

BASIC DESIGN STUDY REPORT
ON
THE EXPANSION PROJECT
FOR
PROGRAM III
OF THE
PHILIPPINE HUMAN RESOURCES DEVELOPMENT CENTER
IN
THE REPUBLIC OF THE PHILIPPINES

FEBRUARY 1988

JAPAN INTERNATIONAL COOPERATION AGENCY

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PREFACE

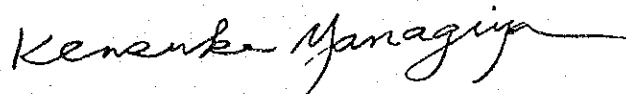
In response to the request of the Government of the Republic of the Philippines, the Government of Japan has decided to conduct a basic design study on the Expansion Project for Program III of the Philippine Human Resources Development Center and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent to the Philippines a study team headed by Miss Harumi Kitabayashi, Second Basic Design Study Division, Grant Aid Planning & Survey Department, Japan International Cooperation Agency, from November 8 to November 21, 1987.

The team had discussions on the Project with the officials concerned of the Government of the Philippines and conducted a field survey in the Cavite area. After the team returned to Japan, further studies were made and the present report has been prepared.

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

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

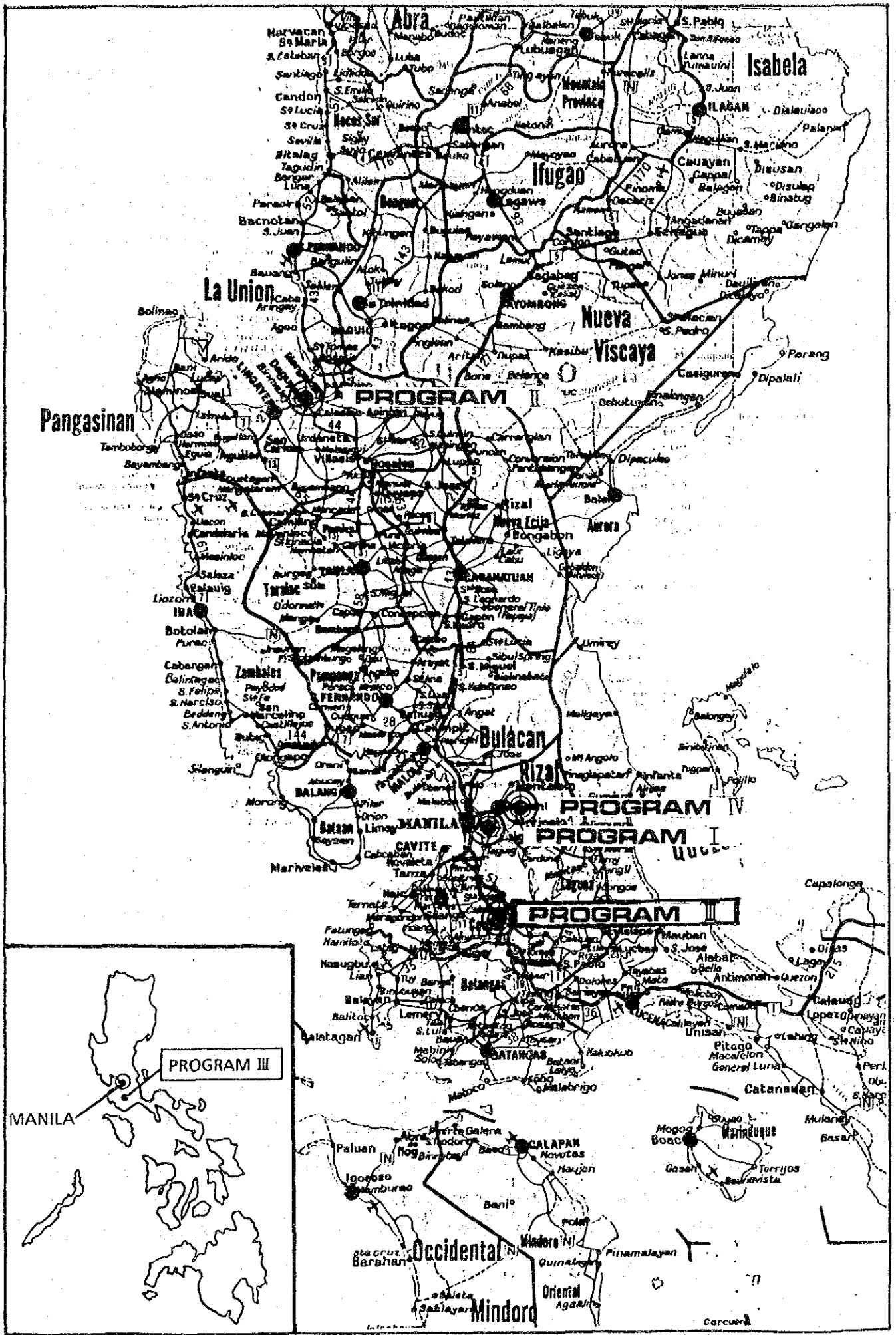
February, 1988



Kensuke Yanagiya

President

Japan International Cooperation Agency



SUMMARY

The Philippine Human Resources Development Center (PHRDC) was established in 1984 by a grant-aid of the Government of Japan. It constitutes a part of the ASEAN Human Resources Development Project proposed in 1981 by Mr. Zenko Suzuki, the then Prime Minister of Japan.

Four different programs are currently being carried out at the PHRDC with the aim to train experts in seafarming, shelter and construction manpower training, cottage and light industry, etc. who can take the leadership in the development of the rural communities. The Government of Japan is extending technical cooperation to these programs under PHRDC.

Program III, which is one of the four programs, provides training that aims at enhancing the abilities of instructors to teach construction skills and techniques more effectively, efficiently and in a shorter period of time. As of November 1987, a total of 568 trainees had participated in these programs. The training courses are conducted in the Construction Manpower Development Center (CMDC) situated in Cavite, approximately 50 km to the south of the city of Manila. Since its establishment, the Program III is making favorable progress and the numbers of both graduates and applicants for the course are steadily increasing.

Program III accepts trainees not only from neighboring provinces but from all parts of the country. The transportation accessibility to the training facilities is poor. For the above reasons, an overwhelming majority of the trainees seek accommodation at the dormitory of CMDC. The existing Dormitory has reached the limit in its capacity and currently it houses a number of trainees exceeding its capacity.

An increased supply of construction workers and improvement of their technical capabilities is one of the urgent needs of the Philippine economy today. Program III aims to offer training courses of both higher levels and wider scope, and an expanded capacity of the accommodation facilities is crucial for achieving these objectives.

Consequently, the Government of the Republic of the Philippines has requested the grant-aid cooperation of the Government of Japan for constructing an Annex-Dormitory that would maximize the function of the

facilities of Program III as a training center and enable an implementation of the expanded and upgraded training courses that are urgently called for.

In response to this request, the Government of Japan dispatched a Basic Design Study Team, through the Japan International Cooperation Agency, to the Republic of the Philippines for the period of November 8 to 21, 1987. The Basic Design Study Team held discussions and exchanged views with government representatives and other Philippine authorities including CMDF (Construction Manpower Development Foundation), Program III. It confirmed the contents of the request and background of the Project, and obtained information on the type and scale of the required facilities, current condition of the existing Dormitory and the executing organization of the Project in the Philippines.

The objectives and outline of the Project is as follows:

° Objectives:

To provide an optimum training environment for Program III, mainly by expanding and upgrading the accommodation facilities, thereby contributing to the effective implementation of training courses of higher levels and wider scope.

° Contents

(1) Dormitory expansion (RC structure, 2-story)

1) Accommodation facilities	2nd floor	800 m ²
Bedrooms for Trainees	20 rooms × 20 m ² /room 4 persons/room	
Bedrooms for Guest Lecturers	4 rooms × 20 m ² /room 1 person/room	
Lavatory/Shower Room for common use	1 room × 80 m ² (men) 1 room × 20 m ² (women)	
Storage	1 room × 20 m ²	

Corridor	200 m ²
2) Common-use 1st floor facilities	800 m ²
Canteen	1 room × 400 m ² (including 150 m ² for Kitchen, etc.)
Study Room	1 room × 80 m ²
Washing Room	1 room × 40 m ²
Lavatories	1 room × 25 m ² (men) 1 room × 15 m ² (women)
Dormitory Manager's Room	1 room × 20 m ²
Storage	1 room × 20 m ²
Corridor/Hall	200 m ²
(2) Accessory facilities	
1) Connecting passage	51 m ²
2) Balcony	266 m ²
(3) Rehabilitation of Existing Dormitory	
1) Installation of crime-proof grilles on window openings	
2) Refurnishing of floor finish for Lavatory and Shower Room	
3) Partial replacement of vinyl tiles of the Corridor	
4) Repair of the Lavatory and Shower Room booths	
(4) Training Equipment	
1) Bulldozer	1
2) Micro bus	1

The planned site for the new facilities of the Project is situated to the south of the existing Dormitory within the site for Program III. The Annex-Dormitory will be constructed so that it will form a single comprehensive accommodation facility together with the existing Dormitory when completed.

The designated site has already been more or less levelled, and it has been confirmed that the Philippine side will cut and level the site to the same level as that for the existing Dormitory prior to the commencement of construction works for the Project.

It was confirmed that the facilities will be operated by the staff of Program III (CMDC) under the auspices and instructions of CMDF, its superior organization, and that the number of staff will be increased to ensure smooth management of the Canteen, in particular.

Implementation of this Project will result in the provision of sufficient accommodation facilities and appropriate training equipment required for the planned number of trainees of the Program III. The training environment will be further improved, enabling a larger number of construction technique instructors to undergo training of higher levels and wider scope. This will, in turn, lead to upgrading and increase in the construction manpower in the rural areas, accelerating the growth of the construction industry in the Philippines as a whole. By spurring the growth of the construction sector, the Project is also envisioned to support economic and social development of the Philippines in the long run.

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CHAPTER 1 INTRODUCTION

CHAPTER 1: INTRODUCTION

1-1 Background of the Request

The Philippine Human Resources Development Center (PHRDC) was established in 1984 by grant-aid of the Government of Japan. It is a part of the ASEAN Human Resources Development Project proposed in 1981 by Mr. Zenko Suzuki, the then Prime Minister of Japan during his tour in the ASEAN countries. Four different programs are currently being carried out under the PHRDC with the aim to train experts in seafarming, shelter and construction manpower training, cottage and light industry, etc. who can take the leadership in the development of the rural communities. The Government of Japan is extending technical cooperation to these programs (initially for the period of Sep. 9, 1982 to Sep. 8, 1987, but later extended to March 31, 1990.)

Program III (Shelter and Construction Manpower Training), which is one of the four programs of the Philippine Human Resources Development Center Project, aims at upgrading instructors for teaching construction skills and technics, by offering training courses in machine maintenance and welding, etc. at the Construction Manpower Training Center (CMDC) situated in Cavite, approximately 50 km to the south of the city of Manila.

The training activities are progressing favorably and the number of applicants is on a steady increase. The existing Dormitory has become overcrowded and currently it houses a number of trainees far exceeding its capacity for 64 persons. The situation has come to require restricted enrollment due to the constraint of the dormitory's capacity. This is hampering the smooth implementation of effective training.

Recognizing the fact that the overcrowded Dormitory is impeding the effective execution of the training program, the Government of the Republic of the Philippines has requested grant-aid cooperation of the Government of Japan to construct an annex-Dormitory as a part of the expansion plan of Program III of PHRDC, so that expansion and

upgrading of training programs will be realized in the facilities of improved quality and function.

In response to the request by the Government of the Republic of the Philippines, the Government of Japan decided to conduct basic design studies for to the Project and dispatched to the Philippines, from Nov. 8 through 21, 1987 a Basic Design Study Team headed by Ms. Harumi Kitabayashi, Second Basic Design Study Division, Grant Aid Planning & Survey Department, Japan International Cooperation Agency.

The Basic Design Study Team had discussions with representatives of concerned organizations including DTI (Department of Trade and Industry), CMDF (Construction Manpower Development Foundation), Program III (CMDC -Construction Manpower Development Center) and NEDA (National Economic Development Authority), made on-site studies, and collected materials.

The basic items agreed upon through discussions between the Study Team and the Philippine side are outlined in the Minutes of Discussions dated November 13, 1987.

The Basic Design Study Team worked out the optimum basic design for implementing the Project, with reference to the results of the consultations with related parties in the Philippines, as well as the materials newly collected in the Philippines and materials used for preparing the existing Dormitory. The results have been compiled in this Report.

The Minutes of Discussions, Member List of the Study Team, Itinerary of the Study Team, List of Persons Interviewed, are attached as appendices at the end of this Report.

CHAPTER 2 BACKGROUND OF THE PROJECT

CHAPTER 2: BACKGROUND OF THE PROJECT

2-1 Outline of the Philippine Human Resources Development Center (PHRDC)

The Philippine Human Resources Development Center (PHRDC) was established in 1984 by a grant-aid of the Government of Japan, and it constitutes a part of the ASEAN Human Resources Development Project proposed in 1981 by Mr. Zenko Suzuki, the then Prime Minister of Japan.

PHRDC consists of four programs: Research and development of oyster culture and depuration (Program II), Training of instructors of construction skills and techniques (Program III), Training of teachers and skilled manpower in woodcraft bamboo and rattan craft (Program IV), and a human resources management program for assisting the implementation of the above Programs II, III and IV by preparing teaching materials, etc. (Program I).

The Government of Japan is extending technical cooperation for those four Programs under PHRDC, thereby contributing to the training of experts who can take the leadership in the development of rural communities.

Although the four programs share the common objectives of "developing human resources", they are different in specific contents and their facilities are also constructed in different locations.

The outline of each Program is as follows:

- (1) Program I (PHRDC Administrative Office) : Production of teaching materials.
: Establishment of human resources data bank and information system.
Site : Campus of University of Life, Meralco Ave., Pasig, Metro Manila
- (2) Program II Seafarming : Oyster culture and depuration
Site : Binloc, Dagupan City, Pangasinan
- (3) Program III Construction Training Program : Welding, electricity, plumbing, concrete blockwork, reinforced concrete work, steel erection work and operation and maintenance of heavy equipment
Site : Salitran, Dasmaringas, Cavite
- (4) Program IV Cottage & Light Industry Program : Training in woodcraft, bamboo and rattan craft
Site : Cottage Industries Development Authority, (NACIDA), Marikina, Metro Manila

The PHRDC Administrative Office is located within the site for Program I, and supervises and assists the implementation of all four Programs.

2-2 Outline of Program III

2-2-1 Outline

Program III (Shelter and Construction manpower Training), aims at upgrading instructors for teaching construction skills and technics effectively, in large numbers and within a short training period. It is offering training courses in machine maintenance and welding, etc., at the Construction Manpower Development Center (CMDC) situated in Cavite, approximately 50 km to the south of the city of Manila.

(1) Organization

The facilities for Program III is called CMDC (Construction Manpower Development Center). CMDC is a sub-organization in charge of executing training programs of CMDF (Construction Manpower Development Foundation) which is responsible for construction manpower development under the auspices of Department of Trade and Industry (DTI).

As a superior organization of CMDC, CMDF is responsible for planning of the training programs and admission procedures.

CMDF and CMDC maintain close communications through the "Executive Committee".

Fig. 2-1 Organization of CMDF/CMDC

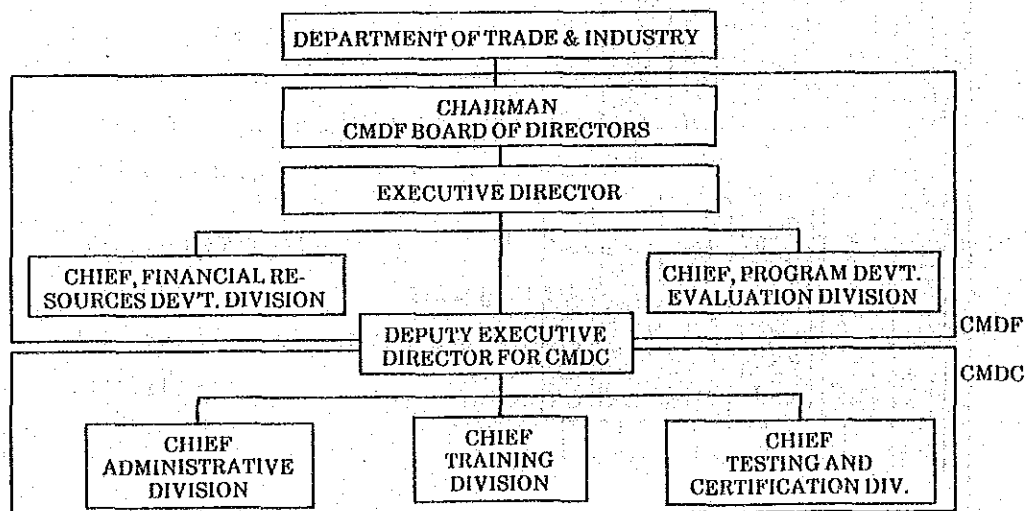
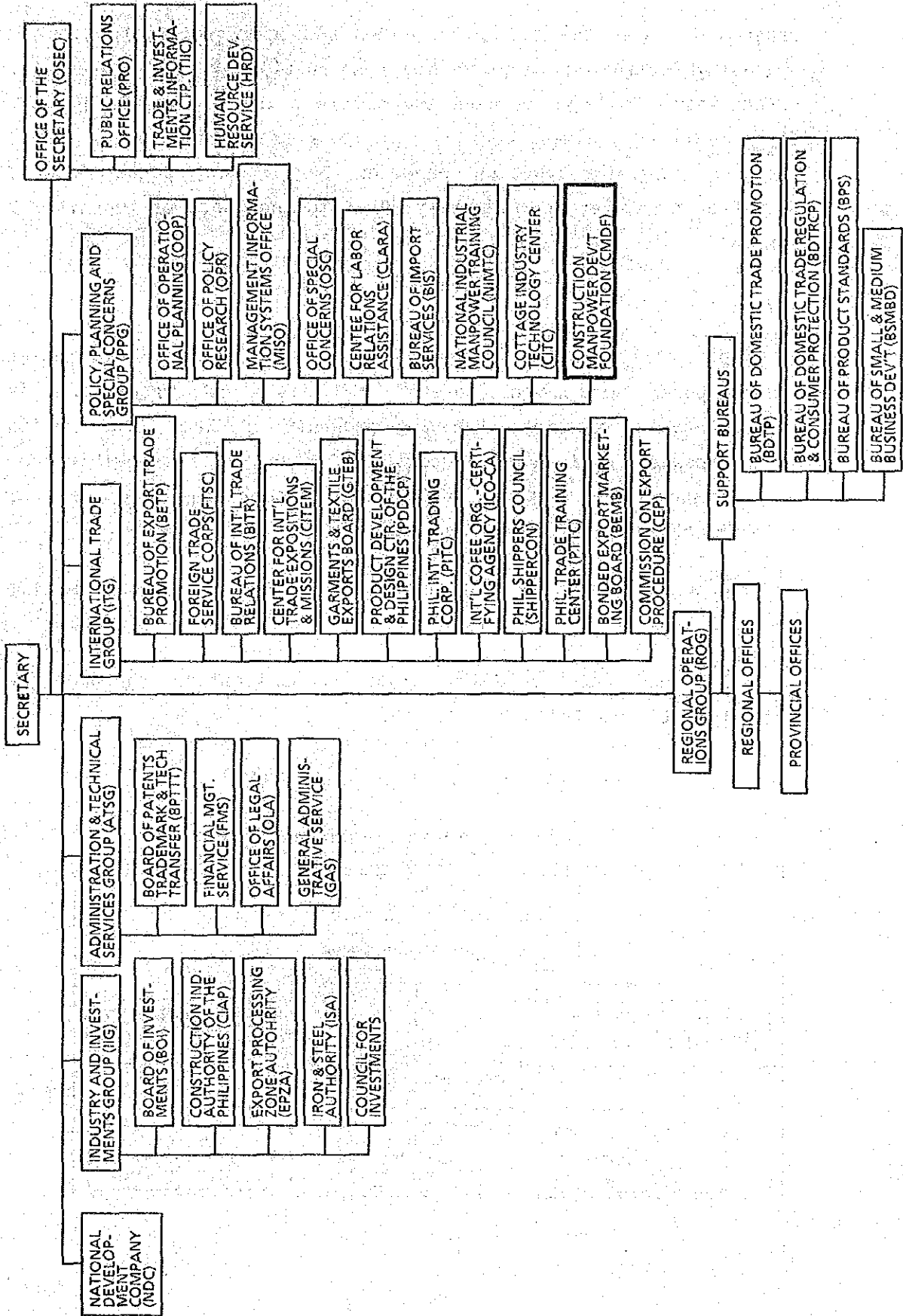


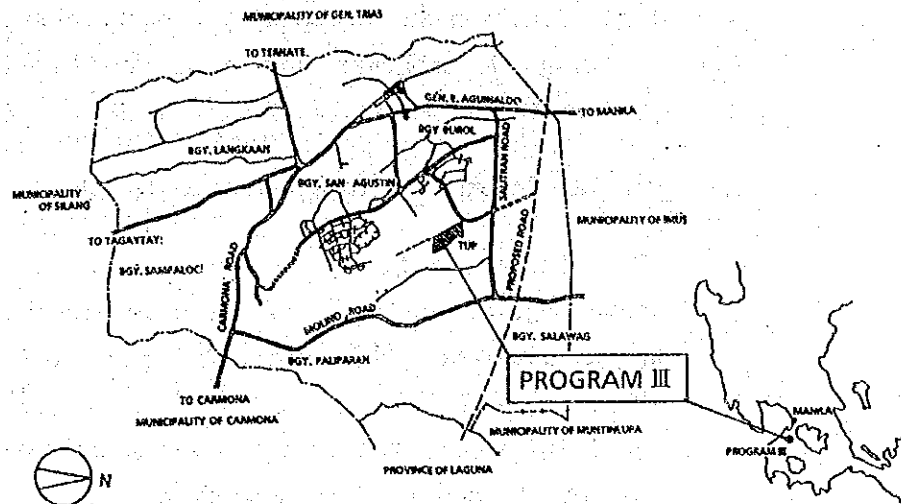
Fig. 2-2 Positioning of CMDF within the organization of the Department of Trade and Industry



(2) Site

Salitran, Dasmaringas, Cavite

Fig. 2-3 Location of the Site



The site for Program III is located in Dasmaringas, Cavite, approximately 50 km to the south of the city of Manila. To reach the site by car from Manila, one must drive about 30 km to the south on a super highway, turn westward at the Carmona exit, and drive another 30 minutes through the sloping farmland and rural areas of Cavite. An alternative road is running in parallel on the western side of the super highway, which can pass through the rural areas in about 10 minutes. Whichever of the two roads the driver may take, it takes approximately one hour to arrive at the site. Transportation accessibility is poor, particularly in the rural areas where the only means of public transportation is an irregular service of jeepney.

Situated near the site are the Cavite campuses of the Technical University of the Philippines and the Philippines Women's University, but they are of small scale with few accessory facilities.

2-2-2. Achievements in Training

(1) Basic Concept of the Training

The basic concept of the training is to offer courses in accordance with the objectives of the training and provide efficient education and training for each course.

The following two programs have been carried out to date since the opening of the Center.

1) Regular Teacher Training Program (RTTP)

RTTP aims at producing teachers of construction skills who train regular workers. Seven sessions have been executed up to November 1987, starting with the pilot course in 1985.

The initial plan was to train about 20 trainees in each of the eight specialized workshops, for a total of 160 trainees per training period. In actual execution, however, the three divisions of structured steel, reinforced concrete and concrete hollow block have been combined into one, and the following six courses instead of eight are being carried out.

a)	Heavy Equipment Maintenance and Management	about 3 months per training period	3 times per year	20 participants per year
b)	Heavy Equipment Operation and Management	"	"	"
c)	Electrical System Control, Design and Installation	"	"	"
d)	Welding Processes and Testing Technology	"	"	"
e)	Plumbing and Industrial Design and Installation	"	"	"
f)*	Structural Steel & Reinforced Concrete Building Construction and Blockwork	"	"	"

* The Structural Steel course (20 trainees) and Reinforced Concrete, Building Construction and Blockwork course (20 trainees) will be separated in future (1988 onward) so there will be a total of seven courses.

2) Special Training Program (STP)

STP aims at educating trainees on techniques of higher levels in specialized areas, and two sessions have been carried out so far. The number of graduates of this Program adds up to ten --- almost all of whom were trainees sent from private corporations. A training period of one month or so is allocated for each course.

(2) Technical Cooperation

The Government of Japan is extending project-type technical cooperation to PHRDC mainly by dispatching Japanese experts and accepting Filipino trainees in Japan. (Sep. 9, 1982 to Sep. 8, 1987 as the initial period for cooperation, to be extended to March 31, 1990 thereafter) The following are the achievements for Program III made to date.

1) Number of long-term Experts dispatched

1983	3
1984	5
1985	5
1986	5
1987 (up to Sept. 8)	5

2) Number of short-term Experts dispatched

1985	9
1986	12
1987	11
total	32

(3) Number of trainees accepted in Japan

1983	8
1984	7
1985	5
1986	6
1987 (planned)	6
total	32

(4) Budget appropriated by the Government of the Philippines for Program III

1983	3,000 (thous. pesos)
1984	2,429
1985	9,895
1986	11,816
1987	13,557

2-2-3 Number of Staff

The following is the list of the current staff for Program III

(1) Executive Director		1
(2) Deputy Executive Director		1
(3) Instructors		26
Breakdown:		
* Heavy Equipment Maintenance and Management		4
* Heavy Equipment Operation and Management		4
* Electrical System Control, Design and Installation		4
* Welding Processes and Testing Technology		3
* Plumbing and Industrial Design & Installation		4
* Structural Steel Construction		3
* Reinforced Concrete Building Construction		2
* Blockwork		2
(4) Assistants		4
(5) Technical Staffers		2
(6) Others		7
Total		40

In addition to the above, the following staffers are assigned for the Dormitory and Canteen:

(1) Dormitory	Dormitory Manager	1
(2) Canteen	cook	1
	helper cook	1
	counter server	3
(3) Janitors		2
(4) Security Guard		1

2-2-4 Trainees

(1) Transition of the Number of Trainees

The number of applicants to Program III has steadily increased since the commencement of the Program.

A major jump is assumed in the number of people seeking work in the construction sector and a larger number of instructors with expertise is called for. Under these circumstances, Program III has been accepting 52 to 102 trainees (excluding those attending RTTP pilot course) for each training period since 1985.

Table 2-2 Number of Applicants and Admissions
for RTTP (1985 - 1987)

(PROGRAM)	(No. of Applicants)	(Qualified Applicants)	(Accepted Applicant)	(Percentage of Qualified)
RTTP	60	50	42	84 %
RTTP I	120	90	52	58 %
RTTP II	275	150	62	41 %
RTTP III	285	180	85	47 %
RTTP IV	300	185	65	35 %
RTTP V	380	200	102	51 %
RTTP VI	375	220	65	30 %
RTTP VII	390	210	85	40 %

Note: (There were at least two (2) women trainees for each of the programs conducted.)

(2) Qualification and Screening of Applicants

The following are the required qualification of trainees for Program III (Refer to Table 2-3 for details)

- 1) graduates of engineering departments of universities
- 2) more than 2 years' experience in related fields

For promoting enrollment CMDF/CMDC staffers personally visit companies and schools for briefings, in addition to using mass media like newspaper, radio and TV.

Posters, brochures and video tapes are produced by PHRDC (Program I) for attracting applicants.

Efforts are also made to recruit trainees from other parts of the country, utilizing local offices of the Ministry of Trade and Industry.

As to the method of screening applicants, interviews for confirming the qualifications of applicants and written examinations (aptitude test and technical exam) are conducted. A score of 60 points or higher is required for passing the test.

(3) Tuition Fee

The tuition fee varies for each course, as shown below.
(as of November 1987)

Heavy Equipment Maintenance and Management	4,765 pesos/training period	
Heavy Equipment Operation and Management	6,833	"
Electrical System Control, Design and Installation	1,214	"
Welding Processes and Testing Technology	5,715	"
Structural Steel and RC Building Construction, and Blockwork	5,718	"
Plumbing and Industrial Design & Installation	2,900	"

In addition to the above, trainees staying in the Dormitory are required to pay a lodging fee of 10 pesos and meal expenses of 45 pesos (10 pesos for breakfast, 12.5 pesos for lunch and 12.5 pesos for supper) per day.

The Government of the Philippines is currently shouldering the indirect expenses of training, including management fee and the cost for maintenance and repair for equipment. Trainees are required to pay only direct costs for the training (teaching material, utilities expenses).

A scholarship to be repaid within 2 years after completion of the training is offered. Besides, a few trainees with outstanding achievements are exempted from the tuitions. Helmets and work uniforms are rent to all trainees.

Table 2-3 Details of the Qualifications of Trainees Attending the Regular Teacher Training Program (RTTP)

1. Educational and Experience Requirements:

- Plumbing & Industrial Piping Design and Installation
 - B.S.M.E. graduates
 - B.S.I.Ed. major in machine shop, ref. and aircondition
 - with at least two years related work/teaching experience
- Electrical System Control Design and Installation
 - B.S.E.E./B.S.E.C.E. graduates
 - B.S.I.Ed. major in Electricity
 - with at least two years related work/teaching experience
- Welding Processes and Testing Technology
 - B.S.M.E. graduates
 - B.S. Metallurgical Eng'g./B.S.Che. graduates
 - B.S.I.Ed. major in machine shop, welding, plumbing
 - with at least two years related work/teaching experience
 - 3 - years technician course major in machine shop, welding, plumbing, airconditioning with 5 - years work experience in Welding/machine works
- Heavy Equipment Maintenance and Management
 - B.S.M.E. graduates
 - with experience in maintenance of light/heavy vehicles
- Heavy Equipment Operation and Management
 - B.S.C.E. graduates
 - B.S.M.E. graduates
 - Can drive
- Structural Steel and Reinforced Concrete Building
 - B.S.C.E./B.S. Arch./B.S.I.Ed. major in Bldg. Const-
ruction
 - with at least two years related work/teaching experience

2. Qualifying Exam. (Testing Fee P20.00)
- transcript and certification of employment
3. Enrollment Requirements
- Memorandum of Agreement
- 10% down payment (tuition + board + lodging fee)
- two I.D. picture
- P20.00 for I.D.
4. Training Requirements
- Calculator and working clothes

(4) Breakdown of Trainees by Region

Program III attracts trainees from all parts of the country. some come from as far as Mindanao, Cebu, Negros and Samar, but many are from Cavite, Laguna, Metro Manila and the so-called NCR (National Capital Region; southern part of Luzon including Quezon, south of Metro Manila) which is comparatively near from Cavite where CMDC is located.

The following shows the breakdown by region of the trainees for RTTP (3rd regular training course onward)

Table 2-4 Breakdown of Trainees by Region

1) RTTP-III

	NCR	R-I~III	R-IV	R-V	R-IV	R-VI	R-VIII	R-IX~XII	No. of Trainees
HEM	4								20
HEO	4								8
WEL	4								10
IDE	5								16
SRC	15								22
PL/PF	6								9
Total	38								85
(%)	(45)								(100)

(Note: For the Third Regular Training Program, the breakdown of regions is unknown for trainees from outside NCR)

2) RTTP - IV

	NCR	R-I~III	R-IV	R-V	R-IV	R-VI	R-VIII	R-IX~XII	No. of Trainees
HEM	5	1	-	1	-	9	-	1	17
HEO	-	-	-	-	-	4	-	-	4
WEL	1	-	-	-	-	-	-	1	2
IDE	5	-	1	-	-	2	-	-	8
SRC	6	-	-	2	1	6	-	3	18
PL/PF	4	-	-	-	-	4	-	-	8
Total (%)	21 (37)	1 (2)	1 (2)	3 (5)	1 (2)	25 (44)	- (-)	5 (9)	*1 57 (100)

*1: plus 7 trainees whose regions were unknown

3) RTTP - V

	NCR	R-I~III	R-IV	R-V	R-IV	R-VI	R-VIII	R-IX~XII	No. of Trainees
HEM	5	-	1	2	-	5	1	2	16
HEO	2	1	1	-	-	5	-	2	11
WEL	-	1	5	1	-	3	-	-	10
IDE	9	4	3	2	1	10	1	1	31
SRC	5	2	3	1	-	5	-	5	21
PL/PF	1	4	1	-	-	3	1	1	11
Total (%)	22 (22)	12 (12)	14 (14)	6 (6)	1 (1)	31 (31)	3 (3)	11 (11)	*2 100 (100)

*2: plus 2 trainees whose regions were unknown

4) RTTP - VI

	NCR	R-I~III	R-IV	R-V	R-IV	R-VI	R-VIII	R-IX~XII	No. of Trainees
HEM	2	2	1	2	-	3	-	1	11
HEO	-	2	-	1	1	2	-	-	6
WEL	1	3	1	-	1	2	-	-	8
IDE	2	2	2	1	-	4	-	-	11
SRC	10	2	1	3	-	2	-	-	18
PL/PF	-	-	2	1	-	5	-	-	8
Total (%)	15 (24)	11 (18)	7 (11)	8 (13)	2 (3)	18 (29)	- (-)	1 (2)	62 (100)

5) RTTP - VII

	NCR	R-I~III	R-IV	R-V	R-IV	R-VI	R-VIII	R-IX~XII	No. of Trainees
HEM	-	-	2	2	2	8	-	2	16
HEO	2	-	-	1	-	-	-	1	4
WEL	2	3	1	-	-	1	1	-	8
IDE	11	4	1	-	1	6	-	3	26
SRC	5	5	-	4	3	5	-	2	24
PL/PF	3	1	2	1	2	4	-	-	13
Total	23	13	6	8	8	24	1	8	91
(%)	(25)	(14)	(7)	(9)	(9)	(26)	(1)	(9)	(100)

(Note)

- ° Upper column : NCR : NATIONAL CAPITAL REGION
(region) Luzon, South of Manila as far as Quezon
- REGION I-III : Luzon, North of Manila
- REGION IV : Mindoro, Palawan
- REGION V : Southernmost Part of Luzon
- REGION VI : Iloilo, Western Negros
- REGION VII : Cebu, Bohol, Eastern Negros
- REGION VIII : Samar, Leyte
- REGOIN IX-XII : Mindanao
- ° Lower column : H.E.M. : Heavy Equipment Maintenance
(course) H.E.O. : Heavy Equipment Operations
- WEL. : Welding Processes and Testing Technology
- IDE. : Electrical System Control, Design & Installation
- SRC. : Structural Steel and RC Building
- PL/PF : Plumbing and Industrial Piping Design and Installation

(5) Commuters

Trainees come from all parts of the country and, because of the poor transportation accessibility to the training facilities, a majority of them seek accommodation in the Dormitory. On the other hand, some students prefer to commute instead of living in the dormitory, and CMDC estimate that the proportion of such students is about 10 - 20%.

CMDC also gives a breakdown of those commuting trainees:

- 1) Trainees living in the Cavite area who are little affected by transportation difficulties
- 2) Trainees living in the NCR area who have their own means of transportation (car, motorcycle)
- 3) Trainees who have relatives, etc. in the Cavite area as well as private means of transportation

In the absence of accurate data, it is impossible to confirm the actual number of commuting trainees. The ratio of commuting trainees has therefore been estimated as shown below, based on data on where the trainees come from and the explanation by the Philippine side. (Since no data is available for 3), above 1) and 2) put together are estimated from number of trainees from NCR.)

	Total No. from NCR	Proportion of Commuters (% to total)
RTTP-III	38	45
RTTP-IV	21	37
RTTP-V	22	22
RTTP-VI	15	24
RTTP-VII	23	25

Assuming that approximately one-half of these trainees commute instead of living in the Dormitory, 10 - 19% of the trainees for each training period are commuting. This figure more or less corresponds to the estimates of the Philippine side (10 - 20%). Since an extended family is the basis of the Philippine society, a substantial number is estimated for (3) and when considering the burden of 10 pesos per day for lodging, with 45 pesos per day for food expense, the estimated ratio of commuting trainees seems to be a reasonable one.

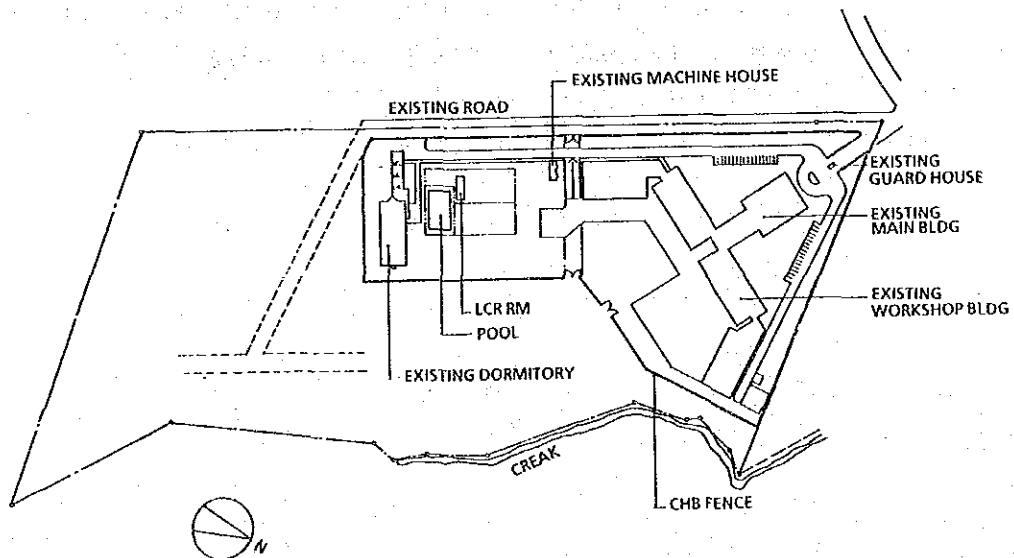
2-2-5 Existing Dormitory

(1) Location

The Dormitory is situated in the southern central part of the site which slopes down northward. It is located farthest south among the group of facilities and commands a fine view of the training and administration buildings because of its high ground level.

14 meters away to the south of the Dormitory is a concrete hollow block fence running parallel to the Dormitory. This block fence turns northward on the eastern side and extends further to surround the entire group of existing facilities. The site boundary is quite a distance away from the outside of the fence. Consequently, the area between the eastern fence and the site boundary is utilized for field training of heavy equipment operation. To the north of the Dormitory are a swimming pool, locker room, basketball court, etc. prepared by the Philippine side. The Dormitory and Training Building is connected with a corridor covered with a wooden roof, also prepared by the Philippine side.

Fig. 2-4 Current Situation of the Site



(2) Outline of the Dormitory Building

Structure : RC structure

Floor : single floor

Rooming Capacity : 64 (men only) (provisional)

No. of Bedrooms : 8-bed room x 8 rooms

Other Facilities : Canteen to accommodate 40 Dormitory residents (meal expenses to be included in Dormitory fee) (provisional)
Shower room (6 shower booths)
Lavatories, Washroom, Reception, Entrance Hall

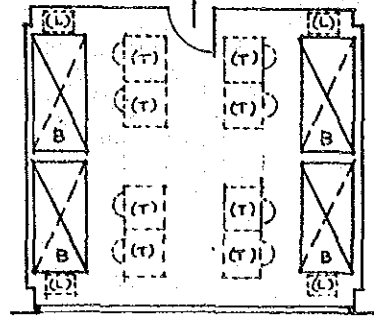
(3) Current Situation of Dormitory Bedrooms

The existing Dormitory has a rooming capacity of 64, and has recorded a high occupancy rate since the start of Program III. On-site examinations during the Basic Design Study revealed that the Dormitory is highly occupied, as indicated by the fact that double-bunk beds for 12~16 persons are installed in each room (average: 14 occupants/room) rather than originally designed 8 persons (4 double-bunk beds).

- 1) Proposed layout of Dormitory bedrooms at the time of initial planning:

Fig. 2-5 Layout of Dormitory Bedroom at the Time of Initial Planning

- a) 8 persons/room
- b) 4 double-bunk beds
- c) The following additional furniture to be provided by the Philippine side when required:



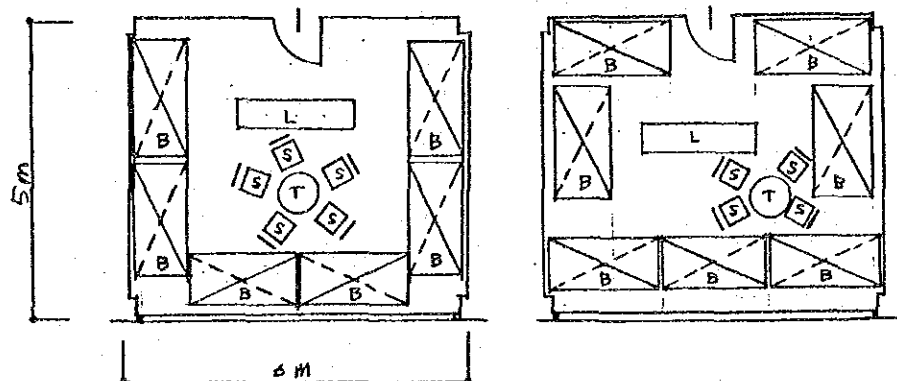
(T) : small table or desk

(L) : locker for 2

- 2) How the Dormitory bedrooms are actually used (surveyed in November 1987):

- a) Each room holds as many double-bunk beds as it can accommodate.
- b) Lockers (L), tables (T) and stools (S) are provided in each room. Private belongings are either stored on top of the beds, or in the corners of the room.
- c) Laundry are hanging to dry around each bed.

Fig. 2-6 How the Dormitory Bedrooms are Actually Used Today



The number of people sleeping in the Dormitory consists of noncommuting students as well as a substantial number of instructors and staffers who are forced to spend the night at the Dormitory working overtime or to avoid walking lonely streets at night. Because of these "irregular" lodgers, the number of accommodators tends to vary.

However, the overcrowded state of the Dormitory is easily imagined by reviewing the number of instructors and staffers who have stayed at least one night at the Dormitory since the commencement of Program III. Reportedly, some instructors and staffers even had to sleep in Instructor's Rooms and Workshops when there were no beds available for them in the Dormitory.

Table 2-5 : No. of trainees as well as the no. of instructors and staffers who have stayed overnight at the Dormitory so far

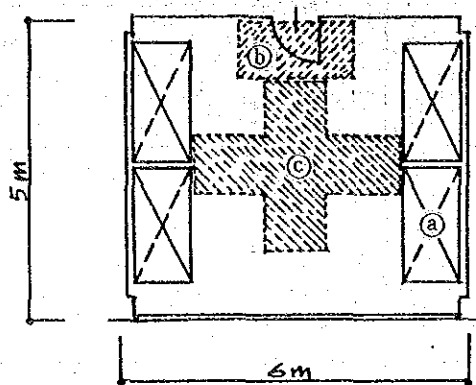
Training period	Period	Trainees	Instructors	Staff
RTTP (Pilot)	1985. 2~3	42	15	3
RTTP I	1985. 5~8	62	15	3
RTTP II	1985. 10~12	62	15	3
RTTP III	1986. 3~6	85	20	4
RTTP IV	1986. 7~10	65	20	4
RTTP V	1986. 11~1987.2	102	20	5
RTTP VI	1987. 5~8	62	20	5
RTTP VII	1987. 8~11	85	20	5

Note: 10~20% of the trainees are commuters.

(4) Requests from the Philippine side on the Dormitory rooms

The 8-bed rooms of the existing Dormitory has a floor area of 30 m²/room and planned to adopt the following layout.

Fig. 2-7 Composition of Floor
Area of Existing Dormitory



- (a): Floor-area for each doublebunk bed:
 $1\text{ m} \times 2\text{ m} = 2\text{ m}^2$
- (b): Floor area around the door:
 $1\text{ m} \times 2\text{ m} = 2\text{ m}^2$
- (c): Floor area for the passage space:
 $1\text{ m} \times 5\text{ m} = 5\text{ m}^2$
- (d): Net floor area per person:
 $(30\text{ m}^2 - (A) - (B) - (C)) \div 8 = 1.875\text{ m}^2$

Three years since its opening, Program III has continued to place emphasis on field training. At the same time, the substantial time has been allocated to lectures prepared in accordance with the needs of accepted trainees in the curriculum of the past three years. Today, lectures occupy more than one-fourth of the entire curriculum and as much as 50% in a course.

Table 2-6 Proportion of Field Training and Lectures
(in the past three years)(%)

Course	Form of Training	
	Field Training	Lectures
Heavy Equipment Operation and Management	70	30
Heavy Equipment Maintenance and Management	75	25
Electrical System, Control Design and Installation	50	50
Welding Processes and Testing Technology	65	35
Plumbing & Industrial Piping Design and Installation	65	35
Structural Steel & Reinforced Concrete Building	75	25

The trainees are eager to obtain advanced knowledge and techniques and they spend a large part of their private time studying. Therefore, a dormitory unit is desired in which trainees can sleep or study in peace, maintaining privacy without disturbing one another. The CMDC and Japanese Experts agreed on this point. There were also requests from the Philippine side that the Dormitory should function as a place for promoting communication and understanding among the trainees, the future leaders of rural development, who come from different backgrounds but were brought together to study in the same class and live in the same room for the training period of one to three months.

2-3 Background and Contents of the Request

The request which had initially been made on the expansion project for Program III of the Philippine Human Resources Development Center was for accommodation facilities with a bed capacity of 96.

This was proposed on the understanding that, together with capacity of the existing Dormitory (64), a maximum bed capacity of 160 will be secured. The maximum bed capacity of 160 has been calculated on the basis of 20 enrollees for each of the eight training workshops.

Through on-site studies including discussions with the Philippine side based on the initial request, the Basic Design Study Team re-confirmed the contents of the request from the Philippine side as follows.

- (1) Name of Project : The Expansion Project for Program III of the Philippine Human Resources Development Center
- (2) Objectives : To contribute to the implementation of trainings of higher levels and in wider scope by providing Dormitory facilities of optimum scale and contents.
- (3) Executing Agency : CMDF (Construction Manpower Development Foundation), through the Philippine Human Resources Development Center, is the responsible executing organization for the Project.
- (4) Contents of the Request :
 - 1) Dormitory
 - a) : Accommodation facilities for trainees and trainers
 - b) : Canteen
 - c) : Study Room
 - d) : Washroom, Lavatory, Shower Room, Storage

2) Rehabilitation of Existing Dormitory

3) Training Equipment

a) : 1 bulldozer

b) : 1 micro bus

(5) Location of Site : Within the site of the Philippine Human Resources Development Center, Program III, in Salitran, Dasmariñas, Cavite, the Republic of the Philippines

CHAPTER 3 CONTENTS OF THE PROJECT

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3-1 Objectives of the Project

Program III which was established for producing instructors of construction skills and techniques by offering training courses in machine maintenance and welding etc., places emphasis on improving the capacity and ability of these instructors so that they will be able to teach the skills and technics more effectively and efficiently.

In view of the urgent need for the Philippines to achieve national economic recovery and in view further of recent upward trends towards this, as indicated by increases in GNP, reinforcement of the construction sector as a foundation for other industries is crucial for the country.

Program III has been making significant progress since its establishment, much to the satisfaction of the parties concerned, and the number of applicants is also on a steady climb. However, because of the transportation difficulties from Manila to the site, the substantial number of trainees attending the courses from other parts of the Philippines must seek accommodation within the facilities of Program III. As a result, the existing Dormitory is currently housing a number of trainees far exceeding its rooming capacity.

Program III intends to increase the number of courses and provide trainings of higher levels in future so that the Philippines will have engineers with higher capability to support its construction industry. To achieve this goal, readjustment of the scale and contents of the accommodation facilities of Program III is of utmost importance.

Consequently, the Project aims at readjustment of the training environment for Program III, mainly through expansion in scale and grade of the accommodation facilities including the existing Dormitory. Achievement of these objectives will certainly contribute to the implementation of specialized courses of higher

levels and wider scope, in addition to regular training, for human resources development project as a part of the overall economic reconstruction program of the Philippines.

Specifically, the facilities design for this Project focuses on providing accommodation facilities of optimum scale and grade within the site for Program III. In other words, it calls for construction of an accommodation facility with sufficient rooming capacity, incorporating the existing Dormitory. It will be necessary to carry out the expansion plan in line with the objectives of this Project to construct a single building comprised of the existing Dormitory and the annex-Dormitory.

3-2 Outline of Training Programs

3-2-1 Existing Program

(1) RTTP (Regular Teachers Training Program)

Six courses have been provided as training courses since the opening of Program III, and the number is to be increased to seven courses from 1988. Details of the course and the number of trainees are shown below.

1) Heavy Equipment Maintenance and Management	20
2) Heavy Equipment Operation and Management	20
3) Electrical System Control, Design and Installation	20
4) Welding Process and Testing Technology	20
5) Plumbing & Industrial Piping Design and Installation	20
6) Rebar & Masonry	20
7) Erection	20
Total number of Trainees:	140

(2) STP (Special Training Program)

Plans are drawn up to reinforce STP in future, by increasing the number of trainees to an average of 45 per training period (30 - 60/training period) and providing the course three times a year.

3-2-2 Newly Established Programs

As to 1988 onward, there are plans for further reinforcement of special training programs of higher levels (STP) in addition to RTTP, as well as Special Supervisory Training Program (SSTP) and ASEAN Regional Training Program (ARTP).

(1) Special Supervisory Training Program (SSTP)

This program aims at producing expert instructors, supervisors and foremen by trainees entrusted from outside organizations. Approximately one-half of the trainees are from the Philippine Contractors Association (PCA). The program will eventually train Project Managers and Construction Managers. A course of one month's training period will be provided three times a year, with 20 trainees per training period.

(2) ASEAN Regional Training Program (ARTP)

This program was drawn up by PHRDC for accepting participants from ASEAN countries and train them as a part of the ASEAN Human Resources Development Program. A course of one month's training period will be provided once a year, with 20 trainees per training period.

3-2-3 Number of Trainees per Course/Program (1988 onward)

(1) RTTP 140 trainees/training period (20 trainees per course)

(2) STP average of 45 trainees/training period
(6 courses, 5 - 10 trainees/course)

(3) SSTP 20 trainees/training period

(4) ARTP 20 trainees/training period

* The training period for STP, SSTP and ARTP will be about one month. 2 to 3 training periods per year will be provided for STP and SSTP, and 1 for ARTP.

* As a rule, training for STP, SSTP and ARTP is to be conducted during the breaks between the RTTP courses.

3-2-4 Schedule for each Training Course (1988-1990)

Table 3-1 Schedule of Training Activities for Each Training Program

Program	1988												1989												1990											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr								
* RTTP (Regular Teacher Training Program)	[Bar chart showing activity from Jan to Jun]												[Bar chart showing activity from Jan to Jun]												[Bar chart showing activity from Jan to Apr]											
* STP (Special Training Program)	[Bar chart showing activity from Mar to Jun]												[Bar chart showing activity from Mar to Jun]												[Bar chart showing activity from Feb to Apr]											
* SSTP (Special Supervisory Training Program)	[Bar chart showing activity from Sep to Dec]												[Bar chart showing activity from Sep to Dec]												[Bar chart showing activity from Sep to Dec]											
* ARTP (Asean Regional Training Program)	[Bar chart showing activity from Mar to Apr]												[Bar chart showing activity from Mar to Apr]												[Bar chart showing activity from Mar to Apr]											
No. of Trainees	140			65			140			65			140			65			140			65			140			65			140			65		

3-3 Outline of Facilities and Equipment

Program III of PHRDC has been making notable achievements since the completion and handing-over of its facilities in 1984. The training program drawn up by the Philippine side through the actual execution of the Program III in the past three years, as well as the current state of utilization of the existing Dormitory, has been taken into account for establishing the scale and grade of the expansion work for the Project.

The following is the outline of the project centering around expansion of the Dormitory facilities. (all floor areas are projected ones, based on axis-to-axis calculations.)

(1) Floor area of main building of		1,600 m ²
the Dormitory to be expanded	(excluding the balcony)	
2nd floor	dormitory bedrooms and related rooms	600 m ²
1st floor	common-use rooms	600 m ²
common-use space	corridors, stairways etc.	400 m ²

The breakdown of facilities is as follows:

° Dormitory bedrooms and related rooms

Dormitory Bedrooms	: 20m ² x 20 rooms =	400 m ²
Bedrooms for Trainors	: 20m ² x 4 rooms =	80 m ²
Common-Use Lavatory for Men	: 80m ² x 1 room =	80 m ²
Common Use Lavatory for Women	: 20m ² x 1 room =	20 m ²
Storage	: 20m ² x 1 room =	20 m ²
	Total	600 m²

◦ Common-Use Rooms

Study Room	: 80m ² x 1 room	= 80 m ²
Lavatory (men/ women)	: 25m ² x 1 room + 15m ² x 1 room	= 40 m ²
Dormitory Manager's Room	: 20m ² x 1 room	= 20 m ²
Washing Room	: 40m ² x 1 room	= 40 m ²
Storage	: 20m ² x 1 room	= 20 m ²
Canteen + Kitchen	: 250m ² x 1 room + 105m ² x 1 room + 45m ²	= 400 m ²
<hr/>		
Total		600 m ²

In addition to the above, the following accessory facilities are included in the Project.

◦ Connecting Corridor	approx.	51 m ²
◦ Balcony	approx.	266 m ²
<hr/>		
Total		approx. 317 m ²

(2) Rehabilitation of the existing Dormitory

(3) Equipment for Education/Training

a) one bulldozer

b) one micro bus

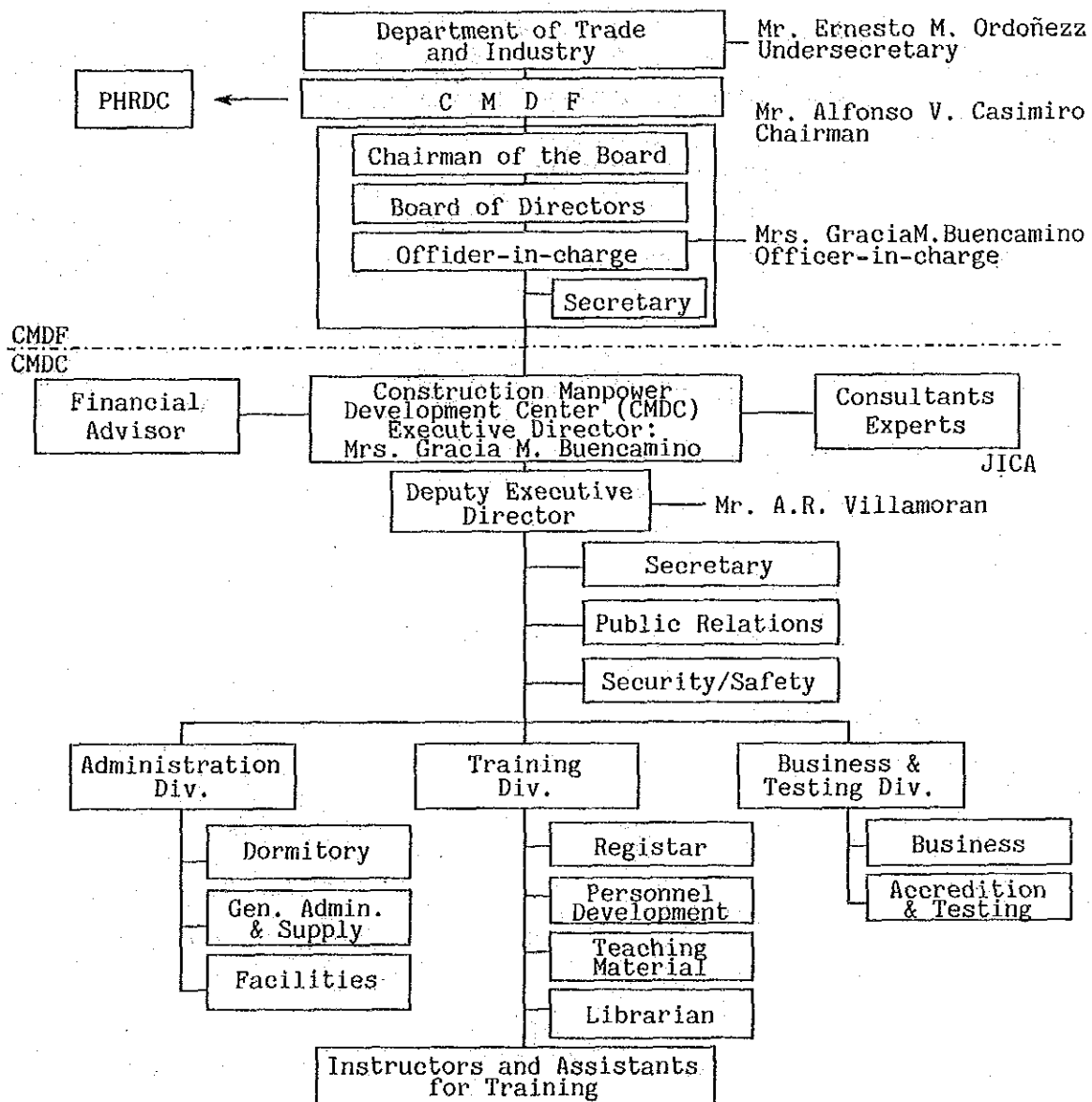
3-4 Organization and System of Executing Agency

The executing agency of the Project on the Philippine side is the Construction Manpower Development Foundation (CMDF) with the Philippine Human Resources Development Center functioning as a contact. Management and maintenance of the facilities after construction will be carried out by CMDF.

3-4-1 Organization

Program III is being operated and managed by CMDF and its subordinate organization CMDC. The following is the Organization Chart.

Fig. 3-1 Organization Chart for Program III



3-5 Personnel Assignment Plan

In addition to the regular number of CMDC staffers assigned for Program III as indicated below, temporary staffers are assigned when required.

The Executive Director will be stationed at CMDF in Manila.

The following is the breakdown of trainers and staffers working for Program III on a regular basis. (unit: persons)

- (1) Deputy Executive Director : 1

- (2) Trainers : 26 breakdown
 - Heavy Equipment Maintenance : 4
and Management
 - Heavy Equipment Operation : 4 (plus 1
and Management assistant)
 - Electrical System Control, : 4
Design and Installation
 - Welding Process and : 3
Testing Technology
 - Plumbing & Industrial Piping : 4 (plus 1
Design and Installation assistant)
 - Rebar : 3 (plus 1
assistant)
 - Blockwork : 2 (plus 1
assistant)

- Subtotal : 26

- (3) Assistants : 4

- (4) Technical Staff : 2

- (5) Others : 7

- Total : 40

