

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF EDUCATION, CULTURE & SOCIAL WELFARE
THE KINGDOM OF NEPAL

No. 1

BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR PROVIDING MATERIALS AND EQUIPMENT
FOR
THE CONSTRUCTION OF PRIMARY SCHOOLS
IN
THE KINGDOM OF NEPAL

MARCH 1994

FUKUWATARI & ARCHITECTURAL CONSULTANTS LTD.

BASIC DESIGN STUDY REPORT ON THE PROJECT FOR PROVIDING MATERIALS AND EQUIPMENT FOR THE CONSTRUCTION OF PRIMARY SCHOOLS IN THE KINGDOM OF NEPAL

MARCH 1994

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PREFACE

In response to a request from His Majesty's Government of Nepal, the Government of Japan decided to conduct a basic design study on the Project for Providing Materials and Equipment for the Construction of Primary Schools, and entrusted the study to Japan International Cooperation Agency (JICA). JICA sent a study team to the Kingdom of Nepal headed by Mr. Shuji Ono of the Second Basic Design Study Division, Grant Aid Study & Design Department, JICA, from December 14, 1993 to January 6, 1994.

The team held discussions with officials of H. M. G. of Nepal and conducted a field survey in the proposed project area. After the team returned to Tokyo, it conducted a further study on the basis of the facts and findings clarified through the field survey, and prepared the present report.

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

I wish to express my deep appreciation to the officials of H. M. G. of Nepal for their close cooperation.

March 1994



Kensuke Yanagiya
President

Japan International Cooperation Agency

March 1994

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

Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Providing Materials and Equipment for the Construction of Primary Schools in the Kingdom of Nepal.

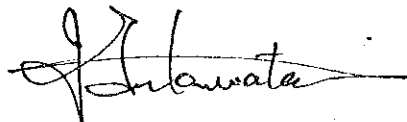
This study was conducted by Fukuwatari & Architectural Consultants Ltd., under a contract to JICA, during the period from December 8, 1993 to March 25, 1994. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Nepal, and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

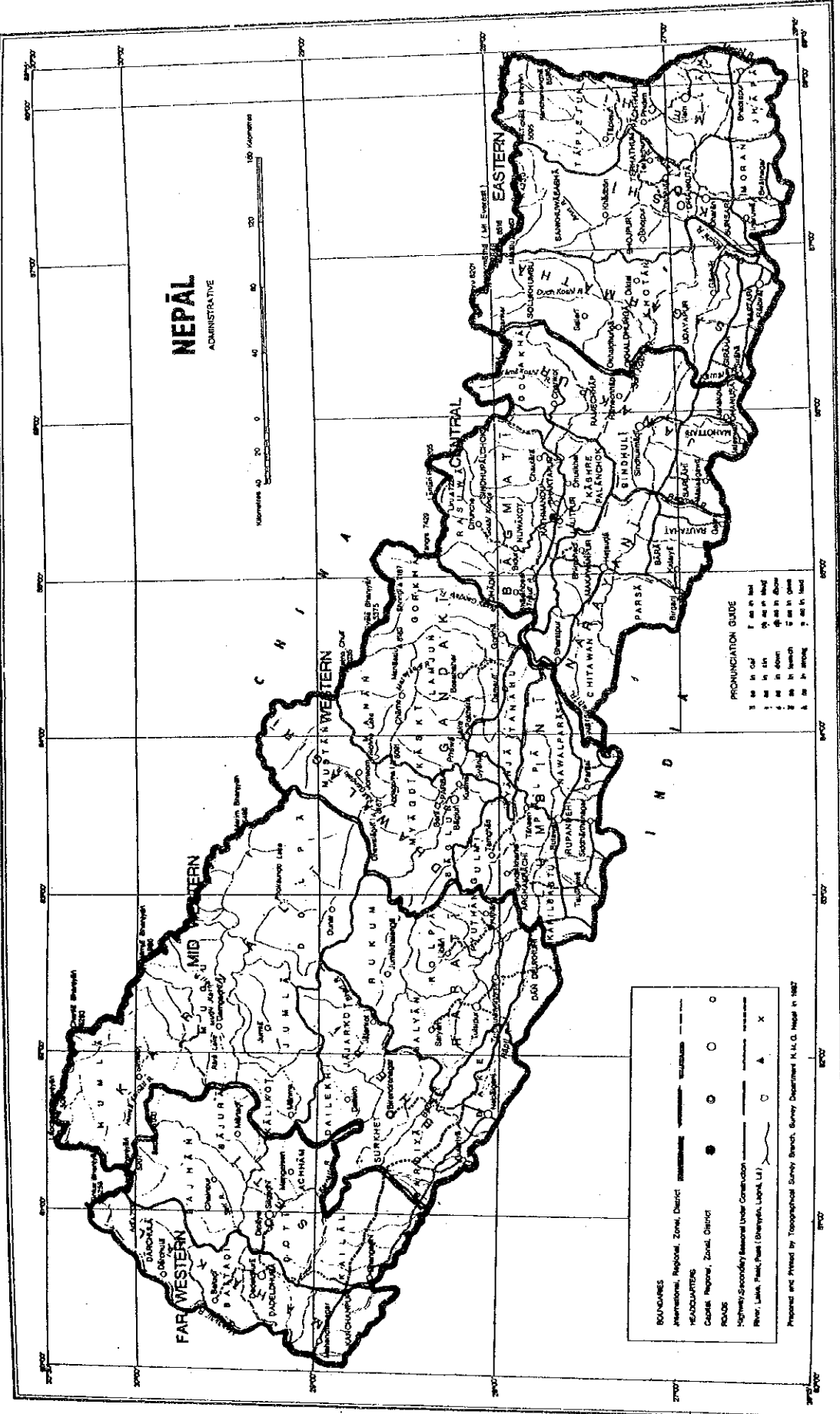
We wish to take this opportunity to express our sincere gratitude to the officials concerned of JICA, and the Ministry of Foreign Affairs. We would also like to express our gratitude to the officials concerned of Basic and Primary Education Project of the Ministry of Education, Culture, and Social Welfare; the JICA Nepal Office; and the Embassy of Japan in Nepal for their cooperation and assistance throughout our field survey.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

Isao Fukuwatari
Project manager,
Basic design study team on the Project for
Providing Materials and Equipment for
the Construction of Primary Schools
Fukuwatari & Architectural Consultants Ltd.





NEPÁL

ADMINISTRATIVE



PRONUNCIATION GUIDE

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BOUNDARIES
International, Regional, Zonal, District

HEADQUARTERS
Capital, Regional, Zonal, District

ROADS
Highway, Secondary, National Under Construction

RIVER, LAKE, POND, PANS (Dharyan, Lupa, L.)

Prepared and Printed by Topographical Survey Branch, Survey Department N.G. Nepal in 1987

PRINCIPAL ABBREVIATIONS AND ACRONYMS USED

ADB	- Asian Development Bank
CTSDC	- Curriculum, Textbook, Supervision, and Development Center
BPEP	- Basic and Primary Education Project
DANIDA	- Danish International Development Agency
DEO	- District Education Officer (Office)
HMG	- His Majesty's Government
IDA	- International Development Association
JICA	- Japan International Cooperation Agency
MHPP	- Ministry of Housing and Physical Planning
MOECSW	- Ministry of Education, Culture, and Social Welfare
MOF	- Ministry of Finance
NFE	- Non-Formal Education
NGO	- Non-Governmental Organization
NORAD	- Royal Norwegian Development Cooperation
PEP	- Primary Education Project
PEDP	- Primary Education Development Project
PIU	- Project Implementation Unit
PPSMU	- Physical Planning and School Mapping Unit
RC	- Resource Center
RCMC	- Resource Center Management Committee
RP	- Resource Person
SETI	- Education for Rural Development Project in Seti Zone
SLC	- School Leaving Certificate
SMC	- School Management Committee
SRCP	- School Rehabilitation and Construction Project
SRCU	- School Rehabilitation and Construction Unit
SS	- Satellite Schools
UNDP	- United Nations Development Programme
UNESCO	- United Nations Education, Culture and Science Organization
UNICEF	- United Nations Children's Fund
UPE	- Universal Primary Education
USAID	- United States Agency for International Development

SUMMARY

H. M. G. of Nepal is proceeding with the Basic and Primary Education Project (hereinafter referred to as "BPEP")-- a coordinated set of programs designed to increase access to basic and primary education, to improve the quality of the teaching/learning situation, and to cope with serious management and administration problems in education.

In the fiscal year 1992-93, BPEP Programmes were implemented in 14 districts, and in five SETI districts. The current fiscal year, 1993/94, is the second year of BPEP, in which new activities are added and the BPEP Programmes are being implemented in an additional six districts, making 25 all-together. Furthermore, in the next fiscal year, H. M. G. of Nepal is planning to extend the area to 40 districts in total. Generally, BPEP is making a good start.

In March 1993, H. M. G. of Nepal made a request to the Government of Japan for grant aid assistance to support part of the Construction & Rehabilitation of Primary Schools through the provision of materials and equipment for construction, as well as logistics support.

Before a study was conducted by JICA, BPEP revised the contents of the request twice in response to each of two inquiries made by the Japanese Embassy in Nepal-- the first on 9 April, 1993, and the second, on 8 June, 1993. Each time, the quantities were increased on the basis of recent BPEP achievements, as well as the Action Plan for the current fiscal year.

At the field survey stage, however, the Study Team proposed that the Project should have only a limited scope as a pilot project to seek the possibility of continued implementation of the Project in the years that follow. H. M. G. of Nepal agreed with this and again revised the request from this point of view.

On the basis of the facts and findings clarified through the field survey, the Study Team conducted a further study in Japan. Some items such as Solar-powered Lanterns and Furniture were excluded, and the Study Team finalized the contents of the Project as summarized below:

(1) Provision of Materials for Construction of SSS

Nuwakot:	237 classrooms
Parsa:	125
Chitwan;	276
Dhanusa:	311
In total	949

(2) Provision of Materials for Rehabilitation of SSS

Chitwan;	50 classrooms
Dhanusa:	50
In total	100

(3) Provision of Materials for Construction of Toilets

Nuwakot:	15 blocks
Parsa:	15
Chitwan;	30
Dhanusa:	30
Morang:	10
In total	100

(4) Provision of Materials for Construction of Water Supply Systems

Nuwakot:	15 sets
Parsa:	15
Chitwan;	30
Dhanusa:	30
Morang:	10
In total	100

(5) Provision of Materials for Construction of RCs

Chitwan;	7
Dhanusa:	10
Morang:	10
In total	27

(6) Provision of Materials for Logistics Support

- Tent Warehouse:	20
- Truck:	5
- 4WD Diesel Engine Jeep:	1
- Motorcycle:	18
- Personal Computer:	1 set
- Facsimile Machine:	7 sets
- Tools for Maintenance:	15 for RCs 300 for SSs

The Study Team reviewed the standard design of the schools presented by PPSMU and found that some alterations and improvements will be necessary soon, ie., more variations of plan types, improved earthquake resistance, suitable designs for various weather conditions, etc. PPSMU altered the standard designs of the facilities for some of the items mentioned above, and presented them to the Study Team at the beginning of March 1994.

For the work items to be done by the Nepalese side, the Project will be implemented utilizing the same management system as other school construction projects under BPEP, and PPSMU will be directly in charge of implementation. For the items to be done by the Japanese side, a Japanese consultant and a Japanese supplier shall be chosen.

To obtain the basis for planning the grant aid projects that might be continued in the future, an appropriate monitoring system should be established on the utilization of materials and equipment provided under the Project. The Project shall be

monitored using the same system as other construction projects by BPEP, but with more details being worked out so that utilization of the materials and the equipment supplied under the Project can be identified separately from the entire construction project under BPEP.

The estimated cost of the work to be covered by H. M. G. of Nepal is Rs. 14.3 million.

The periods for the detailed design and Procurement of the materials and equipment will be three months and seven months respectively.

It is difficult to evaluate the Project from concrete figures on the National Economy. The Study Team confirmed the following as important factors in evaluating the adequacy of the Project:

- The objective of the project is to contribute to the universalization of primary education, and to social development by improving the human resources supply system. The project will benefit the broad population of primary school age in Nepal, a total of 44,000.
- The Project, being for Primary Education, is not profit-oriented. H. M. G. of Nepal will be able to allocate the budget, staff, and technology necessary for operating and managing the Project after delivery of materials and equipment.
- The BPEP has generally been operated well and this Project will conform to the framework of BPEP, and will realize effective coordination among the donors. By contributing to the construction of many facilities scattered over a wide area, the Project will communicate the goodwill of Japanese Assistance quite effectively.
- Because the construction management plan has recently been revised, and the organization is still to be established, some

risks are expected in executing the Project under the framework of Japan's Grant Aid, especially with regard to preparing the standard design of the schools, handling materials to be provided by the Japanese side after delivery to the Nepalese side, site selection system, and construction period. Considering the importance of the Project, however, the risks should be taken by making the first year of the project a pilot year to seek improved execution of the Project in later years, and limiting the scope to a reasonable extent from this point of view.

The Study Team concludes that execution of the Project within the framework of Japan's Grant Aid Assistance is highly appropriate. For the effective implementation of the project, the Study Team recommends that H. M. G. of Nepal take the necessary actions for the following:

- A new management system for school construction be established as soon as possible according to the revised plan (Draft), with further modifications and details that might be necessary within the coming six months.
- The Schools to be covered by the Project and necessary construction volumes for them be identified soon.
- Standard Design of the School Buildings be finalized, and be presented to the Japanese side soon.
- Effective use of IDA seed money should be considered to give incentives to communities in disadvantaged areas.

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CHAPTER 1 INTRODUCTION

Chapter 1 INTRODUCTION

H. M. G. of Nepal is proceeding with the Basic and Primary Education Project (hereinafter referred to as "BPEP"). BPEP is a coordinated set of programs designed to increase access to basic and primary education, to improve the quality of the teaching/learning situation, and to respond to serious management and administration problems in education.

In March 1993, H. M. G. of Nepal made a request to the Government of Japan for grant aid assistance for the Project for Providing Materials and Equipment for the Construction of Primary Schools in relation to the BPEP (hereinafter referred to as "the Project").

In response to the request from H. M. G. of Nepal, the Government of Japan decided to conduct a basic design study (hereinafter referred to as "the Study"), and entrusted JICA to undertake the Study in close coordination with H. M. G. of Nepal. JICA sent a study team to the Kingdom of Nepal headed by Mr. Shuji Ono of the Second Basic Design Study Division, Grant Aid Study & Design Department, JICA, from December 14, 1993, to January 6, 1994.

The team had a series of discussions on the Project with officials of H. M. G. of Nepal and conducted a field survey in the proposed project area. The items, which were mutually agreed upon, were summarized in the minutes.

After the team returned to Tokyo, it conducted a further study on the basis of the facts and findings clarified through the field survey, to determine the adequacy of the Project as a grant aid project of Japan, to prepare the basic design for the materials and equipment to be provided, and finally, to prepare the present report.

The organization of the mission, the list of people on the Nepalese side, the schedule of the mission, and the text of the minutes can be referred to in the appendices.

CHAPTER 2 BACKGROUND OF THE PROJECT

Chapter 2 Background of the Project

2-1 Background of the Project

In Nepal, poor indicators and slow progress in addressing human development issues have been among the major problems of national economic development. In the educational sector, the problem of illiteracy is most acute. Only 39% of the population are literate and female literacy is less than 20%. Although the provision of free primary education has brought about both qualitative and quantitative changes on the literacy front, two-thirds of the total population are still deprived of education.

To cope with these problems, Ministry of Education, Culture, and Social Welfare (MOECSW) has operated projects since the 1980s under the titles: the Education for Rural Development Project in Seti Zone, Far Western Development Region (SETI) since 1981, and the Primary Education Project (PEP) in six districts. On the basis of experience from these projects, H. M. G. of Nepal is now proceeding with the nationwide project --Basic and Primary Education Project (BPEP). BPEP is a coordinated set of programs designed to increase access to basic and primary education, to improve the quality of the teaching/learning situation, and to address the serious management and administration problems in education. The project supports the Programme for Basic and Primary Education of H. M. G. of Nepal. At present, the project is supported by IDA credit financing, and UNICEF and DANIDA are providing grant assistance. In addition, programs are anticipated for grant assistance with UNDP and Japan for strengthening project management and school construction respectively.

Regarding Japanese assistance for the Primary Education sector in Nepal, JICA conducted the Project Formulation Survey from December 1990 to January 1991. As a result, it was recommended that Japan should implement, within the framework of BPEP, grant aid projects, which would contain

some of the following components:

- (1) Construction of Resource Center Schools and Resource Schools
- (2) Provision of Construction Materials for Satellite Schools
- (3) Provision of Educational Materials and Equipment to Janak Educational Material Center

2-2 Outline of the Request

In March 1993, H. M. G. of Nepal made a request to the Government of Japan for grant aid assistance for the Project for Material and Equipment Support for the Construction and Rehabilitation of Primary Schools. The components of BPEP in relation to the recommended items stated above, as well as the items requested to Japan, are shown in Table 1.

Table 1 BPEP Components

<p>The Objectives of BPEP(FY 1993/94)</p> <p>1. Improving the Quality of Primary Education</p> <ul style="list-style-type: none">1-1 Curriculum Development1-2 Textbook Development1-3 In-service Teacher Training1-4 Recruitment of Female Teachers1-5 Assessment System1-6 Resource Center Construction <p>(The component requested to Japan)</p> <p>2. Access to Basic and Primary Education</p> <ul style="list-style-type: none">2-1 Non-formal Education2-2 Primary School Construction, Rehabilitation and Maintenance <p>(The component requested to Japan)</p> <p>3. Institutional Development</p> <ul style="list-style-type: none">3-1 Management Strengthening3-2 Monitoring and Following Up the Project Activities3-3 Construction of DEO and Refurbishment of MOECSW Buildings <p>(Initially requested but agreed that this would not be included)</p>

Regarding the component of increasing opportunities for primary education, H. M. G. of Nepal has established the following objectives:

- (1) To provide opportunities for the minimum education to the maximum number of children, especially those aged 6-10 years.
- (2) To increase the literacy rate through 100% student enrollment in primary education by the year 2000.
- (3) To increase the qualitative standard of education supporting the minimum physical facilities for schools.
- (4) To support the basic Human Need (BHN) Programme in education sector.
- (5) To produce capable manpower for the long-term development of the country.

To achieve these objectives, H.M.G. of Nepal has developed a national strategy, which includes the following components:

- (1) A School Mapping Exercise to determine the need for new schools and/or additional classrooms.
- (2) A Physical School Survey to determine the kinds of schools to be built, the physical inputs required, the sizes of new schools, and the degree of rehabilitation and/or maintenance.
- (3) A Physical Planning and School Mapping Unit (PPSMU) within MOECSW to develop appropriate designs, to plan annual programs, to monitor, and to evaluate school physical activities.
- (4) Logistics Support System to ensure the successful op-

eration of the total system.

The principles of the progame are:

- (1) Government Support: The government will supply seed money to communities, which will generate the necessary community support and participation. In the case of this Project, the principle is to provide, instead of money, materials for the construction of schools and other related educational facilities in the framework of Japan's Grant Aid.
- (2) Community Participation: The communities will share the cost of the new building in terms of unskilled labor, supply of local materials, and local transportation costs.

The contents of the initial Request from H. M. G. of Nepal to the Government of Japan are shown in Table 2.

Table 2 Contents of the Request from H. M. G. of Nepal

	Year 1	Year 2	Year 3	Year 4	Year 5
1. No. of Districts	3	9	10	11	7
2. Construction of new SS (Rooms)	110	1,110	1,320	1,380	530
3. Rehabilitation of SS (Rooms)	320	3,345	3,965	4,155	1,605
4. Construction of RC	14	21	21	21	21
┌-----┐ └-----┘ Already excluded from the Request					
5. Supply of Materials for RC	0	43	57	60	10
6. Construction of DEO	1	3	4	4	1
┌-----┐ └-----┘ Already excluded from the Request					
7. Supply of Educational Materials and Equipment for Logistics support	1	5	3	3	3

2-3 Outline of the Project Area

The Kingdom of Nepal is a laterally narrow country with an area of about 140,000 sq.Km. The land extends approximately 220 km from north to south and approximately 880 km from east to west, and is located between 26°20' N. Lat. and 30°10' N. Lat. and between 80°15' E. Long. and 88°05' E. Long.

The country consists of the southern region with its subtropical monsoon climate, the upland region with warm weather to the north, and the Himalayan mountain region with cold weather to the extreme north. Thus, geographically, the country has three distinct belts running east to west. The lower southern region called the Terai Plain is adjacent to India. Historically, the intermediate upland region, which is called the Hill, has been the core of Nepal, with the mountain region forming the third belt to the north.

The government of Nepal divided the land into five development regions with border lines running north to south, i.e., Far Western, Mid-Western, Western, Central and East Development Regions. The five development regions consist of 14 zones, which are subdivided into 75 districts. Initially, three districts were selected for the first year of the Project, each one of them from each of the three different geographical areas, namely, Parsa from Terai, Nuwakot from Hill, and Mustang from Mountain. The outline of these districts is shown in Table 3.

At the field survey stage, however, Mustang was excluded and instead, three districts were added from Terai, -- Chitwan, Dhanusha and Morang. The outline of these districts is shown in Table 4.

Table 3 Outline of the Project Area (1)

	NEPAL	PARSA	NUWAKOT	MUSTANG	REMARKS
LAND AREA <small>sq. km</small>	147,181 (100%)	1,353 (0.9%)	1,121 (0.8%)	3,573 (2.4%)	
POPULATION (1,000)	18,491 (100%)	373 (2%)	245 (1.3%)	14 (1.07%)	from: Statistical Year Book of NEPAL 1993
DENSITY (cap/sq. km)	(126)	(226)	(219)	(4)	
MOTHER LANGUAGES	1. Nepali 50% 2. Maithali 12% 3. Tharu 5% 4. Tamang 5%	1. Bhojupuri 81% 2. Nepali 11% 3. Tamang 1.6% 4. Urdu 1.4%	1. Nepali 59% 2. Tamang 35% 3. Newari 3.6% 4. Gurung 0.7%	1. Sherpa 38% 2. Nepali 33% 3. Thakali 15% 4. Grung 10%	
RICE PRODUCTION (1,000t)	3,222 (100%)	132 (4.1%)	40 (1.2%)	--	
PRODUCTION OTHER GRAINS (1,000t)	2,241 (100%)	42 (1.9%)	116 (5.2%)	4 (0.2%)	
FORESTRY Ratio	32% by FAO '78 43% by HMG '88	Telai Hill 0% 25% Mountain 50%	25-50%	--	from: Nepal Atlas of Economic Development 1980
PRODUCTION of MINERALS			MICA, COPPER MERCURY		
TOPOGRAPHY		Telai Hill Many Small Rivers from Chrs Mountains	Hill River Trisuli	Mountain River Kali Gandaki	
ALTITUDE (m) (at Centers)	(1,323 Kathmandu)	100m-1,000m (100 Birsanj)	900m-3,000m (970 Nuwakot)	2,000m-6,000m (2,860 Jomson)	
WEATHER at CNTERS Month. Mean Lowest Temp.	1.2 (Dec)	7.9 (Dec)	8.9 (Jan)	-3.7 (Dec)	from: Weather Record of NEPAL JICA

to be continued

Table 3 Outline of the Project Area (1, continued)

	NEPAL	PARSA	NUWAKOT	MUSTANG	REMARKS
Month. Mean Highest Temp.	30.5 (May)	38.2 (May)	32.1 (May)	25.0 (Jul)	from: Weather Record of NEPAL JICA
Month. Mean Lowest Humid.	45% (Apr.)	27% (Apr.)	35% (Apr.)	49% (Apr.)	
Month. Mean Highest Humid.	83 (Jul.)	85 (Jul.)	91 (Jul.)	85 (Jul.)	
Annual Precipitation	1,426 mm	1,760 mm	1,952 mm	189 mm	
GEOLOGICAL CLASSIFICATION OF LAND		Telai: Recent Hill: Siwalik	North-West: Clasic Central: Carblnare East: Himal South: Parasranite	Tethys	from: Nepal Atlas of Economic Development 1980
SOIL CLASSIFICATION		Telai: Sand/Clay-Silt Mountain:Silt/Sand	Silt/Clay-Sand		
LAND TRANSPORTATION AIR TRANSPORTATION		India- Birsanj- KTM (Telai Highway)	KTM - Bidur	KTM-Pokhara.. Jomson	
PRIMARY EDUCATION DATA				KTM- Jomson (3/week)	
No. of Scools (Pupils/ School)	18,694 (100%) (154, Japan:355)	243 (1.3%) (170)	322 (1.8%) (115)	63 (1.8%) (51)	from: Statistical Year Book of Nepal 1993 (Data in 1991)
No. of Pupils (/Population %)	2,884,275 (15.6 Japan:7.1)	41,210 (11.0)	38,132 (15.6)	3,197 (22.8)	
No. of Teachers (Teacher/ Pupil)	74,495 (38.7 Japan:20.0)	928 (44.5)	956 (40.0)	201 (15.9)	

Table 4 Outline of the Project Area (2)

	NEPAL	CHITWAN	DHANUSA	MORANGG	REMARKS
LAND AREA sq. km	147,181 (100%)	2,218 (1.5%)	1,180 (0.8%)	1,855 (1.3%)	
POPULATION (1,000)	18,491 (100%)	354 (1.9%)	544 (2.9%)	675 (3.7%)	from: Statistical Year Book of NEPAL 1993
DENSITY (cap/sq. km)	(126)	(160)	(461)	(364)	
MOTHER LANGUAGES	1. Nepali 50% 2. Maithali 12% 3. Tharu 5% 4. Tamang 5%	1. Nepali 69% 2. Tharu 13% 3. Tamang 4% 4. Chepang 3%	1. Maithali 87% 2. Nepali 7% 3. Urdu 2% 4. Tamang 1%	1. Nepali 39% 2. Maithali 21% 3. Tharu 8% 4. Rai 4%	
RICE PRODUCTION (1,000t)	3,222 (100%)	96 (3.0%)	102 (3.2%)	199 (6.2%)	
OTHER GRAINS (1,000t)	2,241 (100%)	52 (2.4%)	37 (1.7%)	48 (2.1%)	
FORESTRY Ratio	32% by FAO '78 43% by HMG '88	58%	21%	30%	from: Nepal Atlas of Economic Development 1980
PRODUCTION of MINERALS		IRON	MICA, COPPER MERCURY	LIMESTONE	
TOPOGRAPHY		Telai	Telai	Telai	
ALTITUDE (m) (at Centers)	(1,323 Kathmandu)	200m-1,500m (230 Bharatpur)	65m-400m (90 Janakpur)	60m-1500m (72 Biratnagar)	
WEATHER at CENTERS Month, Mean Lowest Temp.	1.2 (Dec)	6.2 (Dec)	7.8 (Dec)	1.5 (Dec)	from: Weather Record of NEPAL JICA

to be continued

Table 4 Outline of the Project Area (2, continued)

	NEPAL	CHITWAN	DHANUSA	MORANG	REMARK
Month. Mean Highest Temp.	30.5 (May)	36.9 (May)	36.8 (May)	35.6 (May)	from: Weather Record of NEPAL JICA
Month. Mean Lowest Humid.	45% (Apr.)	39% (Apr.)	36% (Mar.)	65% (Mar.)	
Month. Mean Highest Humid.	83 (Jul.)	86 (Sep.)	82 (Sep.)	91 (Jan.)	
Annual Precipitation	1,426 mm	1,935 mm	1,480 mm	1,313 mm	
GEOLOGICAL CLASSIFICATION OF LAND		Telai: Recent Hill: Siwalik	Telai: Recent Hill: Siwalik	Telai: Recent Hill: Siwalik	from: Nepal Atlas of Economic Development 1980
SOIL CLASSIFICATION		Telai: Sand/Clay-Silt Mountain:Silt/Sand	Telai: Sand/Clay-Silt Mountain:Silt/Sand	Telai: Sand/Clay-Silt Mountain:Silt/Sand	
LAND TRANSPORTATION		Butwar	(Telai Highway)	(Telai Highway)	
AIR TRANSPORTATION		KTM - Bharatpur Hetauda from KTM (everyday)	Janakpur India	Biratnagar India from KTM (everyday)	
PRIMARY EDUCATION DATA					from: Statistical Year Book of Nepal 1993 (Date in 1991)
No. of Schools (Pupils/Schools)	18,694 (100%) (154, Japan:355)	292 (1.6%) (223)	240 (1.3%) (218)	345 (1.8%) (289)	
No. of Pupils (Population)	2,884,275 (15.6 Japan:7.1)	65,263 (18.4)	52,263 (9.6)	99,641 (14.8)	
No. of Teachers (Teacher/Pupil)	74,495 (38.7 Japan:20.0)	1,625 (40.2)	1,222 (42.8)	1,967 (50.7)	

CHAPTER 3 OUTLINE OF THE PROJECT

Chapter 3 Outline of the Project

3-1 Objectives

The objective of the Project is to strengthen the promotion and implementation of BPEP by supporting part of the Construction & Rehabilitation of the Primary Schools through the provision of materials and equipment for construction, as well as the logistics support, with secondary objectives of:

- (1) ensuring that buildings are appropriate and of the basic minimum construction standard, and
- (2) reducing the costs to the community on a differential scale, taking into account the socio-economic conditions of remote and disadvantaged areas.

3-2 Examination of the Request

3-2-1 Adequacy of the Project

The adequacy of the Project is judged by confirming the following two points: (1) Proper progress of BPEP, and (2) Practicality of the Project within the framework of Japan's Grant Aid system.

(1) Present Progress of BPEP

(a) General

The school mapping exercise has been carried out in five districts under SETI, in six districts under PEP, and in 40 districts under BPEP-- 51 districts in total. For the current fiscal year, the exercise is proposed to be carried out in an additional 15 districts. The locations of the districts are shown in Fig. 1. On the basis of the school mapping exercise, in the fiscal year 1992-93, the BPEP Programmes were implemented in 14 districts, and in five SETI districts with its original structure.

The current fiscal year, 1993/94 is the second year of BPEP, in which new activities are added and the BPEP Programmes are being implemented in an additional six districts making 25 all-together. The districts are shown on Fig. 2, Map of BPEP Implementation Area. Furthermore, in the next fiscal year, H. M. G. of Nepal is planning to extend the area to 40 districts in total. The additional districts have not been selected, except Chitwan and Dhanusha, which are to be covered by this Project supported by Japan. Generally, BPEP is making a good start.

(b) Construction and Rehabilitation of School Classrooms

According to the BPEP Plan of Action for FY 1993/94, the present stock of 68,000 classrooms (in 1991-1992) will have to be increased to 85,000 classrooms over the next seven to eight years to accommodate the growing student population. It is essential: (1) to design buildings properly and construct them from suitable materials, (2) to maintain buildings, and (3) to rehabilitate old buildings and classrooms.

Classroom construction is the major component of the Project. In the fiscal year 1992/93, management of construction work for the project was carried out in collaboration with Ministry of Housing and Physical Planning. Fourteen project districts were selected for construction and rehabilitation. During the first year, this activity was implemented on a cost sharing basis: 40% by the community and 60% by the government. Through this arrangement, 477 new classrooms were constructed and 567 old

Fig. 1 Achievement of School Mapping Exercise

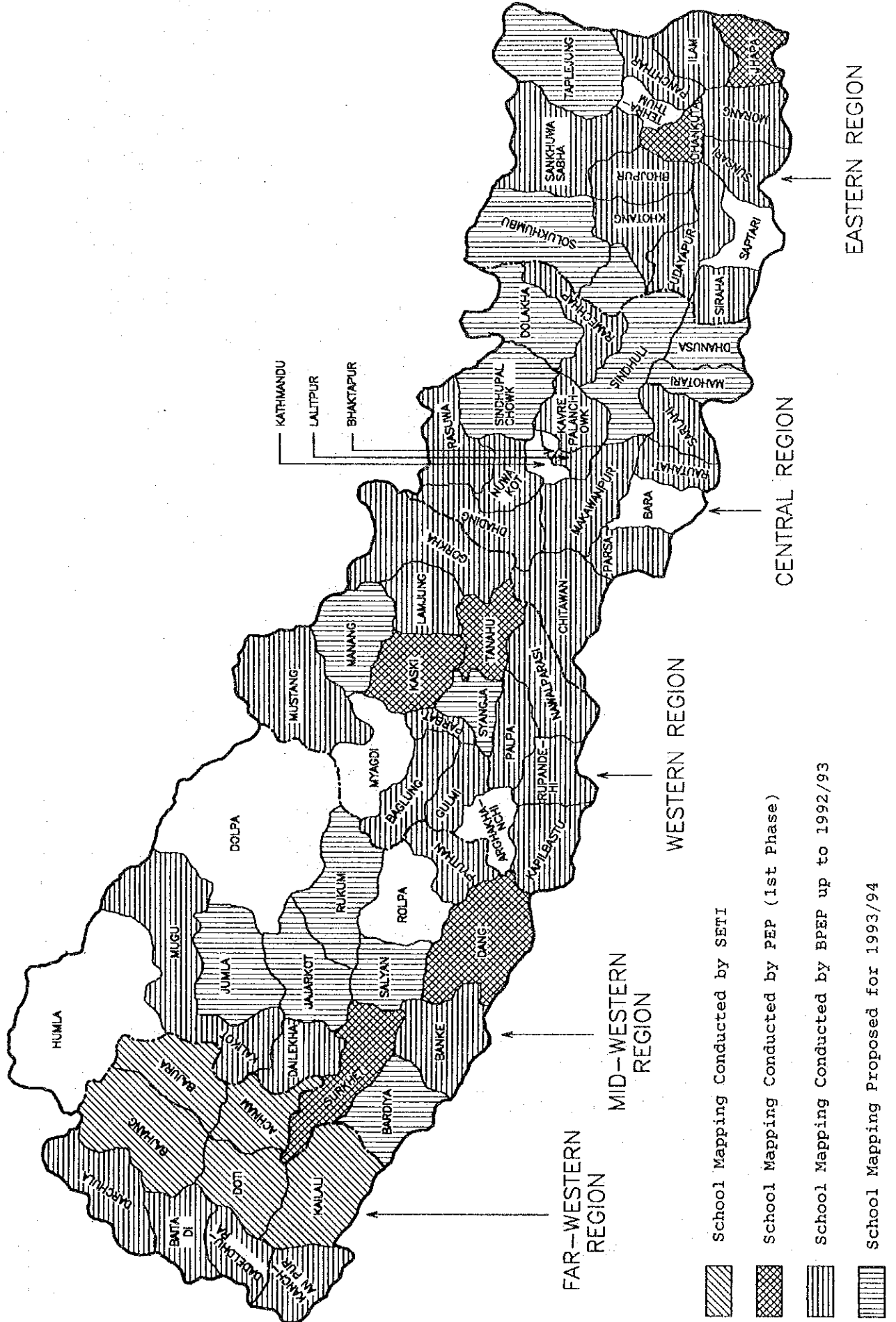
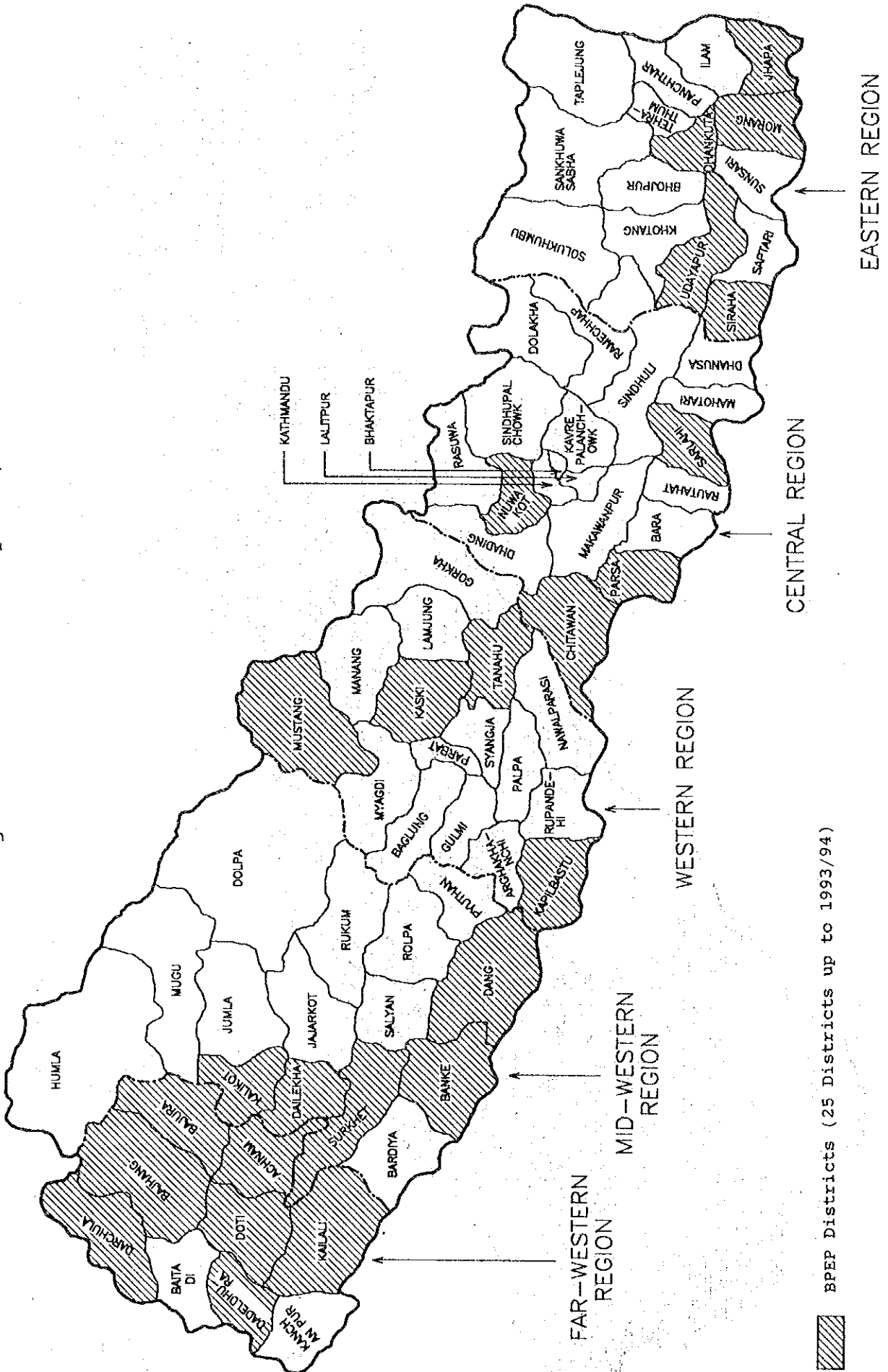


Fig. 2 BPEP Districts by 1993/94



classrooms were rehabilitated creating 1,044 operational classrooms, which comes to 104% of the proposed target. This is a considerable achievement for the first year.

From the current fiscal year, the cost sharing arrangement of the project will be changed providing a fixed amount for each of the three geographical zones: Rs.52,000 in Terai, Rs.36,000 in Hills and Mountains. The rates have been calculated on the basis of detailed cost estimates on the various standard designs made available to the communities and prevailing prices in each region. In addition, in remote and inaccessible districts, BPEP has made a provision to support local transportation costs. The cost of transporting construction materials will be determined by inaccessibility and distance from the nearest market. The range of subsidy for transportation costs varies from Rs.9,000 to Rs.12,000.

The funds provided by BPEP are to be used to procure the following construction materials and labor:

- Brick
- Cement
- CGI sheets
- GI plain sheets
- Reinforcement
- Hold fast, hinges, J. Hooks
- Skilled labor

The community would either contribute in cash or provide the following materials:

- Sand
- Aggregate

- Wood
- Unskilled labor
- Local Transportation of Construction Materials

For the rehabilitation of the classrooms, a uniform rate of Rs.15,000 has been introduced for one classroom to simplify the process. The reason is that, in the planning stage, it is very difficult to identify the particular requirements of an individual school for the rehabilitation and to calculate the construction materials that might be recovered during rehabilitation for reuse.

(c) Physical Survey of Schools

During the first year, the survey was conducted by BPEP, but, on the basis of the survey, the analysis was made individually by the District Engineer of MHPP in each district, and was approved by the District Construction Committee.

In the current fiscal year, the survey has been completed in the 14 districts and the list of schools for classroom construction has been provided by PPSMU on the basis of the analysis of the school physical survey. For the next fiscal year, PPSMU will soon start a survey of the five districts to be covered by the Japan's Grant Aid Assistance, and will complete the analysis by 25th of February 1994.

(d) Supervision of Classroom Construction

All-together, 102 overseers/sub-overseers have been recruited to supervise new classroom construction, rehabilitation, and Resource Center construction. The overseer/sub-overseer

is stationed in each cluster where new construction work is implemented.

One overseer/sub-overseer is to supervise approximately 40 classrooms. In the next fiscal year, an additional 14 overseers will be recruited.

(e) Resource Center Construction

Three DANIDA funded prototype RCs, developed to accommodate facilities for the special education component, have just been completed. The construction was carried out by three Class-C contractors selected through local competitive bidding. In the current fiscal year, 69 standard RCs located in 15 districts are to be built with community participation, as in the case of the school buildings.

(2) Practicality of the Project within the Framework of Japan's Grant Aid System

With the involvement of Japan's Grant Aid System for the provision of materials and equipment, BPEP will have to introduce a new sub-system from the fiscal year 1994/95 to the current construction management system, through which the government only gives the communities seed money and technical support. The main items that will require careful considerations are:

(Advantages)

- a) Wider range of improvements to the standard designs of the buildings might be possible with increased fund resources.
- b) Construction programme might be accelerated with increased resources.

- c) Easy quality control of materials will be achieved.
- d) The amount of funds mobilized by communities will be decreased, which may give them an incentive to participate.

(Disadvantages)

- a) The local communities might prefer receiving money rather than materials of equivalent value, so that they can enjoy flexibility in procuring materials.
- b) Additional management work will be needed for handling materials, monitoring their utilization, etc., by both the local communities and BPEP.

The details of these items are studied further in later chapters of this report and the conclusion on the adequacy of the Project will be made synthetically.

3-2-2 Management System for Constructing Educational Facilities under BPEP

(1) Organization of the Responsible Ministry

The Ministry of Education, Culture and Social Welfare is the ministry responsible for the execution of BPEP. The organization of MOECSW is shown in Fig. 3.

Until June 1993, MHPP had been playing an important role for implementation of the construction and rehabilitation of educational facilities under BPEP, giving technical support to BPEP. A major reform of the construction management system, however, was proposed in June 1993, and a draft has just been worked out, management responsibility

Fig. 3 Organization of MOECSW

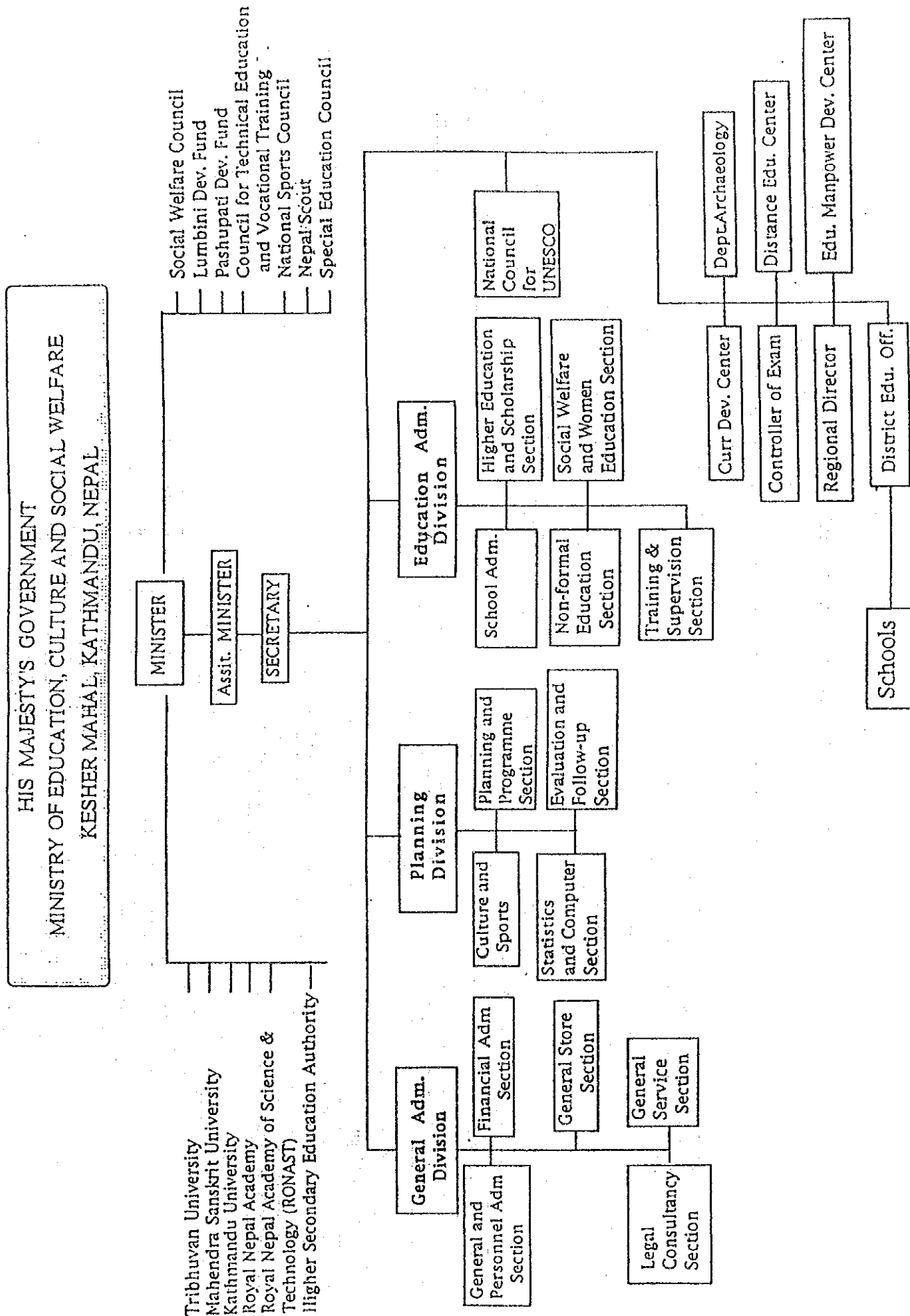


FIG. 4 Organization of BPEP

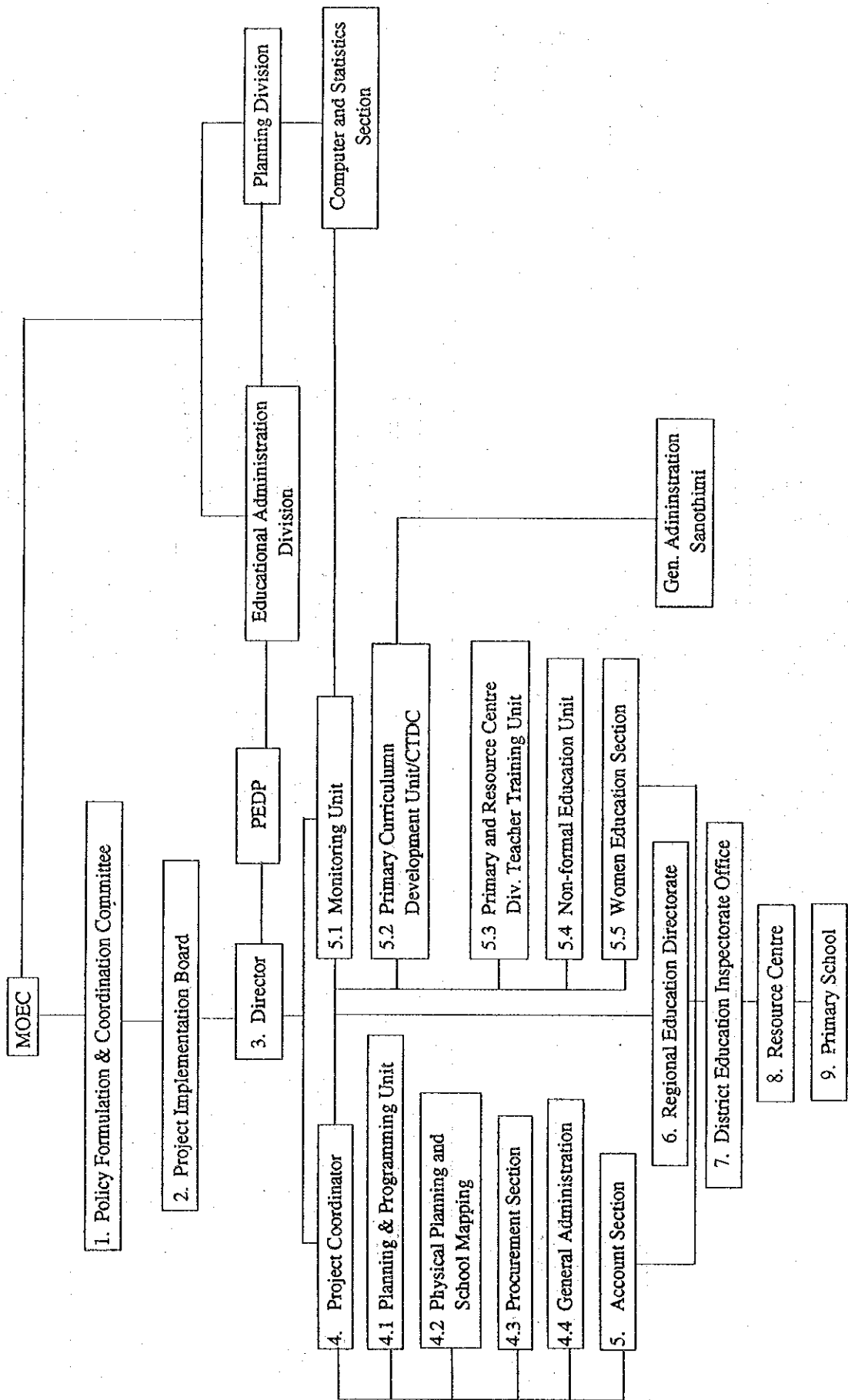
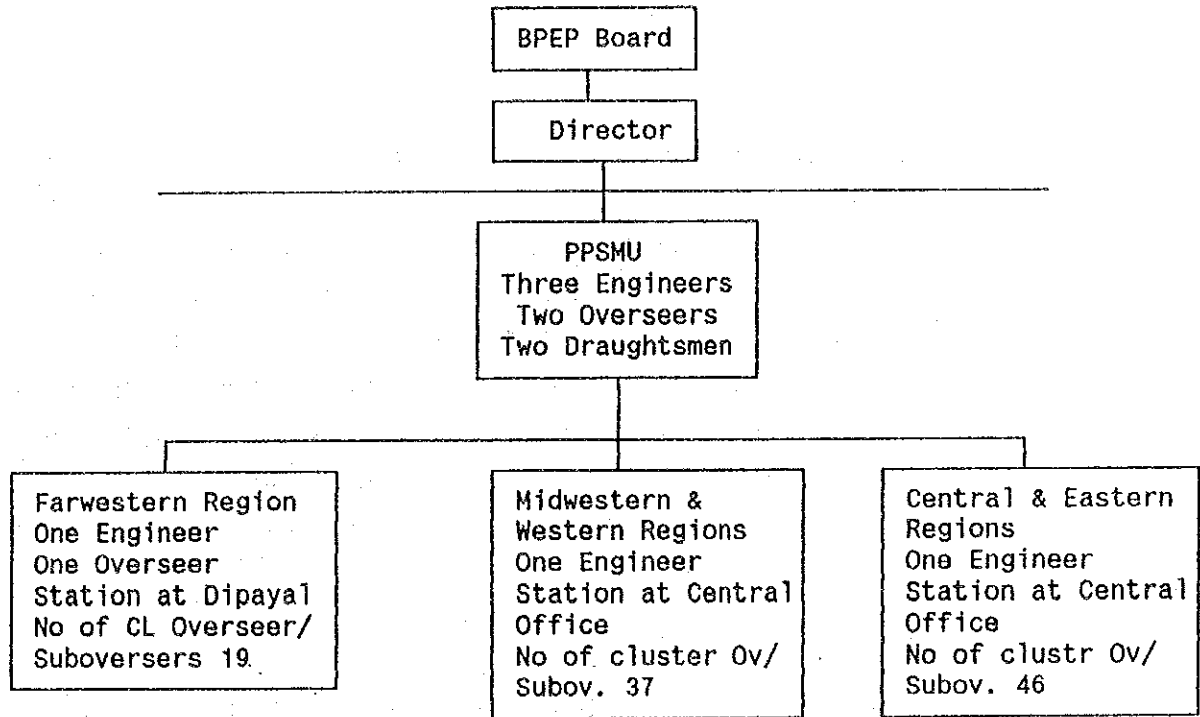


FIG. 5 BPEP Implementation Chart for School Construction & Rehabilitation



Far Western

Region	Midwestern Reg.	Western Reg.	Central Reg.	Eastern Reg.
No of Dists: 7	No of dists. 5	No of Dists.4	No of dists.4	No of dists.5

Kailali
Doti
Achham
Bajura
Bajhang
Dadeldhura
Darchula

Dang
Banke
Surkhet
Dailekh
Kalikot

Kapilvastu
Tanahu
Kaski
Mustang

Chitwan
Nuwakot
Parsa
Sarlahi

Siraha
Udayapur
Morang
Dhankuta
Jhapa

No of Engineers = 6
No of Overseer/Suboversers = 105
No of Draughtsmen = 2

being shifted exclusively to BPEP. A copy of the draft is attached as an appendix.

(2) Organization of Executing Agency

BPEP will be the executing agency of the Project, and PPSMU is directly in charge of implementing the Project.

The organizations of BPEP and PPSMU are shown in Fig. 4 and Fig. 5.

3-2-3 Related Projects of Other Donors

(1) PEDP

In the same sector of the primary education, the Primary Education Development Project is being implemented under ADB assistance. The director of PEDP is also the director of BPEP, thus achieving coordination in the policy-making level between PEDP and BPEP. At the technical staff level, however, no effort has been made to exchange technical know-how.

(2) BPEP

According to the BPEP Action Plan Fiscal Year 1993/94, the funds from IDA, DANIDA, and UNICEF are supporting BPEP, the shares being 73%, 10%, and 11% respectively of the total budget--Rs.367,981,000. Support from UNDP is still under discussion. The allocation for the components of construction and rehabilitation of educational buildings is Rs.195,928,000, which is 53% of the total BPEP budget. IDA and DANIDA are to share 94% and 5% of the amount respectively.

(3) Others

Other projects by foreign donors in the educational sector are summarized in appendix 6.

3-2-4 Materials and Equipment Requested

The initial request was made on 30 March, 1993. Before the Study was conducted, BPEP revised the contents twice in response to each of the two inquiries made by the Japanese Embassy in Nepal-- the first on 9 April, 1993, and the second on 8 June, 1993. Each time, the quantities were increased on the basis of recent BPEP achievements, as well as the Action Plan for the current fiscal year. The contents of the requests are summarized in Table 5.

The Study Team, however, proposed that the Project should only have a limited scope as a pilot project with the possibility of continued implementation of the Project in the years that follow. H. M. G. of Nepal agreed and revised the request from this point of view as shown in the same table. The reasons for the final revision are summarized below:

(1) Districts to be Covered by the Project

For the provision of materials and equipment for construction and rehabilitation of buildings, five districts have been selected to be covered by the Project as stated below.

For other materials such as blackboards and maintenance tools, the Project may reasonably cover more than these five districts up to the 25 BPEP districts according to further examinations described later in this chapter.

- Mustang (Mountain)

In this district, the level of primary educational facilities is rather high both in quantity and in quality. This is probably because of its accessibility by air and of the various activities of NGOs in the sector. The need for new

Fig. 6 Districts to be Covered by the Project

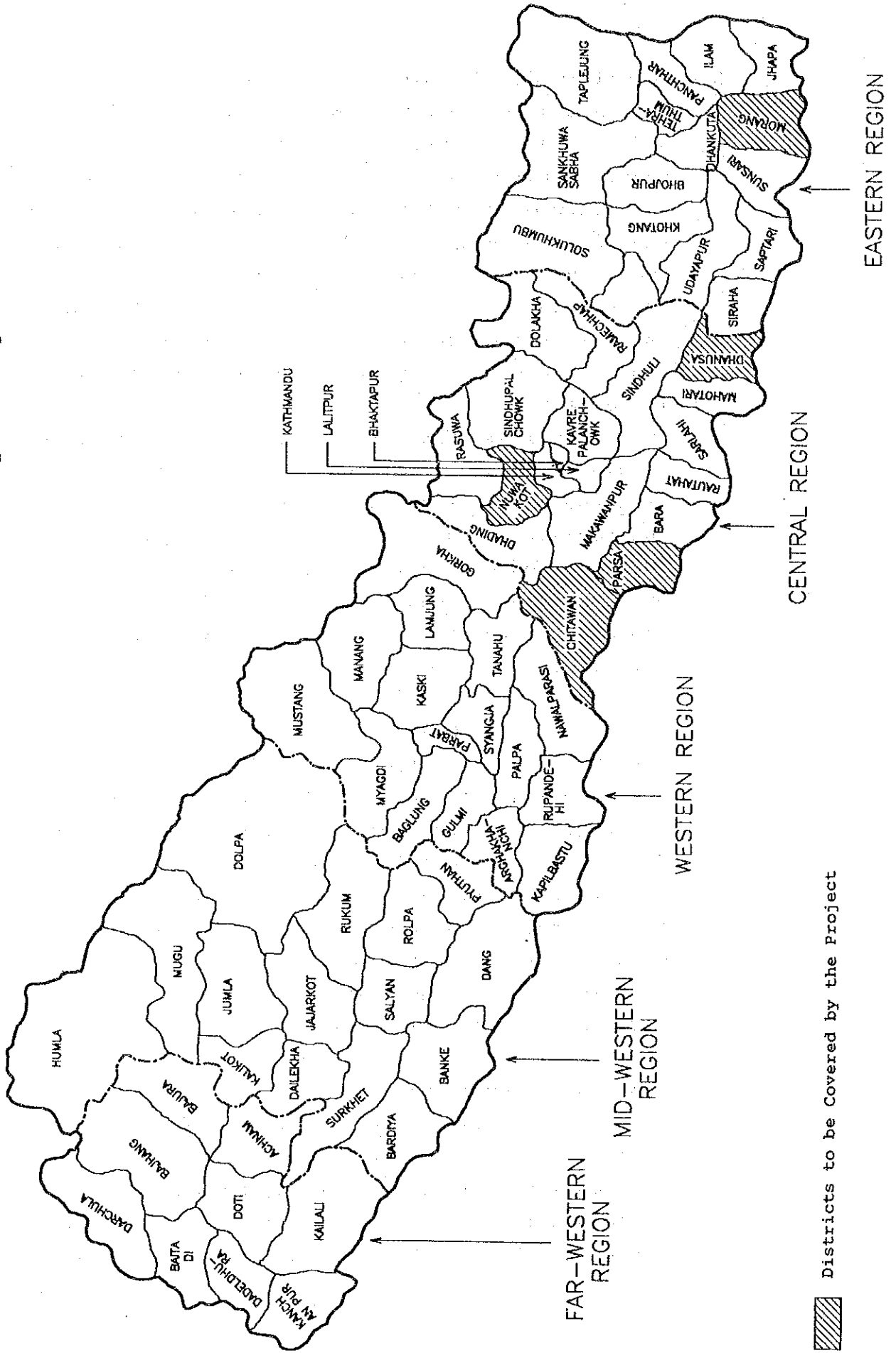


Table 5 Review of the Request by H. M. G. of Nepal

Requested Items	Requests & Proposal		Initial Request (March 30, 1993)		1st revision (Ans. to Ing of Aip 9)		2nd revision (Ans. to Ing of Jun 8)		3rd revision (Final) for the 1st Year	
	First Year (1993)	5 years (1993-1997)	First Year (1994)	Total in 5 years (1994-1998)	First Year (1994)	Total in 5 years (1994-1998)	First Year (1994)	Total in 5 years (1994-1998)	First Year (1994)	Total in 5 years (1994-1998)
1. No. of Districts	3	40 (1993-1997)	40	75 (1994-1998)	40	75 (1994-1998)	40	75 (1994-1998)	5	5
2. Const. of SS (No. of class rms)	110	4,400	600	4,800	600	4,800	2,500	9,000	1,000	1,200
Prov. of Materials (1,000Yen)	46,719	1,789,393	201,000	1,508,000	201,000	1,508,000	611,670	2,220,379		
3. Rehab. of SS (No. of class rms)	320	13,390	375	3,000	375	3,000	2,000	5,000	100	400
Prov. of Materials (1,000Yen)			62,812	502,500	62,812	502,500	76,511	190,223		
4. Const. of Toilet (No.)			188	1,500	188	1,500	500	1,500		100
Prov. of Materials (1,000Yen)			26,813	214,500	26,813	214,500	25,035	74,670		
5. Supply of Water Tanks			100	800	100	800	250	800		100
Prov. of Materials (1,000Yen)			7,600	60,800	7,600	60,800	16,084	52,757		
6. Const. of Stores (Nos.) (Turn-key)			5	5	5	5				
7. Const. of RC (Turn-key)	14	98	260,500	260,500	260,500	260,500				(Supply only)
8. Const. of RC	43,964	361,876					90	275		27
Prov. of Materials (1,000Yen)							81,491	279,365		
9. Const. of DEO (Turn-key)	1	13								
10. Supply of Other Materials	45,179	504,209								
1) Furniture (Lot.)			1	1	1	1	1	1	1	250 (1,000)
2) For Transportation (Lot.)	1	1			Incl. to 3) (Incl. to 3)	220,000	220,000	792,000		TRUCK: 5
3) Equip. for Communicat. (Lot.)	?	?	97,460	155,585	97,460	155,585	52,598	75,140		BIKE: 16 APP: 2
4) Solar Powered Lighting (Nos.)	?	?	44,950	65,050	44,950	65,050	2,400	10,500		COMPUTER: 5
5) Tools for Local Staff (Lot.)	350	?	480	480	480	480	(480?)	(480?)		FAX: 7-15 RC: 27
6) Educational Materials (Lot.)	?	?	1	1	1	1	600	3,000		SS: 200 RC: 15
10. Sub-Total	19,638	86,408	146,654	241,855	146,654	241,855	305,598	904,640		SS: 300 250 (1,000)
Grand Total	155,500	2,666,599	705,379	2,668,152	705,379	2,668,152	1,116,389	3,722,032		

facilities, therefore, is relatively low. On the other hand, the risk in executing the Project will also be lower than in other districts of the mountain area. Mustang is excluded from execution.

- Nuwakot (Hill)

This is one of the districts where the construction and the rehabilitation of schools under BPEP have been intensively implemented. In Fiscal Year 1992/93, 63 classrooms were completed while 60 rooms had been planned initially. For Fiscal Year 1993/94, contract agreements for 408 new rooms have been concluded out of 452 rooms planned, and 100% of the agreements for the rehabilitation of 60 rooms have been achieved. So far, 11 out of 17 clusters have been covered.

- Parsa(Terai)

This is also a district in which the construction and the rehabilitation of schools have been implemented intensively.

- Chitwan, Dhanusha and Morang (Terai)

These districts are new to the construction project under BPEP, but were selected because of the following factors that would make the implementation of the Project relatively easy:

- a) School Mapping has been done in the districts,
- b) Availability of Vehicle Access to and within the districts, which makes procedures such as school physical survey, provision of materials, and supervision and monitoring relatively easy,
- c) Locations are near each other as well as Kathmandu, where the BPEP head office is located. This would contribute to the effi-

ciency of the procedures in b) above. Morang alone is located a little far from others; accordingly, only 10 RCs and no classrooms are covered by the Project.

(2) Provision of Construction Materials for Satellite Schools

This is the main component of the Project. At this moment (Middle of February 1994), the physical survey of schools is underway in Nuwakot and Parsa, and will be started soon in Chitwan, Dhanusha and Morang. Then, on the basis of the data collected, PPSMU will prepare an action plan for the construction of SS for FY 94/95 in the selected districts possibly by 25 February, 1994.

For the time being, the number of new classrooms is estimated by multiplying the numbers of proposed schools by two, the average number of class rooms per school, the results of which are as shown below:

1,000 to 1,200 classrooms in total in the following 4 districts: Nuwakot, Parsa, Chitwan, and Dhanusa

(3) Provision of Materials for the Rehabilitation of Satellite Schools

This item is also important, but will be difficult to handle in terms of both design and monitoring. Only a limited number of schools will be taken as test cases. The numbers in each districts are summarized below:

100 to 400 classrooms in total

(4) Provision of Construction Materials for Toilets
Toilets have not been generally introduced to SS,

especially in remote areas. Only a limited number of toilets should be taken as test cases.

100 toilets (3 units) in total

(5) Provision of Materials for Water Supply System

In most of the existing schools the Study Team visited, some form of water supply system was seen in the vicinity. This item will be justified if proper design documents are prepared by the appropriate time.

100 sets in total

(6) Provision of Construction Materials for Resource Centers

Resource centers are to play key roles in the implementation of the entire BPEP, providing the basis for the school clustering system. Construction of some proto-type Resource Centers is underway with the assistance of DANIDA. For standard resource centers, BPEP is introducing a construction system with community participation from the current fiscal year. Although the possibility of Japanese Assistance for constructing resource centers under a turn-key system has been declined, the provision of materials for RCs will be highly appropriate. The requested numbers of RCs are shown below:

Nuwakot:	0
Parsa:	0
Chitwan:	7
Dhanusha:	10
Morang:	10
Total:	27

(7) Provision of Materials for Logistics Support

The following materials will be useful for implementing the project:

- Tent warehouses will be used mainly for storing cement (a few blocks in each district)
- Trucks (3-ton) for the transportation of materials from distribution centers to the construction sites or accessible points nearby. (One for each district, five in total)
- Motorcycles for Overseers (18 in total)
- 4WD Diesel Engine Jeeps for BPEP Head Office--
The three existing jeeps are almost fully used: one by the director, and the other two by text book development unit. An additional two jeeps for the exclusive use of PPSMU will be very useful.
- Personal Computers -- BPEP is developing a computerized management system, with basic data being collected at a district level, and inputting at the head office. An additional five sets will be useful.
- Facsimile Machines for District Centers -- The data collected at district centers must be sent to the BPEP head office. In total of 7 to 15 facsimile machines will be necessary by next fiscal year.
- Portable Radio Communication Devices -- These items are very useful for the communication between the district head office and overseers. But the following steps must be completed by the

beginning of February 1994, otherwise, this item will be excluded from the scope of the first year of the Project.

- 1) Agreement with the Ministry of Home affairs on the allocation of a radio wave frequency range to BPEP
- 2) Preparation of topographic maps on which the proposed points for the communication to be made are shown.

- (8) Provision of Tools for the Maintenance of Schools
This item is strongly recommended as useful by the DANIDA expert, Rehabilitation and Maintenance Advisor. A tool box with the standard tools prescribed by PPSMU was requested for each of the completed SS and RCs.

300 sets of Type A (basic tools) for SSs
15 sets of Type A and additional tools for RCs

- (9) Provision of Black Boards
In most of SS, very low quality black boards (made by applying black paint directly on walls) are used. A locally made black board of reasonable quality was requested for each completed SS. This should be portable so that it can be used for outdoor classes as well.

250 sets in total.

- (10) Furniture for Classrooms
In most of SS, very low quality furniture is used, and sometimes none at all. Some locally made furniture was requested for each of the completed classrooms selected as below:

250 sets in total.

(11) Solar Powered Lighting Devices

Resource centers and some SSs are also used for non-formal education, some of which is provided at night. In remote areas where no electricity is supplied, solar powered lighting devices might be useful, and improve the efficiency of the facilities. On the other hand, the devices are very expensive compared to the buildings, and installation and maintenance might cause unexpected problems. As test cases, only a limited number of solar powered lighting systems were requested as stated below:

Resource Centers: Fixed-type lighting system
(120W to 140W in Capacity)
27 sets in total

Satellite Schools: Portable lantern
(15W to 40W in Capacity)
200 sets in total

(12) Portable Block (or Brick) making machines

This item was newly presented to the Study Team at the meeting in BPEP. It might be a good idea to introduce this kind of machine. Before reaching a conclusion, however, a careful plan must be prepared for such items as:

- Who is to use the machines,
- Where are the machines to be located,
- Who is to maintain the machines,
- How many blocks are to be made, etc.

Due to the limited time for the study, this item will be kept for further studies in the second year or later.

3-2-5 Need for Technical Assistance

Technical cooperation from Japan will not be necessary for the Project except:

- giving a training course in Japan to some limited number of the technical staff members in BPEP on their expertise might be very useful. This could be applied on an individual case basis.

3-2-6 Principles for Implementing Assistance

Through the review and analysis stated above, the study team confirmed the practicality of the Project, the ability of H. M. G. of Nepal to execute the Project, and that the effects of implementing the Project will conform to the framework of Japan's grant Aid Assistance. Accordingly, it is appropriate to implement the Project under Japan's Grant Aid Assistance. As stated in 3-2-4 of this report, the Project should be a pilot. The contents of the Project and the Basic Design will be worked out from this point of view in the following sections and chapters.

3-3 Project Description

On the basis of the facts and findings clarified through the field survey, the Study Team conducted a further study in Japan. Some items such as Solar-powered Lanterns and Furniture were excluded, and the Study Team finalized the contents of the Project as stated below:

3-3-1 Clusters/villages to be covered

The cluster numbers and number of schools to be covered by the Project are as shown below (Lists and Location maps of clusters/villages are given in Appendix-7):

1. Nuwakot: Cluster Nos. 6, 7 and 8
56 SSs in total
2. Parsa: Cluster Nos. 2, 7, and 8 to 11
39 SSs in total
3. Chitwan: Cluster Nos. 2 to 4, 6, and 9 to 11
153 SSs in total
7 RCs
4. Dhanusa: Cluster Nos. 1 to 7 and 9
139 SSs
10 RCs
5. Morang: Cluster (Nos. 1 to 17: not identified yet)
10 RCs

3-3-2 Outline of Facilities and Equipment

(1) Provision of Materials for Construction of SSs

Nuwakot: 237 classrooms
Parsa: 125
Chitwan; 276

Dhanusa: 311

In total 949

(2) Provision of Materials for Rehabilitation of SSS

Chitwan; 50 classrooms

Dhanusa: 50

In total 100

(3) Provision of Materials for Construction of Toilets

Nuwakot: 15 blocks

Parsa: 15

Chitwan; 30

Dhanusa: 30

Morang: 10

In total 100

(4) Provision of Materials for Construction of Water Supply Systems

Nuwakot: 15 sets

Parsa: 15

Chitwan; 30

Dhanusa: 30

Morang: 10

In total 100

(5) Provision of Materials for Construction of RCs

Chitwan; 7

Dhanusa: 10

Morang: 10

In total 27

(6) Provision of Materials for Logistics Support

- Tent Warehouse: 20
(5m X 10m)

- Truck (3 ton) 5

- 4WD Diesel Engine Jeep: 1
- Motorcycle: 18
- Personal Computer: 1 set
- Facsimile Machine: 7 sets
- Tools for Maintenance: 15 for RCs
300 for SSS

(7) Others

None of the following items will be provided.
Provision of these items will be reviewed in later years.

- Black boards
- Furniture for Classrooms
- Solar Powered Lighting Devices
- Block (Brick) making machines

CHAPTER 4 BASIC DESIGN

Chapter 4 Basic Design

4-1 Design Policy

The Study Team established the following design principles:

(1) Utilization of Preceding Project Experience

BPEP has been developed to cover the whole country on the basis of preceding project experience such as with SETI and BEP, introducing the same basic concepts such as the School Cluster System and School Construction by Community Participation. This Project, therefore, should be planned utilizing preceding project experience to the maximum.

(2) Effective Coordination with Other Donors to Nepal

BPEP is being implemented with support from many international donors, among which the World Bank is playing a key role. Effective coordination with other donors is essential for the successful implementation of the Project. The contents of the Project shall be designed to meet the principles of the entire BPEP. As far as the Project conforms to Japan's Grant Aid System, neither separate areas nor special techniques for "Japan's Project" shall be applied. The designs for materials and equipment, accordingly, will be made strictly on the basis of the standard designs of facilities prepared by BPEP.

(3) Consideration of Various Local Conditions

Due considerations should be paid to various local conditions such as:

- A wide range of environmental conditions which differ from place to place -- weather, geology, topography, infrastructure, living customs, etc.

- Maximum utilization of local materials and construction methods, thus achieving lower cost and easy maintenance of the facilities after completion.
- Existence of a rainy season, which makes transportation of materials and construction work impractical in many areas.

(4) Consideration of the Role of the Project as a Pilot for future assistance by Japan

As stated in previous chapters, the provision of materials under Japan's Grant Aid System means introduction of a new system to the construction of schools by community participation under BPEP. The first year of execution should be carefully planned taking only reasonable risks with an appropriate monitoring system so that improvements can be achieved year by year.

4-2 Examination of Design Criteria

4-2-1 Review of the Standard Design of Facilities

(1) General

The Study Team reviewed the standard design of the schools presented by PPSMU. According to the explanation given by PPSMU, the standard design of SS is substantially the same as those applied to preceding projects -- SETI and PEP -- with a slight increase of the plan size of the classroom responding to recent design norms, which have been established on the basis of the school mapping exercise. For Fiscal Year 1992/93, the SS was constructed on an individual design basis without using a standard design. PPSMU has just worked out the standard designs of SS, and is applying them to school construction in Fiscal Year 1993/94 for the first

time.

Regarding plan types, PPSMU has only one standard plan of SS; namely, a 2-classroom-school with single story building -- 14'-3" by 40'-6" in plan size. Modifications are allowed only to the location of partitions. It is recommended that PPSMU develop further variations of plan types as standard designs for relatively populated areas.

With the inner cross load-bearing wall, the sizes of the building and building elements conform to the contents of a booklet published by UNESCO under the title "Protection of Educational Buildings against Earthquakes." However, plan types without this cross wall do not conform to the manual. In this case, some additional supporting elements such as buttresses or columns may be considered.

In Nepal, there are no authorized building code or regulations yet. Foreign design standards -- often those of India -- are utilized on an individual project basis. The Ministry of Housing and Physical Planning, however, has recently been working out a Draft Building Code of Nepal. The study team recommends that PPSMU pay due consideration to the contents of the draft in developing their standard designs of school buildings.

(2) Roof Materials

According to the standard design of PPSMU, CGI sheet is to be generally used for roof coverings. To obtain natural light effectively, a study is underway to replace some part of the roof with a transparent material such as corrugated PVC sheet. Furthermore, in typical Terai regions, use of CGI sheet might not be appropriate due to the hot

weather. Some alterations either to the choice of materials or to the design of the roof section -- for example, addition of a false ceiling -- might be necessary.

(3) Roof Trusses

Timber trusses are generally used for the roof structure. To minimize the use of wood and reduce consumption of forestry resources, a steel truss was under consideration. BPEP would develop an alternative design soon.

(4) Wall Structure

According to the standard design, brick masonry walls are used in Terai regions, and stone masonry in upland and mountain regions. In brick masonry, cement mortar is used for joint bonding, and mad mortar will not be used except in special situations that could justify such a method. In stone masonry, mad mortar is generally used.

(5) Doors and Windows

Doors and Windows are made of wood according to the standard design. To minimize the use of wood and reduce consumption of forestry resources, use of metal (steel or aluminum) doors and windows was under consideration.

PPSMU has altered the standard design on some of the items mentioned above, and presented them to the study team at the beginning of March 1994. The revised drawings are attached as Appendix 8.

4-2-2 Review of Other Conditions

1) Construction System with Community Participation

- Need for incentives to communities in disadvan-

tagged areas

In remote and disadvantaged areas where only human carrier or other primitive transportation methods are available, providing materials at the points far away from construction sites might place a serious burden on local communities. On the other hand, in the framework of Japan's Grant Aid System, a Japanese supplier must be the main contractor, and it would be difficult for him to deliver the materials at the points remoter than district centers. Some incentives to the local communities -- for instance, allocating seed money from IDA funds to subsidize local transportation costs -- will be necessary.

- Quality control for construction work

With community participation, quality control for construction works is rather difficult. Consideration should be paid to developing the Construction Management System.

For instance, the proper brick bonding methods for the joints between the external walls and the internal cross wall, which is very important to obtain the designed earthquake resistance, might not be taken without an elaborate instruction to do so.

2) Logistics System

Logistics support for the Project is also a test case, and the system shall be established by further modifying the recently revised management system. BPEP is working out the details of the system with the necessary additional factors, which will be:

- Preparation of foundations of tent warehouses.

- Maintenance and Guard of the warehouses

- Storage of Materials from the Japanese Supplier, and their distribution to local communities.
- Maintenance of vehicles.
- Recruitment of drivers and other staff

4-3 Basic Design

4-3-1 List of Materials and Equipment

The materials and equipment to be provided under the Project are shown in Tables 6 and 7.

4-3-2 Specifications of Materials and Equipment

The materials and equipment will have the following specifications, on the basis of which detailed descriptions will be determined at the detailed design stage:

- (1) Roofing Materials (CGI sheets, CPVC sheets)
CGI sheets (26") will be generally provided for roofing. Some CPVC sheets (2 mm thick.) will be provided for the sky-light of RCs.
- (2) Roof Trusses (Wood, Steel)
Steel pipe trusses will be provided for the construction of RCs and SSs.
Traditional timber trusses will be provided for other buildings.
- (3) Cement
Cement locally purchasable or that of equivalent quality will be provided. A special packing method for dump resistance shall be specified.

Table 6 Materials to be Provided (1) (for Construction)

Materials Facilities	Cement	Brick	Wood	CGI Sheet	GI Sheet	Iron Bar Sheet	Translu. Sheet	MS Truss W. Frame	Metal D/ Frame	Enamel	Primer	Lime	Others
1. Const. of SS (Terai)	○	○	○	○	○	○	○	○	○	○	○	○	Hardware ○ Bolts&Nuts
2. Const. of SS (Hill&Mount.)	○	/	○	○	○	○	○	○	○	○	○	○	Hardware ○ Bolts&Nuts
3. Rehab. of SS	○	○	○	○	○	○	/	/	/	/	/	/	/
4. Const. of RC (Terai)	○	○	○	○	○	○	○	○	○	○	○	○	Tub. Pillar ○ Hardware Bolts&Nuts Tub. Pillar
5. Const. of RC (Hill&Mount.)	/	/	/	/	/	/	/	/	/	/	/	/	/
6. Toilet (Terai)	○	○	○	○	○	○	/	/	/	○	○	○	4 in. Dia. HD Pipe ○ Hardware Bolts&Nuts 4 in. Dia. HD Pipe ○ Hardware Bolts&Nuts 1/2 in. HD Pipe ○ 1/2 in. GI Pipe
7. Toilet (Hill&Mount.)	○	/	○	○	○	○	/	/	/	○	○	○	Hardware Bolts&Nuts 1/2 in. HD Pipe ○ 1/2 in. GI Pipe
8. Water Supply System (Hill&Mount.)	○	/	○	○	○	○	/	/	/	/	/	/	Hand pump
9. Foundation for Tent Warehouses	○	○	/	/	/	/	/	/	/	/	/	/	/

Table 7 Materials and Equipment to be Provided (2)
(for Logistics Support and Maintenance)

1. Tent warehouses	2 to 6 for each district, 20 in total
2. Trucks (3-ton)	1 for each district, 5 in total
3. Motorcycles	2 to 4 for each district, 18 in total
4. 4WD Diesel Engine Jeep	1 for PPSMU
5. Tools for the Maintenance of Schools	300 sets of Type A (basic tools) for SSS 15 sets of sophisticated tools for RCs
6. Personal Computer	1 for PPSMU
7. Facsimile Machines	1 for PPSMU 1 for Regional Office 5 for the districts (1 for each)

- (4) Bricks
Bricks which are locally manufactured or those of equivalent quality will be provided.
- (5) Reinforcing Steel Bars
Steel bars which are locally purchasable or those of equivalent quality will be provided.
- (6) Doors & Windows
Metal Door/Window frames will be provided for the construction of RCs and SSs. Wooden frames will be provided for other buildings.
Wooden Door/Window panel shatters will be provided generally.
- (7) Hardware for Doors & Windows
Hardware which is locally purchasable or those of equivalent quality will be provided.
- (8) Tent Warehouses
Approximate Plan Sizes: 5m x 10m
Approximate Eaves height: 3m
Frame: Light Gage Steel
Tent: PVC coated Polyester Sheet
- (9) Trucks
- | | |
|-------------------------|---|
| Engine | : Direct injection diesel
4400 cc displacement
90 Ps(66kw) at 2800rpm |
| Fuel tank capacity | : 90 lit |
| Loading capacity | : 3,000 kg |
| Max width | : 2132 mm |
| Overall length | : 5945 mm |
| Length of load body | : 3926 mm |
| Load body platform area | : 7.9 sqm |

(10) Motorcycles

Motorcycles which are locally purchasable or those of equivalent quality will be provided.

(11) 4WD Diesel Engine Jeep

Seating : 9 persons
Dimension : L 4,645 mm x W 1,695 x H 1,955 mm
Engine : 4 Cylinder Diesel Engine
2,600 cc Displacement
72 PS/ 4,200 rpm
Gear Box : 5 normal gear positions forward
with 1 normal gear positions
reverse
2-speed transfer gear for option-
al low-range operation
Four-wheel-Drive
Fuel tank : 92 liters
Drive : Right hand drive

(12) Tools for Maintenance of Schools

A Type-A tool box with following basic tools will be provided for each SS (300 in total).

1 Hand saw
1 Hammer
1 Measuring tape
1 Plier
2 Chisels for wood 1/2" and 1"
2 Trowels
1 Chisel for stone (round)
1 Chisel for stone (flat)
1 Sledge hammer
1 Screw driver (flat)

A type-A tool box and the following additional tools will be provided for each RC (15 sets in total).

1 Crowbar

- 1 Hacksaw
- 1 Hand drill
- 2 Planes (1 big and 1 small)
- 1 set of Drills for metal
- 1 Brace drill
- 1 set of Drills for wood
- 5 Chisels for wood (diff. sizes)
- 3 Clamps 6"
- 2 Files(1 wood and 1 steel)
- 1 Adjustable spanner
- 1 Spirit level
- 1 Stillson
- 1 Axe
- 1 Sharpening stone
- 2 Floats (1 metal and 1 wood)

(13) Personal Computer

A personal computer which is compatible to the existing computers will be provided with:

- Key board
- 14" Color Monitor
- 4MB RAM
- 170 MB Hard Disk
- 1.44 MB Floppy Drive
- 2 serial, 1 parallel port, and 1 mouse port
- Laser writer printer with 8Mb W/windows accy kit and cables
- IBM compatible

(14) Facsimile Machines

Facsimile machines which have following specifications will be provided.

- with Automatic dialing,
Programmable one-touch speed dialing,
Coded speed dialing

- Manual Ten-key dialing
- Fax/Phone automatic switching
- Error correction mode
- Activity report
- Document Sizes : Max width 222 mm
Mini Width 148 mm
- Type : Desk top transceiver

4-4 Implementation Plan

4-4-1 Implementation Organization

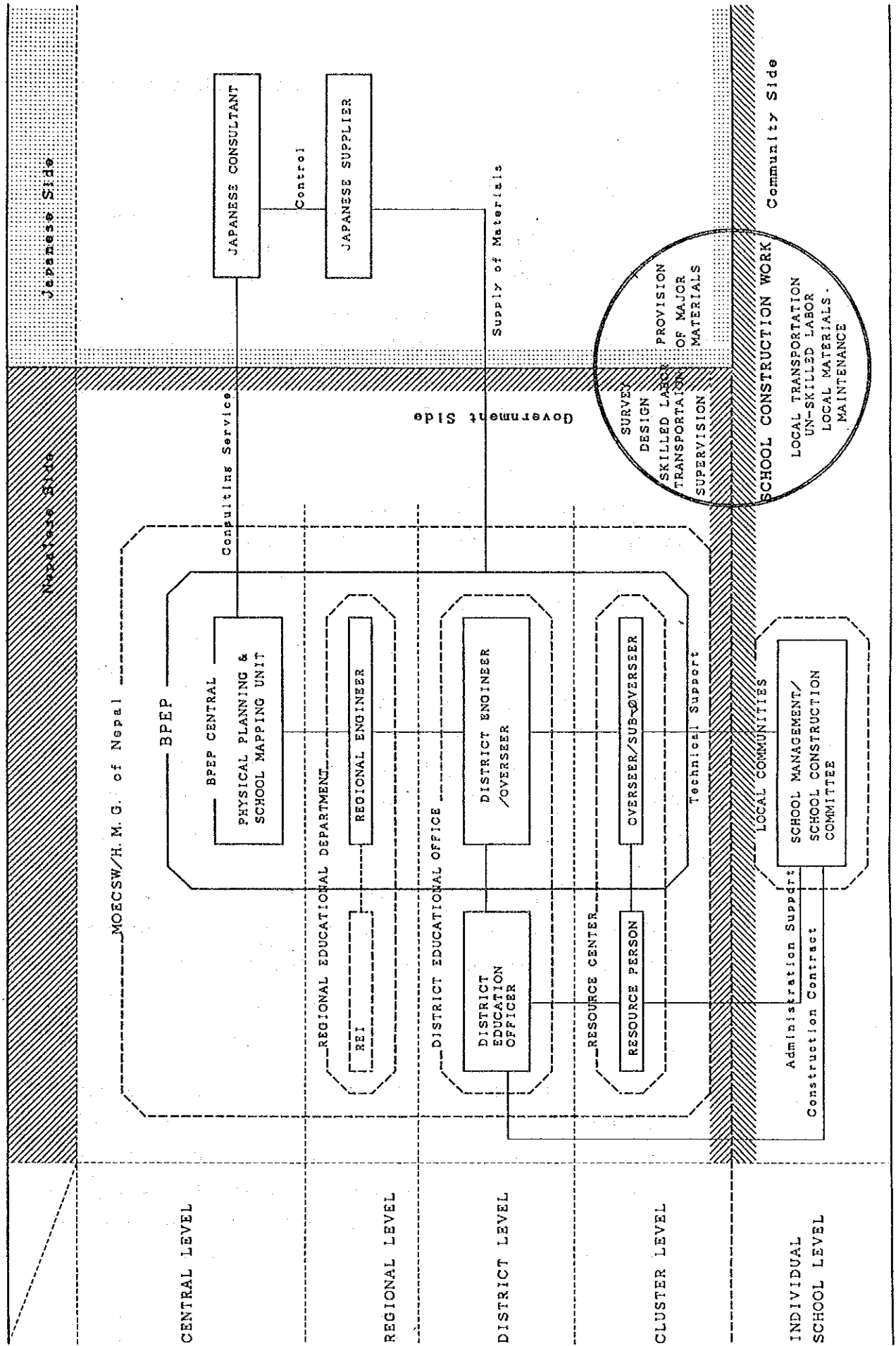
For the work items to be done by the Nepalese side, the Project will be implemented utilizing the same management system as in other school construction projects under BPEP. For the items to be done by the Japanese side, a Japanese consultant and a Japanese supplier shall be chosen. The entire organization for implementing the Project is shown on Fig. 7.

(1) Executing Agency

The Project will be executed by BPEP under MOECSW, and PPSMU will be in direct charge of the implementation of the Project. (see 3-2-2.) The Director of BPEP will take full responsibility for the implementation of the Project. Furthermore, in each of the districts where the Project is to be implemented, the District Education Officer (DEO) is to issue certificates and other documents upon receipt and delivery of materials and/or equipment. The DEO will also be responsible for managing logistics support up to the delivery of the materials to local communities.

District overseers/engineers, who are to be recruited and posted by BPEP, may act on behalf of the DEO regarding the procedures stated above,

Fig. 7 Organization for the Project Execution



depending on the situation around each construction site.

(2) Japanese Consultant

In case the Project is to be executed by Japan's Grant Aid, Exchange of Note is signed between the two governments. Then, the Japanese consultant shall enter into a consultancy contract with BPEP in accordance with the Japan's Grant Aid System. On the basis of the contract, the consultant shall proceed with the services as follows:

Phase 1 Detailed Design Phase:

The consultant shall prepare the detailed design documents for materials and equipment.

Phase 2 Tender Phase:

The consultant shall provide BPEP with the assistance necessary to select a supplier and to enter into a contract with the supplier.

Phase 3 Procurement and Installation Phase:

The consultant shall, in cooperation with BPEP, supervise the procurement of materials and equipment up to their delivery to BPEP and installation of the equipment. The consultant shall also provide engineering services to BPEP on the proper methods of storing, transporting, and using materials and equipment.

(3) Japanese Supplier

Procurement and delivery to BPEP of materials and equipment covered by the Japanese side shall be executed by a Japanese supplier, who will be selected by tender. The time schedule for providing materials shall be determined in the contract in accordance with the Japan's Grant Aid System.

(4) School Management Committee (SMC)

Construction work shall be done by the Nepalese side within the framework of the Construction/ Rehabilitation of Primary Schools by Community Participation under BPEP. The local communities, normally SMCs are to enter into a construction contract with BPEP.

4-4-2 Implementation Method

The work items of the entire construction project in relation to the responsible sections are shown in Table 8 Project Operation Matrix.

(1) Material Distribution Centers

Material Distribution Centers, where the construction materials provided by the Japanese side are to be delivered to BPEP, will be established in the district centers. All five district centers selected for the Project are accessible by truck. For the locations and conditions of the District Centers, see 2-3 of this report. However, for some materials which can be manufactured near the construction site -- for instance bricks -- delivery at a few scattered points might be more appropriate. This is to be reviewed at the detailed design stage.

(2) Inland Transportation of materials from the centers to the construction sites

From the district centers to each construction site, the materials are to be transported by BPEP up to the nearest point accessible by truck, where the materials are to be handed over to the community representative, who will transport them to the construction site either by wagon, donkey, or human carrier depending on the situation.

Table 8 Project Operation Matrix

Work Items	Responsible Sections	Nepalese Side				Japanese Side		Remarks/Notes
		BPEP/PPSMU	DEO	SMC	OS/EN	JC	JS	
1. Recruitment and Trainings of Technical Staff		<input type="checkbox"/>	<input type="checkbox"/>					BPEP: Basic & Primary Education Programme
2. Preparation of Community Agreements		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>			
3. Preparation of Design Standards and Norms		<input type="checkbox"/>						
4. School Physical Survey		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Already done	PPU: Physical Planning Unit
5. Selection of Schools / Construction Sites		<input type="checkbox"/>	<input type="checkbox"/>				Already done	
6. Supply of Building Design Documents		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			DEO: District Education Office
7. Site Preparation				<input type="checkbox"/>	<input type="checkbox"/>		Covered by Communities	
8. Collection of Local materials				<input type="checkbox"/>	<input type="checkbox"/>		Covered by Communities	SMC: School management Committee
9. Construction Contract			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			OS/EN: Overseer/Engineer
10. Design of Materials to be provided by Japan						<input type="checkbox"/>		JC: Japanese Consultant
11. Material Procurement						<input type="checkbox"/>		JS: Japanese Supplier
12. Transportation of materials to District Centers						<input type="checkbox"/>		<input type="checkbox"/> Main Contribution
13. Storage of materials at District Centers		<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/> Sub-Contribution
14. Transportation of Materials to sites			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
15. Construction Work			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
16. Supervision of Work			<input type="checkbox"/>		<input type="checkbox"/>			
17. School Maintenance				<input type="checkbox"/>	<input type="checkbox"/>			
18. Project Monitoring		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- (3) Storage of materials at the district centers
Tent warehouses shall be supplied and installed at the sites in the district centers by the Japanese side. BPEP shall prepare foundations for the tent warehouses in advance. Some materials may be packed in disposable containers upon delivery to BPEP, and stocked under the management of DEO until delivery to the community.
- (4) Storage of materials at the construction sites
Care should be taken to synchronize delivery of materials with the construction schedule, so that the materials will not be stored at construction sites for an unnecessarily long time. Instructions on storage methods should be given to the communities as part of the guidelines for construction work.

4-4-3 Monitoring Plan

To obtain the basis for planning grant aid projects that might be continued in the future, an appropriate monitoring system should be established on the utilization of materials and equipment provided under the Project. In response to the recommendations of the second Supervision Mission of IDA, BPEP has recently worked out a draft monitoring plan as part of the Draft Construction Programme Management Plan under BPEP, a copy of which is attached to this report as an appendix.

This Project shall be monitored using the same system with more details worked out so that utilization of materials and equipment can be identified separately from the entire construction project under BPEP. BPEP shall prepare periodical reports (more than once every three months) on the progress of construction under BPEP including the utiliza-

tion of materials and equipment, and shall present the report to the Government of Japan through the Japanese Embassy in Nepal.

4-4-4 Procurement Plan

The materials and equipment to be provided under the Project are divided into two categories:

(1) Materials to be procured locally in Nepal

The following materials and equipment will be procured either at Kathmandu or Birganj and will be transported to the district centers or Kathmandu by truck. At the detailed design stage, however, the situation of the local markets is to be reviewed, and the possibility of the procurement from Japan or the third country might be re-considered.

a) Items to be delivered at the district centers

- Bricks
- Wooden doors and windows
- Cement
- CGI Sheets, GI Plain Sheets
- Steel Bars
- Steel Pipes Trusses
- Tools
- Sanitary Wares and Fittings
- Door and Window Fittings
- PVC Pipes, HDP Pipes
- Fax Machines

b) Items to be delivered at Kathmandu

- Trucks
- Personal Computers

(2) Materials and equipment to be procured from Japan

Tent Warehouses, Motorcycles and 4WD Jeep will be procured in Japan. Tent warehouses will be deliv-

ered at the district centers, and others will be delivered at Kathmandu. These items will be transported as described below:

a) Sea Transportation

Calcutta Port in India is the normal destination for sea cargo for Nepal, the transportation period being around four weeks.

b) Unloading and Clearance at Calcutta

The derricks of Calcutta Port can handle 10 to 15 tons at a time. Because the handling is mostly done by manual labor, the goods should be packaged in strong, durable boxes or crates. Two to three weeks are necessary for unloading and customs clearance even in the dry season, and there might be some delays in the rainy season.

c) Inland Transportation in Indian Territory

From Calcutta to Nepal, two types of transportation are available by truck or by railroad. Indian government normally requests use of containers for transportation by truck. Transportation by railroad is not recommended because of the high risks of loss to bandits.

d) Customs Clearance into Nepal and Domestic Transportation Routes

The appropriate point for entering Nepal with the cargo for the Project is Birganj.

e) Overall Transportation Period

Normally, two months are required to transport goods from Japan to distribution centers in Nepal.

4-4-5 Implementation Schedule

(1) Overall schedule

This Project shall commence upon the Exchange of Notes (E/N) between the two countries, and will proceed as follows:

- Conclusion of the consultancy contract
- Its verification by the government of Japan
- Detail Design of the materials and equipment
- Selection of the supplier
- Conclusion of procurement contract for materials and equipment
- Its verification by the government of Japan
- Procurement and delivery of materials and equipment to BPEP
- Providing engineering services on the utilization of materials and equipment until their installation.

The overall schedule of the process is shown in Fig. 8 and Fig.9.

(2) Presentation of Detailed Design Documents of the Buildings to the Japanese Side

PPSMU will work out detailed design documents of the facilities by the end of May 1994. The documents shall be delivered to the Japanese side immediately.

(3) Timing of Delivery of Materials to BPEP

In Nepal, the four months from June to September are the rainy season, during which construction work and transportation are hardly practical. Accordingly, the materials should be delivered in a few months starting October at the district centers. The detailed design, procurement of materials, and construction contract must be prepared in

advance by the dates shown in Fig. 9.

(4) Construction Period

The construction period for each school is estimated about five to six months including delivery and local transportation of materials from the district centers to each construction site.

Fig. 8 Implementation Schedule (1) Japanese side

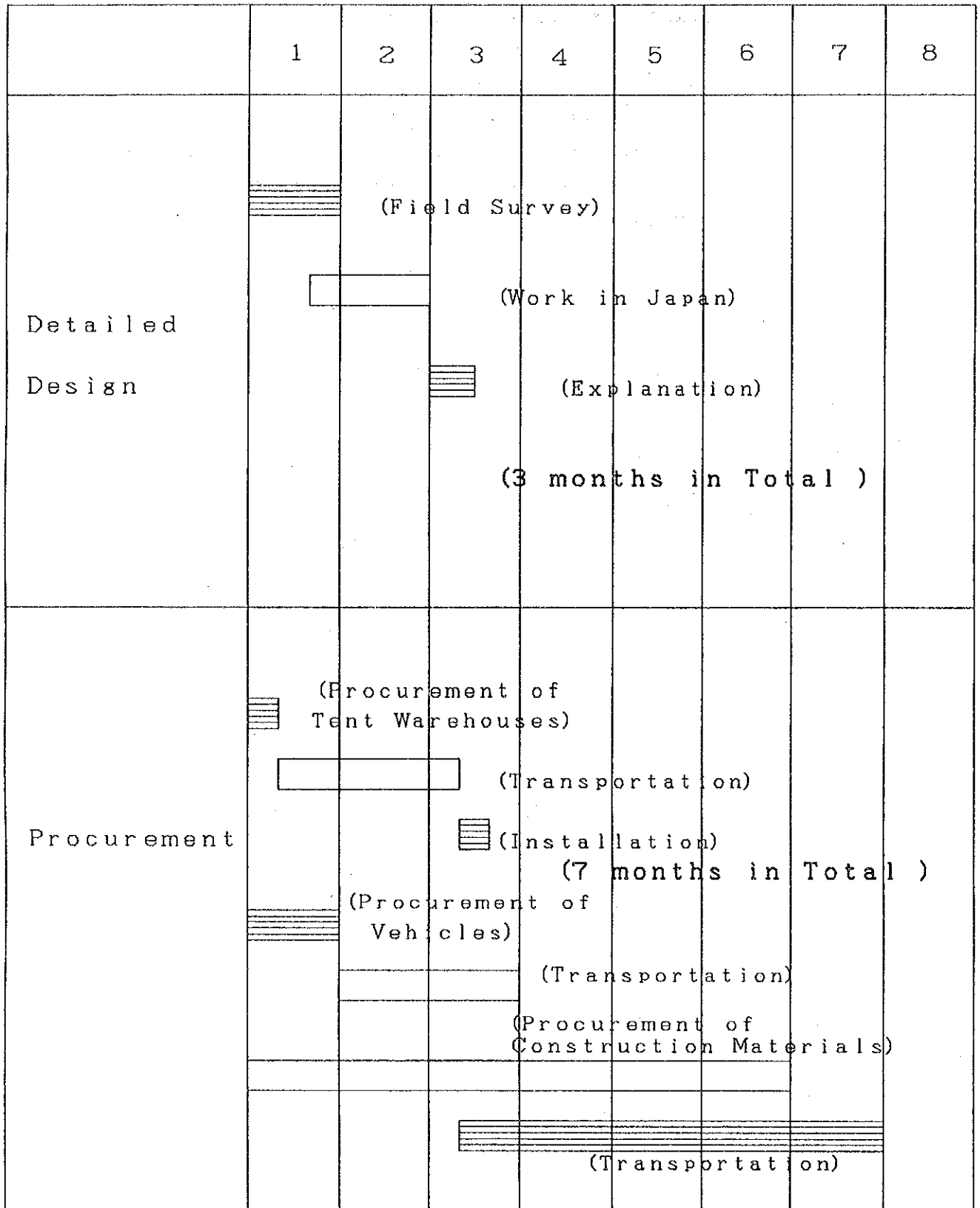
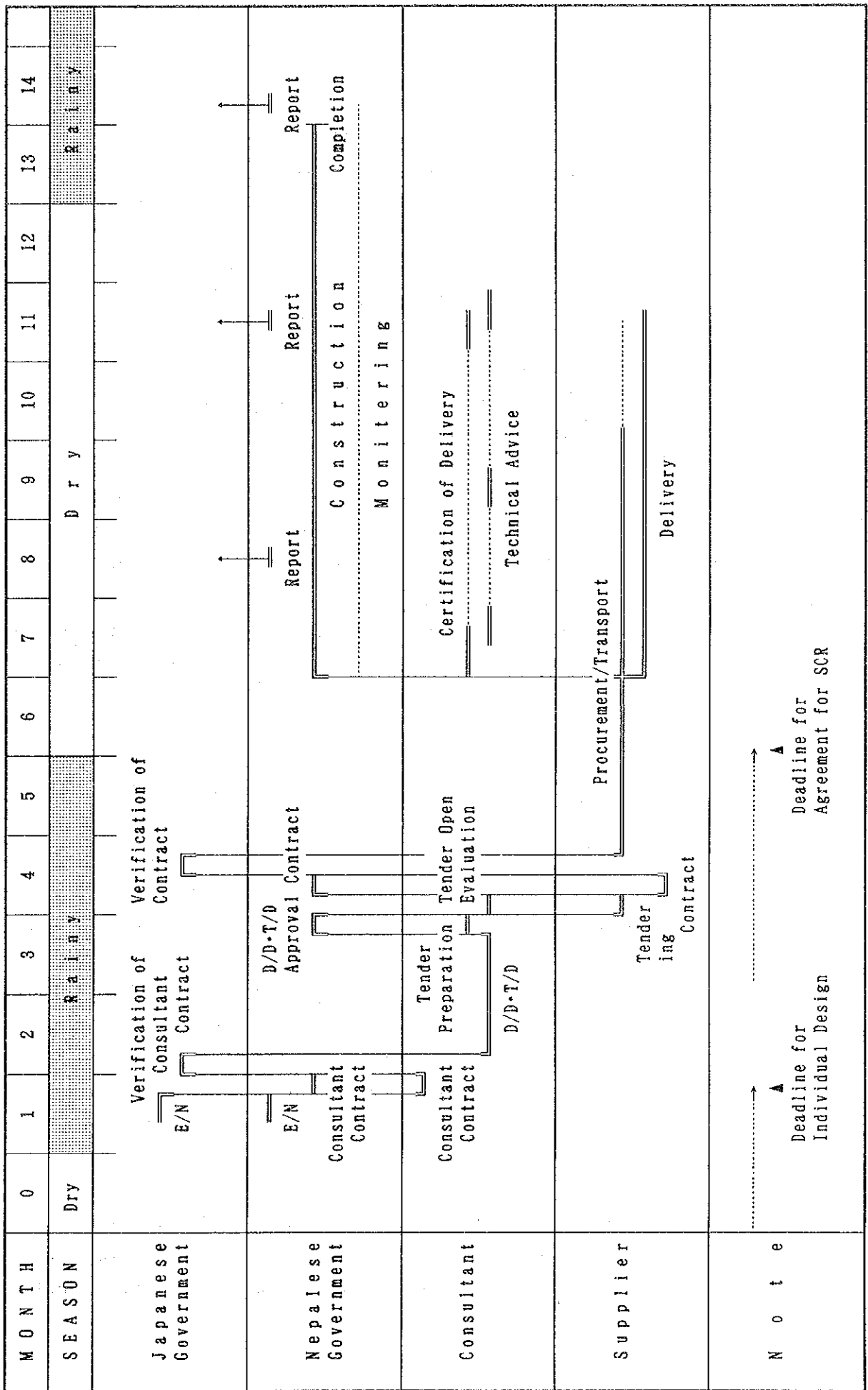


Fig. 9 Implementation Schedule (2) (for entire Project)



4-4-6 Scope of Work

(1) Work of the Japanese side

- Procurement of construction materials and equipment listed in Tables 6 and 7, and their transportation to the distribution centers as described in 4-4-2 of this report.
- Installation of the Tent Warehouses.

(2) Undertakings of the Nepalese side

- Construction of the foundations of the Tent Warehouses
- Storage of materials at the distribution centers and transportation to the construction sites of the materials and equipment stated above.
- Storage at the construction sites and installation of materials and equipment stated above.
- Procurement of materials and equipment other than those stated above that are necessary for constructing the proposed buildings.
- Construction work for the proposed buildings.
- Supervision and monitoring of construction work.
- Furnishing the Japanese Consultant and supplying all information necessary for services and work concerning the Project, including Detailed Design Documents for the individual schools to be constructed, and information on monitoring the Project.
- Ensuring tax exemption and prompt customs clearance at the points of disembarkation in Nepal of materials and equipment procured under

the Project, and assisting the supplier with the procedures for the prompt internal transportation therein.

- Exempting Japanese nationals of the project from customs duties, internal taxes, and other fiscal levies imposed in Nepal with respect to the supply of materials and the provision of services under the verified contract.

- Affording Japanese nationals whose services might be required in connection with the provision of the materials and services under the verified contract, such facilities as may be necessary for entry and stay therein for the performance of their work.

- Bearing maintenance and operational costs of the proposed facilities and equipment.

The cost of the work to be covered by H. M. G. is estimated to be Rs. 14.3 million. The details are attached as appendix 10.

**CHAPTER 5 PROJECT EVALUATION
AND CONCLUSION**

Chapter 5 Project Evaluation and Conclusion

It is difficult to evaluate the Project from concrete figures on the National Economy. The Study Team confirmed the following as important factors in evaluating the adequacy of the Project:

- a) The objective of the project is to contribute to the universalization of primary education, and to social development by improving the human resources supply system.
- b) The project will benefit the broad population of primary school age in Nepal, a total of 44,000.
- c) The Project, being for Primary Education, is not profit-oriented.
- d) H. M. G. of Nepal will be able to allocate the budget, staff, and technology necessary for operating and managing the Project after delivery of materials and equipment,
- e) The BPEP has generally been operated well and this Project will conform to the framework of BPEP, and will realize effective coordination among the donors.
- f) By contributing to the construction of many facilities scattered over a wide area, the Project will communicate the goodwill of Japanese Assistance quite effectively.
- g) Because the construction management plan has recently been revised, and the organization is still to be established, some risks are expected in executing the Project under the framework of Japan's Grant Aid, especially with regard to preparing the standard design of the schools, handling materials to be provided by the Japanese side after delivery to the Nepalese side, site

selection system, and construction period. Considering the importance of the Project, however, the risks should be taken by making the first year of the project a pilot year to seek improved execution of the Project in later years, and limiting the scope to a reasonable extent from this point of view.

The Study Team concludes that execution of the Project within the framework of Japan's Grant Aid Assistance is highly appropriate. For the effective implementation of the project, the Study Team recommends that H. M. G. of Nepal take necessary actions for the following:

- a) A new management system for school construction be established as soon as possible according to the revised plan (Draft), with further modifications and details that might be necessary within the coming six months. This should include:
 - A system for receiving, storing, and distributing the construction materials for the communities, and
 - A detailed monitoring plan for the implementing this Project.
- b) The Schools to be covered by the Project and necessary construction volumes for them be identified soon.
- c) Standard Design of the School Buildings be finalized and presented to the Japanese soon, and
- d) Effective use of IDA seed money should be considered to give incentives to communities in disadvantaged areas, for instance, to subsidise local transportation costs of materials.

APPENDIX

[Appendix] 1. List of Members of Survey Team

2. Field Survey Schedule

3. List of Members of Party in Nepal

4. Minutes of Discussions

5. Construction Programme Management
Primary School Rehabilitation and Maintenance
REVISED MANAGEMENT PLAN (DRAFT)

6. List of Donors Assisted Programs under the MOECSW

7. Lists and Location Maps of Clusters/Villages
/Schools

8. Standard Design Drawings of the Facilities

9. Country Data

10. Estimate of Cost of Works to be Covered by H.M.G.

Appendix 1. List of Members of Study Team

Mr. Shuji Ono	Team Leader, Second Basic Design Study Division, Grant Aid Study & Design Department, Japan International Cooperation Agency
Mr. Isao Fukuwatari	Architect Representative Director, Fukuwatari & Architectural Consultants Ltd.
Mr. Fumitomi Fujita	Architect, Director, Chief Architect Fukuwatari & Architectural Consultants Ltd.

Appendix 2. Field Survey Schedule

	Date	Place to visit	Survey Items
1	Dec. 14 (Tue.)	Tokyo - Kathmandu	Depart Tokyo to Kathmandu (All of the three members)
2	Dec. 15 (Wed.)	Japanese Embassy JICA FACD/MOF MOECSW BPEP	09:03 Courtesy call 11:00 Meeting 12:00 Courtesy call on Mr. M.P.Ghimire Under Secretary 15:00 Courtesy call on Dr. I.P.Upadhyay Secretary 16:30 Courtesy call on Dr. T. Khanya, Director
3	Dec. 16 (Thu.)	MOECSW	11:00 Discussion on the Study
4	Dec. 17 (Fri.)	World Bank Danish Embassy MOECSW/DANIDA	10:00 Exchange of Views 11:30 Exchange of Views 15:00 Exchange of Views
5	Dec. 18 (Sat.)	BPEP	13:00 Discussions
6	Dec. 19 (Sun.)	BPEP	9:00 Presentation of Draft Minutes of Discussion
7	Dec. 20 (Mon.)	Nuwakot Dist.	Study on Project Sites (Bidur) Visiting other project sites
8	Dec. 21 (Tue.)	MOECSW	11:00 Discussion in M/M 14:00 Signing on M/M
9	Dec. 22 (Wed.)	JICA Japanese Embassy	09:00 Report 10:00 Report P.M. Mr. Ono depart Kathmandu

10	Dec. 23 (Thir.)	Kathmandu	Discussions at BPEP
11	Dec. 24 (Fri.)	Kathmandu	Discussions at BPEP
12	Dec. 25 (Sat.)	Kathmandu	Meeting among team members
13	Dec. 26 (Sun.)	Kathmandu	Discussions at BPEP
14	Dec. 27 (Mon.)	Chitwan	Field Visit, DEO and schools
15	Dec. 28 (Tue.)	Parsa	Field Visit, DEO and schools
16	Dec. 29 (Wed.)	Kathmandu	Survey on procurement of Construction materials
17	Dec. 30 (Thir.)	Kathmandu	Meeting with Concerned Auth- orities (PPSMU, IDA) Survey on Material Procurement
18	Dec. 31 (Fri.)	Kathmandu	Ditto (PPSMU, MHPP) Survey on Material Procurement
19	Jan. 1 (Sat.)	Kathmandu	Discussion among team members
20	Jan. 2 (Sun.)	Kathmandu	Meeting with concerned auth- orities (IDA)
21	Jan. 3 (Mon.)	Kathmandu	Ditto (BPEP, ADB)
22	Jan. 4 (Tue.)	Japanese Embassy JICA MOECSW	Report Report Report
23	Jan. 5 (Wed.)	Kathmandu	Mr. Fukuwatari and Mr. Fujita depart Kathmandu
24	Jan. 6 (Thir.)	Tokyo	Arrive Tokyo

Appendix 3. List of Members of Party in Nepal

1. Ministry of Finance
Mr. M. P. Ghimire Under Secretary, FACD
2. Ministry of Education, Culture and Social Welfare
Dr. I. P. Upadhyay Secretary
Dr. Tirth Raj Khaniya Director, BPEP
Mr. Arjun Bista Planning Coordinator, BPEP
Mr. Govinda R, Devkota Chief, PPSMU, BPEP
Mr. Binaya P. Sharma Engineer, PPSMU, BPEP
3. Ministry of Housing & Physical Planning
Mr. Umesh B. Malla Joint Secretary
4. World Bank in Nepal
Dr. J. Manickavasagam Resident Representative
Mr. Brajesh Panth Social Sector Specialist
5. Danish Embassy
Mr. O. F. Larsen Counselor
6. DANIDA in Nepal
Mr. Erik Christensen Chief Program Advisor to MOECSW
Mr. Jorgen Friis Physical Planning Advisor
Mr. Mads Jacobsen Rehabilitation Advisor
8. UNICEF
Mr. Clifford T. Meyers Project Officer
9. ADB
Mr. R. Tuladhar Programme Officer
10. Private Companies
AS Construction N. A. Vaidya, Chairman
Panchaknya Group B. K. Shrestha, Director
Hulas Steel Industries Pvt. Ltd. L. R. Jopshi, Director

Fiberglass Udyog Pvt. Ltd.

M. Seddhi

Royal Touch

F. Bothra

Kathmandu Electrical & Electronics (P) Ltd.

J. R. Tuldhar, Engineer

S. B. Nyachyon, Engineer

Solar Electricity Co., Pvt. Ltd.

Y. R. Tamrakar

Appendix-4. Minutes of Discussions

MINUTES OF DISCUSSIONS

BASIC DESIGN STUDY

ON

THE PROJECT FOR PROVIDING MATERIALS AND EQUIPMENT FOR

THE CONSTRUCTION OF PRIMARY SCHOOLS

IN THE KINGDOM OF NEPAL

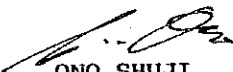
In response to a request of His Majesty's Government of Nepal, the Government of Japan decided to conduct a Basic Design Study on the Project for Providing Materials and Equipment for the Construction of Primary Schools in The Kingdom of Nepal (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to H.M.G. of Nepal a study team headed by Mr. ONO SHUJI, Second Basic Design Study Division, Grant Aid Study and Design Department, JICA, and is scheduled to stay in the country from December 14, 1993 to January 5, 1994.

The Team held discussions with the officials concerned of H.M.G. of Nepal and conducted field surveys at the study area.

In the course of the discussions and field surveys, both parties have confirmed the main items described on the attached sheets. The Team will proceed to further work and will prepare the Basic Design Study Report.

Kathmandu, December 21, 1993


ONO SHUJI

Leader,

Basic Design Study Team,

JICA


DR. T. R. KHANIYA

Director

BPEP

Ministry of Education, Culture

& Social Welfare



ATTACHMENT

1. Objectives of the Project

The objective of the Project is to strengthen the implementation of BPEP with supplying the materials and equipment for the construction of primary schools and its logistics.

2. Project site

Project area map are attached as ANNEX - 1.

3. Executing Agency : Basic and Primary Education Project

Responsible Agency : Ministry of Education, Culture and Social Welfare

4. Items requested by H.M.G. of Nepal are attached as ANNEX-2.

Final list of materials and equipment procured under the Grant Aid will be decided after further studies in Japan.

5. Japan's Grant Aid Program

(1) H.M.G. of Nepal has understood the system of Japanese Grant Aid explained by the team.

(2) H.M.G. of Nepal will take necessary measures described in ANNEX 3, for smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan is extended to the Project.

6. Schedule of the study

Based on the Minutes of Discussions and technical examination of the study results, JICA will complete the final report and will send it to H.M.G. of Nepal by the end of April, 1994.

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Annex-2

ITEMS REQUESTED BY THE NEPALESE SIDE

1. Materials for the construction and rehabilitation of Satellite Schools including:
 - 1-1 Roofing Materials (CGI sheets, CPVC sheets and/or Others including fitting materials for fixing)
 - 1-2 Roof Trusses (Timber and/or Steel includings fittings)
 - 1-3 Cement
 - 1-4 Bricks
 - 1-5 Wood (or metal doors and windows)
 - 1-6 Hardware for doors and windows
 - 1-7 Reinforcing Steel Bars

2. Materials for the construction of Resource Centers including:
 - 2-1 Roofing Materials (CGI sheets, CPVC sheets and/or Others including fitting materials for fixing)
 - 2-2 Roof Trusses (Timber of steel including fittings)
 - 2-3 Cement
 - 2-4 Bricks
 - 2-5 Wood (or metal doors and windows)
 - 2-6 Hardware for doors and windows
 - 2-7 Reinforcing Steel Bars

3. Materials for the construction of Toilets including:
 - 3-1 Roofing Materials (CGI sheets, CPVC sheets and/or Others) including fitting materials for fixing)
 - 3-2 Roof Frames(Timber and/or Steel including fittings)
 - 3-3 Cement
 - 3-4 Bricks
 - 3-5 Wood (or metal doors and windows)

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- 3-6 Hardware for doors and windows
- 3-7 Sanitary Ware
- 3-8 HDP pipes
- 3-9 Reinforcing Steel Bars
- 4. Materials for the construction of Water Supply Systems including:
 - 4-1 Cement for intake chamber
 - 4-2 Bricks
 - 4-3 Pipes (PVC and/or steel)
 - 4-4 Valves and other fittings
 - 4-5 CGI sheets
 - 4-6 Materials for Water Reservoir Tanks
 - 4-7 Reinforcing Steel Bars
- 5. Materials and equipment for logistics support
 - 5-1 Tent warehouse with Cement and bricks for the foundation and floor.
 - 5-2 Trucks for the transportation of materials
 - 5-3 Motorbikes for Overseers
 - 5-4 4WD Diesel Engine Jeeps for BPEP Head Office
- 6. Tools for the maintenance of schools
(Tool boxes with standard tools prescribed by PPSMU)
- 7. Portable black boards.
- 8. Personal computers
- 9. Portable radio communication devices
- 10. Fax machines for district offices
- 11. Portable brick (and/or block) making machines
- 12. Portable Solar Powered Lanterns
- 13. Furniture for Class Rooms

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ANNEX-3

Necessary measures to be taken by H.M.G.of Nepal are as follows:

1. To provide necessary permissions, license and other authorizations for smooth implementation of the Project.
2. To bear advising commission of the Authorization to Pay (A/P) and Payment commission to the Japanese foreign exchange bank for banking services based upon the Banking Arrangement (B/A).
3. To ensure prompt unloading, tax exemption, and customs clearance of the goods purchased and /or imported under the Grant Aid for the Project
4. To ensure prompt unloading and internal transportation of the goods purchased and/or imported under the Grant Aid for the Project.
5. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contract such facilities as may be necessary for their entry into Nepal, and stay therein for the performance of their work .
6. To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Nepal with respect to the supply of the materials, products and services under the verified contracts.
7. To maintain and use properly and effectively the equipment and materials provided under the verified contracts.
8. To implement a project monitoring system and send feedback on the project output to the Government of Japan.
9. To bear all the expenses other than those to be borne by the Grant, necessary for the transportation of the materials and equipment.

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10. To coordinate and solve any matters related which may arise with third party and inhabitants living in the Project area during the implementation of the Project.

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