Mem. HS Do. Obrero Ext.	*	Iloilo City
164	R.G. Hechonova Brgy. High School	*	Iloilo City
165	Jaro High School	*	Iloilo City
G. NEGROS OCCIDENTAL			
166	Miranda Barangay High School		Pontevedra
167	Guiljungan Barangay H/S		Cauayan
168	Toboso Barangay High School		Toboso
169	Cabacungan Barangay H/S		La Castellana
170	Manapla High School		Manapla
171	Hinigaran National High School		Hinigaran
172	Sagay National High School		Sagay
173	Escalante Provincial H/S		Escalante
174	La Castellana Prov'l. High School		La Castellana
175	Tapi Prov'l High School		Kabankalan
H. SAN CARLOS CITY			
176	Don Carlos Ledesma Nat'l. H/S		Sn Carlos Cty
177	Quezon Barangay High School		Sn Carlos Cty
I. LA CARLOTA			
178	Dona H.S. Benedicto Nat'l. H/S		
179	La Granja Ext.		La Granja

* TRSBP Phase IV Recipient

NAME OF SCHOOL		DISTRICT
J. BAGO CITY		
180	Ramon Torres National H/S	Bago City
181	Ramon Torres National H/S	Taloc Ext.
K. SILAY CITY		
182	DMLMHS HPCo. Ext.	Silay City
183	Guimbalaon Ext.	Silay City
L. GUIMARAS		
184	Buenavista Mun. High School	New Poblacion
185	Jordan National High School (NNHS)	Poblacion
186	Trinidad V. C. Sta Teresa Newly H/S	Sta Teresa
M. BACOLOD CITY		
187	Domingo Lacson National H/S	
188	Luisa Medel High School	
189	Luis Hervias National H/S	
190	Brgy. Singkang Airport NH/S	
191	Bata High School	
N. CADIZ CITY		
192	Dr. Vicente Gustilo Mem. H/S	Cadiz City
193	Cadiz Viejo Barangay H/S	Cadiz Viejo
194	Caduhaan Barangay High School	Bgy. Caduhaan
195	Tiglawigan Barangay NHS	Bgy. Tilawigan
196	Tiglawigan H/S	Bgy. Tinampaan
197	Villacin National H/S	
IV. REGION X		
A. AGUSAN DEL NORTE		
198	Jalibong National High School	Jalibong
199	Carmen Municipal High School	Carmen

* TRSBP Phase IV Recipient

NAME OF SCHOOL		DISTRICT
200	Sibagat Mun. High School	Sibagat
201	Bayugan Mun. Com. High School	Bayugan
B. SURIGAO DEL NORTE		
202	Sta. Cruz Barangay High School	* Placer
203	Matin-ao Barangay High School	* Mainit
204	Balite Barangay High School	* San Francisco
205	Timamana Barangay High School	* Tubod
206	Masgad Barangay High School	* Malimono
207	Cantapoy Barangay High School	* Malimono
208	Campo Barangay High School	* Bacuag
209	Albor M. High School	Cadiano
C. SURIGAO CITY		
210	Ipil Barangay High School	* Surigao City
211	San Juan Barangay High School	Surigao City
D. CAGAYAN DE ORO CITY		
212	Lapasan BHS	Cag. de Oro C
213	Agusan NNHS	Agusan
E. BUTUAN CITY		
214	Banza Barangay High School	Butuan City

* TRSBP Phase IV Recipient

Annex II. LIST OF EQUIPMENT

1. The requested equipment will be for the following six (6) subject areas:

SCIENCE

- General Science
- Biology
- Chemistry
- Physics

TECHNOLOGY AND HOME MANAGEMENT

- Home Economics
- Industrial Arts

2. The equipment for each subject area are prioritized as follows: (i) Priority A for all selected schools, and (ii) Priority B for schools with Science Laboratory and THE Workshop.

PRIORITY A PRIORITY B
 =====

Subject Area GENERAL SCIENCE

1.	Platform Balance	X	X
2.	Terrestrial Globe	X	X
3.	Laboratory Apparatus Repair Kit	X	X
4.	Water Analysis Outfit	-	X
5.	Seismograph Model	X	X
6.	Anemometer	X	X
7.	Rain Gauge	X	X
8.	Graduated Cylinder	X	X
9.	Beaker	X	X
10.	Laboratory Thermometer	X	X
11.	Aneroid Barometer	X	X
12.	Magnetizer	X	X
13.	Stop Watch	X	X
14.	Hand Lens	X	X
15.	Pulley	X	X
16.	Magnetic Compass	X	X
17.	Tray, Wooden	X	X
18.	Thermometer (-10 to 110 degrees C)	X	X

PRIORITY A

PRIORITY B

Subject Area: BIOLOGY

1. Mortar and Pestle	-	X
2. Pocket Magnifier	X	X
3. Petri Dish	X	X
4. Dissecting Set	X	X
5. Evaporating Dish	-	X
6. Thermometer	X	X
7. Erlenmeyer Flask	X	X
8. Test Tube	X	X
9. Glass Slide	X	X
10. Cover Glass	X	X
11. Triple Beam Balance	-	X
12. Microscope, Compound	X	X
13. Overlay Charts of Human Organ System	X	X
14. Thermometer	X	X

Subject Area: CHEMISTRY

1. Balance, Triple Arm	X	X
2. Thermometer	X	X
3. Graduated Cylinder	X	X
4. Beaker 250 ml, 500 ml	X	X
5. Test Tube	X	X
6. Erlenmeyer Flask	X	X
7. Iron Stand with Base	X	X
8. Electrolysis Apparatus	-	X
9. pH meter	-	X
10. Wire Gauge	X	X
11. Mortar and Pestle	X	X
12. Reagent Bottles	X	X
13. Evaporating Dish	X	X
14. Test Tube Holder	X	X
15. Funnel	X	X
16. Test Tube Rack	X	X
17. Iron Ring	X	X
18. Universal Clamp	X	X
19. Glass Rod	X	X
20. Cork Borer/Stopper	X	X
21. Cabinet for Chemicals	X	X
22. Tripod	X	X
23. Test Tube Brush	X	X
24. Spatula Set	X	X
25. Medicine Dropper	X	X
26. Alcohol Burner	X	X
27. Pinch Cock	X	X
28. Pipette	X	X

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	PRIORITY A *****	PRIORITY B *****
29. Wash Bottle	X	X
30. Atomic Molecular Model Kit	X	X
31. Periodic Table	X	X
32. Glass and Rubber Tubings	X	X

Subject Area: PHYSICS

1. Convex and Concave Mirror	X	X
2. Demonstration Lens Set	X	X
3. Newton Scale	X	X
4. Thermometer	X	X
5. Spiral Spring	X	X
6. Meter Stick	X	X
7. Acceleration Recording Timer	X	X
8. Stop Watch	X	X
9. Magnetic Compass Set	X	X
10. Dynamic Cart	X	X
11. Electroscope	X	X
12. Equilateral Prism	X	X
13. Magnets	X	X
14. Graduated Cylinder Set	X	X
15. Beaker Set	X	X
16. Pulley	X	X
17. Transistor Radio Demo Set	X	X
18. Multi Tester	X	X
19. Ripple Tank Apparatus	-	X
20. Kits of Logic Gates with Board	X	X
21. Sets of Tuning Forks	X	X
22. Resonance Apparatus	X	X
23. Electric Motor/Generator	X	X
24. Free Fall Apparatus	X	X
25. Photometer	X	X
26. Set of Lenses	X	X
27. Light Source for Reflection and Refraction Experiment	X	X
28. Platform Balance with Sets of Weights	X	X
29. Scientific Calculator	X	X

Subject Area: HOME ECONOMICS

1. Sewing Machines (with Basic Sewing Tools and Sewing Kit)	X	X
2. Pressure Cooker	X	X
3. Meat Grinder (Manual)	X	X
4. Gas Stove	X	X
5. Electric/Gas Range	-	X
6. Blender/Mixer	-	X
7. Casserole with Cover	X	X
8. Electric Iron	X	X

Handwritten signature and initials, possibly 'E/B'.

PRIORITY A

PRIORITY B

	PRIORITY A	PRIORITY B
9. Set of Dinnerware	X	X
10. Set of Silverware	X	X
11. Glassware	X	X
12. Set of Frying Pan	X	X
13. Kitchen Knife Set	X	X
14. Cutting Devices	X	X
15. Mixing Bowl	X	X
16. Kettle	X	X
17. Baking Pan, Tube Pans, Loaf Pan Sheets	X	X
18. Set of Measuring Spoon	X	X
19. Set of Measuring Cups	X	X
20. Hand Mixer	X	-

Subject Area: INDUSTRIAL ARTS

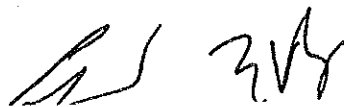
1. Stock and Die	X	X
2. Pipe Wrench	X	X
3. Pipe Vise	X	X
4. Hack Saw	X	X
5. Pliers	X	X
6. Screwdriver	X	X
7. Utility Tester	X	X
8. Wire Stripper	X	X
9. Hand Drill with Bits	X	X
10. Cold Chisel Set	X	X
11. Hammer	X	X
a. Cross-pein		
b. Claw		
c. Ball Pein Hammer		
12. Rule, Steel	X	X
13. Tape Rule	X	X
14. Tin Snip	X	X
15. Electric Welding	-	X
16. Soldering Iron	X	X
17. Machinist Vise	X	X
18. Metal Cutting Chisel	X	X
19. Center Punch Set	X	X
20. Vise Grip Pliers	X	X
21. Bench Grinder	-	X
22. Hand Saw	X	X
23. Jackplane	X	X
24. Handbrace	X	X
25. Zigzag Rule (Folding Rule)	X	X
26. Wood Chisel Set	X	X
27. C-Clamp	X	X
28. Bar Clamp	X	X
29. Carpenter's Square (Combination Type)	X	X
30. Tri-Square	X	X
31. Marking Gauge	X	X

CONSUMABLES AND CHEMICALS: The requested consumables and chemicals are listed below. Further study will be conducted on the basis of stock and handling conditions.

- | | |
|--------------------------------|---------------------------|
| 1. Litmus Paper | 30. Carmine Stain |
| 2. Sulfur Powder | 31. Xylene |
| 3. Bromthymol Blue | 32. Methylene Blue |
| 4. Ethyl Alcohol | 33. Formaldehyde |
| 5. Filter Paper | 34. Calcium Nitrate |
| 6. Phenolphthalein | 35. Magnesium Sulfate |
| 7. Benedict Solution | 36. Copper Sulfate |
| 8. Copper Sulfate | 37. Ammonium Hydroxide |
| 9. Carbon Tetrachloride | 38. Zinc Plate |
| 10. Nitric Acid | 39. Copper Plate |
| 11. Phenol | 40. Calcium Chloride |
| 12. Iodine Solution | 41. Ammonium Chloride |
| 13. Benzoic Acid | 42. Zinc Nitrate |
| 14. Naphthalene Balls | 43. Sulfuric Acid |
| 15. Iron Filings | 44. Manganese Dioxide |
| 16. Sodium Hydroxide (Pellets) | 45. Acetic Acid |
| 17. Magnesium Ribbon | 46. Sodium Bicarbonate |
| 18. Yeast | 47. Nichrome Wire |
| 19. Calcium Oxide | 48. Copper Wire |
| 20. Denatured Alcohol | 49. Lead Pellets |
| 21. Copper Bust | 50. Hydrogen Peroxide |
| 22. Calcium Carbide | 51. Potassium Nitrate |
| 23. Lead Nitrate (Crystals) | 52. Potassium Chloride |
| 24. Potassium Iodide | 53. Sodium Sulfate |
| 25. Ferric Chloride | 54. Ammonium Solution |
| 26. Potassium Ferricyanide | 55. Hydrochloric Acid |
| 27. Potassium Chromate | 56. pH Paper |
| 28. Potassium Bichromate | 57. Zinc Plate |
| 29. Potassium Bromide | 58. Boric Acid (Crystals) |

Annex III. MEASURES TO BE UNDERTAKEN BY THE
GOVERNMENT OF THE PHILIPPINES

1. To provide data and information necessary for the Project.
2. To exempt Japanese nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in the Philippines with respect to the supply of the products and services under the verified contracts.
3. To accord Japanese nationals whose services may be required in connection with the supply of the products under the verified contract such facilities as may be necessary for their entry and stay in the Philippines for the performance of their work.
4. To ensure prompt unloading, tax exemptions, customs clearances at the port of disembarkation in the Philippines and to facilitate prompt internal transportation therein of the products purchased under the Grant Aid.
5. To provide a science education room for each secondary school for the Project and facilities for the distribution of electricity and other incidental facilities, if necessary.
6. To ensure the necessary budget and personnel for the proper and effective implementation of the Project, including the operation and maintenance of equipment provided under the Grant Aid.
7. To ensure that the secondary school teachers who will make use of the equipment are given adequate training on the utilization and proper maintenance.
8. To provide the necessary permissions, licenses and other authorizations for carrying out the Project.
9. To bear all commissions to the Japanese foreign exchange bank for the banking services based upon the "Banking Arrangement" such as the advising commission of the "Authorization to Pay" and payment commission.
10. To bear all the expenses other than those to be borne by the Grant Aid.





REPUBLIKA NG PILIPINAS
REPUBLIC OF THE PHILIPPINES
KAGAWARAN NG EDUKASYON, KULTURA AT ISPORTS
DEPARTMENT OF EDUCATION, CULTURE AND SPORTS
UL Complex, Meralco Avenue
Pasig, Metro Manila

TANGGAPAN NG KALIHIM
(OFFICE OF THE SECRETARY)

February 20, 1992

Koichi Miyoshi
Team Leader
Basic Design Study Team
Japan International Cooperation
Agency
Tokyo, Japan

Subject: THE PROJECT FOR ASSISTANCE TO
SECONDARY EDUCATION INSTRUCTIONAL
EQUIPMENT PROGRAM, PHASE II

Dear Mr. Miyoshi:

Please find herewith the complete list of requested recipient schools for the above-mentioned subject. This list supersedes Annex 1 of the Minutes of Discussion signed February 11, 1992 as noted in the remarks for that section. Per previous agreement, we have included 25 additional schools in this list, for which data have been updated and validated. We hope you will find everything in order.

Thank you for your kind consideration and we look forward to the successful execution of this project.

Very truly yours,


EMINDA C. PEFIANCO
Undersecretary

ANNEX 1. LIST OF REQUESTED RECEIPIENT SCHOOLS

NAME OF SCHOOL		DISTRICT
I. REGION II		
A. CAGAYAN		
1	Baggao High School	* Baggao
2	Calaoagan Dackel High School	* Gattaran
3	Camasi High School	* Penablanca
4	Ballesteros High School	* Ballesteros
B. ISABERA		
5	Mabini High School	* Gamu
6	Callang High School	* San Miguel
7	Don Mariano Marcos High School	* Echaque
8	Sta. Maria High School	* Sta. Maria
9	Benito Soliven High School	* B. Soliven
10	Ramon National High School	* Ramon
11	Highway Region High School	* Echaque
C. NUEVA VIZCAYA		
12	Bintawan national High School	* Villaverde
13	Uddiawan National High School	* Solano
14	Lamo National High School	* Dupaxz del Norte
15	Diadi National High School	* Diadi
16	Paniki High School	* Bagabag
17	Murong Barangay High School	* Bagabag
D. QUIRINO		
18	Saguday National High School	* Saguday

* TRSBP Phase III Recipient.

** Not Listed in BD Minutes of Discussion.

NAME OF SCHOOL		DISTRICT
II. REGION IV		
A. RIZAL		
19	Malaya Barangay High School	* Pililla
20	F.P. Felix Municipal High School	* Cainta
21	Antipolo Minicipal High School	* Antipolo
22	Quisao Barangay High School	* Pililla
23	Tuna Balibago High School	Cardona
24	San Mateo Barangay High School	San Mateo
B. LAGUNA		
25	Lingga Barangay High School	* Calamba East
26	Masapang Barangay High School	* Victoria
27	Dayap Barangay High School	* Dayap
28	Pulong Sta. Cruz Barangay HS	Calamba
29	Kabulusan Barangay High School	Paquil
30	Los Banos Barangay High School	Los banos
31	Calamba Barangay High School	Calamba
32	Camp Vicente Lim Barangay High School	Canlubang
33	Canlubang Barangay High School	Canlubang
34	Bukal Barangay High School	Liliw
35	Aplaya Barangay High School	Sta Rosa
36	Famy Comprehensive High School	Famy
37	San Juan Barangay High School	Kalayaan
38	Sampaguita Village Barangay High School	San Pedro
C. BATANGAS		
39	Laiya Barangay High School	* San Juan
40	P. Paterno Memorial High School	* Calaca
41	Lumbangan Barangay High School	* Nasugbu
42	Wenceslao Trinidad Memorial HS	* Laurel
43	Maabud Barangay High School	* San Nicolas
44	San Pedro Barangay High School	* Sto. Tomas
45	Sta. Clara Barangay High School	* Sto. Tomas
46	Luksuhin Barangay High School	Calatagan
47	San Vicente Manalumpang BHS	Tuy
48	Bilaran Barangay High School	Nasugbu

* TRSBP Phase III Recipient.

** Not Listed in BD Minutes of Discussion.