

well as trials on cropping pattern fertilizer, water management, weed control: variety trials and soil analysis. A six-hectares model infrastructure in Iguig, Cagayan serve as the site for the various researches and training ground for technicians and farmers researches and trials in the area supplemented with laboratory services which is also available in the area, as of this reporting period an average of 17 trials has been conducted.

B. Socio-Economic and Resources Research

The activities under this program which includes communication researches training need identification researches, water resources data gathering, climatological data gathering, soil-resources survey and insect/pest occurrence data gathering have already been undertaken as planned for the period.

C. Field Services

The activities under this program include Rice Production, Upland Crops Production and Vegetable Production. Under the Rice Production Program are establishment of pilot farms and establishment of field management. The former has attained the planned activities while the latter has a 94% accomplishment. Upland Crops Production reached 117.39% accomplishment. And the establishment of one (1) demonstration farm had been accomplished.

D. Agricultural Communications Support Activities

1) University on the Air Program

This is a semi-formal training system. It is actually a regular daily broadcast on rice technology to which the farmers may pattern their production techniques. It was initiated in early 1979. Total graduates has reached the 1,200 mark, another total of 800 farmers are expected to graduate this April.

- 2) Preparation of Print Extension Materials. The activities under this program are preparation of the Techno-Guide Series and the "Rang-ay ti Barangay Series".
- 3) Audio Visuals - Training slides necessary for the period have already been produced. Information campaign were also conducted regularly.

E. Laboratory Support Services

The activities under this program include soil analysis and Seed Testing. The former deals with the development of a parcellary, topographic and land use map of Cagayan. Complete soil analysis and classification has been done in Solana, Tuguegarao, Gattaran and Enrile. Parcellary mapping have been completed in Iguig, Amulung, Alcala, Gattaran, Lallo, Camalaniugan, Buguey and Gonzaga. The latter deals with seed analyzation. A total of 247 seed samples were analyzed and 31 hectares of lands were utilized for this activity.

F. Farm Mechanization Activities

Farm Machinery Research conducted three studies. Farm machinery servicing, on the other hand, tilled 57 hectares, threshed 64 tons and dried 28 tons of palay. Continuous activities in servicing are organized as farmers continue to surface their needs.

G. Station Development

The constant maintenance of the APC model infrastructure, the completion of the APC fence, and the establishment of the Lallo Pilot Farm have been undertaken. Scheduled for construction on the second week of April are the dormitory, equipment shed, duplex house, gasoline station, and laboratory with an estimated cost of P10 Million.

II. Project Planning

As of this reporting period, the planning group of the APC has prepared a total of twelve (12) project proposals for further study and verification.

CIADP-APC-MINISTRY OF AGRICULTURE AND NATURAL RESOURCES ACTIVITIES

1. BPI Seed Production Project

To implement the seed requirement of farmers, APC has established a joint project with the Bureau of Plant Industry to establish a seed production project. A total number of 20 hectares have been covered by trials.

2. Agrarian Reform Services

The activities under this program are certificate of Land Transfer, Land Relation, Leasehold Contracts Issued, Trained Farmers, Emancipation patents issued and Informed Clientele. The planned activities for the period has already been undertaken.

3. Integrated Food Production Program

In January 1980, the Philippine Government allotted CIADP the amount of ¥770 M out of the ¥1.9 Billion Japanese Grant to the Philippines to boost agricultural production in Cagayan. CIADP projects funded by its share of the grant was launched on the second quarter of 1980, starting last August 30.

The Integrated Food Production Program is composed of four projects namely:

- 1) Multiple Cropping
- 2) Poultry and Livestock Development
- 3) Inland Fishery Development
- 4) Integrated Rice and Fish Culture

Its main objective is to increase, diversify and integrate the production of food products in the province by developing and exploiting indigenous production potentials and capabilities and increase the availability of locally produced food products to the majority of the province's population.

1) Multiple Cropping

The multiple cropping project for Cagayan will diversify crop production in the province and increase the productivity

and income on the rainfed and marginal areas and optimize the utilization of irrigated and high potential productive areas.

2) Integrated Poultry and Livestock Development Projects

As an initial step, animals (cattle, hogs, goats) have been distributed to different barangays both for breeding and fattening purposes.

For backyard fattening 15 cows were distributed in Tuao and Rizal, 30 hogs in Gonzaga, Iguig and Enrile. In addition, 20 goats meant mainly to improve the local stock were distributed in Enrile and Gonzaga.

3) Inland Fishing.

This project aims to develop the inland fishery resources and increase production of fish products in Cagayan, through identification of economically potential areas for the establishment of fishponds and viable species that can be optimally produced in inland water, and to provide facilities for adequate supply of fry to fish farmers.

This project started last August 30, 1980, with the dispersal of 130,000 bangus and tilapia fingerlings in Barnurbar Lake, Buguey, Cagayan.

To accelerate also the development of Cagayan's inland fishery resources, CIADP has tapped the service of the International Center for living Aquatic Resources Management (ICLARM) and the Southeast Asian Fishery Development Center to look into the feasibility of exploring Cagayan's potential in this area.

Last January 9-11, 1981, fishery experts from the ICLARM visited Cagayan to conduct an ocular survey of the potential areas for development. The experts were optimistic of the feasibility of the product.

CIADP-PCA TIE-UP

Coconut Hybrid Planting Project for Cagayan

Through a tie-up with the Philippine Coconut Authority CIADP is launching the Coconut Hybrid Planting Project for Cagayan.

Initially, PCA has provide 50,000 hybrid seedlings for planting in approximately 350 hectares in the province.

Cagayan province has been identified as conducive for the production of high yielding coconut. When fully implemented this would boost the coconut industry in the region.

NATURAL RESOURCES DEVELOPMENT

1. Ice Plant and Cold Storage

The Ice Plant and Cold Storage of the Bureau of Fisheries and Aquatic Resources in Sta. Ana, Cagayan which has not been in operation for the past four years will once more be service with the end in view of helping develop the fishing industry after a Memorandum of Agreement between the Cagayan Integrated Agricultural Development Project and the Ministry of Natural Resources had been signed on August 30, 1980. Bureau of Fisheries and Aquatic Resources transferred possession, control and management of the assistance in its operation and maintenance.

The rehabilitation needs have been ascertained by CIADP and BFAR experts and P320,000 has been earmarked for this.

The work on the project will start in the early part of 1981 and the plant is expected to be in operation in the same year.

2. Biyayang Dagat Program

The Cagayan Integrated Agricultural Development Project in coordination with the Ministry of Natural Resources and the Philippine National Bank as embodied in

a Memorandum of Agreement entered into and signed on August 30, 1980 has initiated the implementation of the Biyayang Dagat Program, a liberal loaning scheme, envisioned to benefit sustenance fisherman in Cagayan.

After a series of meetings and seminars, a massive information drive was launched on December 2-14, 1980 in the coastal towns of the province, namely: Sta. Ana, Gonzaga, Sta. Teresita, Buguey, Aparri, Ballesteros, Abulug, Pamplona, Sanchez Mira, Claveria and Sta. Praxedes.

3. Prawn Hatchery Project

The Prawn Hatchery Complex at the Cagayan State University - Aparri Institute of Technology (CSU-AIT) is a joint project of the Cagayan Integrated Agricultural Development Project (CIADP), the CSU, the BFAR and the Asian Institute of Agriculture of the Southeast Asia Fishery Development Center (AIA-SFAFDEC).

The main building which includes our broodstock tanks, four rearing tanks and the laboratory has been constructed and Phase II construction which includes the filter tank, algal tank and water distribution system is about 90% completed.

II. Infrastructure and Utilities Component

1. Irrigation Project

Construction of irrigation and drainage facilities have been the major activities in the entire targetted area of 14,000 hectares - Iguig (775 has.) Alcala-Amulung (2,350 has.) and lower Cagayan (10,875 has.). Likewise, construction survey negotiation for right-of-way, construction of Pilot Demonstration Farm and RCP fabrication were also undertaken.

With 60.26% of the time elapsed, overall physical accomplishment has reached 31.61% and with a total expenditures

of ₱104,714,240 or 33.63% of the total cost.

2. Farm-to-Market Road Project

To facilitate the construction of irrigation and drainage facilities and the transport of farm produce, for the year, 34.10 kms. of farm-to-market roads, have been programmed for improvement/constructions.

As of this date, over-all physical accomplishment has reached 57.29% with a total expenditures of ₱3,093,800 or 32.94% of the total budget.

This project is being implemented through the cooperation of the Ministry of Public Highways, the implementing agency of this project.

3. Electrification Project

Of the 827.94 kms. of distribution lines to be constructed in the five municipalities covered by the Cagayan Integrated Agricultural Development Project Electrification project, 23.25% or a total of 196.16 kms. has been installed as of this date. Likewise, 76 barangays in the five municipalities have been energized and a total of 4,168 household connections were made.

4. Flood Control Project

The Ministry of Public Works, for 1980, has been appropriated the amount of ₱6.7 M for the construction of the flood control structure at Iguig pump site. It will involve the construction of 188 lineal meters of R.C. Revetment of a 50 ft. Steel Sheet piles. And for this year, ₱4.5 M was appropriated for the construction of 158 lineal meters of R.C. Revetment on a 55 ft. steel sheet piles at Amilung-Alcala Pumping Station. Steel sheet piles were delivered to the site, construction for both projects will commence in the early part of the second quarter.

III. Socio-Economic Component

In order to provide an over-all direction for its development efforts, the CIADP held consultation meetings for a number of months

with government agencies, municipality and barangay leaders in a move to come out with a document which can provide the much needed direction to the project and hopefully to be able to attract funding agencies in the implementation of projects identified thereat.

The Framework Plan as proposed will be based on the work of three major agencies with CIADP as the coordinating agency. These agencies are NEDA, GIRD Foundation and REAP City Planning Service.

So far, the projects that have been identified for implementation this year are the construction of school buildings and health centers, technical training of out-of-school youth and the resettlement of the Attas, a cultural minority group in Cagayan.

These projects will be implemented by the line agencies concerned with CIADP as the coordinating body.

IV. Industry and Economy Component

Recognizing the importance of developing the industry sector hand in hand with that of the agriculture sector, CIADP is earnestly undertaking activities to achieve this objective.

1. CIADP-NACIDA Tie-Up

In support to NACIDA's objective of promoting local products CIADP has contributed a total amount of P20,000.00 for the construction of a display center in Tuguegarao. The center is now completed and open to the public.

2. CIADP-MOL-SBAC Tie-Up

To harness the development of the local industry, CIADP, with representation of the Cabinet Coordinator will assist the Larion Bajo Metal Craft Cooperative in the acquisition of its financial and equipment requirements from the Rural Workers' Fund of the Ministry of Labor.

GUIDELINE
OF
AGRICULTURAL PILOT CENTER
IN
CAGAYAN INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT



OCTOBER 1980 (Second Edition)

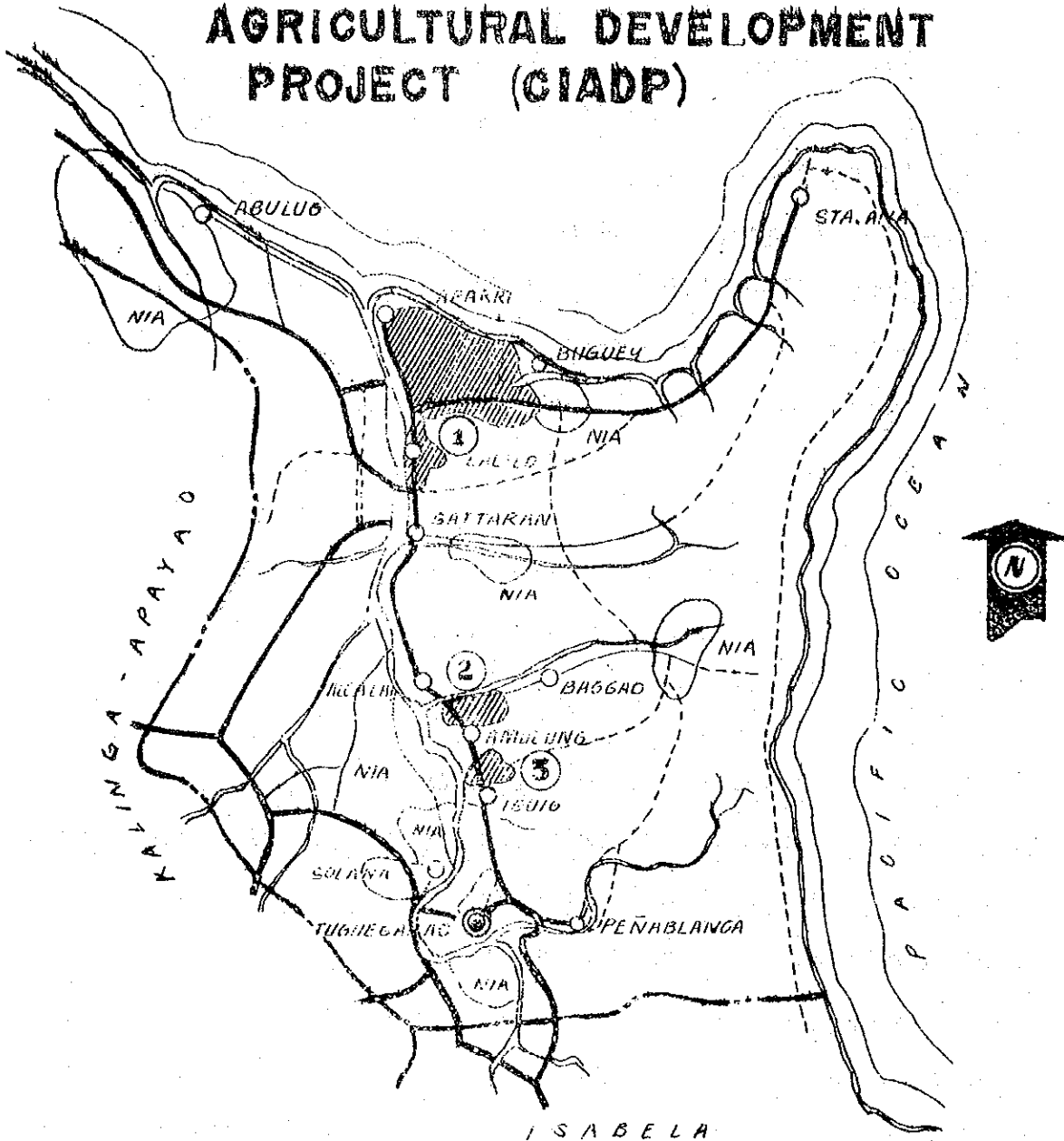
JICA - CIADP

JAPAN INTERNATIONAL COOPERATION
AGENCY

CAGAYAN INTEGRATED AGRICULTURAL
DEVELOPMENT PROJECT

JUNE 1979 (First Edition)

GENERAL MAP OF CAGAYAN INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT (CIADP)



LEGEND

- NATIONAL ROAD
- - - - - TRAIL / PROPOSED ROAD
- PROPOSED PROV'L ROAD
- ⊙ PROV'L CAPITAL
- MUNICIPALITY

- ▨ PROJECT AREA
- ① LOWER CAGAYAN
11,200 has.
- ② ALCALA-AMULUNG
1,400 has.
- ③ IGUIG
600 has.
- ONGOING / PROPOSED
PROJECTS OF NIA

C O N T E N T S

- I. Background
- II. Objectives and Projected Areas
- III. Role of APC
- IV. Organization and Function
- V. Facilities of APC

A P P E N D I C E S

- I. List of Key Personnel of CIADP.
- II. JICA Budgetary Contribution in the Supply of Equipment and Undertaking local cost.
- III. Outline of Cagayan Province.

I. BACKGROUND

The Integrated Area Development is a recent approach towards the upliftment of socio-economic status giving emphasis on the rural community for the correction of gap between depressed and developed areas from the view point of social justice. Supportive to this concept is the creation of the Cabinet Coordination Committee for Integrated Rural Development Projects (CCC-IRDP) under the National Economic and Development Authority (NEDA) which was established to identify potential areas for development and to request appropriate technical and financial cooperation and assistance of either or both local and foreign origin.

The Cagayan Integrated Agricultural Development Project (CIADP) was identified by the CCC-IRDP as the 3rd Integrated Rural Development Project in the Philippines. The Project was initiated with the visit of Secretary Tanco to Japan in September 1973 purposely to request for possible bilateral cooperation and assistance. In response to the request, the Government of Japan had dispatched the survey teams at the various stages through Japan International Cooperation Agency (JICA) and finally a Record of Discussions was signed by both governments in February 1976 to support the project for two year preparatory cooperation. In this Record of Discussions, both government decided to implement Agricultural Pilot Center Project as a part of the CIADP for the purpose of contributing the modernization of agriculture through the expansion of double-cropping of rice and the increase of agricultural productivity corresponding to the improvement of agricultural infrastructure

of the CIADP. Henceafter, the cooperation period covered by the Record of Discussions was postponed for one year more up to February 1979.

During this time the master plan for Agricultural Pilot Center Project was prepared for the succeeding three (3) years activities and also the necessary infrastructures for the activities of APC such as main Office, experiment and pilot farms were completed.

Following this stage, for the full implementation of the CIADP area, a Memorandum of Agreement was concluded by both governments in February 1979 covering the period of three (3) years up to February 1982.

In this new stage, development for Lower Cagayan will be prepared by establishing the site and size of Leading Extention Area II through the fundamental studies.

*CCC - IRDP was reorganized to National Council on Integrated Area Development (NACIAD) in 1978 with the wider concept in the object area.

II. OBJECTIVES AND PROJECTED AREAS

1. Objectives

The objective of the project is to contribute towards the agricultural development in the Province of Cagayan in general, and the introduction of intensive rice culture in particular, through the facilities of the Agricultural Pilot Center.

Through the agricultural development, the project aims pushing up the situation of farmers, and furthermore contributing the economic and social growth of Cagayan Province.

2. Projected Areas

The CIADP covers 13,200 hectares distributed to three (3) areas:

1. Iguig - 600 has.
2. Alcala-Amulung - 1,400 has.
3. Lower Cagayan - 11,200 has.

In the terms of administration, the following municipalities are included into the projected areas are:

- | | |
|------------|-----------------|
| 1. Iguig | 5. Camalaniugan |
| 2. Alcala | 6. Aparri |
| 3. Amulung | 7. Buguey |

As a part of the development, each area has Leading Extention Area (LEA) such as 60 has. in Iguig, 240 has. in Alcala-Amulung and 300 has. in Lower Cagayan.

III. ROLE OF APC

In order to supplement the package of improved agricultural technology, support farm resource requirements and increase the technical capability of personnel and farmers engaged in the Project. The center shall undertake the following:

- a) Trials, field studies, and demonstrations centering on improved agricultural techniques at the farm level;
- b) Enhance production of high quality seeds through research, training and demonstration on seed production techniques;
- c) Guidance and advice on post-harvest techniques on rice processing and demonstration thereof;
- d) Guidance and advice for the purpose of strengthening the existence agricultural extension network;
- e) Training of technical personnel and farmer leaders particularly within the project areas;
- f) Planning the transfer of farm inputs such as fertilizers/pesticides and agricultural chemicals and scheduling the operation, usage and maintenance of farm machineries to be rented out to farmer cooperatives and/or associations in and around the Leading Extension Areas; and

- g) Conduct other educational, promotional, and informational services related to the transfer of packaged technology.

Furthermore, the center shall establish Leading Extension Areas (LEA) in Iguig, and Alcala-Amulung and provide the guidance and support for demonstrating improved techniques to farmers. Problems identified in the LEA will be fed back to the APC for in-depth analysis and appropriate actions.

Ultimately, these would contribute the agricultural productivity and output of rural income through double cropping.

IV. ORGANIZATION AND FUNCTION

1. Organization

Cagayan Integrated Agricultural Development Project comprises three (3) major components: namely, Irrigation components (NIA), Agriculture Component (APC) and Supporting Infrastructure Component such as rural electrification, barangay road. (NEA and others).

APC is under the jurisdiction of CIADP. The organizational relationship of APC to CIADP is shown at Figure I.

The activities of the APC are being implemented by ~~four (4)~~ technical divisions namely: The Technology Development Division, the Farm Operations Division, the Technology Dissemination Division and Equipments Engineering Division.

The organizational charts of these divisions will be shown at Figure 2 to 5.

2. Function

The function of each division is as follows:

The Technology Development Division is primarily responsible for the development and packaging of agricultural technology through area-based applied researches.

The Farm Operations Division is primarily responsible for introducing rice mechanization technology to farmers and in establishing and maintaining facilities of the development stations.

The Technology Dissemination Division is primarily responsible for the delivery of technological innovations on farming systems through the establishment of Leading Extension Areas; training of farmers and technicians and technical assistance through information dissemination activities.

The Equipment Engineering Division is to take charges of the overall management of the Engineering and Equipment in APC. Namely: maintenance, repair, operation, utilization distribution and control, and these programming are the work of divisions.

Through the Agricultural Pilot Center, it is envisioned that farming within the Cagayan Integrated Agricultural Development Project areas will be transformed from the traditionally inefficient practice into an efficient and productive system.

V. FACILITIES OF APC

APC is composed of main complex Building and Model Infrastructure Farm shown annex I, II & III.

Main irrigation facilities for Model Infrastructure Farm is described as below.

Main Irrigation Facilities

1. Pumping Facilities

Submersible Motor Pump	- 2 sets
Total Head	- 30m
Capacity	- $1.38\text{m}^3/\text{min.}$ ($0.046\text{m}^3/\text{sec.}$)
Rotation Speed	- 3,500 r.p.m.
Output	- 15 KW
Voltage	- 220 V
Phase	- 3 phase
Current	- 50 A

2. Water Pipe (from pumping station to water tank)

Pipe	Vinyl Pipe	\varnothing 200	1 = 5.00
	Rubber Joint		
Pipe Length	-	770 M	
Designed Water Quantity	-	$0.046\text{m}^3/\text{sec.}$	
Air Valve	-	2 (Sta. 6.38 Sta. 470.37)	
90° Curve Pipe	-	3 (Ip1. Ip10, Ip11)	
5 5/8° Curve Pipe	-	1 (Ip4)	
45° + 22 1/2° Curve Pipe	-	1 (Ip6)	
45° + 11 1/4° Curve Pipe	-	1 (Ip7)	
22 1/2 + 11 1/4° Curve Pipe	-	1 (Ip8)	
45° Curve Pipe	-	1 (Ip9)	
11 1/4° Curve Pipe	-	1 (Ip12)	

3. Water Tank

Capacity - 3.50 x 3.00m x 3.00m=31.5m³
 Water Capacity 3.50m x 3.00m x 2.68=27.09m³
 Material of Tank Fiber Glass Plastic Board
 Connecting Material - Stainless Bolt & Special Rubber Pkng.
 Connecting Pipe - Ø 200m Zn gilding Steel Pipe
 Flexible Joint Ø 200mm 4 pcs.
 Sluice Valve Ø 200mm 1 pc.

4. Water Pipe in Farm

		200mm Vinly Pipe
Water Pipe	Inside Diameter	
Length of water pipe	Water Pipe	912m
Water concrete flume	0.40 x 0.30m	156m
	Spillway Ø 0,30m	10m
Main Drainage	Width 2.50m Depth 1.00m	401m
Sub Drainage	Width 1.90m Depth 0.70m	301m
Lateral Drainage	Width 0.30m Depth 0.60m	500m
Underdrainage	Ø 50mm	3,753m

5. Diversion and Others

A Type

B Type

C Type

Concrete Water Pipe

In Farm Ø 200mm Valve

Discharge Manhole

Drainage Pipe of Residual Water Ø 75 Vinyl Pipe

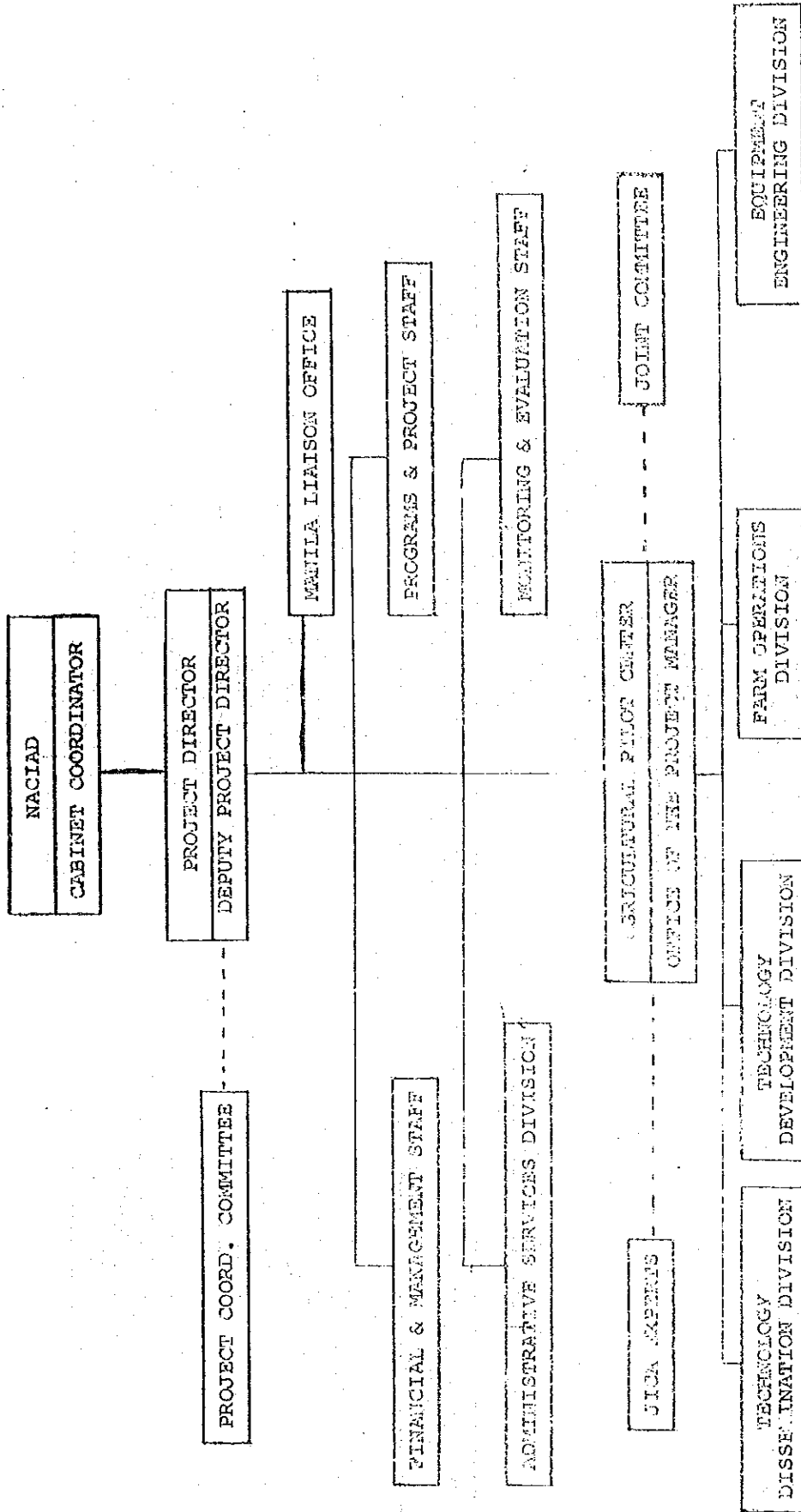
Adverse underdrainage Ø 600mm l=6.00m

6. Drainage Pump

Pump	Ø 200mm	2 sets
Output	3.7 KW	
Phase	3 phase	
Voltage	220 V	
Rotation Speed	Motor 1800 r.p.m. pump	925 r.p.m.
With automatic operation apparatus		
Head	3.50m	
Capacity	3.6m ³ /m set	

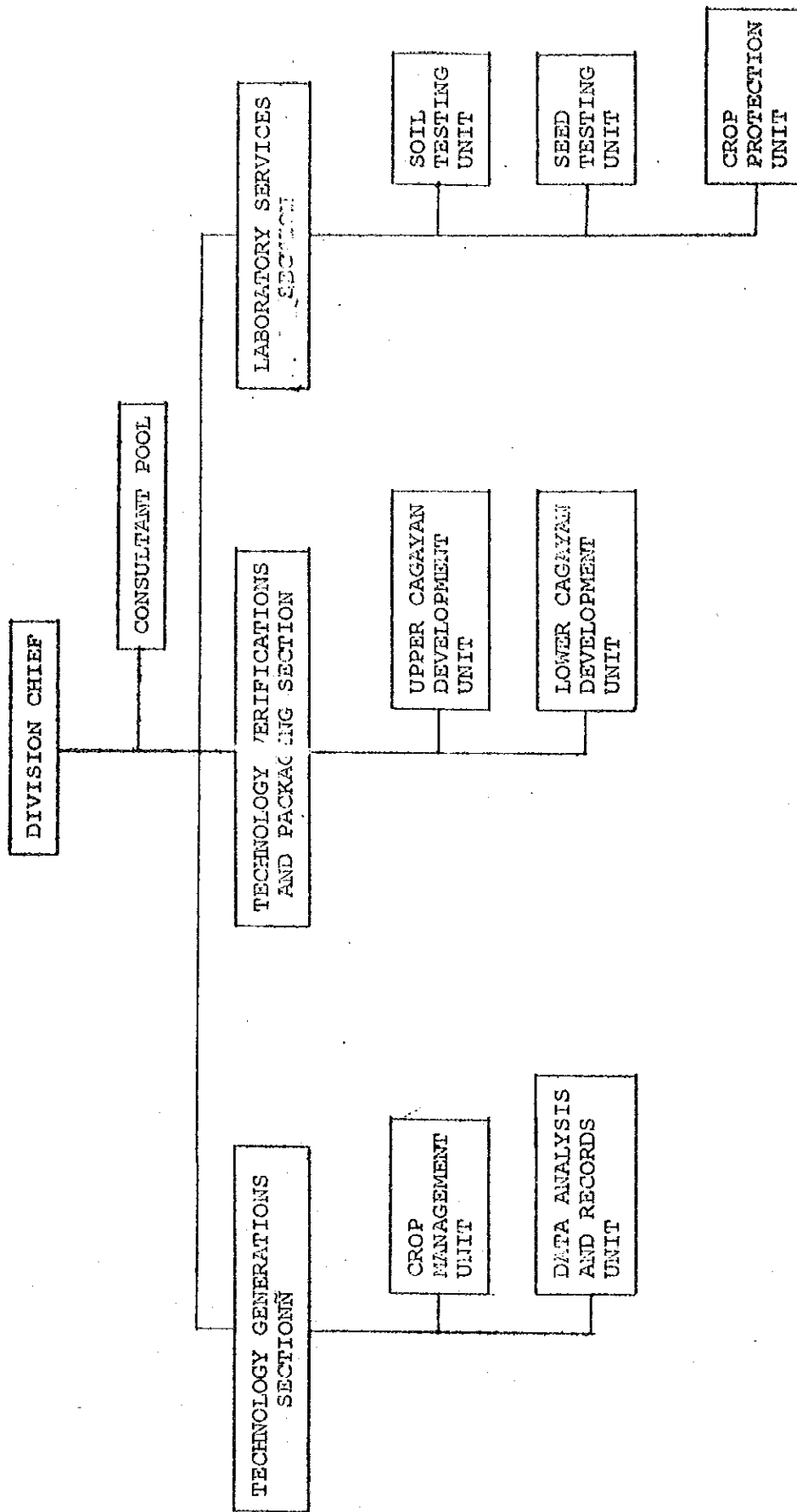
(Figure No. 1.)

ORGANIZATIONAL CHART
CIADPC-APC
CY - 1980



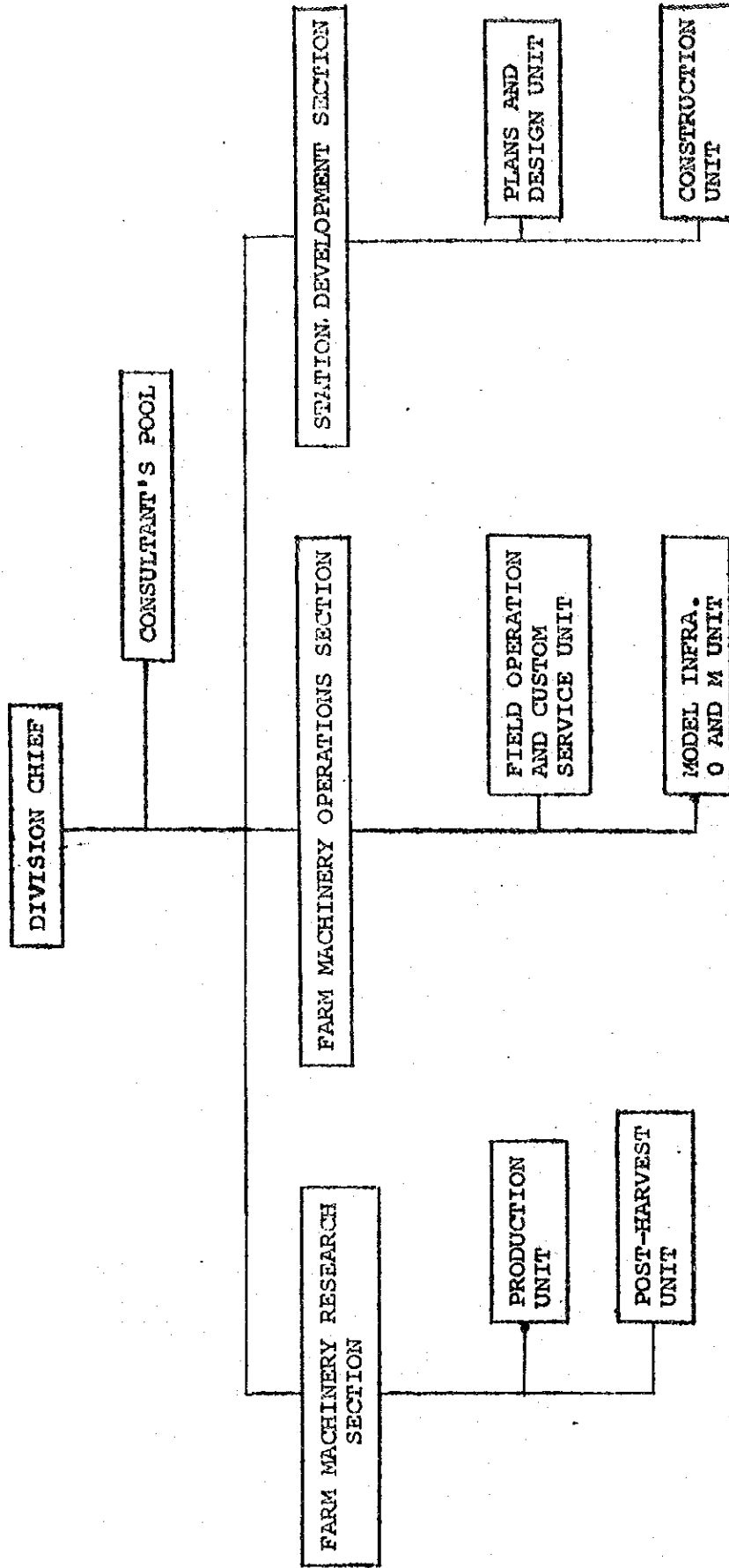
(Figure No. 2.)

TECHNOLOGY DEVELOPMENT DIVISION
ORGANIZATIONAL CHART



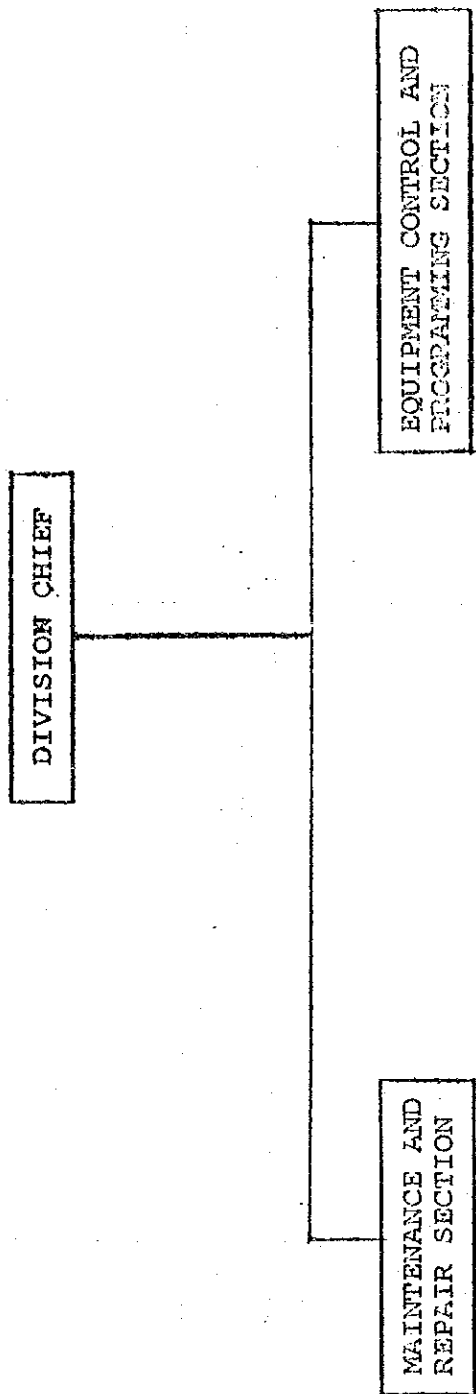
(Figure No. 3.)

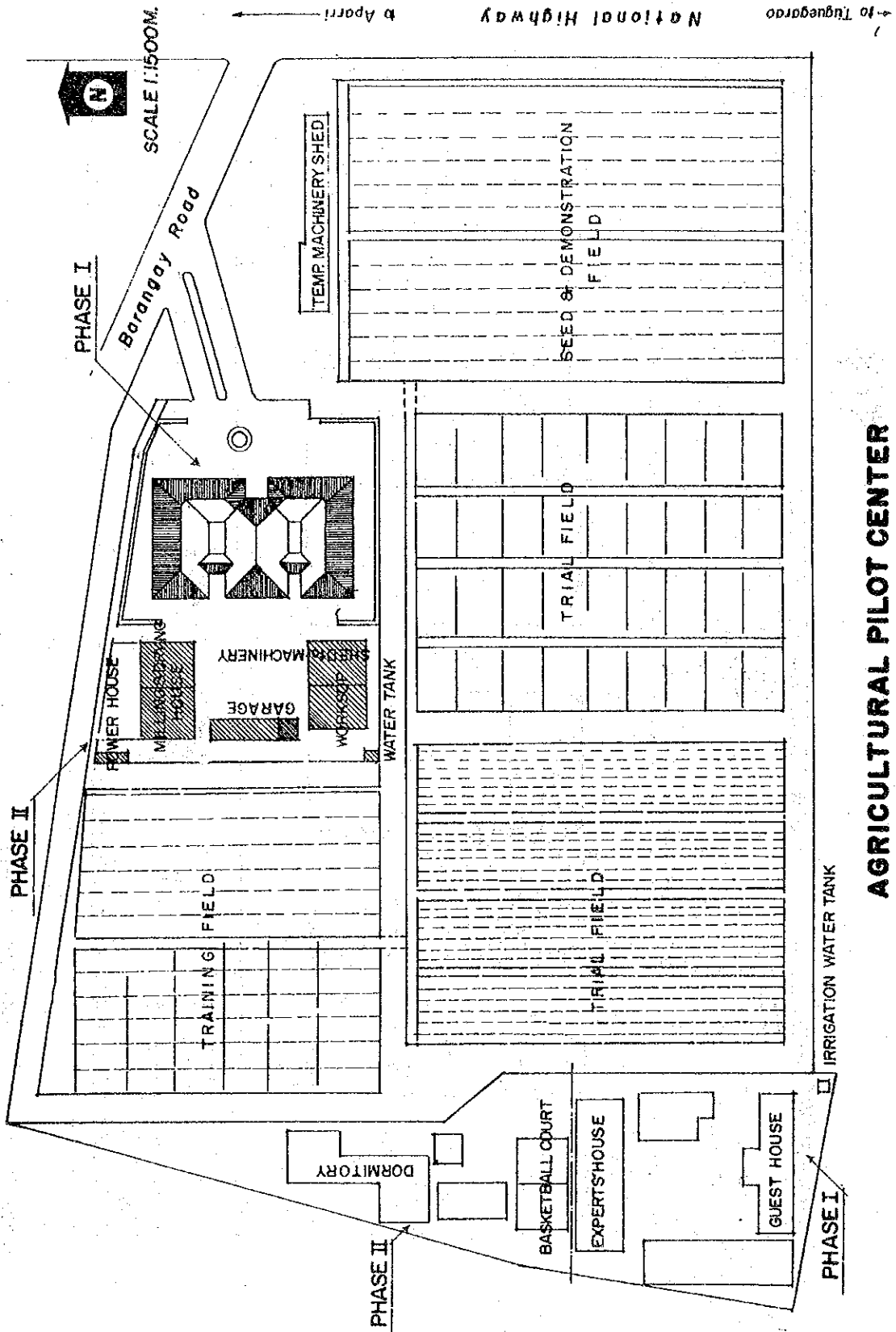
FARM OPERATIONS DIVISION
ORGANIZATIONAL CHART



(Figure No. 5.)

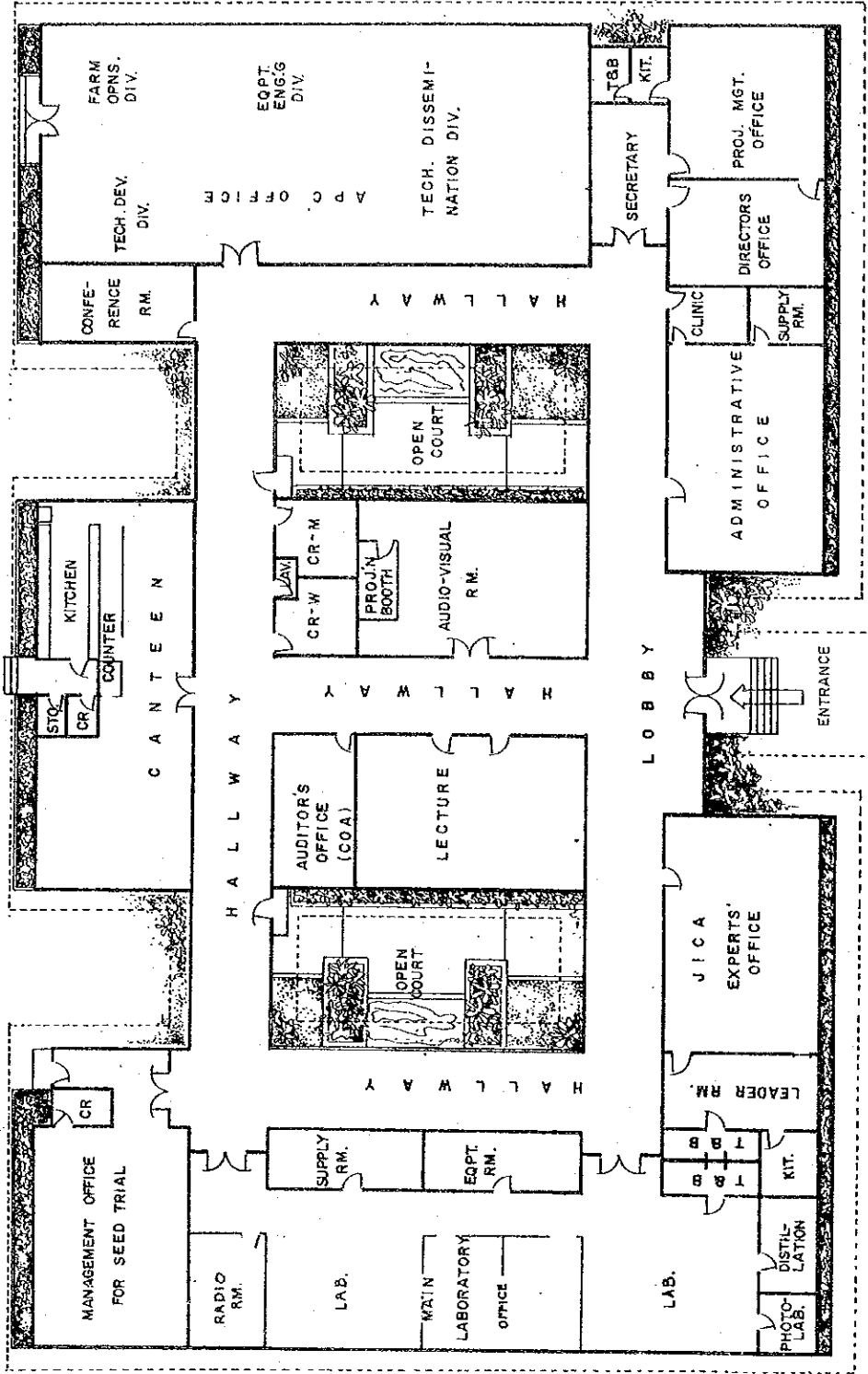
EQUIPMENT ENGINEERING DIVISION
ORGANIZATIONAL CHART





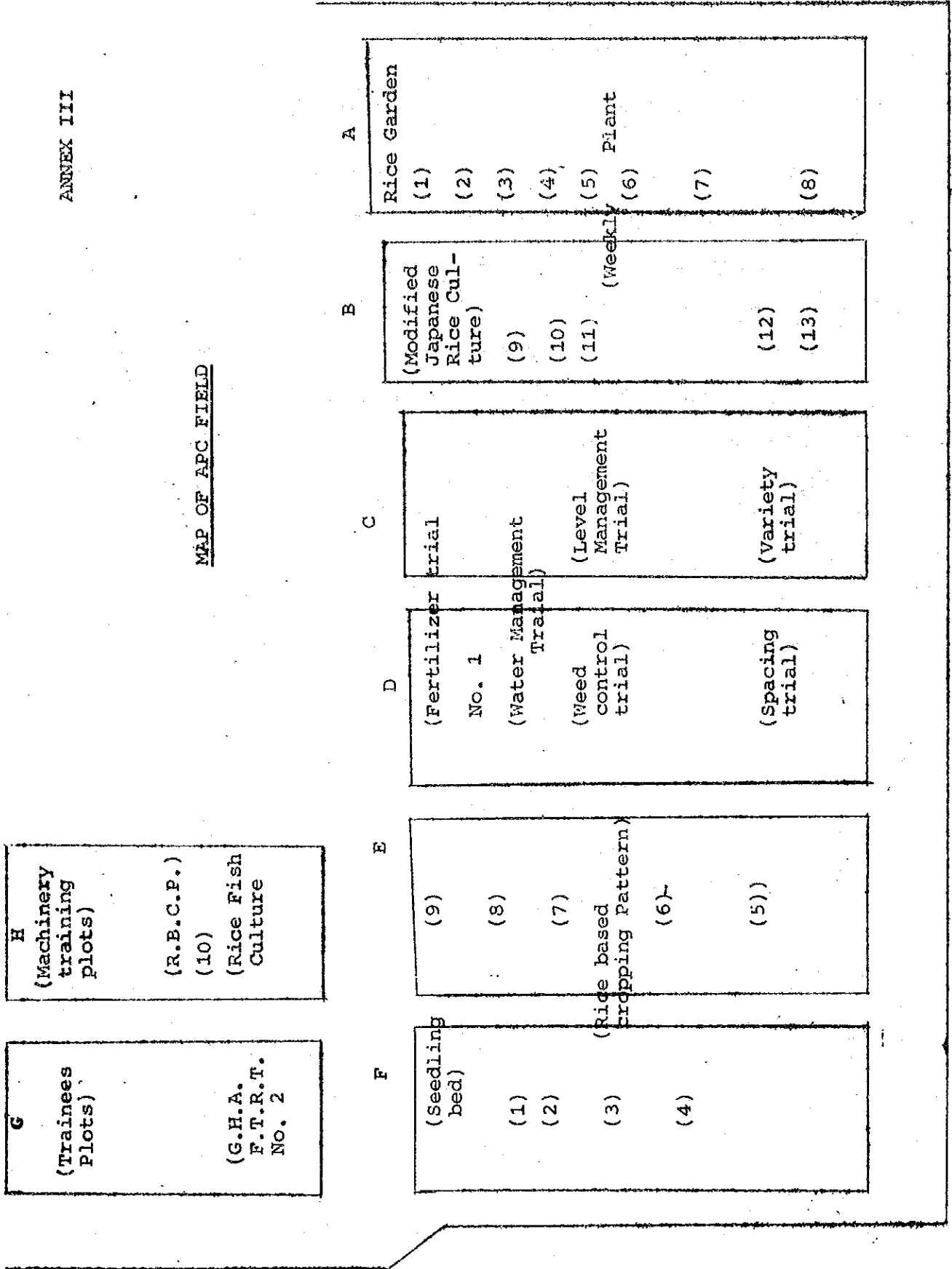
AGRICULTURAL PILOT CENTER
 Philippines

Minanga Norte, Iguig, Cagayan



AGRICULTURAL PILOT CENTER - MAIN BUILDING (Phase I) SCALE: 1:250 M

MAP OF APC FIELD



LIST OF KEY PERSONNEL OF CIADP

- | | |
|--|---------------------------------|
| 1. Cabinet Coordinator | - Minister Juan Ponce
Enrile |
| 2. Director of CIADP | - Atty. Alfonso R. Reyno, Jr. |
| 3. Project Manager of CIADP-NIA | - Engr. Vicente Galvez |
| 4. Technical Director, CIADP-APC | - Mr. Edmund J. Sana |
| 5. Head, Technology Development Div. | - Mr. Delfin B. Cruz |
| 6. Head, Farm Operations Division | - Engr. Narciso B. Padilla |
| 7. Head, Technology Dissemination Div. | - Mr. Edmund J. Sana |
| 8. Administrative Officer | - Mr. Loroto B. Valdepeñas |
| 9. Head, Equipment Engineering Div. | - Engr. Oriculo A. Perez |

JICA BUDGETARY CONTRIBUTION IN
THE SUPPLY OF EQUIPMENT AND
UNDERTAKING LOCAL COST
FY-1975 - 1979

1. Regular Equipments Supply

FY 1975	¥	8,629,693	
FY 1976	¥	66,415,778	
FY 1977	¥	103,066,028	
FY 1978	¥	39,455,073	(¥58,025,737)
	¥	619,021. <u>99</u>	
FY 1979	¥	36,213,418	(¥49,557,598)
	P	444,806. <u>00</u>	
T O T A L	¥	285,694,834	

2. Expert's Equipment Supply (Including Emergency Equipment Supply)

FY 1975	¥	2,377,643
FY 1976	¥	5,576,691
FY 1977	¥	1,901,667
FY 1978	¥	1,792,477
FY 1979	¥	3,375,074
T O T A L	¥	15,023,552

3. Emergency Construction

FY 1977 (Temporary Machinery Shed)	¥	2,329,000	(P61,675. <u>56</u>)
FY 1979 (Temporary Pumping Station)	¥	3,260,000	
T O T A L	¥	5,589,000	

OUTLINE OF CAGAYAN PROVINCE

1. Location

North Latitude - 17°30 - 19°30
 East Longitude - 121°15 - 122°15

2. Administrative Region

Cagayan Province belongs to Region II with Tuguegarao as a center of Region II comprises seven (7) provinces such as:

Cagayan Province	Nueva Vizcaya
Kalinga-Apayao	Quirino
Isabela	Batanes
Ifugao	

3. Cagayan Province

Cagayan comprises twenty nine (29) municipalities with Tuguegarao as the provincial capital.

Abulug	*Lal-lo
*Alcala	Lasam
*Amulung	Pamplona
*Aparri	Peñablanca
Allacapan	Piat
Baggao	Rizal
Ballesteros	Solana
*Buguey	Sanchez Mira
Calayan	Sta. Praxedes
*Camalaniugan	Sta. Teresita
Claveria	Sta. Ana
Enrile	Tuao
Faire	Tuguegarao

4. Land Area - 9,002.7 km. (900,267 has.)
5. Population - 644,075 (1975) annual growth 2.07%
 - a. Urban Rural Population

Urban	-	11.2%
Rural	-	88.8%
6. Mother Tongue

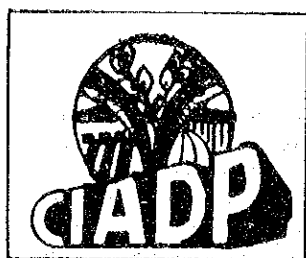
Ilocano	-	67.9%
Ibanag	-	14.4%
Itawes	-	13.44%
Malaweg	-	1.4%
7. Major Land Use

1. Commercial Forest	-	294,301 has.	-	33%
2. Cultivated Farm Land	-	188,930 has.	-	21%
3. None Commercial Forest	-	171,093 has.	-	19%
4. Abandoned Idle, open brushland, Other lands suitable for cultivation	-	69,852 has.	-	7.76%
8. Climate

Average annual precipitation	-	1,470.66 mm
(Max 2,689.86 mm - Min. 248.92 mm)		
Average Temperature	-	27°
9. Soil Type

Undifferentiated mountain soil	-	393,733 has.	(53.8%)
Loam of Sand stone and igneous rock parent material	-	311,670 has.	(34.6%)
Clay loam of alluvial parent material	-	165,420 has.	(18.39%)

10. Crop Production - (1977~~0~~)
- Total - 554,617 m/t
 - Palay - 311,287.72 (56%) (1.8 t/ha.)
 - Commercial crops - 188,087.63 (34%)
(coconut, sugar, tobacco)
 - Corn - 44,334.15 (0.6 t/ha.)
11. Per Capital GRDP - 1975 Region II
- P 917.00
12. CIADP Area and Number of Farmers
- CIADP Area - 13,200 has.
 - Number of Farmers - 8,000



Rang-ay ti Cagayan

Official Publication of the
CAGAYAN INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT
Tuguegarao, Cagayan

MAIDEN ISSUE

VOL. I NO. 1

AUGUST 30, 1980



The sprawling Agricultural Pilot Center in Iguig, Cagayan

CIADP TODAY

by Dionie del Rosario

The Cagayan Integrated Agricultural Development Project (CIADP) observes its third founding anniversary today, August 30 with simple but appropriate ceremonies.

The project was created by virtue of Presidential Decree No. 1189 signed by President Marcos on August 30, three years ago, formally adopting the CIADP as a project of the national government.

To meet the demands of the economy of Cagayan as manifested in a previously conducted socio-economic study in the province, Minister Arturo R. Tanco of the Ministry of Agriculture succeeded in inviting the Japanese government in September, 1973, to assist financially and technically in the economic development of the potentially rich province.

In August, 1974, the Japanese government, through the Japan International Cooperation Agency (JICA), sent the first of a series of surveys and feasibility missions which, ultimately, identified the Iguig, Alcala-Amulung and Lower Cagayan (Lallo, Camalaniugan,

Aparri and Buguey) areas to be developed through an integrated rural based project. This is now the CIADP.

This led to the signing, on February 27, 1976, of a two-year technical cooperation with JICA under a Record of Discussion in which it was agreed that an Agricultural Pilot Center (APC) be set up in Minanga Norte, Iguig. This two-year contract was extended for another three years with the signing, on February 23, 1979, of a memorandum of agreement between the

Philippine government and the Japanese government.

On April 28, 1977, a loan agreement was signed with Japan under the 5th Overseas Economic Cooperation Fund (OECF) package whereby Japan lends to the Philippines a total of \$22 million or P154 million to partially finance the total project amounting to \$41 million. This loan is now being used to partially finance the irrigation and electrification project.

IMPLEMENTATION

The CIADP, being an integrated rural development project, is implemented under the National Council For Integrated Area Development. Presently, there are five IAD projects each headed by a cabinet coordinator. For CIADP, Defense Minister Juan Ponce Enrile is the cabinet coordinator. Recently, Vice Governor Alfonso R. Reyno, Jr. took over as CIADP project director, vice Lt. Manuel Briones.

CHRONOLOGICAL HIGHLIGHTS

SEPTEMBER 1973

Representations made in behalf of the Philippine Government by Sec. Tanco, Jr. of the Department of Agriculture with the Japanese Government for a joint rural development program in Cagayan.

JULY 1974 --

Dispatch of the First Japanese Mission from the Japan International Cooperation Agency (JICA).

MAY 1975 --

Project areas initially identified by Japanese mission and Filipino counterparts

JULY 1975 --

President Marcos approved the project

OCTOBER 1975 --

The first of a series of feasibility missions arrived to conduct detailed feasibility studies

FEBRUARY 1976 --

Final feasibility mission sent and Record of Discussions with JICA signed to commence a 2-year preparatory technical Cooperation for Agriculture Pilot Center (APC)

JULY 1976 --

Overseas Economic Cooperation Fund (OECF) appraisal mission dispatched

APRIL 1977 --

Signing of the project loan agreement during President's state visit to Japan as part of the 5th OECF loan package

AUGUST 1977

Presidential Decree No. 1189 was issued formally implementing the project

NOVEMBER 1977 --

Formal turn-over of CIADP to Secretary Juan Ponce Enrile as Cabinet Coordinator

FEBRUARY 1979 --

Memorandum of Agreement between the Japanese and the Philippine government was signed extending the technical cooperation up to February, 1982.

JUNE 1980--

Vice Governor Alfonso R. Reyno, Jr. was appointed and took over as Project Director vice Lt. Manuel Briones

STATUS OF THE COMPONENTS

The Agricultural Component -- This component implemented by the Ministry of Agriculture, is composed of three sub-components, namely, the Agricultural Pilot Center (APC) Project; the Research and Development Program for Agriculture; and the Research and Development Program for Natural Resources.

The APC Project -- Located about 15 kilometers north of Tuguegaor, along the Maharlika highway, specifically at Minanga Norte, Iguig, Cagayan, the Agricultural Pilot Center covers an area of 10 hectares, six hectares of which have been developed as Model Infrastructure and the other four hectare area is the site of the main building offices, training, audio-visual rooms, laboratory, dormitories, guest house, and machinery shed. This spacious and beautiful building was inaugurated February 22 last year. Since then, it has become the most conspicuous landmark along the Maharlika highway in Cagayan Valley.

Provided with modern equipment and apparatus for laboratory and field researches and experi-

ments, and manned by highly trained and experienced Filipino and Japanese experts, the APC is rated as the most sophisticated agricultural center in the region. It serves as the nucleus for developing and popularizing modern farm technology adopted to Cagayan conditions.

In preparation for the full scale farming activities when the irrigation systems will be in operation, the following types of researches and experiments have been conducted at the APC, such as:

1. *Research-Managed Experiments:* uses classical field plot research method with treatments replicated in the same field. Operations and management of the plots are the sole responsibility of the researcher conducting the experiment. Experiments conducted in this type of research are fertilizers, weed control and insect control.

2. *Superimposed trials within a recommended cropping pattern management:* This type of experiment is conducted to test component technologies within a recommended management of a cropping pattern. All operations and management from sowing to harvesting are performed by the farmer-cooperator under the supervision of the researcher. Component technologies superimposed in this type of research are fertilizer, weed control and insect control.

3. *Superimposed trials within the existing farmer-managed cropping pattern:* This type of experiment is conducted to test component technologies within the existing farmer practices in cropping pattern management. Small sets of treatments are established in the field activities. Component technologies superimposed in this type of research are fertilizer, weed control and insect control. The same treat-

ment of fertilizers and pest control will be set up for these components.

Specific Researches/Experiments Conducted:

1. *Fertilizer Trial* -- To determine the effect of varying fertilizer applications on IF-42 yield in the Padapada clay soil under Iguig condition.

2. *Water Management Trial* -- To determine effect of varying levels of irrigation on yield.

3. *Weed Control Trial* -- To determine the most effective method of weed control.

4. *Level of Management* -- To develop a package of technology in the level of management (fertilizer application, weed and pest control method) which can be most economical for the farmer.

5. *Spacing Trial* -- To determine the most profitable transplanting distances.

6. *Variety Trial* -- To test eleven (11) varieties of new early maturing rice varieties as to their resistance against pest and diseases based on yield performance compared to IR-36.

These were completed in March, 1980.

7. *Cropping Pattern Trial* — To develop an appropriate cropping pattern for irrigated rice field to maximize returns from the farm, using two combinations of rice, mungo, cowpea, wheat, corn, cotton, watermelon, soybean, bush sitao, and squash. Ongoing.

8. *Granular Herbicide Applied Research Trial* — (Chart) To evaluate the effectiveness of and economic feasibility of eight (8) granular herbicides. Analysis of data on the vegetative stage is 90% complete.

9. *Pest Surveillance* — To determine the degree of infestation of plant pests in the area for appropriate control measures. — Ongoing every crop season.

10. *Rice-Fish-Culture* — To determine the feasibility of fish culture in rice plots and drainage canals. — Ongoing.

11. *Farm Machinery Test* — To test the performance of the Kubota rice transplanter in term of its field working capacity, efficiency, field machine index and adoption. This is the first of a series of performance tests to be conducted at APC.

12. *Climatological Observation* — To gather data on the temperature and rainfall in the area for purposes of forecast analysis. — Ongoing

13. *Rice Garden* — To test the economics of adopting a continuous rice production system which entails the planting of rice in small plots one after the other on a weekly basis. The yield per hectare for the first cropping season, May to December, 1979, was 107 cavans of palay.

Extension Program —

Training of Farmers — To train farmers in the pilot farms to adopt the recommended technology.

Radio Farm Program — To expand the coverage of the APC extension service from the project area to all municipalities of Cagayan, Northern Isabela and Kalinga-Apayao.

Out of the 3,000 enrollees in the University of the Air in six courses, successfully completed the course and were graduated in April 1980. The UOA is a continuous program aired daily in the local radio stations. Enrolment has greatly increased.

Farm Input Assistance — To assist the farmers in the Pilot Farms in terms of farm inputs such as fertilizers, seeds and chemicals which are lent out, and farm machineries which are rented to farmers, the proceeds from which constitute a special fund to be used for other projects.

This assistance was extended to the farmer-cooperators in the Iguig Pilot Farm, who averaged 105 cavans of palay during their first crop season.

RESEARCH AND DEVELOPMENT PROGRAM FOR AGRICULTURE

The APC activities are mainly rice-based researches and these activities are further limited within the initial 300-hectare Leading Extension Area. The agricultural component of CIADP is conducting researches on upland crops such as corn, sorghum, tobacco, field legumes, cotton, wheat, sugarcane, livestock, fruit and plantation crops. Researches and field trials under this sub-component are being conducted strategically in municipalities all over the province like Solana, Tuao Piat, Sto. Niño, Tuguegarao

and Gonzaga. These activities are being undertaken in cooperation with BAEx, BPI, Bureau of Soils, (both now MA), Cagayan State University, UPLB and PCARR.

RESEARCH AND DEVELOPMENT PROGRAM FOR NATURAL RESOURCES —

The main concern of the agricultural component is centered on the fishery and forestry resources of Cagayan. The present plan is to conduct consultation meetings in coordination with the Bureau of Fishery and Aquatic Resources and the Bureau of Forest Development to identify the problems and needs of each and to formulate development strategies for the same.

Projects proposals for Australian assistance were on the construction of food terminals, development of livestock and dairy industry, construction of roads, and forestry development. Those proposed for New Zealand assistance were on fisheries and aquatic resources, forestry, mini-hydro, and geothermal energy.

In response to these proposals, missions from these countries are expected to visit Cagayan during the third quarter of this year to evaluate the feasibility of assistance.

A significant project being undertaken under this sub-component is the Prawn Hatchery Project set up at the Aparri Institute of Technology unit of the CSU — to come up with a research facility on this important economic commodity and a source of prawn fry for fishpond operators in Cagayan. An article on this project is found in this issue).

THE IRRIGATION COMPONENT

The Irrigation Component of CIADP is under the responsibility of the National Irrigation Administration (NIA), with a project office at Dugo, Camalaniugan, Cagayan, under a Project Manager.

The CIADP aims to irrigate 775 hectares in the Iguig Area, 2,350 hectares in the Alcala-Amulung Area, and 10,875 hectares in the Lower Cagayan Area or a total of 14,000 hectares. The work includes the construction of irrigation and drainage canals and facilities, farm roads, and the installation of water pumps at selected areas along the Cagayan River, including terminal facilities.

The irrigation systems in the three areas were originally targeted to be completed by September, 1982, but due to delays in the acquisition of heavy equipment, the timeframe for the completion of the project has been moved to September, 1983.

Project Features and Development Scheme

IGUIG AREA

The main pumping facilities to irrigate 775 hectares in nine barangays of Iguig and Amulung, to benefit without 15,000 farmers, consist of 3-pump unit.

The pumps which are to be installed at the bank of the Cagayan River at Minanga Norte, are to be operated by a 120-kw electric mo-

tor. For the Iguig booster with a service area of 145 hectares, a 3-unit pump, was installed.

Irrigation and drainage canals include one main canal and four lateral canals, drainage systems of approximately 10 kms. lateral and 13 kms. of farm drains with density of 30 meters per hectare.

Feeder roads along the irrigation canals and approximately 12 kms. of service roads. All these facilities are designed to provide the farmers, from single cropping to two-rice croppings and one upland crop yearly.

ALCALA-AMULUNG AREA

A 4-unit pump, was installed with a 310-kw electric motor.

Construction of a 10-km. main irrigation and 25 kms. of lateral canals, plus 43 kms. of farm drainage.

Construction of feeder roads with a total length of about 20 kilometers.

LOWER CAGAYAN AREA

A 4-unit pump at the bank of the Cagayan River about 100 meters downstream from the Magapit suspension bridge in Lallo was also installed.

Construction of one main irrigation canal and 17 lateral canals. The drainage canal density is approximately 38 meters per hectare with 22 kms of main canal, 47 kms of laterals and 300 kms of farm drain.

Construction of feeder roads along the canals as follows: 20 kms

of trunk roads, 200 kms of service roads and 183 kms of access roads.

Improvement of the swampy area covering 3,000 hectares through reclamation with the necessary drainage structures.

Provisions to reduce and/or control measures of saline and acid-sulfate soils.

Project Implementation -

Work continue in the entire project with concentration on the construction of irrigation facilities. Based on the revised work plan, with 50% time elapsed, the overall physical accomplishment was 26.32% with a total expenditure of P66,260,198 or 26.02% of

The irrigation pumps for the Iguig and Alcala-Amulung pilot farms were ceremonially switched on as special features of the first anniversary of the APC on February 22, 1979 and the second anniversary of the CIADP on August 30, 1979, respectively.

In the Iguig Area, major works were canalization and drainage excavation. Completed structures remained at 48% with one structure still going on. Other activities were construction survey and right of way negotiations. An overall accomplishment of 42.57% was attained.

In the Alcala-Amulung area, work were, likewise, concentrated on the construction of irrigation and drainage canals, construction survey and right of way negotiations, and stockpiling of aggregate. One structure was completed during this period for a total of 83 structures completed to date, while three others are still going on. Total ac-

complishment to date is 40.45%.

In the lower Cagayan area, almost the same activities as those pursued in the two areas were undertaken. The vastness of the area was a cause of the seemingly slow progress of work. The negotiation for right of way was particularly slow because some of the farmers whose small rice paddies are to be almost eaten up by the main canal resisted the construction of the canals on their paddies. That is why overall accomplishment attained up to date is only 6.84 per cent.

Project Service Facilities

All works for service facilities, permanent buildings and compound developments in the three Areas are already 100 per cent complete. It is in this place of development in this component in which work in the lower Cagayan area has been very noteworthy. The many substantial and beautiful buildings and the already well developed compound are a monument to the efforts of the project management. With this project office for the Irrigation component now adequately staffed, planning and coordination of activities, hopefully, will be expeditiously and smoothly carried out from now on for the acceleration of all remaining work to meet the revised completion date.

accelerate the momentum of the socio-economic development of Cagayan.

ALLIED INFRASTRUCTURE COMPONENT

This component is tasked to provide the structures necessary for the irrigation and electrification components and the facilities supportive to other sectors, such as flood control structures, roads and bridges, public buildings, agrobased facilities, etc. The project is being implemented by the Ministries of Public Highways and Public Works.

The projects under this component are to be financed by Philippine Government funds and/or foreign institutions in the forms of grants or loans.

Due to the delay in the release of the cash disbursement ceiling (CDC), the pre-engineering works of the 33,855 kms. barangay roads started late.

The program of work on the following barangay roads have been submitted to the MPH central office for approval:

1. 2.64-km DSVR - Linao-San Juan, Camalaniugan barangay road, costing P528,000;
2. Improvement of 2.675 kms of national road - Bantay-Fusina barangay road in Camalaniugan with a cost of P535,000; and
3. Construction of a 3.54 kms DSVR-Antiporda (Buguey) barangay road with P708,000 funding;

The following are in progress:

1. Improvement of a 2.5 kms DSVR-Tagum barangay road in Camalaniugan, costing P528,000;
2. Improvement of a 1.22 kms DSVR-Cullit-Bical barangay road in Camalaniugan costing P244,000; and
3. Improvement of a 1.2 kms DSVR-Fula barangay road in Buguey with P240,000 funding.

SOCIO-ECONOMIC COMPONENT

In order to balance the economic

development of the province, health, education, and housing are also attended to by the CIADP in coordination with the Ministry of Education and Culture, Ministry of Health, and Ministry of Human Settlements.

THE CIADP OFFICE -

The Project Office was created by virtue of PD 1189 for the purpose of coordinating the planning and implementation of all development projects in Cagayan at the national and provincial levels. The Project Office, which is composed of the Project Management Staff, the Administrative Unit and the Manila Liaison Unit, serves as the coordination center for inter-agency planning and implementation of the Project.

The Project Management Staff insures the effective and efficient utilization of resources. Its three divisions, namely the Program and Projects Staff (PPS), the Monitoring and Coordinating Staff (MCS) and the Financial and Management Staff (FMS), take charge of planning, programming, project development and identification, monitoring and evaluating the progress and status of project implementation and budgeting, accounting and general management, respectively.

The Administrative Unit produces all the support services necessary to carry out the activities of the Project Office and the APC. It takes charge of personnel, cashing, property and procurement, records and general services. In addition to these, the Manila Liaison Unit undertake activities to facilitate supportive action and the transaction of official business of the Project Office at the national level.

SPECIAL PROJECTS

In addition to the project components, the CIADP is tapping foreign resources to bolster the development of Cagayan. Among these projects are fishery & aquaculture, energy development, intergated livestock and dairy projects, in-

THE ELECTRIFICATION COMPONENT

This component of the project, which is being implemented by the National Electrification Administration (NEA), through the Cagayan Electric Cooperative II (CAGELCO II), covers five municipalities in lower Cagayan area.

The installation of distribution lines in the project area started in May, 1979. It was undertaken by contract with the 51st Army Engineering Brigade under the supervision of the local consultant, Adrian Wilson International Associates (AWIA), assisted by West Japan Engineering, the foreign consultant for the project, in the planning and design of facilities.

As of the same date, 30 barangays have been energized: eight (8) in Aparri, eight (8) in Buguey, 13 in Camalaniugan, Seven (7) in Lallo, and four (4) in Gattaran. 1,549 households in Aparri, 283 in Buguey, 366 in Camalaniugan, 179 in Lallo, and 79 in Gattaran, for a total of 2,455 households, are now enjoying electric service.

With both CAGELCO I, which is servicing Iguig and Alcala-Amulung areas up to Tupang, Alcala in the north, and CAGELCO II, servicing lower Cagayan up to Nassiping Gattaran, in the south, in the process of extending their respective lines to the last barangay in their franchise areas, electric power will soon be available through out the length of Cagayan. This will surely

infrastructure and other social service oriented projects.

Aside from the Japanese government assistance, the Australian government has been requested to look into possible areas of development assistance in livestock and dairy development projects, integrated food terminal and farm-to-market roads, forestry management and research projects.

The Australian government has positively responded to the Philippine request and will soon send a survey mission to Cagayan.

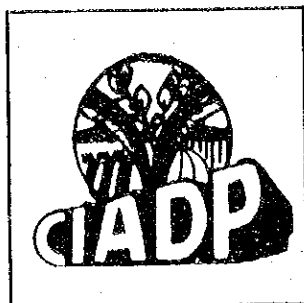
Among these projects proposed include: development of geothermal, dendrothermal and minihydro electric power, upland farming, forestry management, and scholarship/training grants for CIADP technicians.

The New Zealand government has been requested to provide equipment and consultancy services in the construction of the different projects while the Philippine government will borne other expenditures as its local counterpart.

The Japanese government, in addition to on-going projects, has proposed the expansion of the CIADP-APC to 14,000 hectares, grant assistance in the form of pre-fabricated steel structure for school buildings and health centers, including medical equipment to ease the acute shortage of school buildings and medical care facilities in the province. Included in the request for a grant is the development of cassava as one of the major products of Cagayan in the near future.

In order to balance the agricultural component of CIADP, the education, health, social and other cultural institutions will also be attended to. Training centers for factory workers, technicians and skilled labor shall be established to meet the demands of labor from the industrial sector.

This is all part of the programs of President Marcos to make region 2 the agro-industrial center in the next decade. - DBR



Rang-ay ti Cagayan

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1980-81 THE GREAT LEAP FORWARD FOR CIADP

By Leonie Pagulayan

The year 1980 marked the beginning of the great leap forward for the Cagayan Integrated Agricultural Development Project (CIADP). This was disclosed by CIADP Project Director Alfonso R. Reyno, Jr. to the National Council on Integrated Area Development (NACIAD) in Malacañang recently.

Reyno said that these achievements and accomplishments were only possible due to the untiring support and guidance extended to the Project by Defense Minister Juan Ponce Enrile.

Project Director also expressed his gratitude to His Excellency President Ferdinand E. Marcos and the First Lady Imelda Romualdez Marcos for the deep concern they have shown for the welfare of the Cagayanos.

AGRICULTURE AND FOOD PRODUCTION

In food production, the CIADP was able to get an allotment of 770 million yen out of the 1.9 billion yen Japanese grant to the Philippine government. From this amount, the CIADP initiated several projects which aimed at increasing, diversifying and integrating the province's production potentials not only to achieve self-reliance but also surpluses in agricultural products.

Among the most salient projects launched under the 770 million yen food production grant were the following:

a. Integrated swine, poultry and feedgrain project which aims at integrating production, processing and marketing activities.

b. Integrated Carabao production processing and marketing project which would lead to the profitability of carabao raising.

c. The goat demonstration farm project which is intended to make available sufficient milk and meat to low income families.

d. The integrated sugarcane and cattle production project was launched in order to increase the supply of cattle through the integration of sugarcane feeds to its large scale production.

Multiple Cropping

Reyno also said that the CIADP started piloting on a multi-cropping scheme which would diversify and increase crop productivity and family income on rainfed and marginal lands while, making full use of the potentials of irrigated lands.

Hybrid Coconut Project

Project Director Reyno also informed the NACIAD members that the CIADP has recently concluded a tie-up with the Philippine Coconut Authority (PCA) for the propagation of the Coconut Hybrid Planting

Project in Cagayan with PCA delivering some 60,000 hybrid coconut seednuts. This is aimed at making Cagayan one of the country's leading copra producers.

Agricultural Pilot Center

Meanwhile, CIADP's Agricultural Pilot Center embarked on a large scale applied research and trial program, socio-economic and resource researches, and field extension services on its pilot farms.

It also conducted an aggressive agricultural communication program while a total of 247 seed samples were analyzed under its laboratory services.

Proposed Agro-Industrial Projects

Project Director Reyno pointed out that the CIADP is seeking foreign assistance from other developed nations. Through the Philippine Government, Reyno said that the CIADP has requested the Australian Government to extend technical assistance to Cagayan in the development of Livestock and Dairy Production Program. It is estimated that under this program a 24% tonnage increase in beef, carabeef, chevon, milk and draft animals would be achieved within six years.

Included in the project is the establishment of a livestock diagnostic and feed control laboratory; stock farms for demonstration and breeding and a provincewide milk collection program.

Assistance of the Australian government was also requested for the construction of Food Terminals, Farm to Market Roads and Post Harvest facilities.

INFRASTRUCTURE

Project Director Reyno also said that under the CIADP's infrastructure development program, several projects have been lined-up to support

agricultural development.

Dugo-San Vicente Road

In coordination with the Ministry of Public Highways (MPH), the construction of the Dugo-San Vicente Road has been included in MPH's Key Budgetary Inclusion (KBI). The project calls for the concreting of the highway from Dugo Junction in Camalaniugan town to Port San Vicente in Sta. Ana, Cagayan which covers a distance of some 73 kilometers. The highway will serve as a major artery connecting the Cagayan Valley region and the Ilocos provinces to Port Irene.

Port Irene

The modernization of Port Irene in Sta. Ana, Cagayan and the conversion of the area as industrial center for Northern Luzon remains as top priority in CIADP's infrastructure development program.

Project Director Reyno said that the expansion and modernization of Port Irene will usher in, the industrialization of Region 2 as it will encourage the processing of raw materials locally, disperse industries and expand non-traditional manufacture exports.

Reyno further said that this project is expected to sustain industrial growth through the inflow of investments into the region by attracting foreign investors especially those with export-import orientations to Japan, Taiwan, South Korea, China and Hongkong.

During the first week of February this year, a Japanese survey team from the Japanese International Cooperation Agency (JICA) visited Cagayan for ocular survey and preliminary data gathering. They are expected to come back

in the middle of this year to conduct the feasibility study proper.

Barangay Roads

The construction of farm to market roads in the province got a big boost with the allotment of P43 million for the construction of 183 kilometers of barangay road for this year.

Reyno said that this would facilitate the transport of products from the farms to the market center in all of the province's 29 towns aside from making the towns more accessible to the various development projects of CIADP.

Irrigation

Reyno also disclosed that CIADP's 14,000 hectare irrigation project which is being implemented by the National Irrigation Administration (NIA) is 32% completed and is expected to be finished as scheduled.

Electrification

Under CIADP's electrification project some 192 kilometers of distribution lines have been installed energizing 76 barangays in the towns of Gattaran, Lallo, Buguey, Camalanuigan and Aparri, servicing some 3,750 households.

Flood Control . . .

In order to prevent the occurrence of flash floods from the mighty Cagayan river, some P6.7 million has been earmarked for CIADP's flood control

project which is being implemented by the Ministry of Works.

NATURAL RESOURCES

The development of the province's fishery and aquatic resources was one of the major concerns which the CIADP gave priority and attention.

BFAR Sta. Ana Ice & Cold Storage Plant

The CIADP concluded a memo of agreement with the Ministry of Natural Resources whereby the management of the BFAR's Ice and Cold Storage Plant was turned over to CIADP. Some P320,000 has been earmarked for the rehabilitation of the plant.

Biyayang Dagat

In order to bolster the anemic Biyayang Dagat Program in the province, the CIADP joined hands with the Bureau of Fisheries and Aquatic Resources (BFAR) and the Philippine National Bank (PNB) to undertake the implementation of the Biyayang Dagat program in Cagayan on a cooperative basis.

The scheme was met with enthusiasm by the intended beneficiaries.

Prawn Hatchery

A prawn hatchery complex is about to be completed at the Cagayan State University (CSU) in Aparri. The prawn hatchery project is a joint undertaking of the CIADP, the CSU-Aparri Institute of Technology, the BFAR and the Asian Institute of Agriculture of the Southeast Asia Fishery Development Center (AIA-SEAFDEC).

Proposed Projects

Reyno also revealed that the CIADP through the Philippine government has submitted some project proposal to the New Zealand government, seeking its assistance in the search for of alternate sources of energy like the development of Mt. Cagua for geothermal energy.

The assistance of the New Zealand government was also sought for studies on dendrothermal and mini hydro electric plants, on inland fishing and upland farm.

SOCIAL SERVICES AND COTTAGE INDUSTRIES

Reyno also told the Council that the CIADP has started giving free medical treatment to indigents at the Agricultural Pilot Center and in coordination with the Cagayan State University, in all medical clinics in the different CSU campuses.

Reyno also said that under the Framework Plan which is being undertaken together NEDA GIRD Foun-

dation, and REAP City Planning Service the construction of school buildings and health centers, technical training of out-of-school youth and resettlement of the Attas, a cultural minority group in Cagayan, has been identified priority projects to be undertaken this year.

Reyno also pointed out that CIADP recognizes the importance of developing the industry sector hand in hand with the development of the agricultural sectoral.

"Towards this end, we have concluded tie-ups with the NACIDA, the Ministry of Labor and Employment, including the Small Business Advisory Council of the Ministry of Industry to jointly undertake the promotion and development of cottage industries and small scale industries in the province," Reyno said.

The CIADP project director also said that P20,000 was released by CIADP to NACIDA as its contribution for the native crafts display center which is under construction in Tuguegarao, Cagayan's capital town.

At no time since its inception has CIADP's presence and its impact on the overall development more so in 1981 and the years to come. ///ldp///

EDITORIAL

LET US COUNT OUR BLESSINGS

As His Excellency, President Ferdinand E. Marcos brings the Martial Law era to a close, maybe it is hightime for us to count our blessings under that Paternal regime. For no province has benefited from it as much as we in Cagayan had.

Before the advent of the New Society, we used to complain of bad roads, lack of schools, poor agricultural production, unemployment, low wages and inadequate social services.

Going to Manila by land usually took us a day. Palay yield of rice farmers averaged at 30 cavans per hectare, 1/3 of which, went to his landlord, the rest of the loan sharks. The banks were only for those who could offer collaterals. Our people migrated to other parts of the country in search for work. We were at the mercy of unscrupulous businessmen and politicians.

The institution of Martial Law which ushered in the birth of the New Society has completely changed the picture.

With the construction of Daang Maharlika, it now takes us an average of eight hours to reach Manila. A network of farm to market roads link the farflung barangays to the center of trade. The farmers now produces an average of 200 cavans of palay from two croppings per hectare yearly because he does not only have water to irrigate his field, but he is also equipped with the proper technology. Besides, he can always depend on the banks to give him the loan he needs without any collaterals. His income has increased beyond his expectations.

The infusion of a massive socio-economic development program gave us the Magapit Suspension Bridge, the only one of its kind in Southeast Asia, International Port Irene, a network of irrigation systems, school buildings in almost all barangays, and most of all . . . the Cagayan Integrated Agricultural Development Project (CIADP), all of which are designed to unlock the gates to our province's natural resources and give the Cagayano a better quality of life.

Whereas before, only two of the 29 towns had electric power, now only eight remain to be provided with electricity. Health, education, agricultural and social service extension have so expanded that a government extension worker is a common sight in almost every barangay.

The introduction of the sugar and cotton industry including the mushrooming of cottage industries and commercial establishments have provided for the Cagayano, ample employment opportunities.

These are but a few of the benefits we have received under the new social order.

But aside from these, no regime has ever bestowed on our province, the honor and responsibility of helping shape the future of our country, except the Marcos regime.

President Marcos tapped a son of Cagayan as his Minister of National Defense during the darkest days of the republic and on his hands, the President entrusted the security of the nation.

President Marcos has also appointed Cagayanos to lofty and influential positions in the military, in the judiciary and other branches of government.

Indeed, no President has ever shown so much faith and trust in the Cagayano than His Excellency, President Ferdinand E. Marcos!

As the President lifts Martial Law, what then should be expected of us?

The Cagayano has always been known as a grateful man. This is his cardinal virtue. . . his hallmark! Let us therefore show our gratitude by preserving the gains of the New Society. . . . let us continuously support the programs of government which the President wants to pursue. . . . let us, as we have always done, remain unflinchingly loyal to the President and to his Minister of National Defense, Juan Ponce Enrile, our regional leader!

We can do no less.

CIADP — CAGAYAN'S GATEWAY

The creation of the Cagayan Integrated Agricultural Development Project (CIADP) under PD 1189 on August 30, 1977 has given the province greater hopes of achieving a more rapid pace of development.

As envisioned by President Ferdinand E. Marcos, the CIADP is designed to promote and accelerate the balanced and integrated development of agriculture, natural resources, infrastructure and social services in the province of Cagayan by coordinating and supporting the efforts of government agencies in the provinces.

At the helm of CIADP is Defense Minister Juan Ponce Enrile who is the Cabinet Coordinator and Cagayan Vice Governor Alfonso R. Reyno, Jr. as project Director.

IRRIGATION AND ELECTRIFICATION

For its initial operations, CIADP was extended a \$22 million loan by the Government of Japan through the Overseas Economic Cooperation Fund (OECF) for the irrigation of some 14,000 hectares of land and the electrification of five towns.

By September 1983, the irrigation project which is being implemented by the National Irrigation Administration (NIA) will be completed. The National Electrification Administration (NEA) on the other hand envisions the full energization of the five pilot towns by the end of 1981.

AGRICULTURAL PILOT CENTER

After only three years of operation and through the assistance of the Japanese International Cooperation Agency (JICA), the CIADP has been able to build an Agricultural Pilot Center (APC) at Minanga, Iguig, Cagayan. The CIADP-APC is equipped with modern laboratory and audio-visual facilities.

At the APC, agricultural extension workers from the Ministry of Agriculture, PCARR scientists and experts from the Japan International Cooperation Agency (JICA) work hand in hand on various crop research and experiment projects on the technology appropriate under Cagayan conditions. In 1980 alone, several researches and experiments were conducted in the CIADP-APC laboratory and pilot farms.

TO PROGRESS

The CIADP-APC is also involved in the transfer of appropriate technology to the end-users, especially the farmers within the Leading Extension Areas in Iguig, Amulung ang Alcala. This, the CIADP-APC achieves through field demonstrations by CIADP-APC technicians, farmers' tours, production of technoguides, audio visual presentation, formal and non-formal farmers' classes and the University on the Air radio program of which some 8,000 farmers have graduated.

The CIADP-APC is also concerned with farm mechanization and the introduction of modern farm machineries.

AGRICULTURE

In agriculture, the CIADP actively supports the production of rice, vegetables, sugarcane, cotton, coconut, cassava, hybrid

peanut and yellow corn in a bid to exploit the province's agricultural potentials. It has also launched a massive livestock dispersal program in coordination with the Ministry of Agriculture.

NATURAL RESOURCES

To help accelerate the development of Cagayan's fishery and aquatic resources, the CIADP entered into an agreement with the PNB and the Bureau of Fisheries and Aquatic Resources (BFAR) for the promotion of the BIYAYANG DAGAT program for small fishermen. It is also constructing a ₱1.9 million prawn hatchery plant at the Cagayan State University in Aparri, Cagayan. It also agreed to take over the management of BFAR's ice and cold storage facilities in Sta. Ana, Cagayan.

INFRASTRUCTURE

In order to meet the need for infrastructure support to agricultural production, CIADP is engaged in the construction of a network of barangay or farm to market roads. This program is implemented through the Ministry of Public Highways. For 1981, some ₱43 million has been allocated for the

CIADP barangay roads program.

The CIADP has also concluded a memo of agreement with the Philippine Ports Authority to jointly undertake the modernization of Port Irene in Sta. Ana, Cagayan.

The CIADP has also submitted its feasibility study and recommendation for the concreting of the Dugo-Junction-San Vicente road to be funded by \$38 million loan from the government of Japan through the Overseas Economic Cooperation Fund (OECF).



HON. JUAN PONCE ENRILE
*Defense Minister and
Cabinet Coordinator*



HON. ALFONSO R. REYNO, JR.
*Provincial Vice Governor
Project Director*

SOCIAL SERVICES

The CIADP has also been able to secure a ₱40 million grant from the government of Japan for the construction of school houses and health centers in Cagayan.

For the poor and indigent, it offers free medical-dental services at the CIADP-APC in Iguig and at the medical clinics located in the different campuses of the Cagayan State University.

All these programs are meant to raise agricultural production, generate more employment opportunities, increase income and insure that essential social services are within the people's reach.

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This Agreement entered into and executed this _____ day
of January, 1980 at Los Baños, Laguna, Philippines by and
between:

The Cagayan Integrated Agricultural Development
Project Office, Iguig, Cagayan, hereinafter referred
to as CIADPO, represented in this Agreement by its
Officer in Charge, 1LT. MANUEL A. BRIONES; and

The Philippine Council for Agriculture and
Resources Research, Los Baños, Laguna, hereinafter
referred to as PCARR, represented in this Agreement
by its Director-General, DR. J.D. DRILON, JR.

- and -

The International Rice Research Institute, College,
Laguna, hereinafter referred to as IRRI, represented in
this agreement by its Director General, DR. NYLE C. BRADY.

W I T N E S S E T H

WHEREAS, CIADPO was created to coordinate inter-agency
planning and implementation of rural development projects for
the integrated development of the province of Cagayan and its
adjacent areas;

WHEREAS, a major component of CIADPO's mandate is the
preparation and development of identified packages of projects,
primarily in agriculture, including the establishment of appropriate
research and extension facilities to support this implementation of
identified projects;

WHEREAS, PCARR was created to plan and coordinate
researches in crops, livestock, forestry, fisheries, and mines;

WHEREAS, one of the major programs of PCARR is the
development of suitable technology packages for agricultural
areas, and the establishment of necessary research facilities
to support technology development;

WHEREAS, IRRI was created to serve as the main international research center for the development of rice technology to help solve the worldwide food problem.

WHEREAS, one of the major programs of IRRI is to develop rice-based cropping systems in both irrigated and rainfed areas to maximize productivity of the farmer per unit area per unit time;

WHEREAS, CIADPO, PCARR and IRRI are all interested in developing appropriate technology models on farming systems for the countryside which could be adapted in Cagayan and in other areas;

NOW, THEREFORE, the three agencies mutually agree to establish a cropping systems research site in the province of Cagayan covering selected areas in the municipalities of Solana and Amulung for the development of rice-based farming systems technology for both rainfed and irrigated areas of Region 2 under the following terms and conditions;

1. CIADPO will provide the following at its expense;
 - a. An appropriate field office and training facility for the project
 - b. Appropriate technical including support staff for the project
 - c. Operational cost for both 1a and 1b above
2. PCARR will undertake the following at its own expense:
 - a. Provide guidance to the program through its Farming Systems Research Commodity Team
 - b. Monitor the progress of the work
 - c. In consultation with researchers provide technical and editorial assistance in the interpretation, packaging and printing of the results of the project
3. As part of its research in rice-based cropping systems IRRI will provide the following at its own expense:
 - a. Appropriate technical and support personnel to conduct research on food crop production systems
 - b. Appropriate operating resources

- c. Training of project personnel from CIADPO
- d. Publication of research results through IRRI's annual reports and other existing channels for technical and scientific publication.

CIADPO, PCARR and IRRI will appoint appropriate staff to plan and implement the project. The research project shall be administered by a Coordinator in the site to be appointed by IRRI. The research site shall be under the direct supervision of the Head, Multiple Cropping Department at IRRI, or his authorized representative. The organization and implementation procedures will be mutually agreed upon by the three parties.

The three parties likewise agree to contribute to or generate funds for the project based on mutually agreeable terms.

This Agreement shall become effective upon signing by the authorize representatives of the three organizations and shall be binding for a period of three years unless sonner terminated upon mutual consent of the three parties. If not terminated sooner, the Agreement may be renewed after the three-year period by mutual agreement of all the parties.

IN WITNESS WHEREOF, the parties have signed this _____ day of January, 1980 at Los Baños, Laguna.

CAGAYAN INTEGRATED
AGRICULTURAL DEVELOPMENT
PROJECT

PHILIPPINE COUNCIL FOR
AGRICULTURE AND RESOURCES
RESEARCH

BY :

BY :

MANUEL A. BRIONES
Officer-In-Charge

J.D. DRILON, JR.
Director General

INTERNATIONAL RICE RESEARCH INSTITUTE

BY :

N. C. BRADY
Director General

WITNESS :

/rtv
1.18.79

AGRICULTURAL PILOT CENTER
SUMMARY OF WORK PROGRAM
CY 1981

<u>PROGRAM/PROJECT/ACTIVITY</u>	<u>R E M A R K S</u>
<u>PROGRAM I</u>	
RURAL EDUCATION SERVICES	
PROJECT I-A:	
DeVelopment, Production and Distribution of semi-technical print information materials	Cagayan Technoguide Series (8) These are semi-technical publications which are intended as guide for extension workers, students, agricultural and Vocational teachers and advance farmers. Technoguide for Rice(3,000), corn (1,000), peanut(500), mungo(500), cotton(1,000), tobacco(500), livestock (1,000) production and rural nutrition (4,000).
PROJECT I-B:	
DeVelopment, Production and Distribution of Illustrated Popular Print Extension Materials	"Rang-ay iti Barangay" Series (7) These popular publications are simplification of the semi-technical Versions. These are fully illustrated and written in the popular dialects in the province. Primarily, the target clientele for these publications are farming families within the project areas. "Panagmula iti Pagay (6,000), Mais (2,000), Balatong(3,000), Mani(1,500), Kapas (4,000), Tabako (1,000)"and "Panagtanor iti Baka, Kalding, Baboy ken Manok" (5,000).
PROJECT I-C:	
Technical Training DeVelopment and Management	Courses includes Rice Production, Multiple Cropping of Farm Mechanization Re-fresher course for Pilot Farm cultivators trained in CY's 1978, 1979 and 1980. Training is for extension workers in the pilot and services areas. Training of farmer leaders (now course)-(8 sessions and 660 trained farmers), Training of farmer leaders(re-fresher course)-(4 sessions and 249 trained), Production and reproduction of training materials(15 titles)-a. training syllabus/guides(15 titles) b. training slide sets(15 titles), and training of Field extension workers (40 trained)
PROJECT I-D:	
Radio Farm Program ("University on the Air")	Courses include Rural nutrition, Agricultural Cooperatives and Cotton Production (3 courses completed and 10,000 enrollees).

PROJECT I-E:

Interpersonal Outreach
Education Services

Information driver (70 meetings) and practical farm
classes (20).

PROJECT I-F:

Agricultural Communication
Research

2 studies conducted.

PROJECT I-G:

Integrated Agricultural
Library and Information
Center

2,000 books/publications

PROGRAM II

CROP TECHNOLOGY DEVELOPMENT,
VERIFICATION AND PACKAGING

PROJECT II-A:

Component Technology develop-
ment and Verification and
Packaging

Component Technology Development and Testing: Varietal testing, fertilizer testing, Insect management and control trials, weed management and control trials, water management trials, crop establishment trials and post harvest trials. Component Technology trials to be conducted within the Agricultural Pilot Center Model Infra-structure. The output of these trials will be further tested in farmers field under the next project. (28 trials conducted)
On-farm Verification of technology packages under Various agro-climatic and socio-economic environments: (Iguig Test Area, Alcala-Amulung Test Area, Lallo Test Area, Buguey Test Area, Calamaniugan Test Area and Aparri Test Area) - 48 trials conducted. Testing of technology package are to be done in specific locations within the project areas to determine the applicability under each conditions.
Special Component Technology Studies: Studies on the use of Azolla Anabaena complex as nitrogen source for Paddy fields (12 experiments/trials), studies on composting and utilization of Rice straw and other agricultural By-Products as fertilizers source for paddy fields (3 trials) and studies of Problem soils in the Lower Cagayan Area (2 trials).

PROJECT II-B:

Cropping Systems Techno-
logy development and
Verification

Alternative crops to be used in the cropping pattern trials will be screened before these are actually tested within the proposal cropping pattern.
Each proposal alternative cropping pattern will be evaluated as to their agronomic as well as economic feasibility.
Upland and vegetable crops screening trials (16),
Crop establishment trials (4) and pattern testing trials (12).

PROGRAM III

FIELD EXTENSION SERVICES

PROJECT III-A:

Farm Management Services

Continuation of Field Extension in the following pilot farms: Iguig (60 hectares), Alcala-Amulung (75 hectares) and Lallo (32 hectares).

Establishment of additional pilot farms in the following areas: Buguey (40) and Calamaniugan (44).

PROJECT III-B:

Crop Protection Services

Insect Pest Surveillance (170 hectares), Rice Diseases Spore Collection (170 hectares) and Weed Control Population Monitoring and Control Recommendations (250 hectares).

PROJECT III-C:

Soil Testing and Fertilizer Recommendations

testing
(2,000 hectares) The soil/laboratory will primarily serve the farmers with the project areas but will serve other farmers in the provinces as well as those in surrounding provinces.

PROJECT III-D:

Seed Testing Services

(165 seed producers serviced) The seed testing laboratory will service seed producers in Cagayan and Kalinga-Apayao.

PROGRAM IV

AGRICULTURAL ENGINEERING SERVICES

Project IV-A:

Farm Machinery Custom Servicing

Tillage Machinery Services (120), Transplanting Machinery services (12), Harvesting and threshing machinery services (48), Drying Machinery Services (50).

PROJECT IV-B:

Farm Machinery Research and Evaluation

5 studies conducted.

PROJECT IV-C:

Farm Machinery Repair and Maintenance

32 agricultural machineries serviced.

PROJECT IV-D:

Agro-climatic monitoring

Operation of Existing Agro-Met Station (1)
Establishment of New Stations (3) Calamaniugan, Piat, Gonzaga.

PROJECT IV-E:

Farm Structures Development and Operations

Construction of Permanent Pumping Station, Rip-rapping of drainage canal (500 lineal meters), installation of deep-well pump for the Model Infra-structure and maintenance of Model Infra-structure facilities.

PROGRAM 7

CONSTRUCTION OF APC BUILDINGS
AND FACILITIES

PROJECT 7-A:

Completion of Fencing and Guard House
of the APC Complex

PROJECT 7-B:

Site Development (Earthfilling of
Building Construction Sites)

PROJECT 7-C:

Construction of the Heavy and Light
Equipment Shed

PROJECT 7-D:

Construction of Training Dormitory

PROJECT 7-E:

Construction of the Laboratory and
Training Building

PROJECT 7-F:

Construction of the Duplex Guest House

PROJECT 7-G:

Construction of the Gasoline Station

PROJECT 7-H:

Construction of the Drying and Milling Shed

PROJECT 7-I:

Construction of the Workshop and Repair Bay

PROJECT 7-J:

Construction of the Domestic Water Tank
and Distribution System

PROJECT 7-K:

Construction of APC Perimeter Lighting System

PROJECT 7-L:

Construction of the Green House

PROJECT 7-M:

Renovation of the APC Main Building

PROJECT 7-N:

Construction of Recreational Facilities

資料 1 1 比側の APC 拡大構想 (要旨)

(1 9 8 1 . 6 . 2 4 付 エンリレ国防大臣の書簡)

- 骨子： ① 現行 M / A の 3 年延長
 ② プロジェクトの対象地域をカガヤン州全体に拡大
 ③ 米以外の食用作物、畜産、水産開発への分野拡大
 ④ 組織的には、農業省の関与を大きくする。

以上の構想に立つて提案された "Implementing Arrangement" の内容は以下の通り。

事 項	内 容
I 両国の協力	1. カガヤン州の農業・地域開発の促進を行っている C I A D P の努力を支援する。 2. プログラム及びプロジェクト (AnxA の Master Plan) は C I A D P が実施。 3. 農業省大臣官房 (MA-OMIN) が Lead Implementing Office となり、C I A D P の他のプロジェクトとの調整の下に実施 4. Master Plan (Anx A) の実施については、C I A D P が関係機関 (Anx B) と調整する。
II 専門家の派遣	1. J I C A を通じる日本人専門家の派遣 (Anx C) 2. Joint Advisory Committee (Anx J) の承認のもとに専門家の分野と期間を変更することができ、長期専門家は 1 年間以上勤務する。 3. 専門家及び家族の特権
III 機材の供与	1. 機材 (Anx D) の供与 1. 機材リストは日本の会計年度が始まる少くとも 1 カ月前に提出される。 2. 緊急、その他の事情がある場合、J I C A の当年度予算により比国側で購入。 4. 機材は比国の財産となり、Committee の指導の下で、APC の活動に用いられる。
IV 研 修	1. APC 及び関係する機関の職員の訪日研修 (Anx E) 2. 日本政府は J I C A を通じ、Anx F の諸活動に関わる比側職員が I R R I 及び U P において各種研修を行うための基金 (trust fund) を設立するため措置を講じる。研修分野、経費負担の変更は Committee の承認を得る。 3. 比政府は上記研修の成果がプロジェクトに活用されるよう措置する。

項 目	内 容
V 建物・施設	<p>1. 日本政府は J I C A を通じ、工事・建物 (Anx G) のための資金を提供する。</p> <p>2. これらの建物・施設は比政府の財産となり、Committee の指示により活用される。</p>
VI 比側の措置	<p>1. 比政府は農業省を通じ、以下の措置をとる。</p> <p>(1) カウンターパート、技術的管理者の提供等 (Anx H)</p> <p>(2) J I C A が提供するもの以外の土地・建物等 (Anx I)</p> <p>(3) 日本側が供与するもの以外の資機材の供与</p> <p>(4) 日本人専門家の交通手段、旅費</p> <p>2. 比政府は農業省 (M A - O M I N) その他の機関を通じ、以下の措置をとる。</p> <p>(1) Anx A に基づく、各種調査 Station、パイロットファーム、養漁場、種畜場、養豚場周辺の道路、かんがい施設、その他の建築、改修費用</p> <p>(2) 供与機材の国内輸送費、維持管理費</p> <p>(3) 建物・施設等の維持管理費</p> <p>3. 比政府は、A P C を通じ供与機材の免税につき所用の措置を講ずる。</p>
VII プロジェクトの管理	<p>1. 比政府がプロジェクトの運営管理に責任を負い、日本人専門家は、その実施につき、技術的な指導、助言を行う。</p> <p>2. 比政府は農業省その他の関係機関 (Anx B) の予算等によりカウンターパート資金を提供し、Anx A の諸活動に活用される。</p> <p>3. Joint Advisory Committee (Anx J) が設立され、年 2 回又は、日比いずれかの要請により会合を開く。</p> <p>4. 技術的な管理のため Technical Management Group (Anx K) が設立され、毎月 1 回又は議長ないし、専門家リーダーの要請により会合が開かれる。又、特定の目的のため Sub-Committee を設けることができる。</p> <p>5. A P C は、公的機関又は民間に資機材の貸出し、土壌、種子試験等のサービス・生産物の販売を行うことができ、適正な価格で料金を徴収できる。</p> <p>6. これらの収入は、A P C の特別会計としてプロジェクトに活用される。毎会計年度に先立って、その資金計画が立てられ、Committee の承認を経て支出される。</p>
VIII 日本人専門家へのクレーム	<p>特殊な立場を除き、原則的に比政府が責任をもって対処し、問題がある場合は、直ちに両政府間で協議する。</p>

事 項	内 容
IX 両国の協議	プロジェクトの効果的な実施のため、両政府は相互に協議する。
X 協力期間	サインの日から3年間とし、終了する時点でJICA及びCIADPOの合意により、両政府に継続の方法につき勧告できる。

基本計画 (Annex A, Master Plan) の要旨

事 項	内 容	摘 要
(目 的)	CIADPが行う作物生産、畜産、内水面漁業等の地域開発計画に貢献し、APCその他の機関を通じ農漁民に対する研究、開発、技術移転を強化する。	*分野の拡大
プログラム I 作物生産プログラム	<p>食料自給の達成を早め輸出農産物の生産を図るため、米とトウモロコンをベースに州内各地に適合する Cropping Systemを開発する。</p> <p><u>Project 1. 土壌調査及び気象観測</u>：州全体の地域毎の適作を開発</p> <p>Activity ① 土壌の詳細調査：APC、農政局、BSにより1年毎に各町村毎に調査</p> <p>Activity ② 局地気象観測：APC、PAGASA (国防省機関)により、第1次M/Aで設けた4カ所に新しく追加し、1年内にNetworkを作る。</p> <p><u>Project 2. 作物の研究開発</u>：APCは、州立大学(CSU)、BPI、PCARRと協力して地域に適合する技術・作物の開発、多毛作・耕作技術の改善を図る。</p> <p>ACT ① Provincial Research Station 網の設立</p> <p>既存の及び将来のStation、実験圃場を州の農業技術開発網の一部とし、さらに以下のものをAPCの下に第1年度中に設立する。</p> <p>(1) APC Research Station：APC圃場6haを20haに拡大し、メインセンターとする。</p> <p>(2) CSU-Piat Research Station：PiatのCSU</p>	<p>Cropping System</p> <p>*ネットワーク</p> <p>APC圃場拡大</p>

事 項	内 容	摘 要
	<p>キャンパス内に50haを設け、豆類、果樹、サトウキビ、綿、飼料作物等、換金作物のセンターとする。</p> <p>(3) CSU-Lallo Research Station(75ha) : 野菜、根菜、香料等のセンター</p> <p>(4) Tuguegarao Research Station(30ha) : 洪水地帯の Cropping System</p> <p>(5) CSU-Gonzaga Station(30ha) : Cornを主とする Cropping System</p> <p>(6) APC Sub-Station(5ha) : ローカガヤンで酸性、塩性土壌での米作</p> <p>(7) Allacapan Research Station(20ha) : Allacapan-Lalloの高地で畑作の研究を行い、Cropping Systemのセンター及び種苗基地とする。</p> <p>ACT② On-Farm Trial : 第二次M/Aをひきつぎ、農家の圃場での適合試験等を農政局の普及員等により、州全体で実施する。</p> <p><u>Project 3. 技術移転</u> : 改良技術の普及のため農政局と共に以下を行う。</p> <p>ACT① 農業情報出版物の開発 : 開発・実証された技術を英語、現地語により普及員、農民に伝達するためAPCの印刷施設を拡充。</p> <p>ACT② パイロット・ファームの設立 : 第1次M/A下のPilot Farmを維持すると共に、農政局により新たに設立し、LEAとして機能する。</p> <p>(1) 維持するパイロットファーム : 米を主体とするCropping Systemを開発 a、Iguig(60ha)、b、Alcala-Amulung(75ha)、c Lallo(32ha)、d Buguey(30ha)</p> <p>(2) 新設するパイロット・ファーム : Cropping Systemのデモンストレーション</p>	<p>*パイロットファーム</p>

事 項	内 容	摘 要
	<p>a. Tuguegarao(50ha):Research Station の側に設け、洪水地帯作を演示。</p> <p>b. Ballesteros(50ha):Abulug 河かんがい 地帯米作</p> <p>c. Pamplona(30ha):Pamplona かんがい地区 での河川敷作</p> <p>d. Tuao(20ha):洪水地帯でのSub Pilot Area</p> <p>e. Piat(30ha):果樹のデモファーム</p> <p>これらに加え、州内各町村に野菜、種苗圃を1ha づつ設け、各町村の種苗センターとする。</p> <p>ACT③ APC Radio Stationの設立:農業情報を 普及するためAPCに10kwのRadio Station を設ける。</p> <p>ACT④ 町村普及センターの設立</p> <p>APCをメインの普及センターとし、ロアーカガ ガヤンのかんがい地区にAPCのサブセンターを 設け、又、全町村にField Extension Office を設ける。これらのサイトをサイズは第1年度中に に決定し、第2、3年度中に設立する。</p> <p>ACT⑤ 視聴覚その他の促進活動:APCでの視聴覚教材 制作を拡充するとともに集会、訪問等の活動を継続 する。</p> <p>ACT⑥ 研修(訓練):地域開発訓練センター(PTC- RD)の協力により、農民、調査員、普及員の訓練 を続ける。</p> <p>ACT⑦ Communication Research:</p> <p>APCは、情報伝達方法の開発のため、調査・研 究を行う。</p> <p>ACT⑧ 農業図書資料センター:BAECON等と協力し てAPC内に設け、村落レベルまでの情報の収集・ 整理を行う。</p> <p>Project 4. 種子生産:農政局、BPIの協力により、種</p>	<p>* ラジオ放送</p> <p>* APCサブセ ンター 普及センター</p> <p>* 研修・訓練</p>

事 項	内 容	摘 要
<p>プログラムⅡ 家畜生産プログラム</p>	<p>子の適期供給を行うためAPCで稲、Corn、豆類、野菜、飼料作物、果物、根菜等の種子の導入、生産、テスト、処理、保管、配布を行う。このため</p> <p>(1) APCのSeed Labo. を拡充し、中規模調製・保管施設を設ける。</p> <p>(2) CSUラロキャンパスに野菜種苗圃(25ha)等を設ける。他の換金作物の種子は農民の協同組織等の供給にまつ。</p> <p>プログラムⅠと結合して、動物タンパクの生産と農家収入の増大を図る。</p> <p><u>Project 1. 養豚</u>: APC、BAI、CSUの協力により以下の活動を行う。</p> <p>ACT① 養豚業者の組織化: 町村レベルでSub-unitを設け、組織する。</p> <p>ACT② 種豚場の設立: 供給を増加させるため、以下を設け、価格を調整する。</p> <p>(1) Piat Piggery (母豚25頭): CSUキャンパスに設け、南部カガヤン向け。</p> <p>(2) Lallo Piggery (母豚25頭): ラロキャンパスに設け中部カガヤン向け。</p> <p>(3) Sanchez Mira Piggery (母豚20頭): サンチェス・ミラキャンパスに設け北西部カガヤン向け。</p> <p>(4) Gonzaga Piggery (母豚30頭): ゴンザガキャンパスに設け北東部カガヤン向け。</p> <p>ACT③ 人工授精センター: 各町村に設け、衛生サービスも行う。</p> <p><u>Project 2. 牛生産</u>: APC、BAI、CSUの協力により実施</p> <p>ACT① 種畜場の設立と価格の調整</p> <p>(1) Piat Stock Farm (100頭)</p> <p>(2) Solana Breeding Station: 現在のBAI</p>	<p>原種開発は権限外</p> <p>「中規模」にとどめる</p>

事 項	摘 要	摘 要
<p>プログラムⅢ 内水面等漁業開 発</p>	<p>Stationを50頭規模に拡張し、Piat又は中 小業者に供給する。</p> <p>A C T② 草地開発：上記の個所に草地試験圃を設ける。</p> <p>Project 3. 山羊生産：CSU Piatに100頭規模の 飼育所を設ける。</p> <p>Project 4. 小規模食肉加工：食肉の加工、貯蔵技術を 導入するため、供給源、市場の拡大に応じッ グガラオ、ソラナ、エンリレ等から開始する。</p> <p>低湿地帯及び内水面の開発を行うため、主にCSUアバリ 及び漁業資源局により実施される。</p> <p>Project 1. エビ養殖：州内漁民の要望に応え、CSU アバリの施設を拡大。</p> <p>Project 2. Inland and Brackish Water Aquaculture :</p> <p>本M/A第1年度中に地域を特定し、調査 研究、Pilot Fish Pondの設立により、近 代技術の導入を図る。1年以内に現存の50 haの適地から1haをパイロットポンドに選 定する。</p>	
<p>NOTE (1)</p>	<p>このほか、第1次M/Aで開始された以下の活動もAPC により実施される。</p> <p>a 米その他の作物のポスト・ハーベスト活動</p> <p>b 機械貸出しサービス</p> <p>c 土壌試験</p> <p>d 種子検定サービス</p> <p>(2) ロアーカーガヤンのLEAⅡのプランも実施のため、この マスタープランに一本化する。</p> <p>(3) 第1次M/Aの期間中に完成しなかった建物・施設は、本 計画の第1年度中に設立される。</p> <p>(4) その他、本計画の実施に必要な下記の施設は、第2年度中 に設立される。</p> <p>a ロアーカーガヤンのAPCサブステーションの建物、施</p>	<p>* LEAⅡについ ては比側も検討 中</p>

事 項	内 容	摘 要
	設 b バレステロス、ゴンザガ、ピアットのA P C Field Operation Office c A P Cメインセンター内の必要な追加建物 d A P C周辺の職員居住区	

<参考> 比側の協力機関 (Annex B)

<ol style="list-style-type: none"> 1. Ministry of Agriculture-Office of the Minister (MA-OMIN) A P C及びサブステーションの指導機関として、所要の予算を支出する 2. Bureau of Soils (B S) 3. Philippine Atmospheric, Geographical and Astronomical Service Admi. (P A G A S A) 4. Philippine Council for Agriculture and Resources Reserach (P C A R R) 5. Cagayan State University (C S U) 6. Ministry of Agriculture-Regional Office No 2 (M A - R O 2) 7. Bureau of Agricultural Economics (B A E con) 8. Bureau of Plant Industry (B P I) 9. Bureau of Animal Industry (B A I) 10. Bureau of Fisheries and Aquatic Resources-Regional Office No2 11. Provincial Government 12. その他 B A E x , N I A 等

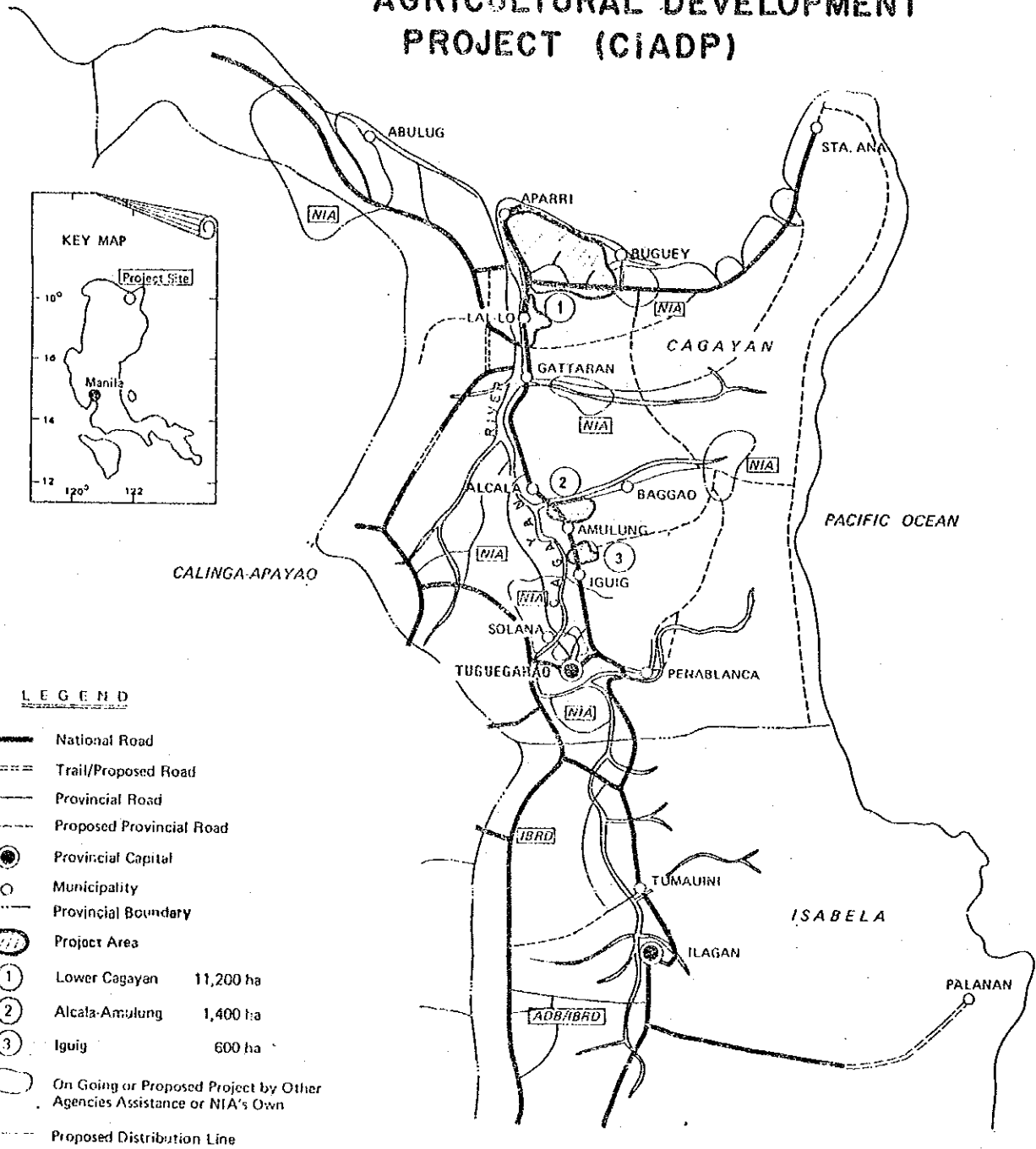
日本人専門家の分野等 (Annex C)

<長 期>		人 数	期 間	活動期間
(1)	リーダー	1	3	1～3年
(2)	調整員	1	3	1～3年
(3)	農 業 裁 培	1	2	1 & 2
	種子生産	1	2	〃
	野 菜	1	2	1～3
	作物保護	1	2	1 & 2
	土 壤	1	2	〃
	畜 産	1	2	2 & 3
	獣 医	1	2	〃
(4)	漁 業 養 殖	1	3	1～3
(5)	技 師 農 機	1	3	〃
(6)	経 済 経 営	1	3	〃
<短 期> (1年未満)				
(1)	技 師 電子工学	1	6ヵ月	1
(2)	食 品 食肉加工	1	2	2
(3)	その他必要に応じ短期専門家			

巻末折り込み図表

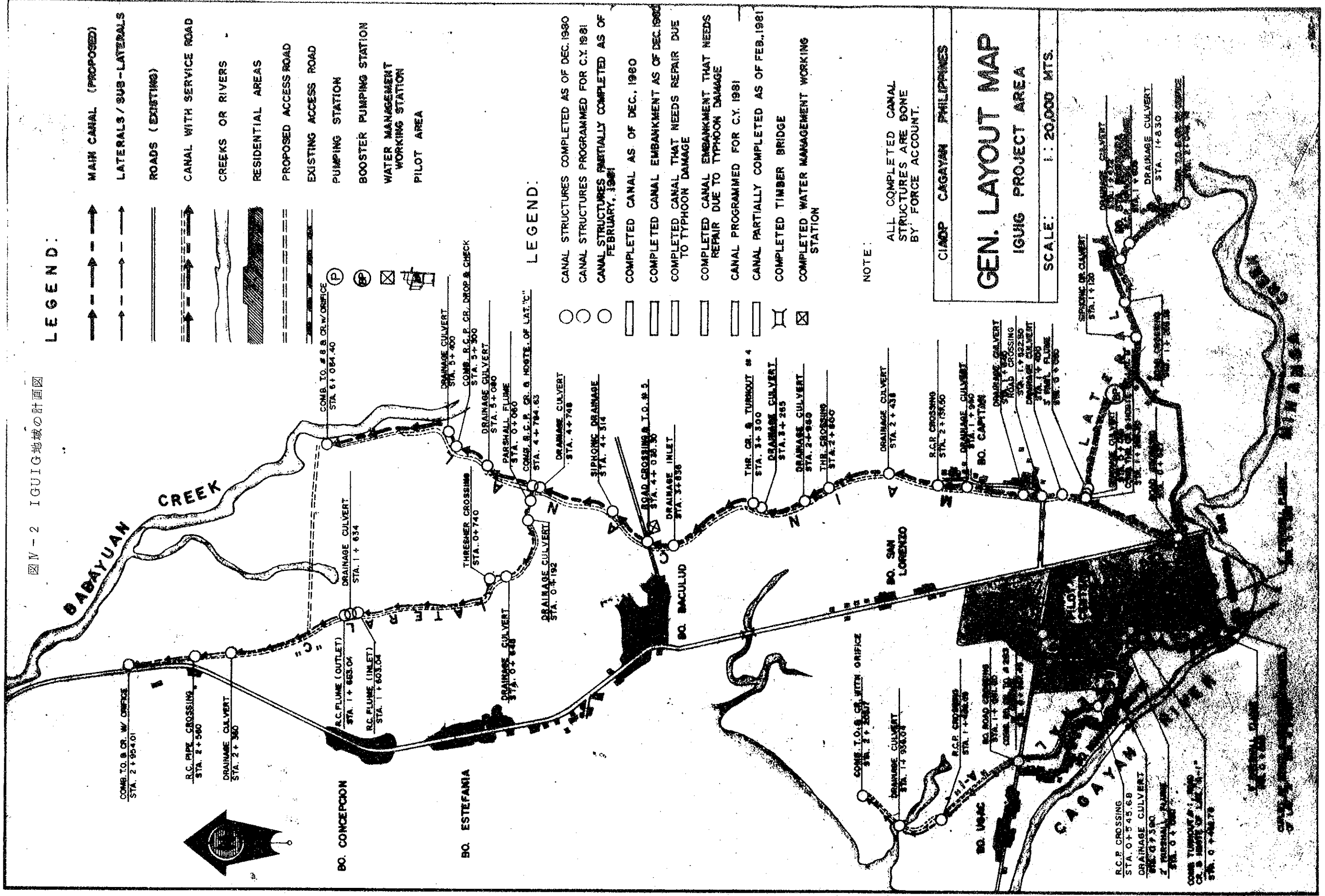
図 IV - 1 CIADP 全体計画図

GENERAL MAP OF CAGAYAN INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT (CIADP)



0 10 20 30 40 50 km

図 IV - 2 IGUIG地域の計画図



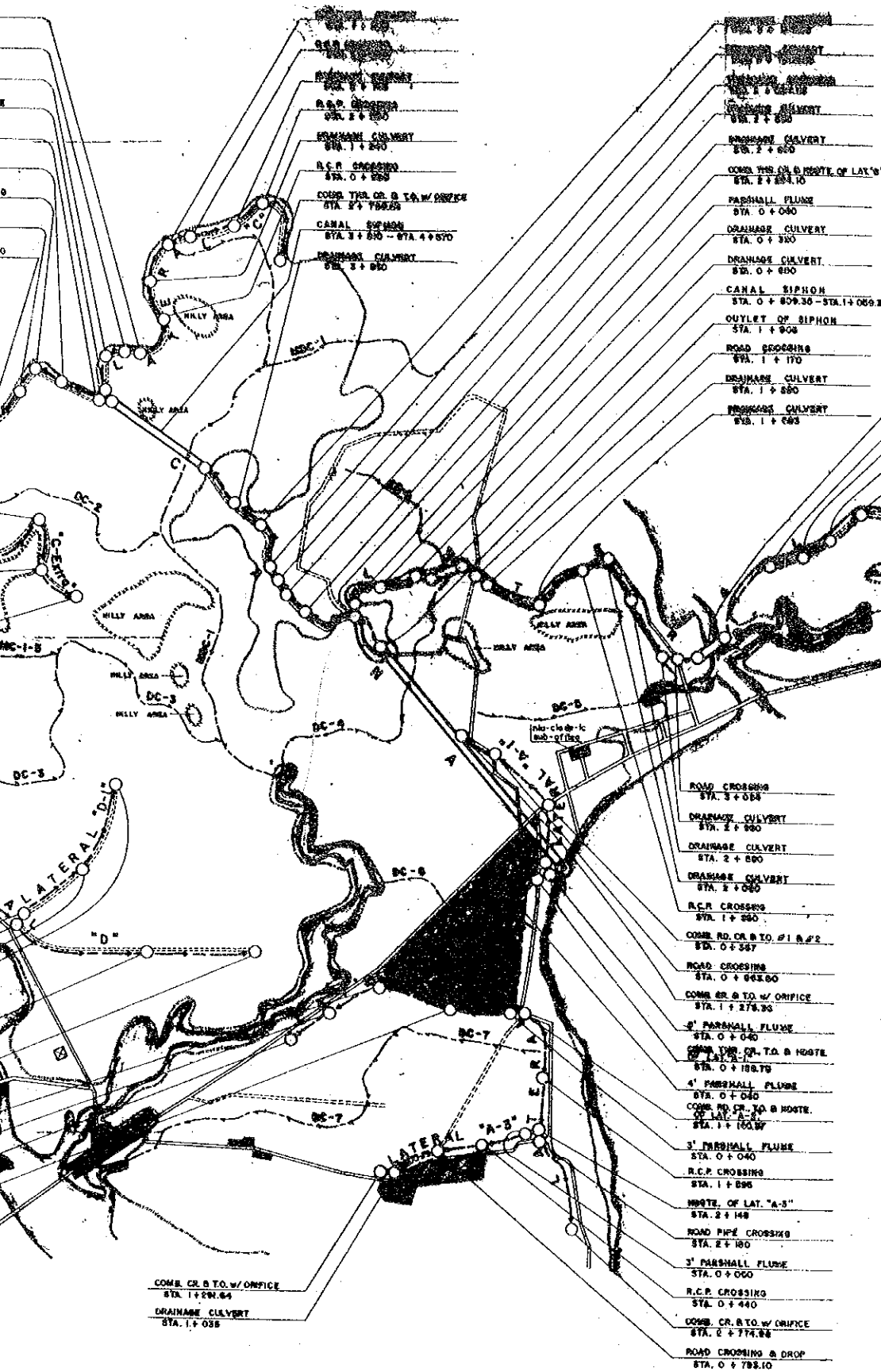
LEGEND:

- MAIN CANAL
- LATERAL SUB-LATERAL
- ROADS
- - - PROPOSED ACCESS ROADS
- ▨ RESIDENTIAL AREAS
- ~ RIVER / CREEKS
- ⊠ WATER MANAGEMENT WORKING STATION
- - - CANALS WITH SERVICE ROADS
- ⋯ HILLY AREA
- LIMIT OF IRRIGABLE AREA
- ⊙ PUMPSITE

- DRAINAGE CULVERT STA. 0 + 430
- R.C.P. CROSSING STA. 0 + 410
- DRAINAGE CULVERT STA. 0 + 248
- 3' PARSHALL FLUME STA. 0 + 040
- HDQTE. OF LAT. "C" STA. 4 + 728.78
- DRAINAGE CULVERT STA. 5 + 079.90
- THRASHER CROSSING STA. 5 + 220
- DRAINAGE CULVERT STA. 5 + 380
- THRASHER CROSSING STA. 5 + 690

- DRAINAGE CULVERT STA. 6 + 260
- ROAD CROSSING STA. 6 + 408.28
- R.C.P. CROSSING STA. 1 + 200
- ROAD CROSSING STA. 6 + 923.90
- R.C.P. CROSSING STA. 0 + 620
- DRAINAGE CULVERT STA. 0 + 880
- DRAINAGE CULVERT STA. 1 + 050
- COMB. CR. & T.O. w/ HDQTE. OF LAT. "C" STA. 7 + 671
- 2' PARSHALL FLUME STA. 0 + 040
- DRAINAGE PIPE CULVERT STA. 7 + 920
- COMB. CR. & T.O. w/ ORIFICE STA. 1 + 900.08
- DRAINAGE CULVERT STA. 6 + 120
- ROAD CROSSING STA. 8 + 308.80
- DRAINAGE CULVERT STA. 6 + 600
- ROAD CROSSING STA. 9 + 061.80
- COMB. T.O. & HDQTE. OF LAT. "D" STA. 9 + 182.80
- 5' PARSHALL FLUME STA. 0 + 040
- DRAINAGE CULVERT STA. 9 + 520
- ROAD CROSSING STA. 0 + 603
- COMB. CR. & T.O. w/ ORIFICE STA. 9 + 880
- THRASHER CROSSING STA. 1 + 040
- 2' PARSHALL FLUME STA. 0 + 040
- COMB. R.C.P. CR. & T.O. & HDQTE. OF LAT. "D" STA. 1 + 044.30
- R.C.P. CROSSING STA. 0 + 600
- COMB. CR. & T.O. w/ ORIFICE STA. 1 + 84.81
- R.C.P. CROSSING STA. 2 + 360
- COMB. CR. & T.O. w/ ORIFICE STA. 3 + 200
- R.C.P. CROSSING STA. 0 + 928
- R.C.P. CR. & T.O. #2 STA. 1 + 348
- COMB. CR. & T.O. w/ ORIFICE STA. 1 + 708
- R.C.P. CROSSING STA. 0 + 448

- COMB. CR. & T.O. w/ ORIFICE STA. 1 + 291.64
- DRAINAGE CULVERT STA. 1 + 038



LEGEND:

- CANAL STRUCTURES COMPLETED AS OF DEC. 1980
- CANAL STRUCTURES PROGRAMMED FOR CY 1981
- CANAL STRUCTURES PARTIALLY COMPLETED AS OF FEB. 1981
- ▨ COMPLETED CANAL AS OF DEC. 1980
- ▨ COMPLETED CANAL EMBANKMENT AS OF DEC. 1980
- ▨ COMPLETED CANAL THAT NEEDS REPAIR DUE TO TYPHOON DAMAGE
- ▨ COMPLETED CANAL EMBANKMENT THAT NEEDS REPAIR DUE TO TYPHOON DAMAGE
- ▨ CANAL PROGRAMMED FOR CY 1981
- ▨ CANAL PARTIALLY COMPLETED AS OF FEB. 1981
- ⊠ COMPLETED TIMBER BRIDGE
- ⊠ COMPLETED WATER MANAGEMENT WORKING STATION

図 IV - 3

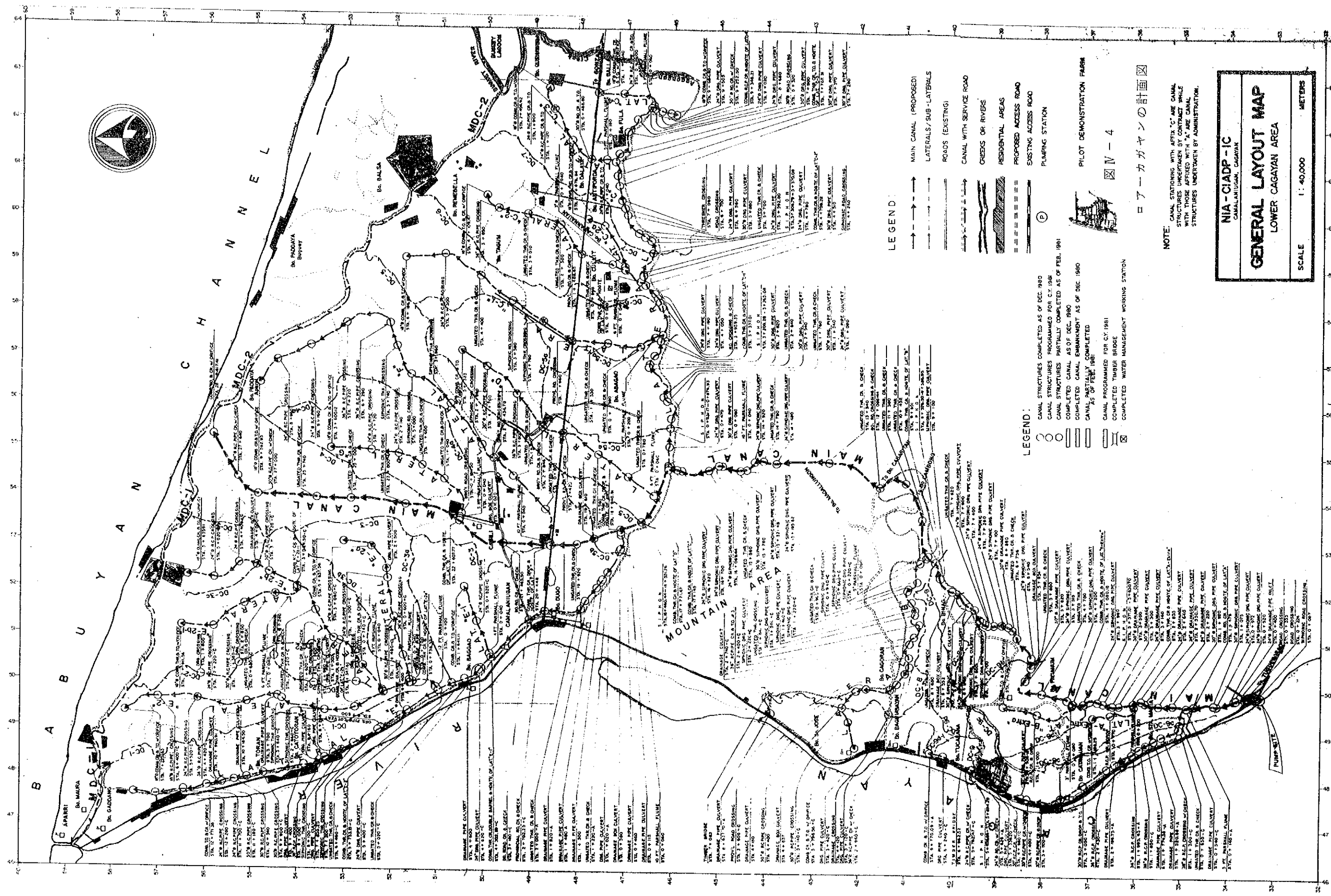
マルカラ・アルムン地区の計画図

NOTE:
ALL COMPLETED CANAL STRUCTURES ARE DONE BY FORCE ACCOUNT.

NIA-CIADP-IC CAGAYAN PHILIPPINES

GENERAL LAY-OUT MAP
ALCALA-AMULUNG PROJECT AREA

SCALE: 1:20,000 METERS



- LEGEND:**
- MAIN CANAL (PROPOSED)
 - LATERALS / SUB-LATERALS
 - ROADS (EXISTING)
 - CANAL WITH SERVICE ROAD
 - CREEKS OR RIVERS
 - ▨ RESIDENTIAL AREAS
 - PROPOSED ACCESS ROAD
 - EXISTING ACCESS ROAD
 - ⊙ PUMPING STATION
 - ⊞ PILOT DEMONSTRATION FARM

ローカーガヤンの計画図

NOTE: CANAL STATIONING WITH AFFIX "C" ARE CANAL STRUCTURES UNDERTAKEN BY CONTRACT WHILE WITH THOSE AFFIXED WITH "A" ARE CANAL STRUCTURES UNDERTAKEN BY ADMINISTRATION.

NIA-CIADP-1C
CAGAYAN

GENERAL LAYOUT MAP
LOWER CAGAYAN AREA

SCALE 1:40,000 METERS

- LEGEND:**
- CANAL STRUCTURES COMPLETED AS OF DEC. 1980
 - CANAL STRUCTURES PARTIALLY COMPLETED AS OF FEB. 1981
 - COMPLETED CANAL AS OF DEC. 1980
 - CANAL PARTIALLY COMPLETED AS OF FEB. 1981
 - ⊞ CANAL PROGRAMMED FOR CY 1981
 - ⊞ COMPLETED TIMBER BRIDGE
 - ⊞ COMPLETED WATER MANAGEMENT WORKING STATION

図 VI - 5 事業実績と計画

LEGEND:

☐ COMULATIVE PROJECTED % ACCOMPLISHMENT
 ☐ COMULATIVE ACTUAL % ACCOMPLISHMENT

NIA-CMD Form Y-I OVERALL PROJECT IMPLEMENTATION SCHEDULE					PROJECT TITLE: CAGAYAN INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT - IRRIGATION COMPONENT																																				
NO.	WORK ITEMS	CLASS	ESTIMATED COST (P'000)	% WEIGHT	PARTI- CULARS	1977			1978			1979			1980			1981			1982			1983			PERCENT ACCOMP.														
						2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd		3rd	4th												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)									
A. DIRECT :																																	← 100 %								
1	CONSTRUCTION OF MAGAPIT PUMPING STATION	C	19,500	7.36	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	500 15.00	4000 46.67	7680 78.80	9000 90.00	100.00												
2	CONSTRUCTION OF AMULUNG PUMPING STATION	C	13,688	8.16	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	3.66 4.06	26.47 38.88	46.36 56.77	73.18 87.59	100.00																
3	CONSTRUCTION OF IGUG PUMPING STATIONS	C	6,026	2.27	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	2.00 2.44	33.29 45.05	51.83 61.87	73.12 85.16	100.00																
4	CONSTRUCTION OF LOWER CAGAYAN AREA	FA	49,863	18.02	PROJECTED ACTUAL	0.01 --	0.05 0.02	0.10 0.22	0.31 0.35	0.43 0.75	0.59 1.18	0.80 1.34	0.70 2.31	1.13 3.68	2.46 3.75	3.38 3.84	4.22 5.40	6.87 7.45	7.72 8.92	11.97 11.39	12.82 12.45	17.41 12.45	24.77 29.47	40.90 52.50	65.00 65.00	75.51 75.51	91.88 91.88	96.56 96.56	100.00												
5	CONSTRUCTION OF LOWER CAGAYAN AREA	C	40,730	15.37	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	0.15 0.2	1.92 0.99	3.30 2.52	8.00 4.86	16.70 16.70	35.69 49.23	56.95 66.21	75.65 75.65	83.09 83.09	90.00 90.00	100.00													
6	CONSTRUCTION OF ALCALA-AMULUNG AREA	FA	7,610	2.87	PROJECTED ACTUAL	0.05 --	0.10 0.02	0.20 0.48	0.41 1.01	2.22 1.72	5.12 2.30	9.49 3.10	9.86 14.36	18.63 28.14	29.54 30.38	52.28 30.50	57.91 30.92	28.53 31.79	31.63 35.37	47.00 46.54	51.18 51.21	52.86 68.02	65.40 100.00	73.47 73.47	80.10 80.10	87.52 87.52	94.57 94.57	100.00													
7	CONSTRUCTION OF ALCALA-AMULUNG AREA	C	3,672	1.39	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	10 20	25 25	30 26.12	42 27.50	48.22 33.10	50.34 46.75	68.02 47.90	100.00																			
8	CONSTRUCTION OF IGUG AREA	FA	2,994	1.13	PROJECTED ACTUAL	0.10 --	0.50 0.15	0.85 0.63	1.43 1.24	6.31 6.62	9.61 10.97	15.91 12.60	31.50 19.20	47.08 26.86	51.13 26.92	52.41 27.33	62.94 37.92	23.77 39.33	36.21 41.10	49.85 47.90	48.66 48.33	51.27 60.57	67.82 67.82	75.43 75.43	84.22 84.22	92.50 92.50	100.00														
9	CONSTRUCTION OF IGUG AREA	C	790	0.30	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	15 28.77	30 37	50.13 48.37	50.13 50.13	50.13 50.13	50.13 50.13	50.13 50.13	50.13 50.13	61.60	75.07	88.21	100.00															
10	CONSTRUCTION OF PROJECT SERVICE FACILITIES	FA	7,983	3.01	PROJECTED ACTUAL	3 --	8.30 8.25	18 21.17	35 37.83	53 6.04	69.91 66.46	75.16 68.70	77.23 75.11	79.79 77.69	78.73 78.22	82.59 79.80	83.35 81.13	84.44 84.44	85.06 85.02	85.52 85.25	85.14 85.25	85.14 85.14	88.00 90.54	92.12	94.75	95.27	96.87	97.80	99.00	100.00											
11	PROC. OF PUMP EQUIP & CONST. MAT'L'S. (RSB & Steel Gates)	FA	41,149	15.53	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	19.43 --	-- --	1.39 1.39	1.39 1.39	1.95 1.95	7 2.87	21.32 24.84	37.13 32.43	37.24 45.82	50.63 50.61	71.07 71.74	71.74 72.28	78.60	87.10	91.18	94.46	100.00													
12	PROCUREMENT OF CONSTRUCTION EQUIPMENT & VEHICLE	FA	61,544	23.23	PROJECTED ACTUAL	1.15 --	1.05 --	2.33 --	2.33 --	8 --	20 --	44 --	5.26 --	6.23 --	3.86 --	19.11 --	48.57 --	58 --	61.17 --	61.71 --	69.74 --	79.10 --	79.23 --	79.23	90.00	100.00															
13	PROCUREMENT OF O & M EQUIPMENT	FA	9,432	3.56	PROJECTED ACTUAL	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	7.34	30.86	30.86	30.86	48.15	65.60	83.72	100.00													
OVERALL PHYSICAL STATUS						264,980	100.00	PROJECTED ACTUAL	0.13 --	0.53 0.25	1.13 0.70	2.79 1.25	4.95 2.10	12.24 2.68	22.48 2.83	10.30 4.02	12.23 4.84	10.17 5.39	16.58 11.72	20.98 14.96	22.25 22.65	26.29 26.09	28.15 30.90	33.63 32.49	44.23	50.57	54.55	63.51	73.62	81.91	89.39	95.31	98.59	100.00							
B. INDIRECT																																	← 10 %								
1	ENG'G. SUPERVISION & ADMINISTRATION (Including EAOE)		38,514																																						
2	CONSULTING SERVICES		5,773																																						
3	CONTINGENCIES & EXPECTED PRICE INCREASE		2,086																																						
TOTAL PROJECT COST			P 311,353																																						
PHYSICAL TARGET (Has.)					PROJECTED ACTUAL	-- --	45.00 45.00	45.00 45.00	45.00 45.00	45.00 45.00	120.00 120.00	120.00 120.00	120.00 120.00	120.00 120.00	120.00 120.00	120.00 120.00	120.00 120.00	120.00 120.00	120.00 120.00	150.00 150.00	150.00 150.00	150.00 150.00	150.00																		
PROJECT DURATION						1977	1978	1979	1980	1981	1982	1983																													

NOTE: Original S-Curve has a total estimate of P256,572 million with target date of completion on Sept. 30, 1982 while the revised estimate rose to P 260,893 million with the same target date of completion and sequently revision as of April, 1980 is P 311,353 million with target date of completion on Sept. 30, 1983. This supercedes previously submitted implementation schedule.

SUBMITTED: _____
 VICENTE E. GALVEZ
 PROJECT MANAGER

表 IV - 1

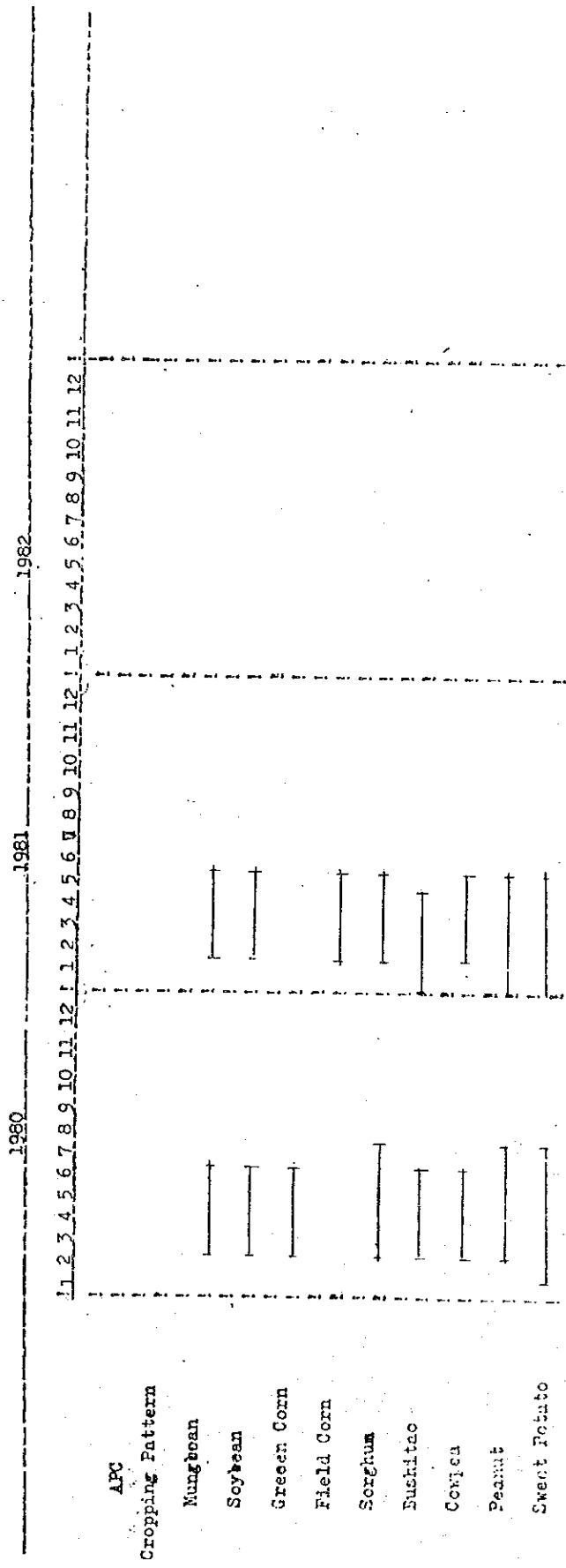
I T E M	ESTIMATED QUANTITY
I PUMPING FACILITIES	
1. IGUIG STATION	1
2. IGUIG BOOSTER STATION	1
3. ALCALA-AMULUNG STATION	1
4. LOWER CAGAYAN STATION	1
5. MECHANICAL DESIGNS	1
II IGUIG AREA	
1. PAPER LOCATION	775
2. MAIN CANAL	6,084.40
3. LATERALS & SUB-LATERALS	8,148.08
4. CANAL STRUCTURES	49
5. TURNOUTS	22
6. FARM DITCHES	54,258
7. FARMDITCH STRUCTURES	10
8. PROJECT DRAINS	13,635
9. DRAINAGE DITCHES	12,728.56
10. DRAINAGE STRUCTURES	7
III ALCALA - AMULUNG AREA	
1. PAPER LOCATION	2,350
2. MAIN CANAL	9,871.17
3. LATERALS & SUB-LATERALS	22,073.83
4. CANAL STRUCTURES	80
5. TURNOUTS	57
6. FARM DITCHES	129,769
7. FARMDITCH STRUCTURES	20
8. PROJECT DRAINS	21,231
9. DRAINAGE DITCHES	39,424
10. DRAINAGE STRUCTURES	15
IV LOWER CAGAYAN AREA	
1. PAPER LOCATION	10,875
2. MAIN CANAL	28,600
3. LATERALS & SUB-LATERALS	91,829.26
4. CANAL STRUCTURES	269.00
5. TURNOUTS	248
6. FARM DITCHES	778,804
7. FARMDITCH STRUCTURES	8
8. PROJECT DRAINS	156,904.81
9. DRAINAGE DITCHES	100,015
10. DRAINAGE STRUCTURES	78
11. BRIDGES	11

表 IV - 2 Pumping Equipment List of CIADP

Pumping Station	Pump Type	No. of Unit	Discharge Capacity m ³ /min	Bore Size Suction x Discharge mm	Actual Head m	Motor	
						K.W	r.p.m.
Iguig	Vertical Volute Type Mixed Flow	3	37.6	600 x 500	*(15.50) 12.04	120	890
Iguig Booster	Horizontal Centrifugal	3	5.4	200 x 200	7.51	15	1,765
Alcala-Amulung Low Line	Vertical Volute Type Mixed Flow	1	80.0	800 x 800	*(15.60) 11.79	240	593
High Line	Vertical Volute Type Mixed Flow	3	70.5	700 x 600	*(21.60) 17.79	315	593
Magapit	Vertical Volute Type Mixed Flow	4	340.0	1,800 x 1,500	*(14.00) 13.30	1,050	296

Note: *() shows maximum actual head.

☒ V - 2 COMPONENT TECHNOLOGY TRIAL IN APC



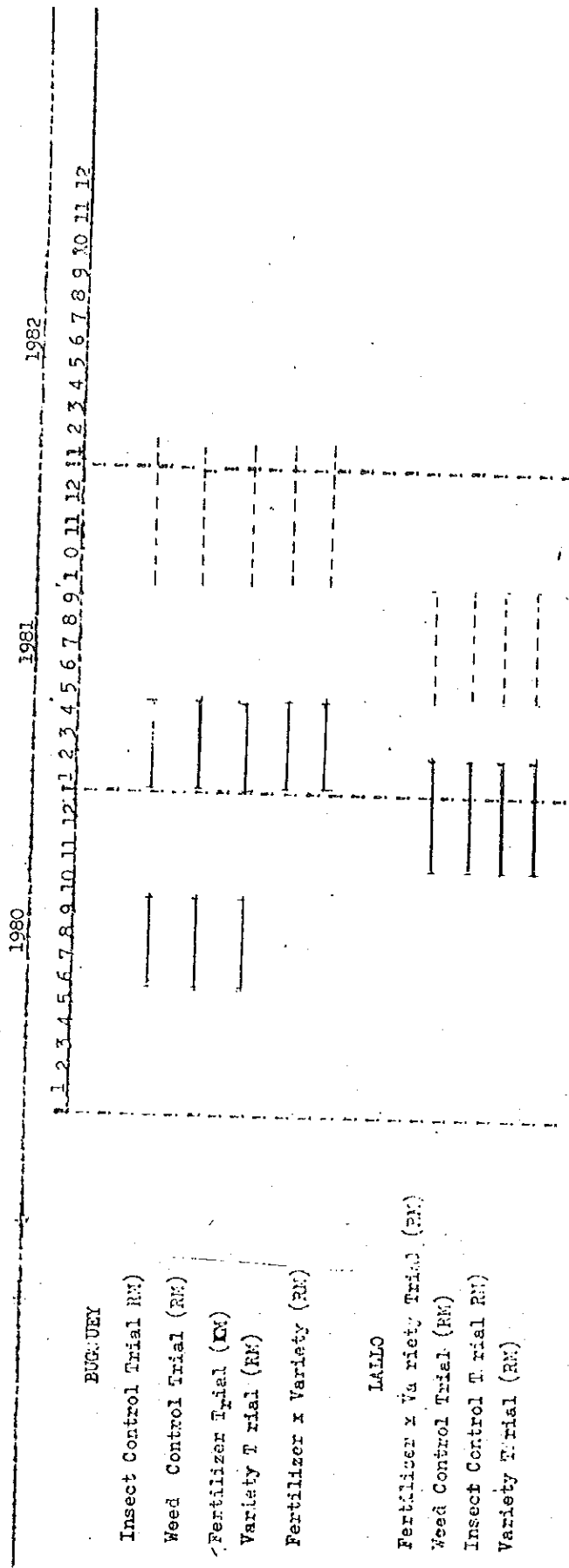
☒ V - 3 COMPONENT TECHNOLOGY TRIAL IN IGUIG

IG. UIG	1980												1981												1982											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Zone I Weed Control, Insect Control & Fertilizer Trial (P-SI)																																				
Zone I Weed Control, Insect Control & Fertilizer Trial (FP-SI)																																				
Zone I Weed Control, Insect Control & Fertilizer Trial (RP-SI)																																				
Zone II Weed Control, Insect Control & Fertilizer Trial (FP-SI)																																				
Zone II Weed Control, Insect Control & Fertilizer Trial (RP-SI)																																				
Zone III Insect Control (RMSI) & Weed Control SI & Fertilizer Trial SI																																				
Zone I Fertilizer Trial (RM-SI) Insect Control (RM-SI) Weed Control SI																																				
Zone III Fertilizer Trial (RM)																																				
Zone III Weed Control (RM)																																				
Zone II Fertilizer Trial (RM-SI) Insect Control SI-RP Weed Control (SI)																																				

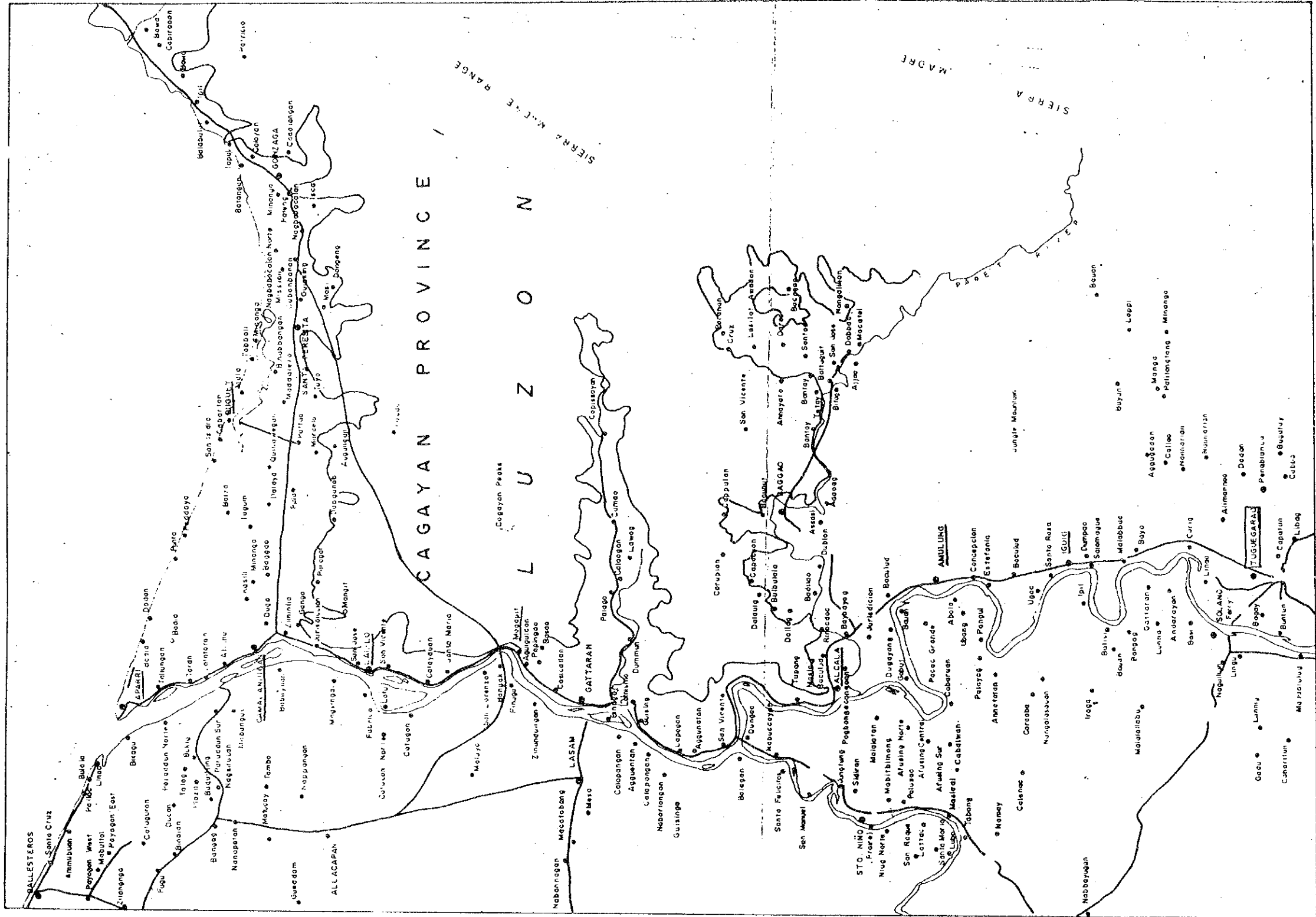
☒ V - 4 COMPONENT TECHNOLOGY TRIALS ON ALCALA-AMULUNG PILOT AREA

	1980												1981												198											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
ZONE I																																				
Variety Trial (RM)	-----																																			
Fertilizer Trial (SI)	-----																																			
Weed Control Trial (SI)	-----																																			
Insect Control Trial (SI)	-----																																			
Weed Control Trial (RM)	-----																																			
ZONE 2a																																				
Fertilizer Trial (SI)	-----																																			
Insect Control Trial (SI)	-----																																			
Weed Control Trial (SI)	-----																																			
Insect Control Trial (RM)	-----																																			
Fertilizer Trial (RM)	-----																																			
ZONE 2b																																				
Fertilizer Trial (SI)	-----																																			
Insect Control Trial (SI)	-----																																			
Weed Control Trial (SI)	-----																																			
Insect Control Trial (RM)	-----																																			
Fertilizer Trial (RM)	-----																																			
Weed Control Trial (RM)	-----																																			

☒ V - 5 COMPONENT TECHNOLOGY TRIAL IN BUGUEY AND LALLO



カザヤン州町村図



LEGEND:

- NATIONAL ROAD
- CAGAYAN RIVER
- BARRIO
- TOWN

1:50,000

JICA