FIGURE H-1. ORGANIZATION CHART FOR THE MRIIS

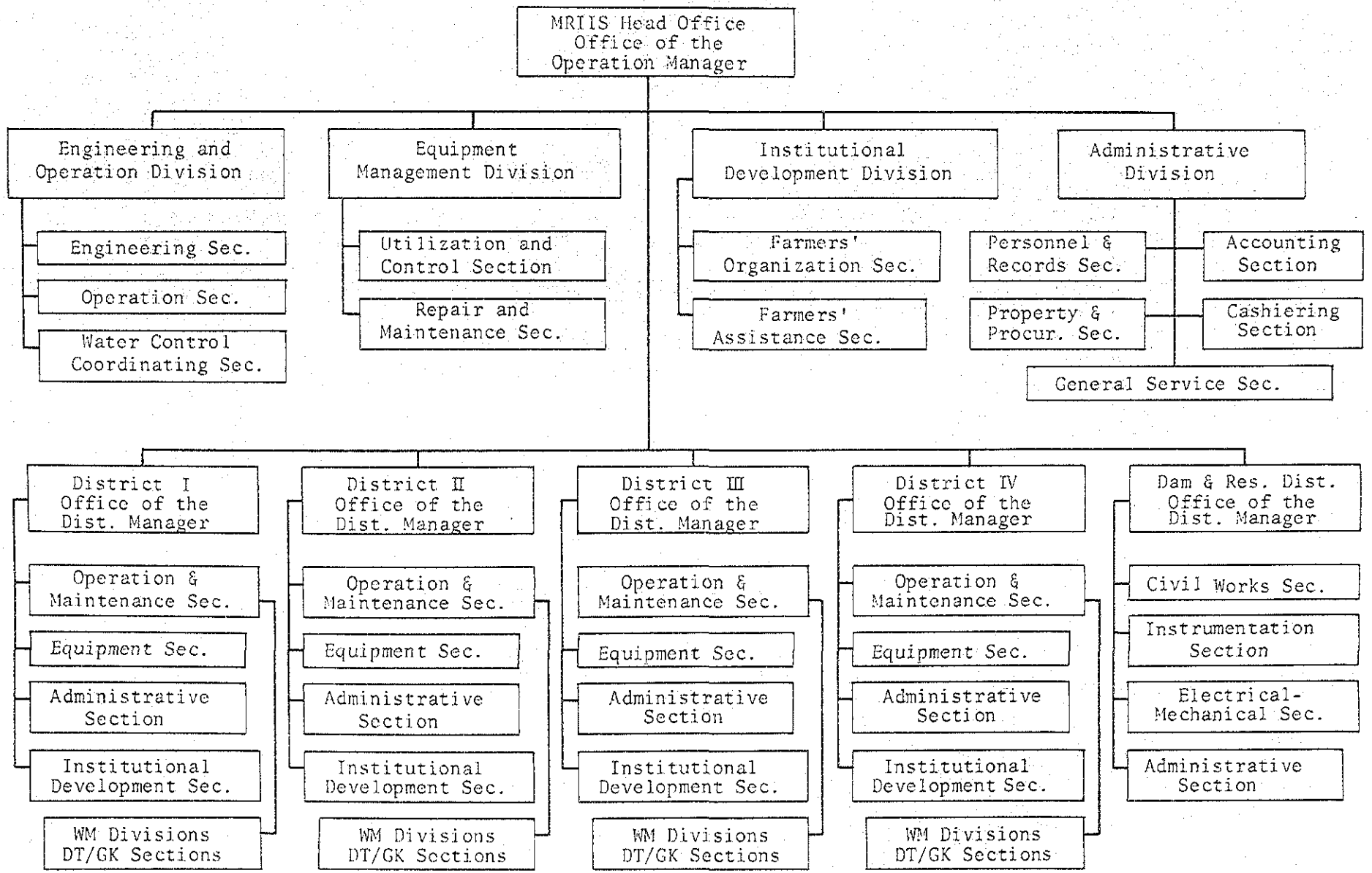

FIGURE H-2. ORGANIZATION AND STAFFING PATTERN FOR HEAD OFFICE

OFFICE OF OPERATION MANAGER
- 1- Department Manager B
- 1- Secretary B
- 1- Corporate Attorney B
- 1- Management Syst. Analst. A
- 1- EDP Computer Programer A
- 1- Financial Analyst B
- 1- Information Writer
- 2- Data Controller B
- 1- Clerk B

Sub Total 10

ENGINEERING & OPERATION DIVISION
- 1- Division Manager B
- 1- Clerk B

ENGINEERING SECTION
- 1- Supervising Engineer B
- 1- Senior Engineer B
- 1- Engineer B
- 1- Senior Draftman A

OPERATION SECTION
- 1- Supervising Engineer B
- 1- Senior Engineer B
- 1- Engineer B
- 1- Engineer A

WATER CONTROL COORDINATING SEC.
- 1- Supervising Engineer B
- 1- Senior Engineer B
- 1- Engineer B
- 1- Senior Hydrologist B
- 1- Hydrologist
- 1- Engineering Aide C
- 3- Gatekeeper
- 4- Laborer

Sub Total 23

EQUIPMENT MANAGEMENT DIVISION
- 1- Division Manager B
- 1- Clerk B

UTILIZATION & CONTROL SECTION
- 1- Auto Repair Gen. Foreman
- 1- Engineer B
- 12- Driver B

REPAIR & MAINTENANCE SECTION
- 1- Auto Repair Gen. Foreman
- 1- Automotive Eq. Inspector
- 1- Mechanist B
- 3- Mechanic B
- 1- Paiter B
- 1- Welder B
- 1- Auto Electrician
- 1- Mechanic A

Sub Total 26

INSTITUTIONAL DEVELOPMENT DIVISION
- 1- Division Manager B
- 1- Clerk B

FARMERS' ORGANIZATION SECTION
- 1- Supervising Irrigators' Association Officer
- 1- Farmers' Org. Specialist
- 1- Farmers' Training Officer

FARMERS' ASSISTANCE SECTION
- 1- Farmers' Assistance Specialist
- 1- Farmers' Assistance Supervisor
- 1- Economist B
- 1- Clerk B

Sub Total 9

ADMINISTRATIVE DIVISION
- 1- Division Manager
- 1- Clerk B

PERSONNEL & RECORDS SECTION
- 1- Personnel Officer
- 1- Personnel Assistant B
- 1- Records Assistant A
- 1- Clerk B

ACCOUNTING SECTION
- 1- Sr. Corporate Accountant B
- 1- Corporate Accountant
- 2- Corporate Bookkeeper A
- 3- Accounting Clerk B
- 1- Clerk B

PROPERTY & PROCUREMENT SEC.
- 1- Supply Officer C
- 1- Storekeeper B
- 1- Canvasser
- 1- Clerk B

CASHIERING SECTION
- 1- Senior Cashier B
- 1- Disbursing Officer B
- 1- Cash Clerk

GENERAL SERVICES SECTION
- 1- Administrative Assist. A
- 2- Radio Operator B
- 1- Reproduction Machine Operator A
- 1- Senior Seculity Guard
- 10- Security Guard B
- 1- Electrician A
- 4- Janitor

Sub Total 41

Grand Total 109

FIGURE H-3. ORGANIZATION AND STAFFING PATTERN FOR DAM AND RESERVOIR DISTRICT

OFFICE OF DISTRICT MANAGER
- 1- District Manager C
- 1- Draftman B
- 1- Clerk B

Sub Total 3

CIVIL WORK SECTION
- 1- Principal Engineer A
- 1- Clerk B

DAM & ROAD MAINTENANCE UNIT
- 1- Senior Engineer B
- 1- Engineer A
- 1- Construction Foreman C
- 1- Fishery Technologist
- 1- Research Aide
- 1- Engineman
- 8- Laborer

CAMP FACILITIES MAINTENANCE & COMMUNICATION UNIT
- 1- Senior Engineer B
- 1- Water Maint. Superviser
- 1- Construction Foreman C
- 3- Carpenter B
- 2- Mason
- 1- Plumber
- 2- Electrician A
- 2- Plant Eq. Operator A
- 3- Telephon Operator A
- 4- Pump Operator
- 9- Laborer

EQUIPMENT MANAGEMENT UNIT
- 1- Senior Engineer B
- 1- Dispatcher B
- 3- Heavy Eq. Operator
- 11- Driver B
- 1- Mechanic B
- 1- Auto Electrician
- 1- Welder B
- 1- Mechanic A

Sub Total 66

INSTRUMENTATION SECTION
- 1- Principal Engineer A
- 1- Clerk B

DRAINAGE GALLERIES, EMBANKMENT & SURFACE PIEZOMETER MONITORING UNIT
- 1- Senior Engineer B
- 5- Electronics Technician
- 2- Engineering Aide C
- 2- Engineering Aide B

SURFACE SETTLEMENT DEFLECTION SURVEY & DOUBLE FLUID SETTLEMENT DEVICES MONITORING UNIT
- 1- Senior Engineer A
- 4- Electronics Technician
- 1- Geodetic Eng. Assist. B

HYDROLOGY & SEISMOLOGY UNIT
- 1- Senior Engineer A
- 1- Engineer B
- 3- Hydrologist
- 1- Electronics Technician
- 12- Engineering Aide C
- 33- Laborer

Sub Total 69

ELECTRICAL-MECHANICAL SECTION
- 1- Principal Engineer A
- 1- Clerk B

BALIGATAN OUTLET & POWER PLANT UNIT
- 1- Senior Engineer A
- 2- Engineer B
- 3- Plant Mechanic B
- 3- Plant Eq. Operator A
- 1- Laborer

SPILLWAY, POWER INTAKE & DIVERSION TUNNEL UNIT
- 1- Senior Engineer B
- 3- Engineer B
- 1- Heavy Eq. Operator
- 3- Mechanic B
- 5- Electrician A
- 3- Plant Eq. Operator A
- 1- Electronics Technician
- 1- Welder B
- 1- Painter B
- 3- Laborer

UNDERGROUND MECHANICAL-ELECTRICAL INSTALLATION UNIT
- 1- Electrician B
- 2- Electrician A
- 3- Laborer

MARIS & BALIGATAN DIV. DAM U.
- 1- Engineer B
- 1- Heavy Eq. Operator
- 1- Mechanic B
- 1- Electrician A
- 5- Gatekeeper
- 2- Laborer

Sub Total 51

ADMINISTRATIVE SECTION
- 1- Administrative Assist. B
- 1- Clerk B
- 1- Personnel Assist. B
- 2- Clerk B
- 2- Radio Operator B
- 4- Janitor
- 1- Corporate Bookkeeper A
- 2- Collection Represent. B
- 1- Billing Clerk
- 1- Property Custodian A
- 2- Storekeeper B
- 1- Cashier B
- 1- Cash Clerk
- 1- Senior Security Guard
- 39- Security Guard
- 1- Guesthouse Caretaker
- 1- Cook B
- 1- Food Server B

Sub Total 63

Grand Total 252

FIGURE H-4. ORGANIZATION AND STAFFING PATTERN FOR DISTRICT OFFICES IN SERVICE AREA

| ORGANIZATION AND POSITION | DISTRICT OFFICES I | II | III | IV |
|---|---|---|---|---|
| OFFICE OF DISTRICT MANAGER | | | | |
| Principal Engineer C | 1 | 1 | 1 | 1 |
| Supervising Engineer B | 1 | 1 | 1 | 1 |
| Engineer B/Hydrologist | 1 | 1 | 1 | 1 |
| Draftman B | 1 | 1 | 1 | 1 |
| Engineering Aide C | 1 | 1 | 1 | 1 |
| Clerk B | 1 | 1 | 1 | 1 |
| Sub Total | 6 | 6 | 6 | 6 |
| OPERATION & MAINTENANCE SECTION | | | | |
| Senior Engineer B | 2 | 2 | 2 | 2 |
| Watermaster | 27 | 28 | 24 | 26 |
| Ditchtender | 109 | 100 | 67 | 84 |
| Gatekeeper | 18 | 5 | 6 | 8 |
| Const. Foreman C | 1 | 1 | 1 | 1 |
| Geodetic Eng. Assist. A | 1 | 1 | 1 | 1 |
| Geodetic Eng. Aide B | 1 | 1 | 1 | 1 |
| Mason | 1 | 1 | 1 | 1 |
| Carpenter | 1 | 1 | 1 | 1 |
| Plant Operator | - | - | 6 | 3 |
| Sub Total | 161 | 140 | 110 | 128 |
| INSTITUTIONAL DEVELOPMENT SECTION | | | | |
| Farmers' Assist. Spvor. | 1 | 1 | 1 | 1 |
| Agriculturist | 1 | 1 | 1 | 1 |
| Irrigator' Org. Worker | 2 | 2 | 2 | 2 |
| Sub Total | 4 | 4 | 4 | 4 |

| ORGANIZATION AND POSITION | DISTRICT OFFICES I | II | III | IV |
|---|---|---|---|---|
| EQUIPMENT MANAGEMENT SECTION | | | | |
| Senior Engineer B | 1 | 1 | 1 | 1 |
| Dispatcher B | 1 | 1 | 1 | 1 |
| Heavy Eq. Operator | 7 | 7 | 7 | 7 |
| Driver B | 10 | 10 | 10 | 8 |
| Mechanic B | 2 | 2 | 2 | 1 |
| Welder B | 1 | 1 | 1 | - |
| Auto Electrician | 1 | 1 | 1 | - |
| Auto Serviceman | 1 | 1 | 1 | - |
| Sub Total | 24 | 24 | 24 | 18 |
| ADMINISTRATIVE SECTION | | | | |
| Administrative Asst. B | 1 | 1 | 1 | - |
| Personnel Assistant B | 1 | 1 | 1 | - |
| Corporate Bookkeeper A | 1 | 1 | 1 | - |
| Accounting Clerk B | 1 | 1 | 1 | - |
| Cashier B | 1 | 1 | 1 | - |
| Cash Clerk | 1 | 1 | 1 | - |
| Collection Represent. B | 2 | 2 | 2 | 2 |
| Billing Clerk | 5 | 5 | 5 | 5 |
| Property Custodian A | 1 | 1 | 1 | - |
| Storekeeper B | 1 | 1 | 1 | 1 |
| Radio Operator B | 1 | 1 | 1 | - |
| Security guard B | 5 | 8 | 5 | - |
| Electrician A | 1 | 1 | 1 | - |
| Clerk B | 2 | 2 | 2 | 1 |
| Janitor | 1 | 1 | 1 | - |
| Sub Total | 25 | 28 | 25 | 9 |
| Grand Total | 220 | 202 | 169 | 165 |

# ANNEX I

# COST ESTIMATION

# I. COST ESTIMATION



## LIST OF TABLES



## LIST OF FIGURE

# ANNEX I. COST ESTIMATION

## 1. PROJECT COST

Project cost is composed of six item works' cost as follows;

i) Improvement of water management
ii) Improvement of mechanical facilities
iii) Procurement of equipment
iv) Rehabilitation works of canal system
v) Rehabilitation of major structure
vi) Agricultural development

and, engineering/administration cost and physical contingency. Project cost is shown in Table I-1 and its break down is shown in Table I-3.

TABLE I-1. PROJECT COST

(unit: '000 ₱)

| Description | Project Cost F.C. | L.C. | Total | Remarks |
|---|---|---|---|---|
| I. Improvement of Water Control/Data Management System | | | | |
| 1. Maris Gate Centralized Control System | 119,620 | 9,710 | 129,330 | Item 1 |
| 2. Reinforcement of Computer System | 9,740 | 260 | 10,000 | " 2 |
| 3. Reinforcement of Communication System | 8,500 | 500 | 9,000 | " 3 |
| Sub-Total | 137,860 | 10,470 | 148,330 | |
| II. Improvement of Mechanical Facilities | | | | |
| 1. Rehabilitation of Siffu Diversion Gate | 14,850 | 1,400 | 16,250 | Item 4 |
| 2. Improvement of Weirs | 11,100 | 6,560 | 17,660 | " 5 |
| 3. Improvement of Pump Facilities | 2,590 | 110 | 2,700 | " 6 |
| Sub-Total | 28,540 | 8,070 | 36,610 | |
| III. Procurement of Equipments | | | | |
| 1. Procurement of Construction Equipments | 102,330 | - | 102,330 | Item 7 |
| 2. Procurement of O/M Equipments | 32,220 | - | 32,220 | " 8 |
| Sub-Total | 134,550 | - | 134,550 | |
| IV. Rehabilitation Works of Canal System | | | | |
| 1. Civil Works | 225,280 | 101,680 | 326,960 | Item 9 |
| 2. Repair C/H Gates | - | 18,620 | 18,620 | " 10 |
| 3. Repair of Turn-Out Gates | - | 4,240 | 4,240 | " 11 |
| Sub-Total | 225,280 | 124,540 | 349,820 | |

| Description | F.C. | L.C. | Total | Remarks |
|---|---|---|---|---|
| V. Rehabilitation of Major Structures | | | | |
| 1. Rehabilitation of Maris Diversion Dam | 39,840 | 17,550 | 57,390 | Item 12 |
| 2. Construction of Gaddana Spillway | 290 | 710 | 1,000 | " 13 |
| 3. Revetment of Maris Mini-Hydro Plant | 3,190 | 1,610 | 4,800 | " 14 |
| Sub-Total | 43,320 | 19,870 | 63,190 | |
| VI. Agricultural Development | | | | |
| 1. Agricultural Service Facilities | - | 43,200 | 43,200 | Item 14 |
| 2. Institutional Facilities | 4,500 | - | 4,500 | " 15 |
| Sub-Total | 4,500 | 43,200 | 47,700 | |
| TOTAL | 574,050 | 206,150 | 780,200 | |
| VII. Engineering and Administration | 50,000 | 106,050 | 156,050 | |
| VIII. Physical Contingencies | 81,100 | 42,650 | 123,750 | |
| GRAND TOTAL | 705,150 | 354,850 | 1,060,000 | |
| | (66.5%) | (33.5%) | (100%) | |

TABLE I-2. BREAKDOWN OF PROJECT COST

(unit: '000 ₱)

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| I. Improvement of Water Control/Data Management System | | | | | | | |
| ITEM 1. Maris Gate Centralized Control System | | | | | | | |
| Provision of Monitoring System | L.S | 1 | | 33,200 | 27,830 | 5,370 | Item 1-1 |
| Impr. of Maris Intake Gate | " | 1 | | 28,100 | 24,820 | 3,280 | " 1-2 |
| Impr. of Check Gate Maris Mini-hydro Plant (A) | " | 1 | | 8,900 | 8,580 | 320 | " 1-3 |
| - do - (B) | " | 1 | | 8,820 | 8,490 | 330 | " 1-4 |
| Electrification of Gate for Maris Main Canal | " | 1 | | 41,160 | 40,960 | 200 | " 1-5 |
| Wiring Works for Electrification of Maris Gates | " | 1 | | 9,150 | 8,940 | 210 | " 1-6 |
| Total | | | | 129,330 | 119,620 | 9,710 | |
| ITEM 1-1. Provision of Monitoring and Control System | | | | | | | |
| Telemeter/Telecontrol | set | 1 | | 6,940 | 6,940 | - | |
| Input/Output Unit | " | 1 | | 5,800 | 5,800 | - | |
| Monitor and Control Equipment | " | 1 | | 3,303 | 3,303 | - | |
| Data Processor | " | 1 | | 2,800 | 2,800 | - | |
| Water Level Gauge | " | 22 | 63 | 1,386 | 1,386 | - | |
| Rainfall Gauge | " | 1 | | 81 | 81 | - | |
| Power Unit | " | 1 | | 274 | 274 | - | |
| Spare and Spare-unit | " | 1 | | 616 | 616 | - | |
| Insurance and Freight | L.S | 1 | | 2,350 | 2,350 | - | |
| Installation | " | 1 | | 5,245 | 2,780 | 2,465 | |
| Cable Work | " | 1 | | 3,355 | 1,500 | 1,855 | 12.3 km |
| Building | " | 1 | | 1,050 | - | 1,050 | |
| Total | | | | 33,200 | 27,830 | 5,370 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 1-2. Improvement of Maris Intake Gate | | | | | | | |
| Electrical Lifting Device 5.5 KW | set | 10 | 690 | 6,900 | 6,900 | - | |
| - do - 11 KW | " | 2 | 830 | 1,660 | 1,660 | - | |
| - do - 11 KW | " | 2 | 830 | 1,660 | 1,660 | - | |
| Monitoring System | " | 1 | | 3,410 | 3,410 | - | |
| Emergency Generator 200 KW | " | 1 | | 1,470 | 1,470 | - | |
| Control Panel | " | 1 | | 3,910 | 3,910 | - | |
| Insurance and Freight | L.S | 1 | | 2,110 | 2,110 | - | |
| Change of Lifting Device | " | 1 | | 2,131 | 2,020 | 111 | |
| Installation of Monitoring System | " | 1 | | 1,048 | 960 | 88 | |
| Installation of Generator | " | 1 | | 255 | 240 | 15 | |
| Electrical Work | " | 1 | | 546 | 480 | 66 | |
| Building | " | 1 | | 3,000 | - | 3,000 | 300 $m^2$ |
| Total | | | | 28,100 | 24,820 | 3,280 | |
| ITEM 1-3. Improvement of Check Gate at Maris Mini-hydro Plant (A) | | | | | | | |
| Hydraulic Cylinder | set | 5 | 360 | 1,800 | 1,800 | - | For Roller gate |
| Hydraulic Unit 30 KW | L.S | 1 | | 4,260 | 4,260 | - | |
| Oil | lit. | 2,000 | 0.04 | 80 | 80 | - | |
| Level Meter | set | 1 | | 60 | 60 | - | |
| Control Panel | L.S | 1 | | 660 | 660 | - | |
| Insurance and Freight | " | 1 | | 760 | 760 | - | |
| Improvement Work | " | 1 | | 980 | 960 | 20 | |
| Control Room | " | 1 | | 300 | - | 300 | 5m x 6m |
| Total | | | | 8,900 | 8,580 | 320 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 1-4. Improvement of Check Gate at Maris Mini-hydro Plant (B) | | | | | | | |
| Hydraulic Whist | set | 1 | | 1,360 | 1,360 | - | 4,300mmx2,500mm |
| - do - | " | 2 | 1,220 | 2,440 | 2,440 | - | 3,100mmx3,150mm |
| Hydraulic Unit 18.5 KW | L.S | 1 | | 2,560 | 2,560 | - | |
| Oil | lit. | 2,000 | 0.04 | 80 | 80 | - | |
| Control Panel | L.S | 1 | | 580 | 580 | - | |
| Insurance and Freight | " | 1 | | 780 | 780 | - | |
| Improvement Work | " | 1 | | 720 | 690 | 30 | |
| Control Room | " | 1 | | 300 | - | 300 | |
| Total | | | | 8,820 | 8,490 | 330 | |
| ITEM 1-5. Electrification of Gate for Maris Main Canal | | | | | | | |
| Wire-dram Lifting Device 2.2 KW | set | 2 | 1,220 | 2,440 | 2,440 | - | A. Check Gate |
| - do - 3.7 KW | " | 4 | 1,360 | 5,440 | 5,440 | - | - do - |
| Electrical Whist 3.7 KW | " | 4 | 260 | 1,040 | 1,040 | - | A. Head Gate |
| Wire-dram Lifting Device 2.2 KW | " | 5 | 1,220 | 6,100 | 6,100 | - | S.L. Check Gate |
| - do - 3.7 KW | " | 2 | 1,360 | 2,720 | 2,720 | - | S.L. Head Gate |
| - do - 3.7 KW | " | 2 | 1,360 | 2,720 | 2,720 | - | B. Check Gate |
| - do - 3.7 KW | " | 2 | 1,360 | 2,720 | 2,720 | - | - do - |
| Electrical Whist 3.7 KW | " | 1 | | 260 | 260 | - | B. Head Gate |
| - do - 3.7 KW | " | 3 | 220 | 660 | 660 | - | C. Head Gate |
| Double Electrical Whist 1.5 KW | " | 2 | 360 | 720 | 720 | - | Gaddanan Supply |
| Wire-dram Lifting Device 2.2 KW | " | 1 | | 1,220 | 1,220 | - | D. Check Gate |
| - do - 2.2 KW | " | 3 | 1,220 | 3,660 | 3,660 | - | D. Head Gate |
| Electrical Whist 2.2 KW | " | 1 | | 230 | 230 | - | E. Head Gate |
| Control Panel 12 Panel | L.S | 1 | | 2,450 | 2,450 | - | With Cable |
| Insurance and Freight | " | 1 | | 3,600 | 3,600 | - | |
| Installation | " | 1 | | 5,180 | 4,980 | 200 | |
| Total | | | | 41,160 | 40,960 | 200 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 1-6. Wiring Works for Electrification of Maris Gates | | | | | | | |
| Materials for Wiring (C) (Transformer, Cable, Pole, etc.) | L.S | 1 | | 6,790 | 6,790 | - | 7 km |
| Insurance and Freight | " | 1 | | 750 | 750 | - | |
| Installation | km | 7 | 230 | 1,610 | 1,400 | 210 | Including Pole |
| Total | | | | 9,150 | 8,940 | 210 | |
| ITEM 2. Reinforcement of Computer System | | | | | | | |
| Central Processing Unit | set | 1 | | 2,016 | 2,016 | - | |
| External Memory | " | 1 | | 1,296 | 1,296 | - | |
| Peripheral Equipment | " | 1 | | 1,530 | 1,530 | - | |
| Terminal Equipment | " | 1 | | 416 | 416 | - | |
| Soft Ware | " | 1 | | 1,980 | 1,980 | - | |
| Accessories and Spare Parts | " | 1 | | 260 | 260 | - | |
| Engine Generator and A.V.R. | " | 1 | | 810 | 810 | - | |
| Insurance and Freight | L.S | 1 | | 922 | 922 | - | |
| Installation | " | 1 | | 540 | 510 | 30 | |
| Free Access Floor | " | 1 | | 150 | - | 150 | 40 $m^2$ |
| Air Conditioner | " | 1 | | 80 | - | 80 | |
| Total | | | | 10,0000 | 9,740 | 260 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 3. Reinforcement of Communication System | | | | | | | |
| Work Station | set | 5 | 700 | 3,500 | 3,500 | - | |
| Transmitter | " | 5 | 100 | 500 | 500 | - | |
| Repeater Station(Antenna, Transmitter Battery) | " | 1 | 2,000 | 2,000 | 2,000 | - | |
| Soft Ware | " | 1 | 600 | 600 | 600 | - | |
| Communication Control Unit | " | 1 | 600 | 600 | 600 | - | |
| Insurance and Freight | L.S | 1 | | 800 | 800 | | |
| Installation | " | 1 | | 1,000 | 500 | 500 | |
| Total | | | | 9,000 | 8,500 | 500 | |
| II. Improvement of Mechanical Facilities | | | | | | | |
| ITEM 4. Rehabilitation of Siffu Diversion Dam Gates | | | | | | | |
| Improvement of Siffu Intake Gates | L.S | 1 | | 8,150 | 7,290 | 860 | Item 4-1 |
| Rehabil. of Sand Sluice Gate at Siffu D.D | " | 1 | | 8,100 | 7,560 | 540 | Item 4-2 |
| Total | | | | 16,250 | 14,850 | 1,400 | |
| ITEM 4-1. Improvement of Siffu Intake Gates | | | | | | | |
| Electrical Lifting Device 5.5 KW | set | 1 | 300 | 300 | 300 | - | |
| - do - | " | 3 | 300 | 900 | 900 | - | |
| Monitoring System | " | 1 | | 1,320 | 1,320 | - | |
| Emergency Generator 90 KW | " | 1 | | 860 | 860 | - | |
| Control Panel | " | 1 | | 1,970 | 1,970 | - | |
| Insurance and Freight | L.S | 1 | | 600 | 600 | - | |
| Change of Lifting Device | " | 1 | | 546 | 460 | 86 | |
| Installation of Monitoring System | " | 1 | | 244 | 200 | 44 | |
| Installation of Generator | " | 1 | | 205 | 200 | 5 | |
| Electrical Work | " | 1 | | 505 | 480 | 25 | |
| Control Building | " | 1 | | 700 | - | 700 | 70 $m^2$ |
| Total | | | | 8,150 | 7,290 | 860 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 4-2. Rehabilitation of Sand Sluice Gate at Siffu Diversion Dam | | | | | | | |
| Roller Gate 2.44 m x 3.60 m | set | 1 | | 730 | 730 | - | |
| Wire-dram Lifting Device 2.2 KW | " | 1 | | 1,220 | 1,220 | - | |
| Roller Gate 4.89 m x 5.20 m | " | 1 | | 2,290 | 2,290 | - | |
| Wire-dram Whist 3.7 KW | " | 1 | | 1,360 | 1,360 | - | |
| Control Panel | " | 1 | | - | - | - | Estimated in Item 4-1 |
| Insurance and Freight | L.S | 1 | | 620 | 620 | - | |
| Coffer Dam | " | 1 | | 240 | - | 240 | |
| Rehabilitation of Gate Pier | " | 1 | | 250 | - | 250 | |
| Installation of Gate | " | 1 | | 1,390 | 1,340 | 50 | |
| Total | | | | 8,100 | 7,560 | 540 | |
| ITEM 5. Improvement of Weirs | | | | | | | |
| Improvement of Macanao Weir | L.S | 1 | | 9,420 | 5,420 | 4,000 | Item 5-1 |
| Improvement of Ladeco Weir | " | 1 | | 8,240 | 5,680 | 2,560 | " 5-2 |
| Total | | | | 17,660 | 11,100 | 6,560 | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| ITEM 5-1. Improvement of Macanao Weir | | | | | | | |
| Coffer Dam and Dewatering | L.S | 1 | | 240 | - | 240 | 80 m |
| Concrete Demolition | $m^3$ | 60 | 0.35 | 20 | - | 20 | |
| Class "A" Concrete | " | 200 | 2.40 | 480 | - | 480 | |
| Manufacturing of Gate | L.S | 1 | | 4,130 | 4,130 | - | 2 Gate 10mx25m |
| Insurance and Freight | " | 1 | | 460 | 460 | - | |
| Installation | | | | 1,410 | 830 | 580 | |
| Revetment | $m_2$ | 100 | 6 | 600 | - | 600 | |
| River Bottom Protection | $m^2$ | 600 | 0.50 | 300 | - | 300 | 20m x 30m |
| Expansion of Intake | | | | | | | |
| Structural Excavation | $m^3$ | 450 | 0.025 | 12 | - | 12 | 30 m |
| Class "A" Concrete | $m^3$ | 80 | 2.35 | 188 | - | 188 | |
| Canal Expansion | m | 1,200 | 1.50 | 1,500 | - | 1,500 | 1.2 km |
| Procure, and Installation of Gate | set | 2 | 40 | 80 | - | 80 | Local |
| Total | | | | 9,420 | 5,420 | 4,000 | |
| ITEM 5-2. Improvement of Ladeco Weir | | | | | | | |
| Coffer Dam and Dewatering | L.S | 1 | | 240 | - | 240 | 80 m |
| Concrete Demolition | $m^3$ | 80 | 0.35 | 30 | - | 30 | |
| Class "A" Concrete | " | 250 | 2.40 | 600 | - | 600 | |
| Manufacturing of Gate | L.S | 1 | | 4,330 | 4,330 | - | 2 Gate 12mx2.5m |
| Insurance and Freight | " | 1 | | 480 | 480 | - | |
| Installation | " | 1 | | 1,580 | 870 | 710 | |
| Revetment | $m_2$ | 100 | 6 | 600 | - | 600 | |
| River Bottom Protection | $m^2$ | 750 | 0.50 | 380 | - | 380 | 25m x 30 m |
| Total | | | | 8,240 | 5,680 | 2,560 | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| ITEM 6. Improvement of Pump Facilities | | | | | | | |
| Materials | | | | | | | |
| Packing for Expansion Joint | L.S | 1 | | 35 | 35 | - | No.1, No.3P. in #2S |
| Air Valve | " | 1 | | 24 | 24 | - | No.3P, in #25 |
| Siphon Breaker Indicator | " | 1 | | 300 | 300 | - | For All Station |
| Reverse Revolution Unit, etc. (Including other materials) | " | 1 | | 450 | 450 | - | |
| Improvement of Sealing | | | | | | | |
| Grand Sleeve | L.S | 1 | | 200 | 200 | - | |
| Mechanical Seal Set | " | 1 | | 395 | 395 | - | |
| Pipe, Joint, etc. | " | 1 | | 42 | 42 | - | |
| Oil Pump Set | " | 1 | | 240 | 240 | - | |
| Pump Spare Parts | " | 1 | | 124 | 124 | - | |
| Insurance and Freight | " | 1 | | 200 | 200 | - | |
| Improvement Works | " | 1 | | 690 | 580 | 110 | |
| Total | | | | 2,700 | 2,590 | 110 | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| III. Procurement of Equipments | | | | | | | |
| ITEM 7. Procurement of Construction Equipments | | | | | | | |
| Backhoe C.7 $m^3$ | set | 4 | 1,860 | 7,440 | 7,400 | - | |
| Backhoe 0.3 $m^3$ | " | 6 | 910 | 5,460 | 5,460 | - | |
| Crane/Drugline 0.8 $m^3$ | " | 2 | 2,470 | 4,940 | 4,940 | - | |
| Bull Dozer 90 HP | " | 19 | 1,070 | 20,330 | 20,330 | - | |
| Dump Truck 11 t | " | 22 | 970 | 21,340 | 21,340 | - | |
| Loader 1.0 - 1.5 $m^3$ | " | 4 | 925 | 3,700 | 3,700 | - | |
| Motor Grader 125 HP | " | 4 | 825 | 3,300 | 3,300 | - | |
| Vibration Roller 3 t | " | 4 | 100 | 400 | 400 | - | |
| Rick Up 135 HP | " | 8 | 250 | 2,000 | 2,000 | - | w/mobil station |
| Stake Truck 195 HP | " | 4 | 525 | 2,100 | 2,100 | - | |
| Shop Truck 9,000 kg | " | 2 | 1,930 | 3,860 | 3,860 | - | |
| Concrete Mixer 1 Bagger | " | 5 | 1,110 | 5,550 | 5,550 | - | |
| Service Car (Station Wagon) | " | 6 | 350 | 2,100 | 2,100 | - | w/mobil station |
| Geodlight | " | 6 | 180 | 1,080 | 1,080 | - | |
| Level Meter | " | 6 | 20 | 120 | 120 | - | |
| Staff | " | 20 | 1 | 20 | 20 | - | |
| Spare Parts (10%) | L.S | 1 | | 8,370 | 8,370 | - | |
| Insurance (1.1%) (I) | " | 1 | | 1,010 | 1,010 | - | |
| Freight (10%) (F) | " | 1 | | 9,210 | 9,210 | - | |
| Total (C.I.F.) | | | | 102,330 | 102,330 | - | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 8. Procurement of O/M Equipments | | | | | | | |
| Backhoe 0.3 $m^3$ | set | 4 | 910 | 3,640 | 3,640 | - | |
| Crawler Crane 16 t | " | 2 | 1,980 | 3,960 | 3,960 | - | |
| Bull Dozer 75 HP | " | 4 | 860 | 3,440 | 3,440 | - | |
| Dump Truck 2 t | " | 8 | 360 | 2,880 | 2,880 | - | |
| Pick Up 135 HP | " | 12 | 250 | 3,000 | 3,000 | - | w/mobil station |
| Motor Cycle 125 CC | " | 110 | 25 | 2,750 | 2,750 | - | |
| Service Car (Station Wagon) | " | 6 | 360 | 2,100 | 2,100 | - | |
| Radio Transciever | " | 80 | 15 | 1,200 | 1,200 | - | w/mobil station |
| Weed Cutter | " | 120 | 20 | 2,400 | 2,400 | - | |
| Current Meter | " | 6 | 60 | 360 | 360 | - | |
| Water Level Gauge 1.0 m Plate | " | 1,000 | 0.2 | 200 | 200 | - | |
| Automatic Water Level Gauge (Suiken 62) | " | 5 | 75 | 375 | 375 | - | |
| Spare Parts (10%) | L.S | 1 | | 2,695 | 2,695 | - | |
| Insurance (1.1%) (I) | " | 1 | | 320 | 320 | - | |
| Freight (10%) (F) | " | 1 | | 2,900 | 2,900 | - | |
| Grand-Total (C.I.F.) | | | | 32,220 | 32,220 | | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| IV. Rehabilitation Works of Canal System | | | | | | | |
| ITEM 9. Civil Works | | | | | | | |
| Enheightening | L.S | 1 | | 85,360 | 68,290 | 17,070 | Item 9-1 |
| Canal Widening | " | 1 | | 50,880 | 38,657 | 12,223 | " 9-2 |
| Repair of Scoured Canal | " | 1 | | 41,650 | 20,825 | 20,825 | " 9-3 |
| Desilting | " | 1 | | 5,760 | 3,864 | 1,896 | " 9-4 |
| Canal Lining | " | 1 | | 31,680 | 15,840 | 15,840 | " 9-5 |
| New Canal | " | 1 | | 8,400 | 6,725 | 1,675 | " 9-6 |
| Structure Repair | " | 1 | | 8,420 | 4,161 | 4,259 | " 9-7 |
| Drainage Excavation | " | 1 | | 28,510 | 20,397 | 8,113 | " 9-8 |
| Road Maintenance | " | 1 | | 56,850 | 45,126 | 11,724 | " 9-9 |
| Excavation of Reservoir | " | 1 | | 1,950 | 1,395 | 555 | " 9-10 |
| Repair of Compound | " | 1 | | 7,500 | - | 7,500 | " 9-11 |
| Total | | | | 326,960 | 225,280 | 101,680 | |
| ITEM 9-1. Enheightening | | | | | | | |
| Enheightening (Contract Work) | | | | | | | |
| District I | $m^3$ | 405,300 | 55 | 22,290 | 17,830 | 4,460 | F.C. 80% |
| " II | " | 332,900 | " | 18,300 | 14,640 | 3,660 | |
| " III | " | 437,200 | " | 24,000 | 19,200 | 4,800 | |
| " IV | " | 377,600 | " | 20,770 | 16,620 | 4,150 | |
| Total | | | | 85,360 | 68,290 | 17,070 | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| **ITEM 9-2. Canal Widening** | | | | | | | |
| Canal Widening (Force Account Work) | | | | | | | |
| District I | $m^3$ | 62,500 | 40 | 2,500 | 1,625 | 875 | FC/LC=26/14 |
| " II | " | 80,900 | " | 3,240 | 2,103 | 1,137 | |
| " III | " | 95,900 | " | 3,840 | 2,493 | 1,347 | |
| " IV | " | 99,850 | " | 3,990 | 2,596 | 1,394 | |
| Sub-total | | | | 13,570 | 8,817 | 4,753 | |
| Canal Widening (Contract Work) | | | | | | | |
| District I | $m^3$ | 62,500 | 110 | 6,880 | 5,500 | 1,380 | F.C. 80% |
| " II | " | 80,900 | " | 8,900 | 7,120 | 1,780 | |
| " III | " | 95,900 | " | 10,550 | 8,440 | 2,110 | |
| " IV | " | 99,850 | " | 10,980 | 8,780 | 2,200 | |
| Sub-total | | | | 37,310 | 29,840 | 7,470 | |
| Total | | | | 50,880 | 38,657 | 12,223 | |
| **ITEM 9-3. Repair of Scoured Canal** | | | | | | | |
| Repair of Scoure (Contract Work) | | | | | | | |
| District I | $m^3$ | 35,300 | 610 | 25,530 | 10,765 | 10,765 | F.C. 50% |
| " II | " | 13,400 | " | 8,170 | 4,085 | 4,085 | |
| " III | " | 14,400 | " | 8,780 | 4,390 | 4,390 | |
| " IV | " | 5,200 | " | 3,170 | 1,585 | 1,585 | |
| Total | | | | 41,650 | 20,825 | 20,825 | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| **ITEM 9-4. Desilting** | | | | | | | |
| Desilting (Force Account Work) | | | | | | | |
| District I | $m^3$ | 242,000 | 7 | 1,690 | 1,134 | 556 | F/CLC=4.7/2.3 |
| " II | " | 189,400 | " | 1,330 | 890 | 440 | |
| " III | " | 194,000 | " | 1,360 | 912 | 448 | |
| " IV | " | 197,400 | " | 1,380 | 928 | 452 | |
| Total | | | | 5,760 | 3,864 | 1,896 | |
| **ITEM 9-5. Canal Lining** | | | | | | | |
| Canal Lining (Contract Work) | | | | | | | |
| District I | $m^3$ | 4,370 | 1,840 | 8,040 | 4,020 | 4,020 | F.C. 50% |
| " II | " | 4,300 | " | 7,910 | 3,955 | 3,955 | |
| " III | " | 5,470 | " | 10,060 | 5,030 | 5,030 | |
| " IV | " | 3,080 | " | 5,670 | 2,835 | 2,835 | |
| Total | | | | 31,680 | 15,840 | 15,840 | |
| **ITEM 9-6. New Canal** | | | | | | | |
| New Canal (Contract Work) | | | | | | | |
| District I | $m^3$ | 32,000 | 140 | 4,480 | 3,585 | 895 | F.C. 80% |
| " II | " | 18,000 | " | 2,520 | 2,020 | 500 | |
| " III | " | - | " | - | - | - | |
| " IV | " | 10,000 | " | 1,400 | 1,120 | 280 | |
| Total | | | | 8,400 | 6,725 | 1,675 | |

| Description | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | Total | F.C. | L.C. | |
| ITEM 9-7. Structure Repair | | | | | | | |
| Structure Repair (Force Account Work) | | | | | | | |
| District I | $m^3$ | 350 | 2,900 | 1,020 | 502 | 518 | FC/LC=1435/1465 |
| " II | " | 1,000 | " | 2,900 | 1,435 | 1,465 | |
| " III | " | 800 | " | 2,320 | 1,148 | 1,172 | |
| " IV | " | 750 | " | 2,180 | 1,076 | 1,104 | |
| Total | | | | 8,420 | 4,161 | 4,259 | |
| ITEM 9-8. Drainage Excavation | | | | | | | |
| Drainage Excavation (Force Account Work) | | | | | | | |
| District I | $m^3$ | 411,700 | 13 | 5,350 | 3,829 | 1,521 | FC/LC=9.3/3.7 |
| " II | " | 367,900 | " | 4,780 | 3,421 | 1,359 | |
| " III | " | 644,700 | " | 8,380 | 5,995 | 2,385 | |
| " IV | " | 769,000 | " | 10,000 | 7,152 | 2,848 | |
| Total | | | | 28,510 | 20,397 | 8,113 | |
| ITEM 9-9. Road Maintenance | | | | | | | |
| Road Maintenance (Force Account Work) | | | | | | | |
| District I | $m^3$ | 97,950 | 40 | 3,920 | 3,036 | 884 | FC/LC=31/9 |
| " II | " | 107,350 | " | 4,290 | 3,328 | 962 | |
| " III | " | 80,500 | " | 3,220 | 2,496 | 724 | |
| " IV | " | 69,550 | " | 2,780 | 2,156 | 624 | |
| Sub-total | | | | 14,210 | 11,016 | 3,194 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| Road Maintenance (Contract Work) | | | | | | | |
| District I | $m^3$ | 97,950 | 120 | 11,750 | 9,400 | 2,350 | F.C. 80% |
| " II | " | 107,350 | " | 12,880 | 10,300 | 2,580 | |
| " III | " | 80,500 | " | 9,660 | 7,730 | 1,930 | |
| " IV | " | 69,550 | " | 8,350 | 6,680 | 1,670 | |
| Sub-total | | | | 42,640 | 34,110 | 8,530 | |
| Total | | | | 56,850 | 45,126 | 11,724 | |
| ITEM 9-10. Excavation of Reservoir | | | | | | | |
| Excavation of Reservoir (Force Account Work) | | | | | | | |
| District I | $m^3$ | 0 | 13 | - | - | - | FC/LC=9.3/3.7 |
| " II | " | 0 | " | - | - | - | |
| " III | " | 150,000 | " | 1,950 | 1,395 | 555 | |
| " IV | " | 0 | " | - | - | - | |
| Total | | | | 1,950 | 1,395 | 555 | |
| ITEM 9-11. Repair of Compound | | | | | | | |
| Repair of Compound (Force Account Work) | | | | | | | |
| Head Office | L.S | 1 | 1,500 | - | 1,500 | | |
| Dam Office | " | 1 | 1,500 | - | 1,500 | | |
| District I | " | 1 | 1,500 | - | 1,500 | | |
| " II | " | 1 | 1,500 | - | 1,500 | | |
| " III | " | 1 | 1,500 | - | 1,500 | | |
| " IV | " | - | - | - | - | | |
| Total | | | 7,500 | | 7,500 | | |

| Description | | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | Total | F.C. | L.C. | |
| ITEM 10. | Repair of Check and Head Gates | | | | | | | |
| Dist I | To be repaid | pcs. | 16 | 5 | 80 | - | 80 | |
| | To be replaced | " | 8 | 20 | 160 | - | 160 | |
| | To be newly installed | " | 43 | 80 | 3,440 | - | 3,440 | |
| | Sub-total | | | | 3,680 | - | 3,680 | |
| Dist II | To be repaired | pcs. | 23 | 5 | 120 | - | 120 | |
| | To be replaced | " | 2 | 20 | 40 | - | 40 | |
| | To be newly installed | " | 75 | 80 | 6,000 | - | 6,000 | |
| | Sub-total | | | | 6,160 | - | 6,160 | |
| Dist III | To be repaired | pcs. | 8 | 5 | 40 | - | 40 | |
| | To be replaced | " | 0 | 20 | - | - | - | |
| | To be newly installed | " | 7 | 80 | 560 | - | 560 | |
| | Sub-total | | | | 600 | - | 600 | |
| Dist IV | To be repaired | pcs. | 33 | 5 | 160 | - | 160 | |
| | To be replaced | " | 1 | 20 | 20 | - | 20 | |
| | To be newly installed | " | 100 | 80 | 8,000 | - | 8,000 | |
| | Sub-total | | | | 8,180 | - | 8,180 | |
| | Total | | | | 18,620 | | 18,620 | |

| Description | | Unit | Quantity | Rate | Amount | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | Total | F.C. | L.C. | |
| ITEM 11. | Repair of Turn-Out Gate | | | | | | | |
| Dist I | New Installation | pcs. | 85 | 10 | 850 | - | 850 | |
| | Repair | " | 81 | 2 | 160 | - | 160 | |
| | Sub-total | | | | 1,010 | - | 1,010 | |
| Dist II | New Installation | pcs. | 136 | 10 | 1,360 | - | 1,360 | |
| | Repair | " | 95 | 2 | 190 | - | 190 | |
| | Sub-total | | | | 1,550 | - | 1,550 | |
| Dist III | New Installation | pcs. | 50 | 10 | 500 | - | 500 | |
| | Repair | " | 80 | 2 | 160 | - | 160 | |
| | Sub-total | | | | 660 | - | 660 | |
| Dist IV | New Installation | pcs. | 87 | 10 | 870 | - | 870 | |
| | Repair | " | 76 | 2 | 150 | - | 150 | |
| | Sub-total | | | | 1,020 | - | 1,020 | |
| | Total | | | | 4,240 | | 4,240 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| V. Rehabilitation of Major Structures | | | | | | | |
| ITEM 12. Rehabilitation of Maris Diversion Dam | | | | | | | |
| Coffer Dam and Dewatering | L.S | | | 5,000 | - | 5,000 | |
| Rock Excavation | $m^3$ | 5,000 | 0.15 | 750 | - | 750 | |
| Class "A" Concrete | " | 7,750 | 2.40 | 18,600 | 12,400 | 6,200 | |
| River Bottom Protection | $m^2$ | 14,000 | 1.00 | 14,000 | 8,400 | 5,600 | 200m x 70m |
| Depreciation Cost (Excavator) | $m^3$ | 5,000 | 0.08 | 400 | 400 | - | |
| " (Concrete Placing) | " | 7,750 | 0.48 | 3,720 | 3,720 | - | |
| " (Block Form) | set | 300 | 20 | 6,000 | 6,000 | - | Procurement |
| " (Crawler Crane) | " | 1 | | 1,980 | 1,980 | - | " |
| " (Bullrdozer) | " | 2 | 1,140 | 2,280 | 2,280 | - | |
| " (Submergible Pump) | " | 10 | 30 | 300 | 300 | - | ϕ150 |
| " (Generator) | " | 1 | 630 | 630 | 630 | - | |
| " (Compressor) | " | 1 | 560 | 560 | 560 | - | |
| " (Others) | L.S | 1 | | 3,170 | 3,170 | - | 20% |
| Total | | | | 57,390 | 39,840 | 17,550 | |
| ITEM 13. Construction of Gaddanan Spillway | | | | | | | |
| Concrete "A" | $m^3$ | 200 | 2,400 | 480 | 290 | 190 | |
| Gate Procure and Install | L.S | 1 | | 300 | - | 300 | |
| Others Works | " | 1 | | 220 | - | 220 | |
| Total | | | | 1,000 | 290 | 710 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| ITEM 14. Revetment of Maris Mini-hydro Plant | | | | | | | |
| Revetment Maris Mini-hydro Plant (A) | L.S | 1 | | 2,600 | 1,810 | 790 | Item 14-1 |
| - do - (B) | " | 1 | | 2,200 | 1,380 | 820 | " 14-2 |
| Total | | | | 4,800 | 3,190 | 1,610 | |
| ITEM 14-1. Revetment of Maris Mini-hydro Plant (A) | | | | | | | |
| Revetment | | | | | | | |
| Gabion | $m^3$ | 700 | 1.00 | 700 | 490 | 210 | |
| Sand and Gravel | " | 390 | 0.05 | 20 | - | 20 | |
| Class "A" Concrete | " | 200 | 2.40 | 480 | 340 | 140 | |
| Canal Bottom Protection | | | | | | | |
| Gabion | $m^3$ | 1,400 | 1.00 | 1,400 | 980 | 790 | |
| Total | | | | 2,600 | 1,810 | 790 | |
| ITEM 14-2. Revetment of Maris Mini-hydro Plant (B) | | | | | | | |
| Revetment | | | | | | | |
| Gabion | $m^3$ | 700 | 1.00 | 700 | 490 | 210 | |
| San and Gravel | " | 380 | 0.05 | 19 | - | 19 | |
| Class "A" Concrete | " | 180 | 2.40 | 431 | 260 | 171 | |
| Canal Bottom Protection | | | | | | | |
| Gabion | $m^3$ | 1,050 | 1.00 | 1,050 | 630 | 420 | |
| Total | | | | 2,200 | 1,380 | 820 | |

| Description | Unit | Quantity | Rate | Amount Total | Amount F.C. | Amount L.C. | Remarks |
|---|---|---|---|---|---|---|---|
| VI. Agricultural Development | | | | | | | |
| ITEM 15. Agricultural Service Facilities | | | | | | | |
| Agricultural Service Facilities | IA | 24 | 1,800 | 43,200 | - | 43,200 | Item 15-1 |
| Total | | | | 43,200 | | 43,200 | |
| ITEM 15-1. Agricultural Service Facilities (per I.A.) | | | | | | | |
| Dry Pavement 300 $m^2$ | pls | 6 | 30 | 180 | - | 180 | |
| Mechanical Drier | set | 3 | 16 | 48 | - | 48 | |
| Power Tailer | " | 25 | 30 | 750 | - | 750 | |
| Thrasher | " | 3 | 50 | 150 | - | 150 | |
| Storehouse | L.S | 1 | | 210 | - | 210 | |
| Jeepny | set | 2 | 150 | 300 | - | 300 | |
| Miscellaneous | L.S | 1 | | 162 | - | 162 | |
| Administration | " | 1 | | 130 | - | 130 | |
| Total | | | | 1,800 | - | 1,800 | |
| ITEM 16. Institutional Facilities | | | | | | | |
| Station Wagon | set | 4 | 350 | 1,400 | 1,400 | - | Procurement |
| Visual Aids | " | 4 | 200 | 800 | 800 | - | " |
| Computer | " | 2 | 140 | 280 | 280 | - | " |
| Word Processor | " | 1 | 200 | 200 | 200 | - | " |
| Copy Machine | " | 1 | 90 | 90 | 90 | - | " |
| Audio and Visual Acids | " | 2 | 450 | 900 | 900 | - | " |
| Spare Parts | L.S | 1 | | 360 | 360 | - | " |
| Insurance and Freight | " | 1 | | 470 | 470 | - | " |
| Total (C.I.F.) | | | | 4,500 | 4,500 | - | |

TABLE I-3 ALLOCATION OF ESTIMATED COST ON IMPROVEMENT WORKS (unit: '000 ₱)

| DESCRIPTION | Districts to be undertaken | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|
| | H.O. | Dam | I | II | III | IV | |
| I. Improvement of Water Control/Data Management System | | | | | | | |
| 1. Maris Gate Centralized Control System | 129,330 | - | - | - | - | - | 129,330 |
| 2. Reinforcement of Computer System | 10,000 | - | - | - | - | - | 10,000 |
| 3. Reinforcement of Communication System | 9,000 | - | - | - | - | - | 9,000 |
| TOTAL | 148,330 | - | - | - | - | - | 148,330 |
| II. Improvement of Mechanical Facilities | | | | | | | |
| 1. Rehabilitation of Siffu Diversion Dam Gate | - | - | - | - | 16,250 | - | 16,250 |
| 2. Improvement of Weirs | - | - | - | - | | 17,660 | 17,660 |
| 3. Improvement of Pump Facilities | 2,700 | - | - | - | - | - | 2,700 |
| TOTAL | 2,700 | - | - | - | 16,250 | 17,660 | 36,610 |
| III. Procurement of Equipments | | | | | | | |
| 1. Procurement of Construction Equipments | 102,330 | - | - | - | - | - | 102,330 |
| 2. Procurement of O/M Equipments | 32,220 | - | - | - | - | - | 32,220 |
| TOTAL | 134,550 | - | - | - | - | - | 134,550 |
| IV. Rehabilitation Works of Canal System | | | | | | | |
| 1. Civil Works | | | | | | | |
| Embeightening | - | - | 22,290 | 18,300 | 24,000 | 20,770 | 85,360 |
| Canal Widening | - | - | 9,380 | 12,140 | 14,390 | 14,970 | 50,880 |
| Repair of Scoured Canal | - | - | 21,530 | 8,170 | 8,780 | 3,170 | 41,650 |
| Desilting | - | - | 1,690 | 1,330 | 1,360 | 1,380 | 5,760 |
| Canal Lining | - | - | 8,040 | 7,910 | 10,060 | 5,670 | 31,680 |
| New Canal | - | - | 4,480 | 2,520 | - | 1,400 | 8,400 |
| Structure Repair | - | - | 1,020 | 2,900 | 2,320 | 2,180 | 8,420 |
| Drainage Excavation | - | - | 5,350 | 4,780 | 8,380 | 10,000 | 28,510 |
| Road Maintenance | - | - | 15,670 | 17,170 | 12,880 | 11,130 | 56,850 |
| Reservoir Excavation | - | - | - | - | 1,950 | - | 1,950 |
| Repair of Compound | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | - | 7,500 |
| SUB-TOTAL | 1,500 | 1,500 | 90,950 | 76,720 | 85,620 | 70,670 | 326,960 |
| 2. Repair of C/H Gates | | | | | | | |
| Gates to be repaired | - | - | 80 | 120 | 40 | 160 | 400 |
| Gates to be replaced | - | - | 160 | 40 | - | 20 | 220 |
| Gates to be newly installed | - | - | 3,440 | 6,000 | 560 | 8,000 | 18,000 |
| SUB-TOTAL | - | - | 3,680 | 6,160 | 600 | 8,180 | 18,620 |
| 3. Repair of Turn-Out Gates | | | | | | | |
| To be repaired | - | - | 160 | 190 | 160 | 150 | 660 |
| To be replaced or installed | - | - | 850 | 1,360 | 500 | 870 | 3,580 |
| SUB-TOTAL | - | - | 1,010 | 1,550 | 660 | 1,020 | 4,240 |
| TOTAL | 1,500 | 1,500 | 95,640 | 84,430 | 86,880 | 79,870 | 349,820 |
| V. Rehabilitation of Major Structures | | | | | | | |
| 1. Rehabilitation of Maris D.D. | - | 57,390 | - | - | - | - | 57,390 |
| 2. Construction of Gaddanan Spill Way | - | 1,000 | - | - | - | - | 1,000 |
| 3. Revetment of Maris Mini-Hydro Plant | - | - | - | 4,800 | - | - | 4,800 |
| TOTAL | - | 58,390 | - | 4,800 | - | - | 63,190 |
| VI. Agricultural Development | | | | | | | |
| 1. Agricultural Service Facilities | - | - | 10,800 | 10,800 | 10,800 | 10,800 | 43,200 |
| 2. Institutional Facilities | 4,500 | - | - | - | - | - | 4,500 |
| TOTAL | 4,500 | - | 10,800 | 10,800 | 10,800 | 10,800 | 47,700 |
| VII. Engineering and Administration | 58,320 | 11,980 | 21,290 | 20,010 | 22,780 | 21,670 | 156,050 |
| VIII. Physical Contingency | 46,250 | 9,500 | 16,880 | 15,870 | 18,070 | 17,180 | 123,750 |
| GRAND TOTAL | 396,150 | 81,370 | 144,610 | 135,910 | 154,780 | 147,180 | 1,060,000 |

## TABLE I-4. UNIT COST

(unit: ₱)

| Description | Unit | Force Account Work | | | Contract Work | | |
|---|---|---|---|---|---|---|---|
| | | Total | F.C. | L.C. | Total | F.C. | L.C. |
| Enheightening | cu.m | | | | | | |
| Embankment Construction & Compaction | | | | | 20.63 | 16.50 | 4.13 |
| Quarrying, Loading & Unloading | | | | | 16.14 | 12.91 | 3.23 |
| Hauling and Others | | | | | 18.23 | 14.58 | 3.65 |
| Total | | - | - | - | 55.00 | 43.99 | 11.01 |
| Widening | cu.m | | | | | | |
| Clearing and Grubbing | | 0.48 | 0.36 | 0.12 | 1.01 | 0.81 | 0.20 |
| Canal Excavation | | 5.07 | 3.72 | 1.35 | 16.44 | 13.15 | 3.29 |
| Embankment Construction & Compaction | | 7.26 | 5.38 | 1.88 | 20.63 | 16.50 | 4.13 |
| Quarrying Loading & Unloading | | 7.80 | 5.89 | 1.91 | 16.14 | 12.91 | 3.23 |
| Hauling (AHD = 2 Km) | | 3.54 | 2.83 | 0.71 | 11.77 | 9.42 | 2.35 |
| Structure and others | | 15.85 | 7.92 | 7.93 | 44.01 | 35.21 | 8.80 |
| Total | | 40.00 | 26.10 | 13.90 | 110.00 | 88.00 | 22.00 |
| Scouring | cu.m | | | | | | |
| Boulder Riprap 693.94 x 70% | | | | | 485.76 | 242.88 | 242.88 |
| Embankment Construction & Compaction | | | | | 20.63 | 16.50 | 4.13 |
| Quarrying Loading & Unloading | | | | | 16.14 | 12.91 | 3.23 |
| Hauling and others | | | | | 87.47 | 32.71 | 54.76 |
| Total | | - | - | - | 610.00 | 305.00 | 305.00 |
| Desilting | cu.m | | | | | | |
| Desilting | | 5.17 | 3.81 | 1.36 | | | |
| Others | | 1.83 | 0.92 | 0.91 | | | |
| Total | | 7.00 | 4.73 | 2.27 | - | - | - |
| Canal Lining | cu.m | | | | | | |
| Concrete Lining | | | | | 1,278.59 | 639.29 | 639.30 |
| Gravel Blanket | | | | | 527.92 | 263.96 | 263.96 |
| Others | | | | | 33.49 | 16.75 | 16.74 |
| Total | | - | - | - | 1,840.00 | 920.00 | 920.00 |
| New Canal | cu.m | | | | | | |
| Canal Excavation | | | | | 16.44 | 13.15 | 3.29 |
| Embankment Construction & Compaction | | | | | 20.63 | 16.50 | 4.13 |
| Quarrying Loading & Unloading for Road | | | | | 33.23 | 26.58 | 6.65 |
| Hauling and others | | | | | 69.70 | 55.77 | 13.93 |
| Total | | - | - | - | 140.00 | 112.00 | 28.00 |
| Repair of Structure | cu.m | | | | | | |
| Concrete | | 2,348.94 | 1,159.03 | 1,189.91 | | | |
| Others | | 551.06 | 275.97 | 275.09 | | | |
| Total | | 2,900.00 | 1,435.00 | 1,465.00 | - | - | - |
| Drainage Excavation | cu.m | | | | | | |
| Excavation | | 11.91 | 8.79 | 3.12 | | | |
| Others | | 1.09 | 0.55 | 0.54 | | | |
| Total | | 13.00 | 9.34 | 3.66 | - | - | - |
| Road Maintenance | cu.m | | | | | | |
| Quarrying, Loading, Spreading & Compaction | | 15.40 | 11.54 | 3.86 | 33.23 | 26.58 | 6.65 |
| Hauling and others | | 24.60 | 19.50 | 5.10 | 86.77 | 69.42 | 17.35 |
| Total | | 40.00 | 31.04 | 8.96 | 120.00 | 96.00 | 24.00 |

TABLE I-5. BASIC UNIT COST

(unit: ₱)

| Description | Unit | Force Account Work | | | Contract Work | | |
|---|---|---|---|---|---|---|---|
| | | Total | F.C. | L.C. | Total | F.C. | L.C. |
| 1. Clearing and Grubbing | sq.m | 0.48 | 0.36 | 0.12 | 1.01 | 0.81 | 0.20 |
| 2. Canal Excavation | cu.m | 5.07 | 3.72 | 1.35 | 16.44 | 13.15 | 3.29 |
| 3. Side Borrow | cu.m | 5.60 | 4.25 | 1.35 | 12.22 | 9.78 | 2.44 |
| 4. Borrow Haul | | | | | | | |
| (a) Quarring, Loading and Unloading | cu.m | 7.80 | 5.89 | 1.91 | 16.14 | 12.91 | 3.23 |
| (b) Hauling | | | | | | | |
| 1. AHD = 1 Km | Km-cu.m | 4.99 | 3.99 | 1.00 | 15.36 | 12.29 | 3.07 |
| 2. AHD = 2 Km | Km-cu.m | 3.54 | 2.83 | 0.71 | 11.77 | 9.42 | 2.35 |
| 5. Embankment Construction & Compaction | cu.m | 7.26 | 5.38 | 1.88 | 20.63 | 16.50 | 4.13 |
| 6. Road Surfacing Materials | | | | | | | |
| (a) Quarrying, Loading, Spreading & Compaction | cu.m | 15.40 | 11.54 | 3.86 | 33.23 | 26.58 | 6.65 |
| (b) Hauling | | | | | | | |
| 1. AHD = 5 Km | Km-cu.m | 2.29 | 1.83 | 0.46 | 7.11 | 5.69 | 1.42 |
| 2. AHD = 15 Km | Km-cu.m | 1.62 | 1.30 | 0.32 | 5.03 | 4.02 | 1.01 |
| 7. Drainage Excavation | cu.m | 11.91 | 8.79 | 3.12 | 18.20 | 14.56 | 3.64 |
| 8. Desilting | cu.m | 5.47 | - | - | 15.17 | 12.14 | 3.03 |
| 9. Structure Excavation (Manual) | cu.m | 37.83 | - | 37.83 | 32.50 | - | 32.50 |
| (Mechanized) | cu.m | - | - | - | 22.75 | 18.20 | 4.55 |
| 10. Structure Backfill (Manual) | cu.m | 25.22 | - | 25.22 | 26.00 | - | 26.00 |
| 11. Class "A" Concrete | | | | | | | |
| (a) 15.00 $m^3$ or less | cu.m | 1,997.97 | 985.94 | 1,012.03 | 2,110.21 | 1,055.10 | 1,055.11 |
| (b) 15.00 $m^3$ or more | cu.m | 2,348.74 | 1,159.03 | 1,189.91 | 2,545.27 | 1,272.63 | 1,272.64 |
| 12. Concrete Lining | sq.m | 1,273.61 | 636.80 | 636.81 | 1,278.59 | 639.29 | 639.30 |
| 13. Gravel Blanket | cu.m | 213.98 | 106.99 | 106.99 | 527.92 | 263.96 | 263.96 |
| 14. Boulder Riprap | cu.m | 328.01 | 164.00 | 164.01 | 693.94 | 346.97 | 346.97 |
| 15. Grouted Riprap | cu.m | 604.07 | 302.03 | 302.04 | 926.38 | 463.19 | 463.19 |
| 16. Concrete Demolition | cu.m | 476.64 | - | 476.64 | 409.50 | - | 409.50 |

## 2. OPERATION AND MAINTENANCE COST

TABLE I-6. ANNUAL OPERATION AND MAINTENANCE COST

(unit: '000 ₱)

| Description | Head Office | Dam & Res. | Four Dist. | Total | Remarks |
|---|---|---|---|---|---|
| Personnel Services | 3,100 | 6,100 | 18,800 | 28,000 | Item 1 |
| Administration and General Expenditure | 1,890 | 1,840 | 4,770 | 8,500 | 30% of Item 1 |
| Depreciation and Repair Cost | 190 | 880 | 7,830 | 8,900 | Item 2 |
| Fuel and Oil | 70 | 80 | 720 | 870 | Item 3 |
| Maintenance of Facilities | 1,000 | 4,500 | 14,470 | 19,970 | Item 4 |
| Power Cost for Pump | - | - | 16,330 | 16,330 | Item 5 |
| Contingency | 550 | 1,300 | 5,580 | 7,430 | |
| Total | 6,800 | 14,700 | 68,500 | 90,000 | |

TABLE I-7. BREAKDOWN OF O/M COST

ITEM 1. Personnel Service

(unit: '000 ₱)

| Description | Head Office | Dam & Res. | Four Dist. | Total | Remarks |
|---|---|---|---|---|---|
| Salary and Wage | 3,100 | 6,100 | 15,500 | 24,700 | Item 1-1 |
| Contractual Services | - | - | 3,300 | 3,300 | |
| Total | 3,100 | 6,100 | 18,800 | 28,000 | |

ITEM 1-1. Salary and Wages

(unit: '000 ₱)

| Position | Grade | Annual Rate | Head Office No. | Head Office Amount | Dam & Res. No. | Dam & Res. Amount | Four Dist. No. | Four Dist. Amount | Total No. | Total Amount |
|---|---|---|---|---|---|---|---|---|---|---|
| Operation Manager | 23 | 83.8 | 1 | 83.8 | | | | | 1 | 83.8 |
| District Manager | 21 | 70.1 | | | 1 | 70.1 | | | 1 | 70.1 |
| Division Manager | 20 | 64.4 | 3 | 193.2 | | | | | 3 | 193.2 |
| | 19 | 59.0 | 1 | 59.0 | | | 4 | 236.0 | 5 | 295.0 |
| Principal Engineer | 17 | 49.6 | | | 3 | 148.8 | | | 3 | 148.8 |
| Supervising Engineer | 16 | 45.6 | | | | | 4 | 182.4 | 4 | 182.4 |
| Section Chief | 16 | 45.6 | 5 | 228.0 | | | | | 5 | 228.0 |
| | 15 | 42.2 | 5 | 211.0 | | | | | 5 | 211.0 |
| Senior Staff | 14 | 39.0 | 7 | 273.0 | 5 | 195.0 | 16 | 624.0 | 28 | 1,092.0 |
| | 13 | 36.3 | 2 | 72.6 | 3 | 108.9 | | | 5 | 181.5 |
| | 12 | 33.8 | 10 | 338.0 | 12 | 405.6 | 7 | 236.6 | 29 | 980.2 |
| Engineer/Administrative | 11 | 31.5 | 2 | 63.0 | 1 | 31.5 | 12 | 378.0 | 15 | 472.5 |
| | 10 | 29.4 | 4 | 117.6 | 6 | 176.4 | 13 | 382.2 | 23 | 676.2 |
| | 9 | 27.5 | 2 | 55.0 | 2 | 55.0 | 4 | 110.0 | 8 | 220.0 |
| | 8 | 26.5 | 2 | 53.0 | | | 11 | 291.5 | 13 | 344.5 |
| | 7 | 25.0 | 7 | 175.0 | 3 | 75.0 | 7 | 175.0 | 17 | 425.0 |

| Position | Grade | Annual Rate | Head Office | | Dam & Res. | | Four Dist. | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. | Amount | No. | Amount | No. | Amount | No. | Amount |
| Technical/Clarical | 8 | 26.5 | | | 16 | 424.0 | | | 16 | 424.0 |
| | 6 | 23.6 | 3 | 70.8 | 21 | 495.6 | 19 | 448.4 | 43 | 1,014.8 |
| | 5 | 22.3 | 12 | 267.6 | 10 | 223.0 | 34 | 758.2 | 56 | 1,248.8 |
| | 4 | 21.2 | 1 | 21.2 | 2 | 42.4 | 4 | 84.8 | 7 | 148.4 |
| Manual/Worker | 3 | 20.1 | 1 | 20.1 | 7 | 140.7 | 4 | 80.4 | 12 | 241.2 |
| | 2 | 19.2 | | | 2 | 38.4 | | | 2 | 38.4 |
| Janitor/Laborer | 1 | 18.3 | 4 | 73.2 | 68 | 1,244.4 | 3 | 54.9 | 75 | 1,372.5 |
| Water Master | 6 | 23.6 | | | | | 105 | 2,478.0 | 105 | 2,478.0 |
| Gate Keeper | 3 | 20.1 | | | 8 | 160.8 | 210 | 4,221.0 | 218 | 4,381.8 |
| Ditch Tender | 2 | 19.2 | | | | | 105 | 2,016.0 | 105 | 2,016.0 |
| Heavy Equipment Operator | 8 | 26.5 | | | 5 | 132.5 | 28 | 742.0 | 33 | 874.5 |
| Vehicle Operator | 7 | 25.0 | 12 | 300.0 | 11 | 275.0 | 38 | 950.0 | 61 | 1,525.0 |
| Plant/Equipment Operator | 5 | 22.3 | | | 8 | 178.4 | | | 8 | 178.4 |
| Pump Operator | 3 | 20.1 | | | | | 9 | 180.9 | 9 | 180.9 |
| Mechanician/Electrician | 6 | 23.6 | 5 | 118.0 | 9 | 212.4 | 10 | 236.0 | 24 | 566.4 |
| | 5 | 22.3 | 1 | 22.3 | 11 | 245.3 | 6 | 133.8 | 18 | 401.4 |
| | 4 | 21.2 | 1 | 21.2 | 5 | 106.0 | | | 6 | 127.2 |
| Auto Serviceman | 2 | 19.2 | | | | | 3 | 57.6 | 3 | 57.6 |
| Sr. Security Guard | 8 | 26.5 | 1 | 26.5 | 1 | 26.5 | | | 2 | 53.0 |
| Security Guard | 6 | 23.6 | 10 | 236.0 | 39 | 920.4 | 18 | 424.8 | 67 | 1,581.2 |
| Total | | | 102 | 3,099.1 | 259 | 6,132.1 | 674 | 15,482.5 | 1,035 | 24,713.7 |
| Say | | | | 3,100 | | 6,100 | | 15,500 | | 24,700 |

ITEM 1-2. Contractual Service

| Description | Canal Length | No. of Section | Annual | Amount |
|---|---|---|---|---|
| For IA Contract | 1,470 km | 420 | 7.200 | 3,024 |
| Other Expenses | | | | 276 |
| Total | | | | 3,300 |

ITEM 2. Depreciation and Repair Cost

| Equipment | | Rate | Head Office | | Dam & Res. | | Four-Dist. | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. | Amount | No. | Amount | No. | Amount | No. | Amount |
| Backhoe | 0.7 $m^3$ | 186 | | | 1 | 186 | 3 | 558 | 4 | 744 |
| -do- | 0.3 $m^3$ | 91 | | | 1 | 91 | 9 | 819 | 10 | 910 |
| Crane/Drugline | 0.8 $m^3$ | 247 | | | | | 2 | 494 | 2 | 494 |
| Crowler Crane | 16 t | 198 | | | | | 2 | 396 | 2 | 396 |
| Bulldozer | 90 HP | 107 | | | 2 | 214 | 2 | 214 | 4 | 428 |
| -do- | 75 HP | 86 | | | | | 4 | 344 | 4 | 344 |
| Dump Truck | 11 t | 97 | | | 2 | 194 | 8 | 776 | 10 | 970 |
| -do- | 2 $t_3$ | 36 | | | | | 8 | 288 | 8 | 288 |
| Loader | 1.0-1.5 $m^3$ | 92.5 | | | | | 4 | 370 | 4 | 370 |
| Motor Grader | 125 HP | 82.5 | | | | | 4 | 330 | 4 | 330 |
| Vibration Roller | 3 t | 10 | | | | | 4 | 40 | 4 | 40 |
| Stake Truck | 9 t | 52.5 | | | | | 4 | 210 | 4 | 210 |
| Shop Track | | | | | | | 2 | 386 | 2 | 386 |
| Trailer | | 145 | | | | | 2 | 290 | 2 | 290 |
| Pick-up with Mobile Station | 135 HP | 25 | 2 | 50 | 2 | 50 | 16 | 400 | 20 | 500 |
| Service Car (Station Wagon) | | 35 | 3 | 105 | 1 | 35 | 8 | 280 | 12 | 420 |
| Motor Cycle | 125 cc | 2.5 | | | 5 | 13 | 105 | 262 | 110 | 275 |
| Radio Tranciever | 5 W | 1.5 | | | | | 80 | 120 | 80 | 120 |
| Ceodlight | | 18 | 1 | 9 | 1 | 9 | 4 | 36 | 6 | 54 |
| Level Meter | | 1 | 1 | 1 | 1 | 1 | 4 | 4 | 6 | 6 |
| Staff | | 0.1 | 3 | | 3 | | 14 | 2 | 20 | 2 |
| Weed Cutter | | 4 | | | | | 120 | 480 | 120 | 480 |
| Current Meter | | 3 | 1 | 3 | 1 | 3 | 4 | 12 | 6 | 18 |
| Water Level Gauge | | 0.01 | | | | | 1,000 | 10 | 1,000 | 10 |
| Automatic Water Level Gauge | | 4 | | | | | 5 | 20 | 5 | 20 |
| Sub-Total | | | | 168 | | 796 | | 7,141 | | 8,105 |
| Spare Parts | | | | 22 | | 84 | | 689 | | 795 |
| Total | | | | 190 | | 880 | | 7,830 | | 8,900 |

ITEM 3. Fuel and Oil

(unit: '000 ₱)

| Equipment | Rate | Head Office | | Dam & Res. | | Four-Dist. | | Total | |
|---|---|---|---|---|---|---|---|---|---|
| | | No. | Amount | No. | Amount | No. | Amount | No. | Amount |
| Heavy Equipment | 4.6 | - | - | 6 | 28 | 58 | 269 | 64 | 297 |
| Vehicle | 12.0 | 5 | 60 | 3 | 36 | 24 | 288 | 32 | 384 |
| Motor Cycle | 0.96 | - | - | 5 | 5 | 105 | 101 | 110 | 106 |
| Others (10%) | | | 10 | | 11 | | 62 | | 83 |
| Total | | | 70 | | 80 | | 720 | | 870 |

Note: Annual rate of fuel and oil for equipments are as follows;

Heavy Equipment

10 km/day x 200 day x 0.4 lit./km x 5.8 ₱/lit. = 4,640 ₱

Vehicle

50 km/day x 300 day x 0.1 lit./km x 8.0 ₱/lit. = 12,000 ₱

Motor Cycle

20 km/day x 300 day x 0.02 lit/km x 8.0 ₱/lit. = 960 ₱

ITEM 4. Maintenance of Facilities

(unit: '000 ₱)

| Description | Head Office | Dam & Res. | Four Dist. | Total | Remarks |
|---|---|---|---|---|---|
| Irrigation Canal | - | - | 8,815 | 8,815 | Item 4-1 |
| Drainage Canal | - | - | 3,495 | 3,495 | |
| Dam Maintenance | - | 3,500 | - | 3,500 | |
| Pump Maintenance | - | - | 660 | 660 | |
| Office Building | 1,000 | 1,000 | 1,500 | 3,500 | |
| Total | 1,000 | 4,500 | 14,470 | 19,970 | |

ITEM 4-1. Maintenance of Irrigation Canal

(unit: '000 ₱)

| District | Length (km) | Rate | Cost |
|---|---|---|---|
| I | 414.0 | 6 | 2,484 |
| II | 405.2 | " | 2,431 |
| III | 366.0 | " | 2,196 |
| IV | 284.0 | " | 1,704 |
| Total | 1,469.2 | | 8,815 |

ITEM 4-2. Maintenance of Drainage Canal

(unit: '000 ₱)

| District | Length (km) | Rate | Cost |
|---|---|---|---|
| I | 222.8 | 4 | 891 |
| II | 277.5 | " | 1,110 |
| III | 201.7 | " | 807 |
| IV | 171.7 | " | 687 |
| Total | 873.7 | | 3,495 |

ITEM 5. Power Cost for Pump

| Description | Pump No.1 | Pump No.2 | Pump No.3 | Total |
|---|---|---|---|---|
| Pump operation hour* (hr/Annum.) | 3,321.6 | 2,816.6 | 2,880.2 | |
| Unit power consumption (KW/station) | 783.3 | 2,051.5 | 1,604 | |
| Annual power consumption (KWH) | $20.8 \times 10^5$ | $46.2 \times 10^5$ | $37.0 \times 10^5$ | |
| Unit cost (₱/KWH) | 1.57 | 1.57 | 1.57 | |
| Operation Cost (Million ₱) | 3.270 | 7.250 | 5.810 | 16.330 |

Note: 1) Pump operation hour is estimated according to the required demand. See Table I-8.

2) Annual power consumption (KWH)
= Pump operation hour (hr/annum)
x unit power consumption (KW/station) x 0.8

TABLE I-8. REQUIRED PUMP OPERATION HOUR

| Month | | Pump No.1 Required Demand (MCM) | Pump No.1 Required Operation Hour (hr) | Pump No.2 Required Demand (MCM) | Pump No.2 Required Operation Hour (hr) | Pump No.3 Required Demand (MCM) | Pump No.3 Required Operation Hour (hr) |
|---|---|---|---|---|---|---|---|
| Jan. | I | 1.332 | 107.4 | 6.870 | 114.9 | 3.125 | 117.5 |
| | II | 1.375 | 110.9 | 6.415 | 107.3 | 2.918 | 109.7 |
| | III | 1.612 | 130.0 | 6.136 | 102.6 | 2.791 | 104.9 |
| Feb. | I | 1.784 | 143.9 | 7.047 | 117.8 | 3.205 | 120.5 |
| | II | 1.807 | 145.7 | 7.381 | 123.4 | 3.357 | 126.2 |
| | III | 1.463 | 118.0 | 6.009 | 100.5 | 2.733 | 102.7 |
| Mar. | I | 2.096 | 169.0 | 8.464 | 141.5 | 3.850 | 144.7 |
| | II | 2.026 | 163.4 | 8.573 | 143.4 | 3.899 | 146.6 |
| | III | 1.691 | 136.4 | 9.512 | 159.1 | 4.326 | 162.6 |
| Apr. | I | 1.172 | 94.5 | 8.411 | 140.6 | 3.826 | 143.8 |
| | II | 0.566 | 45.6 | 6.008 | 100.5 | 2.733 | 102.7 |
| | III | 0.074 | 5.9 | 3.605 | 60.3 | 1.640 | 61.7 |
| May | I | 0.737 | 59.4 | 1.188 | 19.9 | 0.540 | 20.3 |
| | II | 1.472 | 118.7 | 0 | 0 | 0 | 0 |
| | III | 2.154 | 173.7 | 0 | 0 | 0 | 0 |
| June | I | 1.695 | 136.7 | 2.738 | 45.8 | 1.245 | 46.8 |
| | II | 1.593 | 128.5 | 5.542 | 92.7 | 2.521 | 94.8 |
| | III | 1.404 | 113.2 | 7.362 | 123.1 | 3.348 | 125.9 |
| July | I | 1.676 | 135.1 | 7.919 | 132.4 | 3.602 | 135.4 |
| | II | 1.783 | 143.8 | 8.227 | 137.5 | 3.742 | 140.7 |
| | III | 2.016 | 162.6 | 8.097 | 135.4 | 3.683 | 138.5 |
| Aug. | I | 0.861 | 69.4 | 3.127 | 52.3 | 1.422 | 53.5 |
| | II | 0.889 | 71.7 | 3.573 | 59.7 | 1.625 | 61.1 |
| | III | 0.989 | 79.8 | 4.128 | 69.0 | 1.878 | 70.6 |
| Sep. | I | 1.143 | 92.2 | 3.495 | 58.4 | 1.590 | 59.8 |
| | II | 0.796 | 64.2 | 3.617 | 60.5 | 1.645 | 61.8 |
| | III | 0.450 | 36.3 | 3.693 | 61.8 | 1.680 | 63.2 |
| Oct. | I | 0.180 | 14.5 | 4.662 | 78.0 | 2.120 | 79.7 |
| | II | 0 | 0 | 3.291 | 55.0 | 1.497 | 56.3 |
| | III | 0 | 0 | 2.036 | 34.0 | 0.926 | 34.8 |
| Nov. | I | 0 | 0 | 0.673 | 11.3 | 0.306 | 11.5 |
| | II | 0.111 | 9.0 | 0 | 0 | 0 | 0 |
| | III | 0.397 | 32.0 | 0 | 0 | 0 | 0 |
| Dec. | I | 0.950 | 76.6 | 1.712 | 28.6 | 0.779 | 29.3 |
| | II | 1.250 | 100.8 | 3.557 | 59.5 | 1.618 | 60.8 |
| | III | 1.645 | 132.7 | 5.371 | 89.8 | 2.443 | 91.8 |
| Total | | | 3,321.6 | | 2,816.6 | | 2,880.2 |

Note:

Service Area:

No.1: 1.667 ha (Cauayan East Extension Area)
No.2: 6.596 ha (Siffu East Extension Area)
No.3: 3.000 ha ( - do - )

Pump Capacity:

No.1: 1.15 cu.m/sec x 3 = 3.45 cu.m/sec ($12.4 \times 10^3$ cu.m/hr)
No.2: 3.32 cu.m/sec x 5 = 16.60 cu.m/sec ($59.8 \times 10^3$ cu.m/hr)
No.3: 1.48 cu.m/sec x 5 = 7.40 cu.m/sec ($26.6 \times 10^3$ cu.m/hr)

## 3. DISBURSEMENT SCHEDULE

The disbursement schedule is estimated on the basis of the project implementation program. The cost escalation during construction period is estimated on the basis of the following escalation ratio.

| Item | | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Escalation Ratio | F.C. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| " | L.C. | 1.27 | 1.40 | 1.54 | 1.69 | 1.86 |

The estimated disbursement schedule and price escalation is shown in Table I-9.

TABLE I-9. DISBURSEMENT SCHEDULE AND PRICE ESCALATION

(unit: '000 ₱)

| Description | Amount | | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|
| Improv. of Water Management System | 148,330 | F.C. | 3,650 | 62,390 | 47,800 | 24,020 | - |
| | | L.C. | 150 | 4,510 | 3,900 | 1,910 | - |
| Improv. of Mechanical Facilities | 36,610 | F.C. | - | 10,400 | 18,140 | - | - |
| | | L.C. | - | 3,100 | 4,970 | - | - |
| Procurement of Equipment | 134,550 | F.C. | 26,900 | 107,650 | - | - | - |
| | | L.C. | - | - | - | - | - |
| Rehabilitation Works of Canal System | | | | | | | |
| Civie Work | 326,960 | F.C. | 38,990 | 49,390 | 49,390 | 49,605 | 37,923 |
| | | L.C. | 21,610 | 22,310 | 22,310 | 22,125 | 13,307 |
| Repair of C/H Gates | 18,620 | F.C. | - | - | - | - | - |
| | | L.C. | 3,700 | 3,700 | 3,700 | 3,700 | 3,820 |
| Repair of Turn-Out Gates | 4,240 | F.C. | - | - | - | - | - |
| | | L.C. | 800 | 800 | 800 | 800 | 1,040 |
| Rehab. of Major Structure | 63,190 | F.C. | - | - | 9,060 | 17,350 | 16,910 |
| | | L.C. | - | - | 4,040 | 8,250 | 7,580 |
| Agricultural Development | 47,700 | F.C. | - | 4,500 | - | - | - |
| | | L.C. | 8,800 | 8,600 | 8,600 | 8,600 | 8,600 |
| Engineering and Administration | 156,050 | F.C. | 13,000 | 13,000 | 10,000 | 8,000 | 6,000 |
| | | L.C. | 22,000 | 22,000 | 25,000 | 18,000 | 19,050 |
| Physical Contingencies | 123,750 | F.C. | 10,000 | 30,000 | 20,000 | 15,000 | 6,100 |
| | | L.C. | 8,150 | 10,600 | 7,000 | 6,100 | 10,800 |
| Total | 1,060,000 | F.C. | 92,540 | 277,330 | 154,390 | 113,975 | 66,933 |
| | | L.C. | 65,210 | 75,620 | 80,320 | 69,485 | 64,197 |
| Escalation racio | | F.C. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | L.C. | 1.27 | 1.40 | 1.54 | 1.69 | 1.86 |
| Project Cost with Price Escalation | | F.C. | 92,540 | 277,330 | 154,390 | 113,975 | 66,933 |
| | | L.C. | 82,820 | 105,870 | 123,690 | 117,430 | 119,410 |
| | 1,254,388 | Total | 175,360 | 383,200 | 278,080 | 231,405 | 186,343 |

FIGURE I-1. PROPOSED CONSULTING SCHEDULE

| DESCRIPTION | YEAR | | | | | Man-Month | |
|---|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 | Foreign | Local |
| I. Detail Design | | | | | | | |
| 1. Project Engineer (Leader) | | | | | | 9 | |
| 2. Hydrologist | | | | | | 3 | |
| 3. Irrigation Engr. | | | | | | 6 | |
| 4. Drainage Engr. | | | | | | 6 | |
| 5. Design Engr. (Canal & Structure) (A) | | | | | | 9 | |
| 6. - do - ( Weir ) B | | | | | | 9 | |
| 7. - do - (Civil) C | | | | | | | 9 |
| 8. Mechanical Engr. (Gate) (A) | | | | | | 6 | |
| 9. " ( " ) (B) | | | | | | | 6 |
| 10. " | | | | | | 3 | |
| 11. Electrical Engr. | | | | | | 6 | |
| 12. Architecture | | | | | | 3 | |
| 13. Mechanical Engr. (Equipment) | | | | | | 1 | |
| 14. Agricultural Engr. | | | | | | 6 | |
| 15. Cost Estimation | | | | | | 3 | |
| Sub-Total | | | | | | 70 | 15 |
| II. Construction Supervision | | | | | | | |
| II-1. Tender & Evaluation | | | | | | | |
| 1. Project Engr. (Leader) | | | | | | 3 | |
| 2. Mechanical Engr. (Equipment) | | | | | | 1 | |
| 3. - do - ( Gate ) | | | | | | 1 | |
| 4. Cost Estimator | | | | | | 1 | |
| Sub-Total | | | | | | | |
| II-2. Construction Supervision | | | | | | | |
| 1. Project Engr. (Leader) | | | | | | 42 | |
| 2. Construction Engr. (Civil) | | | | | | | 42 |
| 3. Mechanical Engr. ( Gate ) | | | | | | 12 | |
| 4. - do - ( pump ) | | | | | | 3 | |
| 5. Electrical Engr. | | | | | | 6 | |
| Sub-Total | | | | | | 69 | 42 |
| III. Water Management and Supporting Service | | | | | | | |
| 1. Irrigation and Drainage Engr. | | | | | | 18 | |
| 2. Water Management Expert | | | | | | 18 | |
| 3. Hydrologist | | | | | | 10 | |
| 4. Computer Programer | | | | | | 12 | |
| 5. On-farm Expert | | | | | | | 24 |
| 6. Institutional Expert | | | | | | | 12 |
| 7. Agronomist | | | | | | 6 | |
| Sub-Total | | | | | | 64 | 36 |
| Total | | | | | | 203 | 93 |

# ANNEX J

# AGRICULTURE AND AGRO-ECONOMY

J. AGRICULTURE, AGRO-ECONOMY AND AGRICULTUAL INSTITUTION

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1. AGRICULTURAL STATUS

Rice is cropped as a principal agricultural production in the MRIIS area, where the cropped area of rice under irrigation has increased in accordance with the implementation of MRMP as shown below;

Cropped Area of Rice under Irrigation

(unit: ha)

| Year | Wet Season | Dry Season | Third Crop | Total |
|---|---|---|---|---|
| 1975 | 26,400 | 16,100 | - | 42,500 |
| 1976 | 31,000 | 5,300 | - | 36,300 |
| 1977 | 35,600 | 15,400 | - | 51,000 |
| 1978 | 45,000 | 25,600 | - | 70,600 |
| 1979 | 40,300 | 34,500 | - | 74,800 |
| 1980 | 42,400 | 39,700 | 5,100 | 87,200 |
| 1981 | 40,300 | 34,400 | 200 | 74,900 |
| 1982 | 42,900 | 44,900 | 40 | 87,840 |
| 1983 | 40,800 | 44,600 | 200 | 85,600 |
| 1984 | 60,400 | 56,100 | 400 | 116,900 |
| 1985 | 69,100 | 67,200 | - | 136,300 |

Source: MRIIS O/M Office (See Table J-1)

Resulting from the irrigation development, the average yield of rice has been raised from less than 2.0 ton per hectare in the year before the implementation of MRMP to 3.2 tons per hectare in 1985, while the population has increased from about 200,000 in 1970 to 390,000 in 1986. Presently the MRIIS area has become one of the largest rice producting area in the Cagayan Valley area, being the second largest producing area in terms of rice marketable surplus amount among the four largest rice producing areas in the Philippines.

Accompanying with the development of rice production, the commercial activities in supply of farm inputs and the marketing of rice have been developed substantially. Then the project implementation has contributed to a great extent to the regional development as a whole.

## 2. LAND OWNERSHIP

Regarding to the progress of agrarian reform and land ownership in the Project area, the following data are collected;

i) Status of agrarian reform (See Table J-2)

ii) Number of landowner and cultivator in the MRIIS area as of the end of 1985 (See Table J-3)

iii) Number and area of MRIIS farms in 1980 (See Table J-4)

iv) Number of farms by size of irrigated area (See Table J-5)

## 3. FARMING PRACTICES OF PADDY CULTIVATION

Table J-6 shows the data on the rice harvested area and production at the national to provincial levels from 1970/71 to 1984/85.

Figure J-1 shows a parcellary map for the sample IA in Lateral A-2a-5 Extra area.

The following is the observed problems on rice farming practices in the Project area on the basis of Farm Management Survey;

### (1) Varieties and Nursery

High yielding varieties (HYV) such as IR-64, 62, 60, 58, 56 and 36 are popularly grown in the MRIIS area. Generally, the farmers produce their own seeds except for progressive ones who can afford to buy seeds from dealers at a price of ₱280 to ₱300 per cavan equivalent to 44 kg. To compensate for the low germination performance of farmers' seeds, the average seeding rate of 85 kg for the wet season paddy and 100 kg for the dry season one is applied for planting a hectare.

The seedlings of transplanted paddy are usually raised with wet seedbed. The quality of seedlings in mostly poor because low quality seeds are sown thickly.

(2) Land Soaking

Water for land soaking is applied in each parcel for both wet and dry seasons, which usually takes seven days during May to June. The flooding depth is about 60 to 70 mm. An on-farm level water requirement is about 30 to 50 mm per day. To minimize the horizontal percolation, paddy dikes should be coated with a height of 20 to 30 cm. However, the paddy dikes are not prepared well in some paddy fields.

(3) Land Preparation

The practice in the MRIIS area is composed of single passing of plowing, two passing of harrowing and one passing of levelling. In the ill-drained paddy fields where soil is soft, plowing is not usually done.

During land preparation, about 50 to 60 percent of the total farmers depend on draft animals, especially in those areas where power tillers and four-wheel tractors are not operated due to a low soil bearing capacity. The rests resort to the use of power tillers.

(4) Transplanting

In the Project area, about 80 to 90 percent of the farmers, especially those tilling not less than two hectares, employ hired labor for transplanting. The straight-row transplanting method is generally employed only in stable production area. In the unstable production area due to poor irrigation and drainage conditions are so on, rice is usually transplanted at random. At the peak of transplanting period, the wage rate of transplanting laborer is

raised because some rich farmers attract labor force by paying higher rate than the ordinary rate.

Direct seeding is also practiced by about 15 percent and 30 percent of farmers respectively in the wet dry season. There are two major problems observed in this type of planting, which are the lodging of rice during the rainy months that makes harvesting difficult, and a high price of herbicides. There are many farmers who want to expand the direct-seeding area, but poor drainage conditions limit the area under direct seeding.

(5) Irrigation

The usual practice is continuous irrigation when there is enough water, and rotational distribution when water is scarce. Sometimes, the difficulty of water distribution brings about troubles on water allocation among farmers as well as between NIA personnel and farmers.

(6) Fertilizer Utilization

The average amounts of applied fertilizer per hectare based on the Farm Management Survey are as follows:

Average Applied Fertilizer Amount

(unit: kg/ha)

| District | Method of Planting | Wet Season | | | Dry Season | | |
|---|---|---|---|---|---|---|---|
| | | N | $P_2O_5$ | $K_2O$ | N | $P_2O_5$ | $K_2O$ |
| I | T | 38 | 16 | 10 | 39 | 17 | 8 |
| | D | 46 | 20 | 20 | 41 | 16 | 13 |
| II | T | 88 | 27 | 17 | 90 | 22 | 29 |
| | D | 61 | 10 | 0 | 74 | 44 | 29 |
| III | T | 53 | 19 | 4 | 63 | 22 | 5 |
| | D | 39 | 13 | 1 | 45 | 14 | 2 |
| IV | T | 56 | 21 | 16 | 66 | 23 | 17 |
| | D | 49 | 21 | 16 | 59 | 19 | 19 |
| Mean | T | 58 | 21 | 12 | 65 | 21 | 11 |
| | D | 48 | 16 | 9 | 55 | 23 | 15 |

Note: T ... Transplanting, D ... Direct seeding

The general recommendation of fertilizer application prepared by the Bureau of Soils is as follows;

| Fertility of soil | Wet Season | | | Dry Season | | |
|---|---|---|---|---|---|---|
| | N | $P_2O_5$ | $K_2O$ | N | $P_2O_5$ | $K_2O$ |
| Fertile | 60-90 | 0 | 0 | 90-110 | 0 | 0 |
| Medium | 60-90 | 30 | 0 | 90-110 | 30 | 0 |
| Less Fertile | 60-90 | 30 | 30 | 90-110 | 30 | 30 |

The recommended rates of fertilizer are applied only in the service area of District II where sufficient amount of water is delivered timely and drainage problems are minimal.

(7) Weed Control

Most of the farmers apply herbicides once, especially for direct seeding. Reportedly many farmers decrease the use of granular herbicides due to a rise in price. Instead of herbicides application, hand weeding is done by few farmers. One of the problems in herbicide usage is that it is difficult to secure effective application due to the poor drainage condition. Another one is the expensive cost of herbicides compared with the cost of hand weeding.

(8) Reaping

One of the reason for the delay of threshing work after reaping paddy is that manual harvesting is prevailing. Shortening of operation time from reaping to threshing is important during wet season as described later.

(9) Post Harvest

(a) Threshing

Two methods of threshing are employed. One is by manual (hampasan) and the other is by the threshing machine. The

operation capacity of the powered thresher is one ton per hour (mini type) to 2 tons per hour (standard type). In District II and III areas, more than two thirds of total farmers employ powered threshers, while only one third of total farmers in District I and IV areas. It is considered that the reason for less utilization of powered threshers are as follows;

i) Inefficiency of the powered thresher due to the lack of drainage facilities and farm roads,

ii) Less labor opportunity for the saved labor created by use of powered threshers,

iii) Low income due to low yields.

Threshing is usually made on a contract basis. So far as there is enough labor farce, manual threshing is used to be employed. Reportedly it takes often more than three to for days from reaping to threshing, especially when threshing is made manually. The low intensity of farm roads is another reason why threshers are not carried into rice fields. The bundle of reaped rice have to be brought for a long distance. Therefore, it is necessary to introduce powered threshers and to increase road intensity for the purpose of improving rice quality.

(b) Drying

About 60 to 80 percent of farmers sell their produce without drying during wet season when the weather does not mostly permit sun drying. Even during dry season, about 30 to 60 percent of the farmers do not dry the threshed paddy before selling.

Drying paddy on the paved national roads is prevailing due to lack of drying yards. This causes contamination of paddy, hulling of paddy and traffic disturbance. Although the moisture content have to be reduced to at least 18 percent immediately after reaping in the wet season, the weather conditions together with the prevailing inefficient works of reaping and threshing do not allow to the above moisture content.

## 4. CROP DIVERSIFICATION

Table J-7 shows the estimate of net farm income by cropping pattern at present for the first class land for diversified crops.

The following data on the harvested area and production of diversified crop in the project area are collected at the national to provincial levels from BAE con;

i) Harvested area and production of the diversified crops at the national to provincial levels (See Table J-8 to J-11),

ii) Area harrested for main temporary crops in the Project area (See Table J-12).

## 5. QUALITY OF HARVESTED PADDY

Paddy samples for quality analysis were taken randomly for the paddy which were collected as the irrigation service fee for 1986 wet season crop in the District I and IV areas. The results of laboratory analysis of paddy samples are shown in Table J-13.

## 6. LIVESTOCK AND INLAND FISHERY

The livestock and fish culture production in the Project area are estimated on the basis of 1980 census of Agriculture and 1981 Census of Fisheries in Table J-14 and J-15 respectively.

## 7. BALANCE OF SUPPLY AND DEMAND ON AGRICULTURAL PRODUCTS

The related data to analyze the supply demand balance of the agricultural products at the national and regional levels are collected from the MAF Policy Analysis Staff and the other concerned agencies. The collected data as well as the results of analysis are shown in Table J-16 to J-22.

## 8. PRESENT PADDY PRODUCTION COST

The present paddy production cost per ha is shown in Table J-23.

## 9. MARKETING AND PRICES

The following data are collected to analyze the marketing structure of farm inputs and agricultural products as well as to study prices in the Project area and other related areas.

Marketing

i) Manufacturing establishment (Table J-24),

ii) Commercial establishments (Table J-25),

iii) Number of agricultural input dealers and machinery dealers (Table J-26),

iv) Number of grain business (Table J-27),

v) Paddy procurement by NFA (Table J-28),

vi) Commercial outflow of paddy from Isabela province (Figure J-2.),

vii) Volume of sold paddy to rice mill (Table J-29).

Prices

i) Average farm gate prices in the related Regions and the MRIIS area (Table J-30, J-31),

ii) Monthly trend of farm-gate price of paddy in the large paddy producing Regions (Figure J- ),

iii) Average wholesale and retail price of rice by variety in Metro Manila (Table J-32).

10. FARMERS ORGANIZATION

(1) Farmers Irrigators Group (FIG)

FIG is organized for every turnout at lateral canals and functions for equitable water distribution at farm level and for suitable operation and maintenance of the irrigation facilities in the service area of FIG. As mentioned later, FIG is a unit organization constituting Irrigators Association (IA), and therefore superiority or inferiority of IA depends upon FIG's activities. Target number of FIG covering all of the Project area is 2,929 and as of July 1986, 2,623 FIG covering 85,500 ha have been established, corresponding to 90 percent of the target in number and 88 percent in acreage (refer to Table J-33). One FIG covers about 30 ha and members are about 20. Status of FIG organization by District is shown in the following table, indicating good performance in District II and IV.

| District | Target | Actual | Accomplished (%) |
|---|---|---|---|
| I | 783 | 672 | 86 |
| II | 815 | 786 | 96 |
| III | 677 | 546 | 81 |
| IV | 654 | 619 | 95 |
| Total | 2,929 | 2,623 | 90 |

These FIGs should be merged with IAs for water management at lateral canal, however, actual number of merged FIG is only 1,505 (52%) against 2,929 of the target. Under the circumstances, NIA promotes FIG merging with IA for smooth management of irrigation water and for smooth collection of irrigation service fees.

As a rule, in the service area of each FIG, rotational irrigation has been recommended to ensure water delivery to farm lots, however, there is less number of FIG which conducts it.

According to the agreement of FIG, member's duties are as follows;

i) to attend all meetings, training/seminar/workshop to be conducted by the officer of FIG, IA, NIA and other supporting agencies,

ii) to participate in clearing, repairing and maintaining farm ditches, farm drains and other irrigation facilities of the FIG,

iii) to participate in the proper distribution and utilization of irrigation water in the respective farms,

iv) to implement improved technical practices in rice crop production,

v) to pay irrigation service fee,

vi) to comply with the agreed decisions made by the majority of the FIG members regarding group activities and discipline.

According to the results of a survey, however, poor participation in canal clearing and poor cooperation among members were observed.

FIG officers are composed of chairman, vice-chairman, secretary - treasurer, auditor and common irrigator, while common irrigator is in charge of irrigation water distribution. However, water management by FIG is not effectively done by opening and closing of turnout gates because of damages of the gate in many cases. Presently, turnout gate is kept open during the irrigation period to utilize water in the form of continuous irrigation. Excess water is only discharged to the creeks through the surface of paddy lands to result in uneffective utilization of irrigation water.

(2) Irrigators Association (IA)

The first establishment of IA was in 1978 and since 1980, IA organization has begun intensively. As of July 1986, there exist 237 IAs, covering about 40,760 ha and 1,505 FIGs (52%) of the existing 2,623 FIGs (refer to Table J-34).

Target of NIA is to organize 297 IAs in the MRIIS area, however present accomplishment is 81 percent as shown in Table J-33, indicating the lowest being 68 percent in District II.

At present one IA covers about 170 ha and 6 FIGs and 80 members on the average. It is necessary to organize 60 IAs more to accomplish targeted 297 IAs, meanwhile NIA has currently put more stress upon expansion of acreage and members of the existing IAs than organization of new IA in order to cover all service area of MRIIS.

According to the articles of IA, purposes of IA organization are;

i) to help and cooperate with NIA in operating and maintaining the irrigation system for regulating and equitable distribution of water,

ii) to plan cooperative farming activities for adopting modern farming practices to increase agricultural production per unit area,

iii) to reduce production cost by consolidating farm holdings individually cultivated by members to attain efficiency, economy and better management practices,

iv) to serve as a channel to facilitate introduction of proven farm technologies,

v) to serve as a channel for production loan,

vi) to undertake cooperational activities annually and marketing of member's products for maximum returns,

vii) to guarantee one another undertaking the obligation such as assembly of marketing pledges, payment of irrigation fees, production loans, land amortization and others,

ix) to provide forum for communication and exercise of self-management especially in undertaking cooperative and voluntary activities/services and to serve as vehicles for identification of training and development of leadership and mutual relationship of members,

x) to serve as a base for continuous education and training of members in cooperative group activities, agrarian reform, irrigation and other agricultural technologies,

xi) to federate with similar associations upon reaching viability to organize a full pledged irrigation service cooperative.

IA has been organized to attain above mentioned purposes though existing IA's activities may be said inactive at present.

IA members are requested to pledge the followings;

i) to adopt improved water management and maintenance practices imposed upon members,

ii) to adopt improve farming practices and actually participate in cooperative group work in the farm,

iii) to attend continuing education courses,

iv) to pay fines imposed to members against infraction of rules on water use, maintenance of irrigation facilities,

v) to pay membership fee of 5 pesos and annual due of 5 pesos each for every cropping season,

vi) to comply with the requirements of supervised credit,

viii) to pay production loans, irrigation fees and land amortization,

ix) to participate in the assembly and sales of marketable products to NFA to avail of the assemblage fee/cooperative incentive and training of membership.

IA members are obliged to comply with the above mentioned duties, however low irrigation service fee collection, low attendance to meeting and cooperative group works, and construction of illegal turnout are actually observed, which indicates that no guidance is extended to the members.

IA is composed of president, vice-president, secretary, treasurer, auditor, manager and irrigation & agricultural development coordinator, and in addition five committees are created under the Board of Directors.

The committee in charge of irrigation water distribution is the irrigation and agricultural development committee.

In 1981, a lateral turnover program was introduced in the MRIIS area to promote participation of farmers in water management and the operation and maintenance of irrigation facilities.

The Principal objectives of the lateral turnover program are;

i) to develop active participation of farmers in water management,

ii) to promote collective payment of irrigation service fees in order to reduce the NIA's expenses on collection,

iii) to facilitate the development of group discipline among IA members,

iv) to reduce the maintaining cost for irrigation canals.

And benefits from lateral turnover for both NIA and IA are expected as follows;

i) The lateral turnover serves as an important tool for the development of individual and cooperative disciplines among IA members through periodic group activities,

ii) It is sure source of income for capital build-up of the association,

iii) It serves as an important channel between farmers and member agencies of the ADCC,

iv) It reduces the NIA's expenses for maintaining a ditch tender section by an average of 8,000 pesos per year,

v) It increases percentage of irrigation fee collection and reduces cost for irrigation fee collection through collective payment of members.

As of July 1986, 150 IAs out of existing 237 IAs accepted lateral turnover contracts covering 27,300 ha (28% of 97,400 ha) with about 600 km stretch of canal and 13,200 members. Status of the lateral turnover from 1981 to 1985 is shown in Table J-34, which indicates that turnover program is the most advanced in District I and the poorest in District IV.

On the occasion of turnover, NIA and IA exchange contract agreements each other to confirm respective duties as shown below;

- Obligation of IA

  i) to clear, maintain and provide minor repair of irrigation service canals and structures within IA area inclusive of farm ditches and drains,

  ii) to appoint a common irrigator who should manage water distribution to individual farms, and designate a place preferably as a shed along the canal for NIA staff to hold a consultation or assistance work in water distribution,

  iii) to submit to NIA a list of planted area by 15 days after transplanting,

  iv) to strictly follow to the agreed irrigation water delivery schedule,

  v) to attend meeting held by NIA,

  vi) to serve and collect irrigation bills among individual members,

vii) to remit collected irrigation fee on agreed schedule,

viii) to submit to NIA rules and regulations of the IA to acknowledge certain objectives of both parties.

- Obligation of NIA

i) to guarantee the supply of irrigation water both for dry and wet season crops based on predetermined water delivery schedule,

ii) to provide the IA with an advance information in case of inability to deliver water due to unavoidable circumstances,

iii) to perform major repairs of the irrigation facilities (laterals, canals, appurtenant structures, turnouts and drains),

iv) to furnish the bill of the area as least 10 days before harvest,

v) to provide technical supervision in the proper implementation of the agreement.

The sample survey was carried out to know the actual condition of water users associations in the MRIIS area. Number of samples is as follows;

i) farm household survey on water management at on-farm level - 300 samples,

ii) interview survey to IA officers - 92 samples,

iii) interview survey to FIG officers - 125 samples,

iv) evaluation survey of the existing IAs - 240 samples.

As for the evaluation of the existing IAs, a series of discussions were made to decide important factors to be evaluated and criteria of giving marks on IA management ADD advisors who are assigned to each District to supervise IA gave marks.

Based on the results of the sample survey, problems which are being faced by IA would be summarized into the following five issues.

i) poor attendance to the assembly meeting and cooperative group works,

ii) water distribution/management,

iii) lack of farm road,

iv) production loan,

v) lack of leadership,

vi) low irrigation service fee collection.

Among the above-mentioned problems, some problems on civil works can be solved by improvement of facilities such as canals, gates, farm roads and the like.

The management of water users association which needs close cooperation among the members would not be solved without a continuous education. Training and education have to be done to disseminate concepts of water management among members and officers of IA/FIG, that is, irrigation water is common resources and water

should be distributed equitably, and the expenses are necessary to operate and manage irrigation facilities and O/M staff and irrigation fee collection are also indispensable for the purpose. For an area, in which no IA is organized as of date and FIG located at near the turnout where irrigation water can get easily, training and education should be done intensively.

There is a high demand for a low interest production loan such as IRPP, which shall be continuously operated and expanded accompanied with intensive education for farmers on loan structure to solve problems on loan repayments.

Besides, although group activities on paddy selling and purchasing of farm inputs are one of the vital functions of IA, it is indicated that purchasing and selling have been done individually and farmers are placed at a disadvantage because they do not have capitals.

Purchasing and selling of products and farm inputs by cooperative group works bring IA some income, and incentive given for high irrigation fee collection from NIA is also an income source of IA. If all of the activities of IA function well, income of IA will be increased. An increase in income means better IA management will be promoted.

Needless to say, irrigation facilities have to be improved to support the development of water users associations.

The results of the evaluation survey of the existing 237 IAs appraised that 57 percent of IAs are relatively active though remaining 43 percent are inactive. Excluding District I, one half of the IAs in the three Districts are appraised inactive, which show the necessity of strengthening of IAs in these areas.

(3) Other Farmer's Organizations

Other than the water users associations, there are farmer's organizations established to improve the farmer's living standards and to assist farming activities. For example, Samahang Nayon and Rural Improvement Club have been organized by the Ministry of Agriculture and Food, and Agrarian Reform Beneficiaries Association (ARBA) by the Ministry of Agrarian Reform respectively. Other than these, there are several farmers organizations at the Barangay level such as consumers cooperatives in the past time, therefore, most of the farmers are also members of several organizations, which have been resulted in diminishing farmer's interests in joining more organizations. And it is also observed that there are problems of capital shortage which reduces vital activities of these organizations. (See Table J-36)

There were once FACOMA (Farmers Cooperative Marketing Association) and AMC (Area Marketing Cooperative) which previously played their own roles in marketing of agricultural products and farm inputs for the farmers. However, they have presently stopped activities. The death of these marketing cooperative's activity may have resulted in being compelled farmers to borrow money from private money-lenders at a high interest rate. Under these circumstances, it is considered necessary to establish a cooperative to support farmers in farming activities and to increase their incomes.

There is a seed growers association controlled by the Ministry of Agriculture and Food to produce certified seeds constituting 108 members. (See Table J-37)

11. GOVERNMENTAL AGRICULTURAL DEVELOPMENT INSTITUTIONS

The governmental agricultural development institutions and the number of these staff are indicated in Table J-38 and J-39. The

number of NIA Agricultural Development Department (ADD) are shown in Table J-40, that is reorganized into Institutional Development Department (IDD) during the survey on the Master Plan.

Table J-41 shows the status of KKK Projects in the related municipalities to the Project area.

## 12. AGRICULTURAL PRODUCTION LOAN

The data of the released and collected amounts of production loan, and also those for other agricultural purpose in the related municipaties to the Project area are indicated in Table J-42 to J-46. Table J-47 shows the amount of farmers' production loan by lending source in the Project area, based on the result of the Farm Management Survey.

## 13. REGIONAL DOMESTIC PRODUCT IN THE PHILIPPINES

The Regional Domestic Product for Region II from 1972 to 1985 is indicated in Table J-48, and the employment status by industry and Region as well as that in the Isabela Province are shown in Table J-49 and J-50.

## 14. SOCIAL INFRASTRUCTURES

The various social infrastructure in the project area are shown in Table J-51 to F-53.

## 15. IMPROVEMENT OF PADDY PRODUCTION

Following data show the supporting data on the improvement of rice production;

i) Characteristics of rice recommendable varieties (Table J-54),

ii) Estimated paddy production with Improvement Project (Table J-55)

iii) Farm practices and input requirement, transplanded paddy (Figure J-4)

iv) Forecasted rice demand in 2000 (Table J-56)

v) Paddy yield in the MRIIS upstream area (Table J-57)

vi) Agro-service facilities in each IA (300 ha) (Table J-58)

vii) Operation cost of agro-service facilities in each IA (300 ha) (Table J-59)

TABLE J-1. PADDY PRODUCTION IN MRIIS AREA FOR PAST ELEVEN YEARS

| Year | Service Area (ha) | Cropping Intensity (%) | Harvested Area | | | | Average Yield* | | | Production* | | | | No. of Land-owner |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Total (ha) | Wet (ha) | Dry (ha) | Third (ha) | Wet (ton/ha) | Dry (ton/ha) | Third (ton/ha) | Total (ton) | Wet (ton) | Dry (ton) | Third (ton) | |
| 1975 | N.A. | | 41,878 | 25,805 | 16,073 | - | 1.93 | 2.56 | - | 90,951 | 49,804 | 41,147 | - | N.A. |
| 1976 | N.A. | | 36,071 | 30,786 | 5,285 | - | 2.56 | 2.72 | - | 106,716 | 92,341 | 14,375 | - | N.A. |
| 1977 | N.A. | | 50,820 | 35,443 | 15,377 | - | 2.90 | 3.66 | - | 159,065 | 102,785 | 56,280 | - | N.A. |
| 1978 | N.A. | | 70,013 | 44,693 | 25,320 | - | 2.80 | 3.43 | - | 211,988 | 125,140 | 86,848 | - | N.A. |
| 1979 | N.A. | | 71,799 | 37,681 | 34,118 | - | 3.38 | 3.45 | - | 245,069 | 127,362 | 117,707 | - | N.A. |
| 1980 | N.A. | | 86,067 | 42,398 | 38,600 | 5,069 | 2.77 | 3.00 | 2.95 | 248,195 | 117,442 | 115,800 | 14,953 | N.A. |
| 1981 | 46,612 | 148.8 | 69,348 | 37,582 | 31,541 | 249 | 2.44 | 3.15 | 2.86 | 191,766 | 91,700 | 99,354 | 712 | 15,965 |
| 1982 | N.A. | | 86,835 | 42,782 | 44,017 | 36 | 3.03 | 3.27 | 3.22 | 273,681 | 129,629 | 143,936 | 116 | N.A. |
| 1983 | 78,268 | 103.0 | 80,580 | 37,961 | 42,428 | 191 | 2.52 | 3.56 | 2.68 | 247,409 | 95,662 | 151,044 | 703 | 27,553 |
| 1984 | 88,531 | 119.4 | 105,699 | 55,812 | 49,490 | 427 | 3.17 | 3.03 | 3.62 | 328,425 | 176,924 | 149,955 | 1,546 | 29,279 |
| 1985 | 88,804 | 148.0 | 131,438 | 65,564 | 65,722 | 152 | 2.94 | 3.45 | 2.61 | 419,737 | 192,871 | 226,470 | 396 | 30,232 |

Note : * ... Converted to dry paddy by applying the estimated conversion rates at 38.2 kg/cavan and 42.8 kg/cavan in the wet and dry season respectively.

Source: NIA, MRIIS Office

# TABLE J-2. STATUS OF AGRARIAN REFORM

| Municipality | Scope (A) | | | | Accomplished (B) | | | | B/A x 100 = (%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | OLT | | LHO | | OLT | | LHO | | OLT | | LHO | |
| | Farmers Beneficiaries | Area (ha) | Farmers Beneficiaries | Area (ha) | Farmers Beneficiaries | Area (ha) | Farmers Beneficiaries | Area (ha) | No. of Beneficiaries | Area | No. of Beneficiaries | Area |
| Alicia | 2,159 | 4,633 | 624 | 1,046 | 1,311 | 2,242 | 380 | 650 | 61 | 48 | 61 | 62 |
| Angadanan | 1,134 | 2,039 | 395 | 424 | 268 | 458 | 94 | 161 | 24 | 22 | 24 | 38 |
| Aurora | 643 | 832 | 300 | 340 | 184 | 315 | 86 | 147 | 29 | 38 | 29 | 43 |
| Burgos | 487 | 890 | 346 | 505 | 149 | 255 | 106 | 181 | 31 | 29 | 31 | 36 |
| Cabatuan | 993 | 2,000 | 207 | 383 | 362 | 619 | 76 | 130 | 36 | 31 | 37 | 34 |
| Cauayan | 2,307 | 4,767 | 539 | 815 | 1,348 | 2,305 | 315 | 539 | 58 | 48 | 58 | 66 |
| Cordon | 588 | 1,241 | 218 | 329 | 425 | 727 | 157 | 268 | 72 | 59 | 72 | 81 |
| Echague | 1,131 | 2,833 | 485 | 651 | 773 | 1,322 | 332 | 568 | 68 | 47 | 68 | 87 |
| Gamu | 310 | 495 | 249 | 381 | 201 | 344 | 161 | 275 | 65 | 69 | 65 | 72 |
| Luna | 370 | 595 | 180 | 266 | 218 | 373 | 106 | 181 | 59 | 63 | 59 | 68 |
| Ramon | 1,141 | 2,246 | 166 | 265 | 717 | 1,226 | 105 | 180 | 63 | 55 | 63 | 68 |
| Roxas | 1,032 | 1,753 | 136 | 189 | 544 | 930 | 72 | 123 | 53 | 53 | 53 | 65 |
| San Isidro | 873 | 1,670 | 120 | 211 | 663 | 1,134 | 91 | 156 | 76 | 68 | 76 | 74 |
| San Manuel | 1,044 | 2,007 | 481 | 760 | 448 | 766 | 207 | 354 | 43 | 38 | 43 | 47 |
| San Mateo | 1,338 | 2,414 | 698 | 908 | 878 | 1,501 | 458 | 783 | 66 | 62 | 66 | 86 |
| Santiago | 1,389 | 2,653 | 530 | 798 | 826 | 1,412 | 315 | 539 | 59 | 53 | 59 | 68 |
| Naguilian | 449 | 699 | 471 | 491 | 40 | 68 | 42 | 72 | 9 | 10 | 9 | 15 |
| Quirino | 642 | 1,099 | 167 | 314 | 288 | 492 | 75 | 128 | 45 | 45 | 45 | 41 |
| Reina Mercedes | 208 | 250 | 366 | 416 | 69 | 118 | 121 | 207 | 33 | 47 | 33 | 50 |
| Potia | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| Saguday | 205 | 407 | 175 | 453 | 171 | 371 | 187 | 346 | 83 | 91 | 107 | 76 |
| Diffun | 361 | 546 | 713 | 1,166 | 517 | 827 | 362 | 533 | 143 | 151 | 51 | 46 |
| Cabarroguis | 286 | 385 | 96 | 134 | 79 | 127 | 290 | 392 | 28 | 33 | 302 | 293 |
| Total | 19,090 | 36,454 | 7,662 | 11,245 | 10,479 | 17,932 | 4,138 | 6,913 | 55 | 54 | 54 | 61 |

Source: MAR, Regional Office, Isabela and Quirino

Note: OLT: Operation Land Transfer, LHO: Leasehold Operation,

TABLE J-3. NUMBER OF LANDOWNER AND CULTIVATOR

| Item | District | | | | Total | (%) |
|---|---|---|---|---|---|---|
| | I | II | III | IV | | |
| 1. Number of landowner | 8,673 | 9,188 | 6,232 | 6,139 | 30,232 | |
| 2. Average service area (ha. per land owner) | 2.6 | 2.6 | 3.3 | 3.3 | 2.9 | |
| 3. Number of cultivator (Total) | 11,968 | 15,517 | 12,674 | 16,448 | 56,607 | 100.0 |
| (1) Total of owner cultivator | ( 6,678) | ( 8,521) | ( 5,965) | ( 5,220) | (26,384) | (46.6) |
| - Owner | 4,802 | 6,354 | 4,055 | 2,935 | 18,146 | 32.0 |
| - Amortizing owner with CLT | 1,192 | 1,959 | 1,115 | 1,782 | 6,048 | 10.7 |
| - Amortizing owner under verification | 684 | 208 | 795 | 503 | 2,190 | 3.9 |
| (2) Total of Tenant | ( 5,290) | ( 6,996) | ( 6,709) | (11,228) | (30,223) | (53.4) |
| - Lessee | 2,370 | 5,701 | 2,402 | 9,966 | 20,439 | 36.1 |
| - Sharing tenant and others | 2,920 | 1,295 | 4,307 | 1,262 | 9,784 | 17.3 |

Note: The detailed figures by WM Division is indicated in the O/M Drawing No. 8.

Source: MRIIS District offices.

TABLE J-4. NUMBER AND AREA OF MRIIS FARMS IN THE IRRIGATED AREA, 1980

| Municipality | Number of Farms | Irrigated Area (ha) | Size of Farm (ha/farm) |
|---|---|---|---|
| I. ISABELA Province | | | |
| 1. Alicia | 3,981 | 8,492 | 2.1 |
| 2. Angadanan | 896 | 1,517 | 1.7 |
| 3. Aurora | 814 | 1,447 | 1.8 |
| 4. Burgos | 1,079 | 2,166 | 2.0 |
| 5. Cabatuan | 1,835 | 3,860 | 2.1 |
| 6. Cauayan | 2,994 | 6,314 | 2.1 |
| 7. Cordon | 1,267 | 2,102 | 1.7 |
| 8. Echague | 307 | 520 | 1.7 |
| 9. Gamu | 223 | 472 | 2.0 |
| 10. Luna | 1,017 | 1,914 | 1.9 |
| 11. Naguilian | 92 | 241 | 2.6 |
| 12. Quirino | 1,573 | 2,204 | 1.4 |
| 13. Ramon | 2,514 | 5,171 | 2.1 |
| 14. Reina Mercedes | 77 | 95 | 1.2 |
| 15. Roxas | 2,323 | 3,787 | 1.6 |
| 16. San Isidro | 1,271 | 2,672 | 2.1 |
| 17. San Manuel | 1,254 | 2,526 | 2.0 |
| 18. San Mateo | 4,328 | 7,633 | 1.8 |
| 19. Santiago | 3,150 | 6,240 | 2.0 |
| Sub-total | 30,995 | 59,373 | 1.9 |
| II. QUIRINO Province | | | |
| 20. Cabarroguis | 542 | 761 | 1.4 |
| 21. Diffun | 729 | 1,042 | 1.4 |
| 22. Saguday | 181 | 331 | 1.8 |
| Sub-total | 1,452 | 2,134 | 1.5 |
| III. IFUGAO Province | | | |
| 23. Potia | 418 | 518 | 1.2 |
| T o t a l | 32,865 | 62,025 | 1.9 |

Source: 1980 Census of Agriculture, NCSO

TABLE J-5. NUMBER OF FARMS BY SIZE OF LANDHOLDING IN THE IRRIGATED AREA, 1980

(unit : farms)

| Municipality | All Farms | Under .50 | .50 to .99 | 1.0 to 1.99 | 2.0 to 2.99 | 3.0 to 4.99 | 5.0 to 7.00 | 7.01 to 9.99 | 10.0 to 24.99 | 25.00 & Over |
|---|---|---|---|---|---|---|---|---|---|---|
| I. ISABELA Province | | | | | | | | | | |
| 1. Alicia | 3,981 | 44 | 375 | 1,535 | 1,036 | 690 | 213 | 46 | 39 | 3 |
| 2. Angadanan | 896 | - | 59 | 224 | 212 | 285 | 61 | 33 | 22 | - |
| 3. Aurora | 814 | 33 | 43 | 239 | 242 | 174 | 39 | 27 | 6 | 11 |
| 4. Burgos | 1,079 | 10 | 85 | 342 | 280 | 232 | 64 | 38 | 26 | 2 |
| 5. Cabatuan | 1,835 | 44 | 245 | 558 | 452 | 409 | 87 | 22 | 12 | 6 |
| 6. Cauayan | 2,994 | 23 | 264 | 949 | 789 | 759 | 138 | 29 | 41 | 2 |
| 7. Cordon | 1,267 | 11 | 75 | 595 | 276 | 212 | 51 | 26 | 21 | - |
| 8. Echague | 307 | 11 | 10 | 82 | 62 | 116 | 11 | 8 | 7 | - |
| 9. Gamu | 223 | - | 11 | 77 | 38 | 61 | 16 | 5 | 12 | 3 |
| 10. Luna | 1,017 | 11 | 64 | 338 | 312 | 218 | 48 | 15 | 10 | 1 |
| 11. Naguilian | 92 | - | 11 | 22 | 12 | 12 | 22 | - | 11 | 2 |
| 12. Quirino | 1,573 | 20 | 120 | 556 | 484 | 266 | 76 | 18 | 31 | 2 |
| 13. Ramon | 2,514 | 206 | 244 | 804 | 545 | 445 | 151 | 82 | 34 | 3 |
| 14. Reina Mercedes | 77 | - | - | 43 | 22 | 11 | - | - | 1 | - |
| 15. Roxas | 2,323 | 52 | 283 | 888 | 553 | 350 | 93 | 56 | 41 | 7 |
| 16. San Isidro | 1,271 | - | 84 | 397 | 486 | 197 | 71 | 23 | 12 | 1 |
| 17. San Manuel | 1,254 | 22 | 97 | 508 | 252 | 260 | 73 | 20 | 22 | - |
| 18. San Mateo | 4,328 | 424 | 730 | 1,455 | 826 | 664 | 142 | 54 | 30 | 3 |
| 19. Santiago | 3,150 | 44 | 365 | 1,093 | 717 | 582 | 192 | 83 | 71 | 3 |
| Sub-total | 30,995 | 955 | 3,165 | 10,705 | 7,596 | 5,943 | 1,548 | 585 | 449 | 49 |
| II. QUIRINO Province | | | | | | | | | | |
| 20. Cabarroguis | 542 | 11 | 45 | 142 | 125 | 83 | 98 | 29 | 8 | 1 |
| 21. Diffun | 729 | - | 12 | 157 | 241 | 204 | 70 | 24 | 18 | 3 |
| 22. Saguday | 181 | - | - | 46 | 37 | 54 | 23 | 14 | 6 | 1 |
| Sub-total | 1,452 | 11 | 57 | 345 | 403 | 341 | 191 | 67 | 32 | 5 |
| III. IFUGAO Province | | | | | | | | | | |
| 23. Potia | 418 | - | 27 | 96 | 102 | 94 | 46 | 14 | 31 | 8 |
| T o t a l | 32,865 | 966 | 3,249 | 11,146 | 8,101 | 6,378 | 1,785 | 666 | 512 | 62 |
| | (100) | (2.9) | (9.9) | (33.9) | (24.7) | (19.4) | (5.4) | (2.0) | (1.6) | (0.2) |

Source: 1980 Census of Agriculture, NCSO

TABLE J-6. CROP PRODUCTION, PADDY

| | Year | Philippines | | | Region II | | | Isabela Province | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) |
| 1. | 1970/71 | 3,137 | 5,343 | 1.70 | 385 | 701 | 1.82 | N.A | N.A | N.A |
| 2. | 1971/72 | 3,256 | 5,100 | 1.57 | 393 | 678 | 1.72 | N.A | N.A | N.A |
| 3. | 1972/73 | 3,110 | 4,416 | 1.42 | 358 | 578 | 1.61 | N.A | N.A | N.A |
| 4. | 1973/74 | 3,408 | 5,556 | 1.63 | 364 | 669 | 1.84 | N.A | N.A | N.A |
| 5. | 1974/75 | 3,498 | 6,048 | 1.73 | 374 | 713 | 1.90 | N.A | N.A | N.A |
| 6. | 1975/76 | 3,564 | 6,159 | 1.73 | 403 | 741 | 1.84 | 147 | 295 | 2.00 |
| 7. | 1976/77 | 3,402 | 6,456 | 1.90 | 386 | 813 | 2.10 | 141 | 339 | 2.40 |
| 8. | 1977/78 | 3,509 | 6,895 | 1.97 | 414 | 802 | 1.94 | 140 | 349 | 2.50 |
| 9. | 1978/79 | 3,625 | 7,515 | 2.07 | 427 | 885 | 2.07 | 143 | 409 | 2.86 |
| 10. | 1979/80 | 3,637 | 7,846 | 2.16 | 380 | 813 | 2.14 | 131 | 361 | 2.76 |
| 11. | 1980/81 | 3,459 | 7,723 | 2.23 | 345 | 738 | 2.14 | 141 | 338 | 2.40 |
| 12. | 1981/82 | 3,433 | 8,108 | 2.36 | 361 | 838 | 2.32 | 141 | 339 | 2.40 |
| 13. | 1982/83 | 3,240 | 7,730 | 2.39 | 389 | 932 | 2.39 | 160 | 457 | 2.91 |
| 14. | 1983/84 | 3,143 | 7,840 | 2.50 | 305 | 742 | 2.43 | 123 | 323 | 2.56 |
| 15. | 1984/85 | 3,222 | 8,200 | 2.55 | 372 | 1,034 | 2.79 | 166 | 526 | 3.18 |
| | Mean | 3,585 | 6,729 | 1.88 | 377 | 779 | 2.07 | 143 | 374 | 2.61 |

Source: BAE con

TABLE J-7. ESTIMATE OF NET AGRICULTURAL INCOME BY CROPPING PATTERN

| Pattern | Product | Yield (ton/ha) | Unit Price (₱/kg) | Gross Income (₱/ha) | Cost Ratio (%) | Net Income (₱/ha) |
|---|---|---|---|---|---|---|
| 1. Upland Crops | | | | | | |
| (1) Corn + Corn | Corn (Wet) | 3.3 ton(65 cav.) | 2.7 | 8,910 | | 5,346 |
| | Corn (Dry) | 3.8 ton(75 cav.) | 2.9 | 11,020 | | 6,612 |
| Total | | | | | | 11,958 |
| (2) Corn + Peanut | Corn (Wet) | 3.3 ton(65 cav.) | 2.7 | 8,910 | 60% | 5,346 |
| | Peanut | 1.5 ton(65 cav.) | 9.0 | 13,500 | | 8,100 |
| Total | | | | | | 13,446 |
| (3) Corn + Mungbean | Corn (Wet) | 3.3 ton(65 cav.) | 2.7 | 8,910 | | 5,346 |
| | Mungbean | 1.0 ton | 15.9 | 15,900 | | 9,540 |
| Total | | | | | | 14,886 |
| (4) Corn + Tabacco | Corn (Wet) | 3.3 ton(65 cav.) | 2.7 | 8,910 | | 5,346 |
| | Tobacco(Burley) | 1.8 ton | 4.2 | 7,560 | | 4,536 |
| Total | | | | | | 9,882 |
| 2. Rice + Rice | Rice (Wet) | 2.9 ton(58 cav.dry) | 2.8 | 8,120 | (Roughly Estimated) | 4,872 |
| | Rice (Dry) | 3.5 ton(70 cav.dry) | 2.6 | 9,100 | | 5,460 |
| Total | | | | | | 10,332 |

TABLE J-8. CROP PRODUCTION, CORN

| | Year | Philippines | | | Region II | | | Isabela Province | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) |
| 1. | 1970/71 | 2,426 | 2,012 | 0.83 | 239 | 225 | 0.94 | N.A | N.A | N.A |
| 2. | 1971/72 | 2,454 | 2,024 | 0.82 | 268 | 253 | 0.94 | N.A | N.A | N.A |
| 3. | 1972/73 | 2,351 | 1,843 | 0.78 | 280 | 216 | 0.77 | N.A | N.A | N.A |
| 4. | 1973/74 | 2,726 | 2,758 | 0.83 | 316 | 253 | 0.80 | N.A | N.A | N.A |
| 5. | 1974/75 | 3,010 | 2,514 | 0.84 | 346 | 277 | 0.80 | N.A | N.A | N.A |
| 6. | 1975/76 | 3,193 | 2,572 | 0.81 | 352 | 293 | 0.83 | 64 | 42 | 0.65 |
| 7. | 1976/77 | 3,243 | 2,775 | 0.86 | 350 | 286 | 0.82 | 64 | 46 | 0.73 |
| 8. | 1977/78 | 3,158 | 2,796 | 0.89 | 337 | 310 | 0.92 | 46 | 17 | 0.38 |
| 9. | 1978/79 | 3,252 | 3,090 | 0.95 | 330 | 330 | 1.00 | 60 | 70 | 1.17 |
| 10. | 1979/80 | 3,201 | 3,123 | 0.98 | 323 | 325 | 1.01 | 69 | 111 | 1.62 |
| 11. | 1980/81 | 3,239 | 3,100 | 0.96 | 290 | 207 | 0.72 | 51 | 52 | 1.00 |
| 12. | 1981/82 | 3,361 | 3,290 | 0.98 | 297 | 252 | 0.85 | 70 | 110 | 1.57 |
| 13. | 1982/83 | 3,158 | 3,126 | 0.99 | 311 | 257 | 0.83 | 60 | 84 | 1.40 |
| 14. | 1983/84 | 3,270 | 3,346 | 1.02 | 295 | 257 | 0.87 | 47 | 40 | 0.85 |
| 15. | 1984/85 | 3,315 | 3,439 | 1.04 | 315 | 325 | 1.03 | 68 | 127 | 1.87 |
| | Mean | 3,024 | 2,754 | | 310 | 271 | 0.87 | 60 | 70 | 1.16 |

Source: BAE con

TABLE J-9. CROP PRODUCTION, PEANUT

| | Year | Philippines | | | Region II | | | Isabela Province | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) | Harvested Area ('000 ha) | Production ('000 ton) | Yield (ton/ha) |
| 1. | 1970/71 | 31,500 | 18,862 | 0.60 | 12,250 | 6,768 | 0.55 | N.A | N.A | N.A |
| 2. | 1971/72 | 32,840 | 18,946 | 0.58 | 10,200 | 4,894 | 0.48 | N.A | N.A | N.A |
| 3. | 1972/73 | 33,240 | 18,232 | 0.55 | 10,750 | 5,293 | 0.49 | N.A | N.A | N.A |
| 4. | 1973/74 | 36,700 | 21,583 | 0.59 | 15,670 | 6,742 | 0.43 | N.A | N.A | N.A |
| 5. | 1974/75 | 54,790 | 36,176 | 0.66 | 31,520 | 18,811 | 0.60 | N.A | N.A | N.A |
| 6. | 1975/76 | 60,620 | 50,842 | 0.67 | 34,390 | 20,911 | 0.61 | 16,280 | 4,409 | 0.27 |
| 7. | 1976/77 | 62,720 | 46,181 | 0.74 | 36,850 | 22,589 | 0.61 | 17,260 | 5,464 | 0.32 |
| 8. | 1977/78 | 47,900 | 37,756 | 0.79 | 21,370 | 12,613 | 0.59 | 17,300 | 10,330 | 0.60 |
| 9. | 1978/79 | 53,830 | 49,248 | 0.91 | 25,740 | 22,338 | 0.87 | 19,880 | 8,484 | 0.43 |
| 10. | 1979/80 | 55,140 | 49,889 | 0.90 | 25,990 | 22,564 | 0.87 | 19,280 | 14,847 | 0.77 |
| 11. | 1980/81 | 38,700 | 29,547 | 0.76 | 10,560 | 4,336 | 0.41 | 7,940 | 3,494 | 0.44 |
| 12. | 1981/82 | 55,945 | 48,637 | 0.87 | 28,310 | 22,942 | 0.81 | 19,450 | 9,511 | 0.49 |
| 13. | 1982/83 | 48,540 | 35,818 | 0.74 | 23,900 | 13,823 | 0.58 | 19,410 | 9,680 | 0.50 |
| 14. | 1983/84 | 45,960 | 42,302 | 0.92 | 21,270 | 17,462 | 0.82 | 16,340 | 6,206 | 0.38 |
| 15. | 1984/85 | 50,210 | 45,175 | 0.90 | 24,160 | 19,392 | 0.80 | 18,620 | 17,046 | 0.92 |
| | Mean | 47,242 | 35,946 | 0.76 | 22,195 | 14,765 | 0.67 | 17,176 | 8,947 | 0.52 |

Soource: BAE con

TABLE J-10. CROP PRODUCTION, MUNGBEAN

| | Year | Philippines | | | Region II | | | Isabela Province | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Harvested Area (ha) | Production (ton) | Yield (ton/ha) | Harvested Area (ha) | Production (ton) | Yield (ton/ha) | Harvested Area (ha) | Production (ton) | Yield (ton/ha) |
| 1. | 1970/71 | 36,900 | 16,192 | 0.44 | 2,520 | 1,172 | 0.47 | N.A | N.A | N.A |
| 2. | 1971/72 | 37,850 | 17,439 | 0.46 | 1,720 | 528 | 0.31 | N.A | N.A | N.A |
| 3. | 1972/73 | 39,980 | 19,122 | 0.48 | 1,740 | 461 | 0.26 | N.A | N.A | N.A |
| 4. | 1973/74 | 37,480 | 16,064 | 0.43 | 410 | 200 | 0.49 | N.A | N.A | N.A |
| 5. | 1974/75 | 39,320 | 21,678 | 0.55 | 1,910 | 730 | 0.38 | N.A | N.A | N.A |
| 6. | 1975/76 | 43,310 | 24,445 | 0.56 | 2,140 | 1,047 | 0.49 | 425 | 289 | 0.68 |
| 7. | 1976/77 | 43,780 | 25,254 | 0.58 | 2,030 | 975 | 0.48 | 390 | 153 | 0.39 |
| 8. | 1977/78 | 45,120 | 26,177 | 0.58 | 2,060 | 1,012 | 0.49 | 384 | 114 | 0.30 |
| 9. | 1978/79 | 47,870 | 29,011 | 0.61 | 1,920 | 893 | 0.47 | 570 | 497 | 0.87 |
| 10. | 1979/80 | 50,360 | 29,794 | 0.59 | 2,060 | 905 | 0.44 | 550 | 473 | 0.86 |
| 11. | 1980/81 | 51,840 | 33,534 | 0.65 | 1,870 | 762 | 0.42 | 453 | 213 | 0.47 |
| 12. | 1981/82 | 52,190 | 34,264 | 0.66 | 2,390 | 1,051 | 0.44 | 690 | 521 | 0.76 |
| 13. | 1982/83 | 32,820 | 26,165 | 0.80 | 1,720 | 619 | 0.36 | 1,450 | 583 | 0.40 |
| 14. | 1983/84 | 35,450 | 29,256 | 0.83 | 2,600 | 965 | 0.37 | 530 | 303 | 0.57 |
| 15. | 1984/85 | 37,430 | 26,855 | 0.72 | 3,400 | 2,160 | 0.64 | 1,510 | 1,147 | 0.76 |
| | Mean | 42,113 | 25,017 | 0.59 | 2,029 | 899 | 0.44 | 695 | 409 | 0.59 |

Source: BAE con

TABLE J-11. CROP PRODUCTION, SOYBEAN

| | Year | Philippines | | | Region II | | | Isabela Province | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Harvested Area (ha) | Production (ton) | Yield (ton/ha) | Harvested Area (ha) | Production (ton) | Yield (ton/ha) | Harvested Area (ha) | Production (ton) | Yield (ton/ha) |
| 1. | 1970/71 | 1,510 | 1,312 | 0.87 | 9 | 4 | - | | | |
| 2. | 1971/72 | 1,240 | 1,128 | 0.91 | - | - | - | Not Available | | |
| 3. | 1972/73 | 1,240 | 1,306 | 1.05 | 30 | 15 | 0.50 | | | |
| 4. | 1973/74 | 2,780 | 2,214 | 0.80 | 50 | 30 | 0.60 | | | |
| 5. | 1974/75 | 7,830 | 5,657 | 0.72 | 270 | 241 | 0.89 | | | |
| 6. | 1975/76 | 11,330 | 8,395 | 0.74 | 270 | 246 | 0.91 | | | |
| 7. | 1976/77 | 10,380 | 8,133 | 0.78 | 290 | 283 | 0.98 | | | |
| 8. | 1977/78 | 9,730 | 7,099 | 0.77 | 280 | 275 | 0.98 | | | |
| 9. | 1978/79 | 8,400 | 8,033 | 0.96 | 240 | 59 | 0.25 | | | |
| 10. | 1979/80 | 9,580 | 9,395 | 0.98 | 190 | 38 | 0.20 | | | |
| 11. | 1980/81 | 10,410 | 10,057 | 0.97 | 170 | 31 | 0.18 | | | |
| 12. | 1981/82 | 10,910 | 11,467 | 1.05 | 40 | 8 | 0.20 | | | |
| 13. | 1982/83 | 8,320 | 7,753 | 0.93 | 10 | 5 | 0.50 | | | |
| 14. | 1983/84 | 7,660 | 7,538 | 0.98 | 10 | 4 | 0.40 | | | |
| 15. | 1984/85 | 8,430 | 8,479 | 1.01 | 10 | 7 | 0.67 | | | |
| | Mean | 7,283 | 6,531 | 0.90 | 124 | 83 | 0.67 | | | |

Source: BAE con

TABLE J-12 (1). CROP PRODUCTION IN THE MRIIS AREA

- Planted Area and Production for Main Crops -

| Area and Crop | Planted Area (ha) | Yield (ton/ha) | Production (ton) |
|---|---|---|---|
| 1. Inside of MRIIS Service Area *1 | | | |
| - Irrigated Rice, Wet Season | 65,000 | 2.9 | 188,700 |
| - Irrigated Rice, Dry Season | 65,400 | 3.5 | 231,200 |
| - Irrigated Rice, Third Crop | 200 | 2.6 | 400 |
| Sub-total | 130,600 | 3.2 | 420,300 |
| 2. Outside of MRIIS Service Area | | | |
| - Rainfed Rice *2 | 29,500 | 1.5 | 44,300 |
| - Corn, Wet Season *3 | 14,200 | 3.0 | 42,600 |
| - Corn, Dry Season *3 | 4,600 | 3.0 | 13,800 |
| - Peanut *3 | 4,200 | 0.7 | 2,940 |
| - Legminous Crops *3 | 3,100 | 0.5 | 1,550 |
| - Tobacco & Others *3 | 9,000 | 1.5 | 13,500 |

Source: *1--- The data for the inside of MRIIS service area ..... MRIIS O/M Office, NIA

*2--- Estimated

*3--- The data for the outside of MRIIS service area ..... BAEcon, Ilsabela and 1980 Census of Agriculture.

TABLE J-12 (2). CROP PRODUCTION IN THE MRIIS AREA

- Area Harvested for Main Crops -

| Municipality | | Paddy | Corn | Tobacco | Peanut | Leguminous Crops | Fruit Bearing & Vegetables | Tubers, Roots & Bulbs |
|---|---|---|---|---|---|---|---|---|
| I. Isabela Province | | | | | | | | |
| 1. Alicia | | 14,885 | 10 | 18 | 13 | 2 | 12 | 2 |
| 2. Angadanan | (30%) | 1,347 | 1,216 | 88 | 533 | 253 | 2 | - |
| 3. Aurora | | 2,706 | 3,906 | 1,446 | 333 | 105 | 68 | 26 |
| 4. Burgos | | 4,647 | 1,018 | 802 | 71 | 40 | 2 | 2 |
| 5. Cabatuan | | 13,778 | 467 | 140 | 89 | 68 | 13 | 1 |
| 6. Canayan | (50%) | 6,889 | 1,389 | 454 | 488 | 368 | 25 | 30 |
| 7. Cordon | | 4,803 | 265 | 7 | 79 | 169 | 63 | 68 |
| 8. Echague | (50%) | 3,916 | 1,342 | 219 | 1,059 | 870 | 203 | 350 |
| 9. Gamu | (80%) | 1,565 | 1,058 | 423 | 234 | 288 | 324 | 53 |
| 10. Luna | | 1,587 | 1,074 | 409 | 242 | 249 | 42 | 6 |
| 11. Naguilian | ( 5%) | 128 | 109 | 25 | 9 | 19 | 1 | - |
| 12. Quirino | (60%) | 5,820 | 1,118 | 422 | 148 | 2 | - | 2 |
| 13. Ramon | | 12,730 | 3 | - | 1 | 16 | 24 | 25 |
| 14. Reina Mercedes | | 2,180 | 2,080 | 1,308 | 404 | 25 | 2 | - |
| 15. Roxas | | 11,710 | 770 | 992 | 124 | 195 | 96 | - |
| 16. San Isidro | | 4,700 | 0 | - | 3 | 23 | 4 | 5 |
| 17. San Manuel | | 9,363 | 0 | 1 | - | 14 | 5 | 3 |
| 18. San Mateo | | 17,859 | 385 | - | 142 | 42 | 42 | 4 |
| 19. Santiago | | 11,400 | 90 | - | 93 | 122 | 268 | 116 |
| Sub-total | | 132,012 | 16,300 | 6,754 | 4,065 | 2,870 | 1,196 | 693 |
| II. Quirino Province | | | | | | | | |
| 20. Cabarroguis | (10%) | 228 | 123 | - | 15 | 7 | - | 10 |
| 21. Diffun | (40%) | 1,162 | 736 | 3 | 43 | 234 | 144 | 133 |
| 22. Saguday | (70%) | 1,128 | 351 | - | 22 | 52 | 34 | 31 |
| Sub-total | | 2,518 | 1,210 | 3 | 80 | 293 | 147 | 174 |
| III. Ifugao Province | | | | | | | | |
| 23. Potia | (50%) | 759 | 1,436 | 38 | 104 | 4 | - | 4 |
| Total | | 135,290 | 18,946 | 6,795 | 4,249 | 3,167 | 1,343 | 874 |

Note : The figures in the parenthesis show the area coverage of concerned municipality for the harvested area of respective crops.

Source: 1980 Census of Agriculture, NCSO
(The data on the harvested area of paddy and corn were provided by BAE con, Isabela)

TABLE J-13 (1). PADDY QUALITY

- Paddy Procurement by Grade in Region II, 1985 -

(unit: Cavans of 50 kg)

| Province | XQP | PAO | PA9 | SDP | OYP | GLP | PA1 | Total |
|---|---|---|---|---|---|---|---|---|
| 1) Quantity Procured in Region II | | | | | | | | |
| Cagayan | 235,243 | 35,134 | 23,824 | 1,268 | - | - | - | 294,469 |
| Isabela | 179,181 | 52,935 | 190,000 | 94,415 | - | 19 | - | 516,550 |
| K. Apayao | 72,007 | 64,071 | 5,078 | - | - | 147 | - | 141,303 |
| N. Viscaya | 14,927 | 4,209 | 704 | - | - | - | 309 | 20,149 |
| Quirino | 17,217 | 16,076 | 3,433 | 630 | - | - | - | 37,356 |
| Ifugao | 1,017 | 30 | 103 | - | - | - | - | 1,150 |
| Allacapan | 138,087 | 59,935 | 20,824 | 519 | - | - | - | 219,365 |
| Total | 657,087 | 231,390 | 243,966 | 96,832 | - | 166 | 309 | 1,230,342 |
| 2) Percentage by Grade (Total 100%) | | | | | | | | |
| Cagayan | 80 | 12 | 8 | - | - | - | - | |
| Isabela | 35 | 10 | 37 | 18 | - | - | - | |
| K. Apayao | 51 | 45 | 4 | - | - | - | - | |
| N. Viscaya | 74 | 21 | 3 | - | - | - | - | |
| Quirino | 46 | 43 | 9 | 2 | - | - | 1 | |
| Ifugao | 88 | 3 | 9 | - | - | - | - | |
| Allacayan | 63 | 27 | 9 | 1 | - | - | - | |
| Region II | 53 | 19 | 20 | 8 | - | - | - | |

Note : XQP - Export Quality Paddy
PAO - Potential Exportable Paddy % y-d 3% (wet) MC. 14% & above
PA9 - % y-d 3.1 - 7%, MC. 14.1% and above
SDP - Storm Damage Paddy
OYP - Ordinary Paddy
GLP - Glutinous Paddy
PA1 - % y-d 3.1 - 7%, MC. 14.1% and above

Source: NFA Region II Office

TABLE J-13 (2). PADDY QUALITY

- Results of Laboratory Analysis of Paddy Samples -

| Sample No. | M C | Foreign Matter | Chalky & Immature Kernels | Damaged Kernels | Contrasting Types | Red Kernels | Discolored Kernels | Grade of Paddy under NFA | Milling Recovery | Headrice |
|---|---|---|---|---|---|---|---|---|---|---|
| | (%) | (%) | (%) | (%) | | (%) | (%) | | (%) | (%) |
| I- 1 | 16.80 | 7.95 | 14.20 | 10.80 | none | none | 55.00 | SDP | 62.60 | 75.60 |
| I- 2 | 12.00 | 26.46 | 9.40 | 16.80 | none | trace | 37.40 | SDP | 62.76 | 62.00 |
| I- 3 | 11.60 | 17.92 | 4.20 | 2.40 | none | 4.60 | 1.20 | PA1 | 68.70 | 74.00 |
| I- 4 | 15.00 | 6.92 | 6.60 | 4.60 | none | trace | 0.80 | PA1 | 64.80 | 65.00 |
| I- 5 | 16.20 | 3.92 | 9.40 | 13.20 | none | none | 4.00 | SDP | 67.00 | 79.40 |
| I- 6 | 16.60 | 4.38 | 5.00 | 2.20 | none | none | 1.00 | PA1 | 68.30 | 80.00 |
| I- 7 | 16.40 | 10.76 | 11.60 | 9.60 | none | none | 9.90 | SDP | 65.40 | 75.20 |
| I- 8 | 22.00 | 11.55 | 15.00 | 6.50 | none | none | 6.20 | SDP | 65.50 | 75.00 |
| I- 9 | 17.0 | 11.38 | 14.00 | 9.00 | none | none | 9.80 | SDP | 65.30 | 78.90 |
| I-10 | 13.60 | 5.0 | 7.18 | 9.60 | none | 0.80 | 5.40 | SDP | 64.20 | 70.20 |
| I-11 | 15.0 | 11.61 | 19.60 | 6.40 | none | trace | 59.04 | SDP | 63.80 | 76.60 |
| I-12 | 13.20 | 13.08 | 11.80 | 4.00 | none | 0.60 | 4.20 | SDP | 68.20 | 72.40 |
| I-13 | 16.40 | 1.00 | 11.20 | 6.20 | none | none | 2.00 | SDP | 68.50 | 80.00 |
| I-14 | 14.40 | 1.93 | 4.40 | 5.40 | none | trace | 0.36 | PA1 | 66.40 | 64.00 |
| I-15 | 21.80 | 15.75 | 13.20 | 10.00 | none | none | 8.00 | SDP | 68.50 | 72.00 |
| I-16 | 11.0 | 16.46 | 11.80 | 10.20 | none | 0.40 | 16.60 | SDP | 65.20 | 72.00 |
| I-17 | 19.20 | 13.30 | 15.40 | 8.60 | none | trace | 2.40 | SDP | 66.10 | 83.60 |
| I-18 | 14.20 | 14.70 | 5.60 | 9.00 | none | trace | 30.00 | SDP | 60.20 | 76.00 |
| I-19 | 13.20 | 12.15 | 10.10 | 12.60 | none | 0.80 | 17.00 | SDP | 72.00 | 70.50 |
| I-20 | 17.20 | 5.76 | 16.40 | 10.40 | none | none | 2.80 | SDP | 62.80 | 74.00 |
| IV- 1 | 11.40 | 10.00 | 12.00 | 19.60 | none | none | 19.00 | SDP | 61.60 | 62.00 |
| IV- 2 | 17.00 | 26.66 | 13.20 | 6.00 | none | none | 75.00 | SDP | 60.00 | 65.40 |
| IV- 3 | 16.20 | 19.33 | 6.40 | 4.80 | none | none | 38.00 | SDP | 62.00 | 78.00 |
| IV- 4 | 12.40 | 10.20 | 14.80 | 10.60 | none | none | 6.40 | SDP | 63.40 | 67.00 |
| IV- 5 | 21.40 | 20.33 | 10.10 | 8.40 | none | none | 45.00 | SDP | 63.30 | 80.00 |
| IV- 6 | 9.00 | 2.61 | 7.60 | 8.00 | none | none | 1.40 | SDP | 65.30 | 69.60 |
| IV- 7 | 13.20 | 8.07 | 9.80 | 11.20 | none | none | 6.80 | SDP | 65.50 | 72.80 |
| IV- 8 | 21.60 | 17.30 | 16.00 | 4.00 | none | none | 58.00 | SDP | 54.00 | 72.50 |
| IV- 9 | 17.60 | 15.33 | 6.80 | 4.00 | none | none | 74.00 | SDP | 66.00 | 71.00 |
| IV-10 | 13.00 | 3.47 | 6.00 | 3.60 | none | none | 0.60 | PA1 | 70.50 | 86.00 |

Note: 1. Percentage are on weight basis.
2. PA1

Source: NFA Region II

TABLE J-14. NUMBER OF LIVESTOCK

| Municipality | Carabao | | Cattle | | Pigs | | Goats | | Chicken | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of Farm | No. of Head | No. of Farm | No. of Head | No. of Farm | No. of Head | No. of Farm | No. of Head | No. of Farm | No. of Head |
| I. ISABELA Province | | | | | | | | | | |
| 1. Alicia | 1,834 | 2,453 | 306 | 738 | 1,969 | 3,505 | 159 | 331 | 3,083 | 40,394 |
| 2. Angadanan | 2,934 | 5,492 | 884 | 1,711 | 2,484 | 5,273 | 31 | 65 | 2,987 | 64,427 |
| 3. Aurora | 1,728 | 2,556 | 536 | 1,440 | 1,606 | 3,188 | 82 | 213 | 2,038 | 27,983 |
| 4. Burgos | 1,328 | 1,735 | 105 | 143 | 1,196 | 2,299 | 4 | 16 | 1,309 | 18,307 |
| 5. Cabatuan | 1,395 | 2,140 | 352 | 639 | 1,260 | 3,103 | 10 | 32 | 1,191 | 17,932 |
| 6. Cauayan | 5,437 | 8,771 | 111 | 235 | 4,462 | 10,374 | 134 | 469 | 5,356 | 74,962 |
| 7. Cordon | 1,686 | 2,884 | 447 | 1,070 | 1,460 | 3,523 | 96 | 400 | 1,800 | 32,306 |
| 8. Echague | 3,919 | 6,468 | 795 | 1,846 | 2,785 | 5,652 | 133 | 308 | 3,644 | 56,970 |
| 9. Gamu | 1,498 | 2,318 | 159 | 239 | 1,005 | 2,248 | 26 | 209 | 1,229 | 15,176 |
| 10. Luna | 896 | 1,465 | 294 | 483 | 910 | 2,357 | 24 | 51 | 948 | 8,778 |
| 11. Naguilian | 1,783 | 3,386 | 212 | 556 | 1,291 | 2,712 | 36 | 64 | 1,664 | 24,624 |
| 12. Quirino | 1,840 | 3,169 | 120 | 584 | 1,700 | 3,783 | 18 | 99 | 1,886 | 25,990 |
| 13. Ramon | 1,508 | 2,395 | 185 | 437 | 1,703 | 3,875 | 78 | 191 | 2,149 | 27,285 |
| 14. Reina Mercedes | 1,270 | 2,151 | 100 | 111 | 997 | 2,532 | 36 | 49 | 1,156 | 14,112 |
| 15. Roxas | 1,962 | 2,581 | 311 | 639 | 2,183 | 4,177 | 51 | 82 | 2,461 | 31,723 |
| 16. San Isidro | 916 | 1,303 | 55 | 61 | 906 | 2,002 | 45 | 101 | 1,093 | 16,742 |
| 17. San Manuel | 862 | 1,107 | 95 | 283 | 1,474 | 2,863 | 24 | 266 | 1,588 | 18,931 |
| 18. San Mateo | 2,145 | 2,754 | 426 | 709 | 2,870 | 5,778 | 73 | 105 | 3,065 | 31,610 |
| 19. Santiago | 3,054 | 4,900 | 323 | 749 | 2,724 | 7,290 | 138 | 783 | 3,014 | 90,935 |
| Sub-total | 37,995 | 60,028 | 5,816 | 12,673 | 34,985 | 76,575 | 1,198 | 3,834 | 41,661 | 639,187 |
| II. QUIRINO Province | | | | | | | | | | |
| 20. Cabarroguis | 1,233 | 1,977 | 75 | 408 | 1,136 | 3,002 | 76 | 190 | 1,233 | 18,620 |
| 21. Diffun | 1,876 | 2,919 | 347 | 930 | 1,576 | 3,458 | 43 | 116 | 2,046 | 34,210 |
| 22. Saguday | 770 | 1,196 | 166 | 354 | 579 | 858 | 42 | 79 | 768 | 8,410 |
| Sub-total | 3,879 | 6,092 | 588 | 1,692 | 3,291 | 7,318 | 161 | 385 | 4,047 | 61,240 |
| III. IFUGAO Province | | | | | | | | | | |
| 23. Potia | 1,294 | 3,460 | 418 | 2,371 | 1,229 | 3,918 | 14 | 16 | 1,291 | 25,735 |
| | (70.9) | [1.6] | (11.2) | [2.4] | (64.9) | [2.2] | (2.2) | [3.1] | (77.2) | [15.5] |
| TOTAL | 43,168 | 69,580 | 6,822 | 16,736 | 39,505 | 87,811 | 1,373 | 4,235 | 46,999 | 726,162 |

Note: ( ) ... Percentage of raising farm number to total number of farm
[ ] ... No. of livestock per raising farm

Source: 1980 census of Agriculture

TABLE J-15. QUANTITY OF FISH HARVEST FROM FISHPOND (1980)

| Municipality | Total No. of Operator | Total Area Operated (ha) | Quantity of Harrest: Bangus | Hipon | Sugpo | Alimango | Tilapia | Hito/ Dalag | Others |
|---|---|---|---|---|---|---|---|---|---|
| I. Isabera Pro. | | | | | | | | | |
| 1. Alicia | 45 | 6.5 | - | - | - | - | 3.3 | 0.5 | - |
| 2. Angadanan | 16 | 49.9 | - | 0.1 | - | - | 6.2 | 3.6 | - |
| 3. Aurora | 15 | 4.1 | - | - | - | - | 2.0 | 0.9 | - |
| 4. Burgos | 7 | - | - | - | - | - | 1.7 | 0.4 | - |
| 5. Cabatuan | 28 | 6.2 | - | - | - | - | 3.0 | 0.7 | 0.2 |
| 6. Cauayan | 32 | 9.7 | - | - | - | - | 2.5 | 0.2 | - |
| 7. Cordon | 45 | 37.0 | - | - | - | - | 17.8 | 1.1 | - |
| 8. Echague | 61 | 3.6 | - | - | - | - | 1.8 | 0.9 | - |
| 9. Gamu | 3 | 4.5 | - | - | - | - | 0.3 | 0.5 | - |
| 10. Luna | 2 | - | - | - | - | - | - | - | - |
| 11. Naguilian | 12 | 3.8 | - | - | - | - | 1.5 | 0.6 | - |
| 12. Quirino | | | | | | | | | |
| 13. Ramon | 28 | 2.6 | - | - | - | - | 0.6 | 0.3 | - |
| 14. Reina Mercedes | | | | | | | | | |
| 15. Roxas | 10 | 8.2 | - | - | - | - | 3.0 | 0.8 | - |
| 16. San Isidro | 12 | 0.5 | - | - | - | - | 0.3 | 0.1 | - |
| 17. San Manuel | 41 | 5.1 | - | - | - | - | 1.1 | 0.5 | - |
| 18. San Mateo | 79 | 9.2 | - | - | - | - | 4.0 | 0.6 | - |
| 19. Santiago | | | | | | | | | |
| Sub-total | 433 | 74.0 | - | - | - | - | 49.1 | 50.4 | - |
| II. Quirino Pro. | | | | | | | | | |
| 20. Cabarroguice | 22 | 11.3 | - | - | - | - | 1.8 | 0.4 | - |
| 21. Diffun | 43 | 12.9 | - | - | - | - | 4.6 | 1.1 | 0.2 |
| 22. Saguday | 3 | 1.0 | - | - | - | - | 0.3 | - | - |
| Sub-total | 68 | 25.2 | - | - | - | - | 6.7 | 1.5 | 0.4 |
| III. Ifugao Pro. | | | | | | | | | |
| 23. Potia | - | - | - | - | - | - | - | - | - |
| Total | 501 | 99.2 | - | 0.1 | - | - | 55.8 | 51.9 | 0.4 |

Source: 1981 Census of Fisheties

TABLE J-16. TREND OF PER CAPITA FOOD CONSUMPTION, PHILIPPINES

(unit: kg/capita/year)

| Item | Average of 1970/71 - 72/73 | Average of 1981/82 - 83/84 |
|---|---|---|
| 1. GRAIN | | |
| - Rice | 84.0 | 92.1 |
| - Corn, grain | 32.8 | 28.6 |
| - Wheat, grain | 15.8 | 16.4 |
| Total | 132.6 | 137.1 |
| 2. STARCHY ROOTS AND TUBERS | | |
| - Sweet potato | 16.1 | 16.1 |
| - Gabi | 2.0 | 1.7 |
| - Irish potato | 0.5 | 1.7 |
| - Cassava | 10.4 | 12.9 |
| - Tugui | 0.1 | 0.1 |
| - Obi | 0.4 | 0.2 |
| - Pao | 0.4 | 0.2 |
| Total | 29.9 | 31.9 |
| 3. BEANS, SEED & NUTS | | |
| - Mongo | 0.5 | 0.5 |
| - Soybeans | * | 0.2 |
| - Peanuts w/o shell | 0.3 | 0.5 |
| - Dry beans | 0.2 | 0.2 |
| Total | 1.0 | 1.4 |
| 4. VEGETABLES | | |
| - Cabbage & Pechay | 1.6 | 1.6 |
| - Tomato | 2.2 | 1.9 |
| - Eggplant | 1.7 | 2.0 |
| - Garlic | 0.3 | 0.3 |
| - Onion | 0.7 | 0.6 |
| - Radish | 0.2 | 0.2 |
| - Ginger | 0.2 | 0.6 |
| - Other vegetables | 4.5 | 6.0 |
| Total | 11.4 | 13.2 |
| 5. FRUITS | | |
| - Banana | 28.1 | 45.5 |
| - Mango | 3.7 | 7.0 |
| - Papaya | 1.3 | 1.6 |
| - Pineapple | 10.1 | 17.4 |
| - Calamansi | 0.2 | 0.8 |
| - Mandarin | 0.4 | 0.5 |
| - Pomelo | 0.6 | 0.6 |
| - Guayabano | 0.2 | 0.2 |
| - Atis | 0.1 | 0.1 |
| - Caimito | 0.4 | 0.4 |
| - Avocado | 0.4 | 0.4 |
| - Jackfruit | 1.6 | 1.5 |
| - Lanzones | 0.5 | 0.6 |
| - Watermelon | 2.6 | 2.4 |
| - Orange | 0.3 | 0.4 |
| - Chico | 0.1 | 0.2 |
| - Cashew | 0.1 | 0.1 |
| - Pili | 0.1 | 0.1 |
| - Other fruit trees | 0.5 | 0.6 |
| Total | 51.3 | 80.4 |
| 6. SUGAR & PRODUCTS | | |
| - Refined | 9.8 | 11.4 |
| - Centri. 960 | 7.8 | 9.1 |
| - Panocha | 1.4 | 0.4 |
| Total | 19.0 | 20.9 |
| 7. COCONUTS & PRODUCTS | | |
| - Fresh nuts | 5.4 | 4.0 |
| - Oils and fats | 4.2 | 4.0 |
| Total | 9.6 | 8.0 |
| 8. COFFEE, GREEN BEAN | 0.9 | 0.7 |
| 9. CACAO, BEAN | 0.2 | 0.1 |
| 10. FISH | 30.2 | 31.8 |
| 11. LIVESTOCK, POULTRY AND DAIRY | | |
| - Beef/carabeef *1 | 4.8 | 2.7 |
| - Pork * | 16.9 | 12.5 |
| - Chicken, dressed | 3.9 | 3.3 |
| - Eggs | 2.7 | 2.5 |
| - Ducks | 0.2 | 0.2 |
| - Goats | 0.2 | 0.2 |
| - Dairy | | |
| ◦ Low fat | 1.0 | 1.2 |
| ◦ High fat | 1.1 | 1.0 |
| Total | 30.8 | 23.6 |

Note : *----- Less than 50 grams per day.
*1---- Carcass and offals.

Source: Policy Analysis Staff, MAF based on data from BAEcon, NCSO, NFA, SSD, Philsucom, CAP and ICO.

TABLE J-17. AGRICULTURAL IMPORTS AND EXPORT PHILIPPINES

(unit: tons)

| Item | 1979/80 | 1980/81 | 1981/82 | 1982/83 | 1983/84 |
|---|---|---|---|---|---|
| 1. Imports | | | | | |
| - FOOD CROPS | 1,253.1 | 1,429.3 | 1,703.6 | 1,664.9 | 1,752.0 |
| Grains | 942.6 | 1,114.6 | 1,196.4 | 1,296.1 | 1,028.3 |
| Starchy Roots & Tubers | * | * | * | * | * |
| Beans, Seeds and Nuts | 242.4 | 237.9 | 424.7 | 307.9 | 379.8 |
| Vegetables | 0.1 | 0.1 | * | * | 5.3 |
| Fruits | - | - | - | - | - |
| Sugar and Products | - | - | - | - | 287.0 |
| Coconuts and Products | 63.1 | 62.6 | 63.6 | 50.2 | 46.6 |
| Coffee | - | - | - | - | - |
| Cacao | 4.9 | 14.1 | 18.9 | 10.7 | 5.0 |
| - NON-FOOD CROPS | 40.7 | 41.6 | 33.1 | 43.3 | 31.3 |
| - ALL CROPS | 1,293.8 | 1,470.9 | 1,736.7 | 1,708.2 | 1,783.3 |
| - FISH | 110.0 | 90.0 | 132.0 | 51.0 | 15.0 |
| - LIVERSTOCK, POULTRY/ DAIRY | 121.2 | 105.6 | 131.6 | 112.9 | 124.1 |
| - ALL COMMODITIES | 1,525.0 | 1,666.5 | 2,000.3 | 1,872.1 | 1,922.4 |
| 2. Exports | | | | | |
| - FOOD CROPS | 5,547.9 | 5,540.3 | 5,000.3 | 5,094.2 | 4,137.9 |
| Grains | 236.0 | 175.0 | 10.0 | 11.0 | 30.0 |
| Starchy Roots & Tubers | - | - | - | - | - |
| Beans, Seeds and Nuts | 0.1 | 0.2 | 0.1 | 0.3 | 0.4 |
| Vegetables | 0.8 | 0.3 | 0.3 | 0.3 | 24.9 |
| Fruits | 1,526.0 | 1,422.2 | 1,559.6 | 1,496.4 | 1,425.0 |
| Sugar and Products | 2,154.0 | 2,055.0 | 1,639.0 | 1,867.0 | 1,622.0 |
| Coconut and Products | 1,610.0 | 1,858.9 | 1,748.2 | 1,683.3 | 1,001.7 |
| Coffee | 16.2 | 16.3 | 24.0 | 24.3 | 29.6 |
| Cacao | 4.7 | 12.4 | 19.6 | 11.6 | 4.3 |
| - NON-FOOD CROPS | 68.6 | 69.5 | 72.0 | 62.0 | 62.7 |
| - ALL CROPS | 5,616.5 | 5,609.8 | 5,072.8 | 5,156.2 | 4,200.6 |
| - FISH | 76.0 | 73.0 | 56.0 | 65.0 | 62.0 |
| - LIVERSTOCK, POULTRY/ DAIRY | 3.6 | 3.0 | 3.2 | 4.0 | 0.9 |
| - ALL COMMODITIES | 5,696.1 | 5,685.8 | 5,132.0 | 5,225.2 | 4,263.5 |

Note : *--- Less than 5 metric tons.

Source: Policy Analysis Staff, MAF based on data from NCSO, NFA, BPI, FIDA, Philcotton, Philsucom, ICO and UCAP.

TABLE J-18. SUPPLY AND DEMAND BALANCE OF RICE, WHOLE COUNTRY
- Milled Rice -

(unit: '000 tons)

| Crop Year | Beginning Stock | Production | Imports | Total Supply | Exports | DOMESTIC USE | | | | | Ending Stocks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Seed | Feeds & Waste | Food Use | | Total Use | |
| | | | | | | | | Total | Per Capita (Kilograms) | | |
| 1970/71 | 840 | 3,375 | 18 | 4,233 | 0 | 105 | 236 | 3,260 | 87.3 | 3,601 | 632 |
| 1971/72 | 632 | 3,248 | 633 | 4,513 | 0 | 120 | 224 | 3,471 | 90.4 | 3,815 | 698 |
| 1972/73 | 698 | 2,835 | 238 | 3,771 | 0 | 184 | 193 | 2,949 | 74.7 | 3,326 | 445 |
| 1973/74 | 445 | 3,621 | 311 | 4,377 | 0 | 250 | 246 | 3,044 | 75.1 | 3,540 | 837 |
| 1974/75 | 837 | 3,693 | 238 | 4,768 | 0 | 148 | 259 | 3,432 | 82.3 | 3,839 | 929 |
| 1975/76 | 929 | 4,051 | 71 | 5,051 | 0 | 158 | 292 | 3,823 | 89.3 | 4,273 | 778 |
| 1976/77 | 778 | 4,280 | 24 | 5,082 | 0 | 167 | 295 | 3,779 | 85.9 | 4,241 | 841 |
| 1977/78 | 841 | 4,607 | 7 | 5,455 | 46 | 189 | 304 | 3,704 | 82.1 | 4,197 | 1,212 |
| 1978/79 | 1,212 | 4,847 | 0 | 6,059 | 38 | 194 | 330 | 3,957 | 85.4 | 4,481 | 1,540 |
| 1979/80 | 1,540 | 5,093 | 0 | 6,633 | 236 | 204 | 346 | 4,272 | 89.0 | 4,822 | 1,575 |
| 1980/81 | 1,575 | 5,020 | 0 | 6,595 | 175 | 201 | 326 | 4,562 | 93.6 | 5,089 | 1,331 |
| 1981/82 | 1,331 | 5,279 | 0 | 6,610 | 10 | 211 | 343 | 4,526 | 90.5 | 5,080 | 1,520 |
| 1982/83 | 1,520 | 5,040 | 0 | 6,560 | 11 | 158 | 328 | 4,585 | 89.3 | 5,071 | 1,478 |
| 1983/84 | 1,478 | 5,127 | 0 | 6,605 | 30 | 154 | 333 | 5,098 | 97.0 | 5,585 | 990 |
| 1984/85 | 990 | 5,363 | 389 | 6,742 | 0 | 158 | 349 | 5,236 | 97.0 | 5,743 | 999 |

Source: Policy Analysis Staff, MAF based on data from BAEcon and NFA

TABLE J-19. BALANCE OF RICE SUPPLY AND USE BY REGIONS AND IN MRIIS AREA

- Milled Rice -

(unit:'000 tons)

| | Crop Year 1980/81 | 1981/82 | 1982/83 | 1983/84 | 1984/85 |
|---|---|---|---|---|---|
| 1. Total Use *1 | | | | | |
| Whole Country | 5,089.5 | 5,080.2 | 5,071.2 | 5,586.1 | 5,742.6 |
| Region I | 446.3 | 446.2 | 420.0 | 487.7 | 499.5 |
| " II | 263.2 | 273.2 | 255.9 | 291.8 | 315.4 |
| (MRIIS Area) | | | | | (89.2) |
| Region III | 565.4 | 575.0 | 587.9 | 621.5 | 647.0 |
| " IV | 1,268.9 | 1,243.5 | 1,276.1 | 1,370.8 | 1,407.9 |
| " V | 347.4 | 348.3 | 347.6 | 384.9 | 397.1 |
| " VI | 551.9 | 549.5 | 545.2 | 602.4 | 611.4 |
| " VII | 335.1 | 330.0 | 327.7 | 367.4 | 375.0 |
| " VIII | 308.9 | 292.6 | 294.5 | 323.1 | 329.9 |
| " IX | 220.2 | 220.4 | 214.7 | 244.1 | 250.7 |
| " X | 225.0 | 232.1 | 234.3 | 255.5 | 260.9 |
| " XI | 298.8 | 312.3 | 316.5 | 363.6 | 370.8 |
| " XII | 258.4 | 257.2 | 250.9 | 273.2 | 277.1 |
| 2. Total Production | | | | | |
| Whole Country | 5,020.0 | 5,279.3 | 5,040.5 | 5,128.2 | 5,363.0 |
| Region I | 409.6 | 516.8 | 556.6 | 475.1 | 493.8 |
| " II | 479.7 | 544.9 | 607.9 | 485.2 | 679.8 |
| (MRIIS Area) | | | | | (273.3) |
| Region III | 875.6 | 1,039.9 | 1,100.6 | 777.1 | 927.3 |
| " IV | 503.2 | 481.5 | 519.2 | 563.5 | 599.2 |
| " V | 409.1 | 406.8 | 356.6 | 427.9 | 459.7 |
| " VI | 783.2 | 749.9 | 618.5 | 780.0 | 673.7 |
| " VII | 155.9 | 108.9 | 79.3 | 109.7 | 84.8 |
| " VIII | 219.2 | 207.7 | 187.9 | 247.4 | 260.8 |
| " IX | 193.0 | 209.9 | 171.6 | 215.0 | 215.1 |
| " X | 208.8 | 227.9 | 181.2 | 199.7 | 175.2 |
| " XI | 318.3 | 333.1 | 299.0 | 377.5 | 354.6 |
| " XII | 464.5 | 452.1 | 362.1 | 470.2 | 439.1 |
| 3. Surplus/Deficit | | | | | |
| Whole Country | -69.5 | 199.1 | -30.7 | -457.9 | -379.6 |
| Region I | -36.7 | 70.6 | 136.7 | - 12.6 | - 5.7 |
| " II | 216.5 | 271.7 | 352.0 | 193.3 | 364.4 |
| (MRIIS Area) | | | | | (184.1) |
| Region III | 310.1 | 464.9 | 512.7 | 155.6 | 280.3 |
| " IV | -765.7 | -762.1 | -756.8 | -807.3 | -808.7 |
| " V | 61.7 | 58.5 | 9.0 | 43.0 | 62.6 |
| " VI | 231.2 | 200.5 | 73.3 | 177.5 | 62.3 |
| " VII | -179.2 | -221.1 | -248.5 | -257.8 | -290.2 |
| " VIII | - 89.7 | - 84.9 | -106.6 | - 75.7 | - 69.1 |
| " IX | - 27.2 | - 10.5 | - 43.2 | - 29.1 | - 35.6 |
| " X | - 16.2 | - 4.3 | - 53.0 | - 55.8 | - 85.7 |
| " XI | 19.5 | 20.7 | - 17.5 | 14.0 | - 16.2 |
| " XII | 206.1 | 194.9 | 111.2 | 197.0 | 162.0 |

Note : *1 --- including food use, seed, feed and waste

Source: Regional Data --- "Rice Production and Use Estimate, Economic Research Report No. 18, Sept., 1986 Bureau of Agricultural Economics, MAF

MRIIS Data ----- MRIIS Office, NIA

TABLE J-20. SUMMARY OF AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY AND REGION II

- AVERAGE FOR THE LAST FIVE YEARS (CY1981 to CY1985) -

(unit: '000 tons)

| Crops | Philippines *1 | | | | | Region II (Cagayan Valley) | | |
|---|---|---|---|---|---|---|---|---|
| | Domestic Use *1 | Production *3, *5 | Surplus, Deficit | Quantity Traded | | Regional Use *1 | Production *3, *5 | Surplus, Deficit |
| | | | | Import | Export | | | |
| 1. Grains | | | | | | | | |
| 1-1. Rice (rough rice) | 5,314 | 5,166 | -148 | 78 | 45 | 280.0 | 559.5 | +279.5 |
| 1-2. Corn (shelled) | 3,566 | 3,262 | -304 | 340 | - | 229.0 | 259.8 | +30.8 |
| 1-3. Wheat (grains) | 827 | - | -827 | 821 | - | 39.0 | - | -39.0 |
| 2. Starchy Roots and Tubers | | | | | | | | |
| 2-1. Sweet Potato (Camote) | 904 | 904 | - | - | - | 42.1 | 41.6 | -0.5 |
| 2-2. Taro (Gabi) | 105 | 105 | - | - | - | 4.4 | 1.1 | -3.3 |
| 2-3. Irish Potato | 39 | 39 | 0 | 0 | - | 1.5 | 0.1 | -1.4 |
| 2-4. Cassava | 1,687 | 1,687 | 0 | 0 | - | 34.6 | 3.5 | -31.1 |
| 2-5. Yam (Ubi) | 16 | 16 | - | - | - | 0.7 | 0.1 | -0.6 |
| 3. Beans, Seeds and Nuts | | | | | | | | |
| 3-1. Mungbeans | 30 | 30 | 0 | 0 | 0 | 1.4 | 1.2 | -0.2 |
| 3-2. Soybeans *4 | 440 | 9 | -431 | 432 | - | 0.4 | 0.0 | -0.4 |
| 3-3. Peanuts (shelled) | 29 | 28 | -1 | 1 | - | 2.3 | 11.0 | +8.7 |
| 3-4. Other Drybeans | 8 | 5 | +3 | 4 | 0 | 0.4 | 0.3 | -0.1 |
| 4. Vegetable | | | | | | | | |
| 4-1. Cabbage and Pechay | 98 | 98 | - | - | - | 4.3 | 1.2 | -3.1 |
| 4-2. Tomato | 127 | 126 | -1 | 1 | 0 | 5.8 | 4.1 | -1.7 |
| 4-3. Eggplant | 112 | 112 | - | - | - | 5.2 | 5.4 | +0.2 |
| 4-4. Garlic | 18 | 18 | 0 | 0 | 0 | 0.7 | 0.0 | -0.7 |
| 4-5. Onion | 38 | 44 | +6 | 0 | 6 | 1.6 | 1.2 | -0.4 |
| 4-6. Radish | 10 | 10 | - | - | - | 0.5 | 0.1 | -0.4 |
| 4-7. Ginger | 38 | 38 | - | - | - | 1.8 | 1.9 | +0.1 |
| 4-8. Other Vegetable | 348 | 348 | - | - | - | 2.9 | 17.0 | +14.1 |
| 5. Fruits | | | | | | | | |
| 5-1. Banana | 3,171 | 3,981 | +810 | - | 810 | 121.8 | 59.3 | -62.5 |
| 5-2. Mango | 377 | 385 | +8 | - | 8 | 16.6 | 2.5 | -14.1 |
| 5-3. Papaya | 92 | 92 | - | - | - | 4.1 | 2.0 | -2.1 |
| 5-4. Pineapple | 906 | 1,484 | +578 | - | 578 | 39.2 | 1.4 | -37.8 |
| 5-5. Calamansi | 44 | 44 | - | - | - | 2.0 | 0.7 | -1.3 |
| 5-6. Mandarin | 28 | 28 | - | - | - | 1.3 | 1.4 | +0.1 |
| 5-7. Pomelo | 36 | 36 | - | - | - | 1.7 | 2.1 | +0.4 |
| 5-8. Guava (Guyabano) | 10 | 10 | - | - | - | 0.5 | 0.3 | +0.2 |
| 5-9. Avocado | 23 | 23 | - | - | - | 1.0 | 0.5 | -0.5 |
| 5-10. Jack fruit | 84 | 84 | - | - | - | 3.8 | 1.5 | -2.3 |
| 5-11. Water Melon | 145 | 145 | - | - | - | 6.5 | 1.1 | -5.4 |
| 5-12. Orange | 21 | 21 | - | - | - | 0.9 | 0.5 | -0.4 |
| 6. Sugarcane Products | | | | | | | | |
| 6-1. Centrifugal Sugar | 1,090 | 2,387 | +1,297 | - | 1,217 | 50.2 | 30.3 | -19.9 |
| 6-2. Panocha | 21 | 21 | - | - | - | 1.0 | 0.0 | -1.0 |
| 6-3. Malasses | 388 | 916 | +528 | - | 579 | *2 | 9.5 | *2 |
| 7. Coconuts (Copra Term) | 1,280 | 3,108 | +1,828 | - | 1,651 | 11.9 | 22.0 | +10.1 |
| 8. Tobacco | 42 | 49 | +7 | 12 | 24 | *2 | 10.5 | *2 |
| 9. Fiber Crops | | | | | | | | |
| 9-1. Cotton (lint) | 26 | 5 | -21 | 21 | - | *2 | 2.8 | *2 |
| 9-2. Abaca (fiber) | 76 | 107 | +31 | - | 32 | *2 | - | *2 |
| 10. Coffee (green beans) | 37 | 72 | +35 | - | 24 | 1.7 | 2.1 | +0.4 |
| 11. Cacao (beans) | 5 | 5 | 0 | 12 | 12 | 0.2 | 0.0 | -0.2 |
| 12. Fish | 1,973 | 1,965 | -8 | 72 | 64 | 88.8*6 | 18.7 | -70.1 |
| 13. Livestock, Poultry and Dairy | | | | | | | | |
| 13-1. Cattle/Water Buffalo | 117 | 111 | -6 | 6 | - | 11.1*6 | 9.5 | -1.6 |
| 13-2. Hog | 565 | 565 | 0 | 1 | 0 | 24.5*6 | 19.9 | -4.6 |
| 13-3. Goat | 11 | 11 | - | - | - | 0.5 | 0.2 | -0.3 |
| 13-4. Chicken | 171 | 171 | 0 | 1 | 0 | 12.1*6 | 4.9 | -7.2 |
| 13-5. Ducks | 12 | 12 | 0 | 0 | - | 0.9*6 | 0.5 | -0.4 |
| 13-6. Eggs | 142 | 142 | - | - | - | 11.6*6 | 1.6*6 | -10.0 |
| 13-7. Dairy | 98 | 3 | -95 | 99 | 2 | 5.1 | 0.2*1 | -4.9 |

Note: *1 --- estimated
*2 --- No data
*3 --- excluded stock
*4 --- included soybean meal

Source: *5--- Bureau of Agricultural Economics, MAF
*6--- NEDA, Region II

TABLE J-21(1). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- GRAINS -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 1. Grains | | | | | | | | | |
| 1-1. Rice, rough rice | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 4,594 | 93.68 | 169 | 326 | 5,089 | 5,020 | -69 | - | 175 |
| 1982 | 4,569 | 90.88 | 168 | 343 | 5,080 | 5,279 | 199 | - | 10 |
| 1983 | 4,585 | 88.95 | 158 | 328 | 5,071 | 5,040 | -31 | - | 11 |
| 1984 | 5,099 | 96.50 | 154 | 333 | 5,586 | 5,128 | -458 | - | 30 |
| 1985 | 5,236 | 96.68 | 158 | 349 | 5,743 | 5,363 | -380 | 389 | - |
| Average | | | | | 5,314 | 5,166 | -148 | 78 | 45 |
| -Region II (Cagayan Valley) | | | | | | | | | |
| CY1981 | 208.9 | 99.74 | 16.5 | 37.8 | 263.2 | 479.7*1 | 216.5 | | |
| 1982 | 212.7 | 92.06 | 17.6 | 42.9 | 273.2 | 544.9 | 271.7 | | |
| 1983 | 189.4 | 79.96 | 19.8 | 46.6 | 255.9 | 607.9 | 352.0 | | |
| 1984 | 237.7 | 97.84 | 15.6 | 38.6 | 291.8 | 485.2 | 193.3 | | |
| 1985 | 244.0 | 97.97 | 19.0 | 52.3 | 315.4 | 679.8 | 364.4 | | |
| Average | | | | | 280.0 | 559.5 | 279.5 | | |
| 1-2. Corn, shelled | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 1,533 | 31.4 | 81 | 1,820 | 3,434 | 3,110 | -324 | 351 | - |
| 1982 | 1,539 | 30.8 | 88 | 1,940 | 3,568 | 3,290 | -278 | 275 | - |
| 1983 | 1,479 | 28.8 | 63 | 2,058 | 3,600 | 3,126 | -474 | 406 | - |
| 1984 | 1,400 | 26.6 | 65 | 2,048 | 3,513 | 3,346 | -167 | 321 | - |
| 1985 | 1,555 | 28.0 | 66 | 2,093 | 3,714 | 3,439 | -275 | 345 | - |
| Average | | | | | 3,566 | 3,262 | -304 | 340 | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 66.0 | 29.10 | 4.1 | 120.0 | 186.0 | 207.0*1 | 21.0 | | |
| 1982 | 67.0 | 29.10 | 5.0 | 150.0 | 217.0 | 252.4 | 35.4 | | |
| 1983 | 69.0 | 29.10 | 5.1 | 170.0 | 239.0 | 257.4 | 18.4 | | |
| 1984 | 71.0 | 29.10 | 5.1 | 160.0 | 231.0 | 257.1 | 26.1 | | |
| 1985 | 72.0 | 29.10 | 6.5 | 200.0 | 272.0 | 325.1 | 53.1 | | |
| Average | | | | | 229.0 | 259.8 | 30.8 | | |
| 1-3. Wheat, grains | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 774.1 | 15.78 | - | - | 774.1 | - | -774.1 | 763.6 | - |
| 1982 | 924.7 | 18.39 | - | - | 924.7 | - | -924.7 | 921.4 | - |
| 1983 | 904.3 | 17.54 | - | - | 904.3 | - | -904.3 | 890.1 | - |
| 1984 | 707.3 | 13.39 | - | - | 707.3 | - | -707.3 | 707.3 | - |
| 1985 | | | | | | | | | |
| Average | | | | | 827.4 | - | -827.4 | 820.6 | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 37.0 | 16.28 | - | - | 37.0 | - | -37.0 | | |
| 1982 | 38.0 | 16.28 | - | - | 38.0 | - | -38.0 | | |
| 1983 | 39.0 | 16.28 | - | - | 39.0 | - | -39.0 | | |
| 1984 | 40.0 | 16.28 | - | - | 40.0 | - | -40.0 | | |
| 1985 | 41.0 | 16.28 | - | - | 41.0 | - | -41.0 | | |
| Average | | | | | 39.0 | - | -39.0 | | |

Note: *e --- estimated
*1 --- Bureau of Agricultural Economics, MAF

TABLE J-21(2). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- STARCHY ROOTS AND TUBERS -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION: Food Use Total | Food Use Per Capita (kg.) | Seed | Others | Total Use | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded: Import | Export |
|---|---|---|---|---|---|---|---|---|---|
| 2. Starchy Roots and Tubers | | | | | | | | | |
| 2-1. Sweet Potato (Camote) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 960 | 19.58 | - | 50 | 1,010 | 1,010 | - | - | - |
| 1982 | 986 | 19.61 | - | 52 | 1,038 | 1,038 | - | - | - |
| 1983 | 761 | 14.77 | - | 40 | 801 | 801 | - | - | - |
| 1984 | 729 | 13.78 | - | 38 | 767 | 767 | - | - | - |
| 1985 | | | | | | 777 | | | |
| Average | | | | | 904 | 904 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 38.0 | 16.90 | - | 2.5 | 40.5 | 49.2*1 | 8.7 | | |
| 1982 | 39.0 | 16.90 | - | 2.7 | 41.7 | 53.0 | 11.3 | | |
| 1983 | 40.0 | 16.90 | - | 2.5 | 42.5 | 50.3 | 7.8 | | |
| 1984 | 41.0 | 16.90 | - | 1.9 | 42.9 | 37.4 | -5.5 | | |
| 1985 | 42.0 | 16.90 | - | 0.9 | 42.9 | 18.2 | -24.7 | | |
| Average | | | | | 42.1 | 41.6 | -0.5 | | |
| 2-2. Taro (Gabi) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 89.6 | 1.83 | 10.5 | 5.3 | 105.4 | 105.4 | - | - | - |
| 1982 | 96.0 | 1.91 | 11.3 | 5.6 | 112.9 | 112.9 | - | - | - |
| 1983 | 85.4 | 1.66 | 10.0 | 5.0 | 100.4 | 100.4 | - | - | - |
| 1984 | 84.5 | 1.60 | 9.9 | 5.0 | 99.4 | 99.4 | - | - | - |
| 1985 | | | | | | 92.8 | | | |
| Average | | | | | 104.5 | 104.5 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 4.0 | 1.75 | 0.1 | 0.1 | 4.2 | 1.0*1 | -3.2 | | |
| 1982 | 4.0 | 1.75 | 0.1 | 0.1 | 4.2 | 1.0 | -3.2 | | |
| 1983 | 4.1 | 1.75 | 0.1 | 0.1 | 4.3 | 1.0 | -3.3 | | |
| 1984 | 4.3 | 1.75 | 0.1 | 0.1 | 4.5 | 0.9 | -3.6 | | |
| 1985 | 4.4 | 1.75 | 0.1 | 0.1 | 4.6 | 1.4 | -3.2 | | |
| Average | | | | | 4.4 | 1.1 | -3.3 | | |
| 2-3. Irish Potato | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 31.5 | 0.64 | 3.7 | 1.9 | 37.1 | 37.1 | 0.0 | 0.0 | - |
| 1982 | 34.6 | 0.69 | 4.1 | 2.0 | 40.7 | 40.7 | 0.0 | 0.0 | - |
| 1983 | 34.6 | 0.67 | 4.1 | 2.0 | 40.7 | 40.7 | 0.0 | 0.0 | - |
| 1984 | 31.2 | 0.59 | 3.7 | 1.8 | 36.7 | 36.7 | 0.0 | 0.0 | - |
| 1985 | | | | | | 42.4 | | | |
| Average | | | | | 38.8 | 38.8 | 0.0 | 0.0 | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.5 | 0.65 | 0.0 | 0.0 | 1.5 | 0.0 | -1.5 | | |
| 1982 | 1.5 | 0.65 | 0.0 | 0.0 | 1.5 | 0.1 | -1.4 | | |
| 1983 | 1.5 | 0.65 | 0.0 | 0.0 | 1.5 | 0.1 | -1.4 | | |
| 1984 | 1.6 | 0.65 | 0.0 | 0.0 | 1.6 | 0.1 | -1.5 | | |
| 1985 | 1.6 | 0.65 | 0.0 | 0.0 | 1.6 | 0.1 | -1.5 | | |
| Average | | | | | 1.5 | 0.1 | -1.4 | | |

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION: Food Use Total | Food Use Per Capita (kg.) | Seed | Others | Total Use | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded: Import | Export |
|---|---|---|---|---|---|---|---|---|---|
| 2-4. Cassava | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 811 | 16.56 | - | 1,443 | 2,255 | 2,255 | 0.0 | 0.0 | - |
| 1982 | 774 | 15.40 | - | 1,213 | 1,988 | 1,988 | 0.0 | 0.0 | - |
| 1983 | 581 | 11.27 | - | 588 | 1,169 | 1,169 | 0.0 | 0.0 | - |
| 1984 | 628 | 11.88 | - | 709 | 1,337 | 1,337 | 0.0 | 0.0 | - |
| 1985 | | | | | | 1,551 | | | |
| Average | | | | | 1,687 | 1,687 | 0.0 | 0.0 | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 31.0 | 13.80 | - | 2.2 | 33.2 | 4.4*1 | -28.8 | | |
| 1982 | 32.0 | 13.80 | - | 2.0 | 34.0 | 3.9 | -30.1 | | |
| 1983 | 33.0 | 13.80 | - | 1.6 | 34.6 | 3.1 | -31.5 | | |
| 1984 | 34.0 | 13.80 | - | 1.4 | 35.4 | 2.8 | -32.6 | | |
| 1985 | 34.0 | 13.80 | - | 1.6 | 35.6 | 3.1 | -32.5 | | |
| Average | | | | | 34.6 | 3.5 | -31.1 | | |
| 2-5. Yam (Ubi) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 15.6 | 0.32 | 1.8 | 0.9 | 18.3 | 18.3 | - | - | - |
| 1982 | 15.4 | 0.30 | 1.8 | 0.9 | 18.1 | 18.1 | - | - | - |
| 1983 | 12.2 | 0.24 | 1.4 | 0.7 | 14.3 | 14.3 | - | - | - |
| 1984 | 12.8 | 0.24 | 1.5 | 0.7 | 15.0 | 15.0 | - | - | - |
| 1985 | | | | | | 17.5 | | | |
| Average | | | | | 16.4 | 16.4 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.6 | 0.28 | 0.0 | 0.0 | 0.6 | 0.2*1 | -0.4 | | |
| 1982 | 0.6 | 0.28 | 0.0 | 0.0 | 0.6 | 0.2 | -0.4 | | |
| 1983 | 0.7 | 0.28 | 0.0 | 0.0 | 0.7 | 0.1 | -0.6 | | |
| 1984 | 0.7 | 0.28 | 0.0 | 0.0 | 0.7 | 0.0 | -0.7 | | |
| 1985 | 0.7 | 0.28 | 0.0 | 0.0 | 0.7 | 0.0 | -0.7 | | |
| Average | | | | | 0.7 | 0.1 | -0.6 | | |

Note: *e --- estimated

Source: Bureau of Agricultural Economics, MAF

TABLE J-21(3). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- BEANS, SEEDS AND NUTS -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 3. Beans, Seeds and Nuts | | | | | | | | | |
| 3-1. Mungbeans | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 32.3 | 0.66 | 1.3 | 0.2 | 33.8 | 33.5 | -0.3 | 0.3 | 0.5 |
| 1982 | 32.8 | 0.65 | 1.3 | 0.2 | 34.3 | 34.3 | 0.0 | - | 0.5 |
| 1983 | 24.3 | 0.47 | 0.9 | 0.1 | 25.3 | 25.3 | 0.0 | - | 0.1 |
| 1984 | 26.9 | 0.51 | 0.9 | 0.1 | 27.9 | 28.0 | -0.1 | - | 0.0 |
| 1985 | 26.8 | 0.50 | 0.9 | 0.1 | 27.8 | 26.9 | -0.9 | 1.1 | 0.0 |
| Average | | | | | 29.8 | 29.6 | -0.2 | 0.3 | 0.2 |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.3 | 0.56 | 0.0 | 0.0 | 1.3 | 0.8*1 | -0.5 | | |
| 1982 | 1.3 | 0.56 | 0.0 | 0.0 | 1.3 | 1.1 | -0.2 | | |
| 1983 | 1.3 | 0.56 | 0.0 | 0.0 | 1.3 | 0.9 | -0.4 | | |
| 1984 | 1.4 | 0.56 | 0.0 | 0.0 | 1.4 | 1.0 | -0.4 | | |
| 1985 | 1.4 | 0.56 | 0.1 | 0.0 | 1.5 | 2.2 | 0.7 | | |
| Average | | | | | 1.4 | 1.2 | -0.2 | | |
| 3-2. Soybeans | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 9.5 | 0.19 | 0.5 | 304.3*2 | 314.3 | 10.1 | -304.2 | 288.3*2 | - |
| 1982 | 10.9 | 0.22 | 0.6 | 547.2 | 558.7 | 11.5 | -547.2 | 515.8 | - |
| 1983 | 7.7 | 0.15 | 0.4 | 404.7 | 412.8 | 8.1 | -404.7 | 374.1 | - |
| 1984 | 7.2 | 0.14 | 0.4 | 468.6 | 476.2 | 7.5 | -468.7 | 468.6 | - |
| 1985 | | | | | | 8.5 | | | |
| Average | | | | | 440.5 | 9.1 | -431.4 | 411.7 | - |
| -Region II *e | | | | | | | | | |
| 1981 | 0.4 | 0.18 | 0.0 | 0.0 | 0.4 | 0.0*1 | 0.4 | | |
| 1982 | 0.4 | 0.18 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 | | |
| 1983 | 0.4 | 0.18 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 | | |
| 1984 | 0.4 | 0.18 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 | | |
| 1985 | 0.4 | 0.18 | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 | | |
| Average | | | | | 0.4 | 0.0 | -0.4 | | |
| 3-3. Peanuts, shelled | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 18.5 | 0.38 | 2.3 | - | 20.8 | 20.9 | 0.1 | - | - |
| 1982 | 30.9 | 0.61 | 3.4 | 2.4 | 36.7 | 34.3 | -2.4 | 2.4 | - |
| 1983 | 24.4 | 0.44 | 2.9 | - | 27.3 | 25.3 | -2.0 | - | - |
| 1984 | 27.1 | 0.51 | 2.8 | - | 29.9 | 29.8 | -0.1 | 0.1 | - |
| 1985 | 28.7 | 0.54 | 3.0 | - | 31.7 | 31.6 | -0.1 | 0.1 | - |
| Average | | | | | 29.3 | 28.4 | -0.9 | 0.5 | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.1 | 0.50 | 0.3 | - | 1.4 | 3.1*e | 1.7 | | |
| 1982 | 1.2 | 0.50 | 1.6 | - | 2.8 | 16.2 | 13.4 | | |
| 1983 | 1.2 | 0.50 | 1.0 | - | 2.2 | 9.7 | 7.5 | | |
| 1984 | 1.2 | 0.50 | 1.2 | - | 2.4 | 12.3 | 9.9 | | |
| 1985 | 1.2 | 0.50 | 1.4 | - | 2.6 | 13.7 | 11.1 | | |
| Average | | | | | 2.3 | 11.0 | 8.7 | | |
| 3-4. Other Drybeans | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 8.6 | 0.18 | 0.3 | - | 8.9 | 4.9 | -4.0 | 3.8 | 0.1 |
| 1982 | 7.8 | 0.15 | 0.2 | - | 8.0 | 4.5 | -3.5 | 3.3 | 0.1 |
| 1983 | 5.8 | 0.11 | 0.2 | - | 6.0 | 3.5 | -2.5 | 2.5 | 0.3 |
| 1984 | 8.0 | 0.15 | 0.2 | - | 8.2 | 3.6 | -4.6 | 4.8 | 0.4 |
| 1985 | | | | | | 5.9 | | | |
| Average | | | | | 7.8 | 4.5 | -3.3 | 3.6 | 0.2 |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.3 | 0.15 | 0.0 | - | 0.3 | 0.1*1 | -0.2 | | |
| 1982 | 0.3 | 0.15 | 0.0 | - | 0.3 | 0.1 | -0.2 | | |
| 1983 | 0.4 | 0.15 | 0.0 | - | 0.4 | 0.2 | -0.2 | | |
| 1984 | 0.4 | 0.15 | 0.0 | - | 0.4 | 0.4 | 0.0 | | |
| 1985 | 0.4 | 0.15 | 0.0 | - | 0.4 | 0.6 | 0.2 | | |
| Average | | | | | 0.4 | 0.3 | -0.1 | | |

Note: *e--- estimated
*2--- included soybean meal

Source: *1--- Bureau of Agricultural Economics, MAF

TABLE J-21(4). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- VEGETABLE -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 4. Vegetable | | | | | | | | | |
| 4-1. Cabbage and Pechay | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 110.1 | 2.24 | - | 9.6 | 119.7 | 119.7 | - | - | - |
| 1982 | 90.0 | 1.79 | - | 7.8 | 97.8 | 97.8 | - | - | - |
| 1983 | 82.2 | 1.59 | - | 7.2 | 89.4 | 89.4 | - | - | - |
| 1984 | 79.6 | 1.51 | - | 6.9 | 86.5 | 86.5 | - | - | - |
| 1985 | | | | | | 88.2 | | | |
| Average | | | | | 98.4 | 98.4 | - | - | - |
| -Region II | | | | | | | | | |
| CY1981 | 4.0 | 1.78 | - | 0.1 | 4.1 | 1.1 | -3.0 | | |
| 1982 | 4.1 | 1.78 | - | 0.1 | 4.2 | 1.3 | -2.9 | | |
| 1983 | 4.2 | 1.78 | - | 0.1 | 4.3 | 1.6 | -2.7 | | |
| 1984 | 4.3 | 1.78 | - | 0.1 | 4.4 | 1.0 | -3.4 | | |
| 1985 | 4.4 | 1.78 | - | 0.1 | 4.5 | 1.1 | -3.4 | | |
| Average | | | | | 4.3 | 1.2 | -3.1 | | |
| 4-2. Tomato | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 123.7 | 2.52 | - | 10.1 | 133.8 | 134.1 | 0.3 | 0.0 | 0.3 |
| 1982 | 117.5 | 2.34 | - | 9.5 | 127.0 | 127.3 | 0.3 | 0.0 | 0.3 |
| 1983 | 96.7 | 1.87 | - | 7.8 | 104.5 | 104.8 | 0.3 | 0.0 | 0.3 |
| 1984 | 131.1 | 2.48 | - | 10.2 | 141.3 | 136.8 | -4.5 | 5.2 | 0.7 |
| 1985 | | | | | | 131.0 | | | |
| Average | | | | | 126.6 | 125.8 | 0.8 | 1.3 | 0.4 |
| -Region II | | | | | | | | | |
| CY1981 | 5.2 | 2.30 | - | 0.3 | 5.5 | 3.9 | -1.6 | | |
| 1982 | 5.3 | 2.30 | - | 0.4 | 5.7 | 5.1 | -0.6 | | |
| 1983 | 5.4 | 2.30 | - | 0.2 | 5.6 | 2.5 | -3.1 | | |
| 1984 | 5.6 | 2.30 | - | 0.3 | 5.9 | 3.2 | -2.7 | | |
| 1985 | 5.7 | 2.30 | - | 0.4 | 6.1 | 5.6 | -0.5 | | |
| Average | | | | | 5.8 | 4.1 | -1.7 | | |
| 4-3. Eggplant | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 98.7 | 2.01 | - | 8.6 | 107.3 | 107.3 | - | - | - |
| 1982 | 116.8 | 2.32 | - | 10.2 | 127.0 | 127.0 | - | - | - |
| 1983 | 101.4 | 1.97 | - | 8.8 | 110.2 | 110.2 | - | - | - |
| 1984 | 96.6 | 1.83 | - | 8.4 | 105.0 | 105.0 | - | - | - |
| 1985 | | | | | | 96.7 | | | |
| Average | | | | | 112.4 | 112.4 | - | - | - |
| -Region II | | | | | | | | | |
| CY1981 | 4.6 | 2.03 | - | 0.5 | 5.1 | 6.7 | 1.6 | | |
| 1982 | 4.7 | 2.03 | - | 0.5 | 5.2 | 6.7 | 1.5 | | |
| 1983 | 4.8 | 2.03 | - | 0.7 | 5.5 | 8.5 | 3.0 | | |
| 1984 | 4.9 | 2.03 | - | 0.2 | 5.1 | 2.6 | -2.5 | | |
| 1985 | 5.1 | 2.03 | - | 0.2 | 5.3 | 2.7 | -2.6 | | |
| Average | | | | | 5.2 | 5.4 | 0.2 | | |
| 4-4. Garlic | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 12.3 | 0.25 | 1.7 | - | 14.0 | 13.8 | -0.2 | 0.1 | - |
| 1982 | 24.2 | 0.48 | 2.0 | - | 26.2 | 26.1 | -0.1 | - | - |
| 1983 | 13.4 | 0.26 | 3.2 | - | 16.6 | 16.6 | - | - | - |
| 1984 | 11.3 | 0.21 | 3.1 | - | 14.4 | 14.4 | - | 0.0 | 0.0 |
| 1985 | | | | | | 17.9 | | | |
| Average | | | | | 17.8 | 17.7 | -0.1 | 0.0 | 0.0 |
| -Region II | | | | | | | | | |
| CY1981 | 0.7 | 0.30 | - | - | 0.7 | 0.0 | -0.7 | | |
| 1982 | 0.7 | 0.30 | - | - | 0.7 | 0.0 | -0.7 | | |
| 1983 | 0.7 | 0.30 | - | - | 0.7 | 0.0 | -0.7 | | |
| 1984 | 0.7 | 0.30 | - | - | 0.7 | 0.0 | -0.7 | | |
| 1985 | 0.7 | 0.30 | - | - | 0.7 | 0.0 | -0.7 | | |
| Average | | | | | 0.7 | 0.0 | -0.7 | | |

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 4-5. Onion | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 31.2 | 0.64 | 3.0 | 3.0 | 37.2 | 37.2 | - | - | 0.0 |
| 1982 | 37.9 | 0.75 | 2.7 | 3.5 | 44.1 | 44.1 | - | - | - |
| 1983 | 35.6 | 0.69 | 3.2 | 3.4 | 42.2 | 42.2 | - | - | - |
| 1984 | 21.0 | 0.40 | 3.4 | 4.2 | 28.6 | 52.6 | 24.0 | 0.1 | 24.1 |
| 1985 | | | | | | 53.2 | | | |
| Average | | | | | 38.0 | 44.0 | 6.0 | 0.0 | 6.0 |
| -Region II | | | | | | | | | |
| CY1981 | 1.4 | 0.62 | 0.0 | 0.1 | 1.5 | 0.7 | -0.8 | | |
| 1982 | 1.4 | 0.62 | 0.0 | 0.0 | 1.4 | 0.4 | -1.0 | | |
| 1983 | 1.5 | 0.62 | 0.0 | 0.0 | 1.5 | 0.4 | -1.1 | | |
| 1984 | 1.5 | 0.62 | 0.2 | 0.2 | 1.9 | 2.7 | 0.8 | | |
| 1985 | 1.5 | 0.62 | 0.1 | 0.1 | 1.7 | 1.6 | -0.1 | | |
| Average | | | | | 1.6 | 1.2 | -0.4 | | |
| 4-6. Radish | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 10.1 | 0.21 | - | 0.9 | 11.0 | 11.0 | - | - | - |
| 1982 | 10.4 | 0.21 | - | 0.9 | 11.3 | 11.3 | - | - | - |
| 1983 | 8.5 | 0.16 | - | 0.7 | 9.2 | 9.2 | - | - | - |
| 1984 | 8.6 | 0.16 | - | 0.7 | 9.3 | 9.3 | - | - | - |
| 1985 | | | | | | 8.5 | | | |
| Average | | | | | 10.2 | 10.2 | - | - | - |
| -Region II | | | | | | | | | |
| CY1981 | 0.4 | 0.19 | - | 0.0 | 0.4 | 0.0 | -0.4 | | |
| 1982 | 0.4 | 0.19 | - | 0.0 | 0.4 | 0.0 | -0.4 | | |
| 1983 | 0.5 | 0.19 | - | 0.0 | 0.5 | 0.1 | -0.4 | | |
| 1984 | 0.5 | 0.19 | - | 0.0 | 0.5 | 0.1 | -0.4 | | |
| 1985 | 0.5 | 0.19 | - | 0.0 | 0.5 | 0.1 | -0.4 | | |
| Average | | | | | 0.5 | 0.1 | -0.4 | | |
| 4-7. Ginger | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 36.6 | 0.75 | 2.1 | 3.4 | 42.1 | 42.1 | - | - | - |
| 1982 | 36.4 | 0.72 | 2.1 | 3.3 | 41.8 | 41.8 | - | - | - |
| 1983 | 31.1 | 0.60 | 1.8 | 2.9 | 35.8 | 35.8 | - | - | - |
| 1984 | 27.0 | 0.51 | 1.5 | 2.5 | 31.0 | 31.0 | - | - | - |
| 1985 | | | | | | 29.4 | | | |
| Average | | | | | 37.7 | 37.7 | - | - | - |
| -Region II | | | | | | | | | |
| CY1981 | 1.5 | 0.65 | 0.0 | 0.1 | 1.6 | 0.9 | -0.7 | | |
| 1982 | 1.5 | 0.65 | 0.1 | 0.1 | 1.7 | 1.0 | -0.7 | | |
| 1983 | 1.5 | 0.65 | 0.1 | 0.1 | 1.7 | 1.1 | -0.6 | | |
| 1984 | 1.6 | 0.65 | 0.1 | 0.2 | 1.9 | 2.3 | 0.4 | | |
| 1985 | 1.6 | 0.65 | 0.2 | 0.3 | 2.1 | 4.1 | 2.0 | | |
| Average | | | | | 1.8 | 1.9 | 0.1 | | |
| 4-8. Other Vegitable | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 345.5 | 7.04 | - | 30.0 | 375.5 | 375.5 | - | - | - |
| 1982 | 361.4 | 7.19 | - | 31.4 | 392.8 | 392.8 | - | - | - |
| 1983 | 280.1 | 5.43 | - | 24.4 | 304.5 | 304.5 | - | - | - |
| 1984 | 292.5 | 5.54 | - | 25.5 | 318.0 | 318.0 | - | - | - |
| 1985 | | | | | | 323.3 | | | |
| Average | | | | | 347.7 | 347.7 | - | - | - |
| -Region II | | | | | | | | | |
| CY1981 | 1.4 | 6.30 | - | 0.9 | 2.3 | 11.0 | 8.7 | | |
| 1982 | 1.5 | 6.30 | - | 1.2 | 2.7 | 14.8 | 12.1 | | |
| 1983 | 1.5 | 6.30 | - | 1.2 | 2.7 | 14.5 | 11.8 | | |
| 1984 | 1.5 | 6.30 | - | 1.6 | 3.1 | 20.3 | 17.2 | | |
| 1985 | 1.6 | 6.30 | - | 2.0 | 3.6 | 24.5 | 20.9 | | |
| Average | | | | | 2.9 | 17.0 | 14.1 | | |

TABLE J-21(5). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- FRUITS -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 5. Fruits | | | | | | | | | |
| 5-1. Banana | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 2,368 | 48.29 | - | 836 | 3,204 | 4,073 | 869 | - | 869 |
| 1982 | 2,312 | 45.97 | - | 838 | 3,150 | 4,077 | 927 | - | 927 |
| 1983 | 2,441 | 47.35 | - | 802 | 3,243 | 3,886 | 643 | - | 643 |
| 1984 | 2,284 | 43.23 | - | 804 | 3,088 | 3,888 | 800 | - | 800 |
| 1985 | | | | | | 3,698 | | | |
| Average | | | | | 3,171 | 3,981 | 810 | - | 810 |
| -Region II *e | | | | | | | | | |
| CY1981 | 104.4 | 46.20 | - | 9.5 | 113.9 | 46.3 *1 | -67.6 | | |
| 1982 | 106.7 | 46.20 | - | 12.0 | 118.7 | 58.2 | -60.5 | | |
| 1983 | 109.5 | 46.20 | - | 13.6 | 123.1 | 65.9 | -57.2 | | |
| 1984 | 112.2 | 46.20 | - | 13.5 | 125.7 | 65.7 | -60.0 | | |
| 1985 | 115.1 | 46.20 | - | 12.4 | 127.5 | 60.3 | -67.2 | | |
| Average | | | | | 121.8 | 59.3 | -62.5 | | |
| 5-2. Mango | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 337 | 6.88 | - | 22 | 359 | 366 | 7 | - | 7 |
| 1982 | 391 | 7.78 | - | 25 | 416 | 426 | 10 | - | 10 |
| 1983 | 342 | 6.63 | - | 22 | 364 | 372 | 8 | - | 8 |
| 1984 | 346 | 6.56 | - | 23 | 369 | 377 | 8 | - | 8 |
| 1985 | | | | | | 384 | | | |
| Average | | | | | 377 | 385 | 8 | - | 8 |
| -Region II *e | | | | | | | | | |
| CY1981 | 15.7 | 6.96 | - | 0.1 | 15.8 | 2.4 *1 | -13.4 | | |
| 1982 | 16.1 | 6.96 | - | 0.1 | 16.2 | 2.2 | -14.0 | | |
| 1983 | 16.5 | 6.96 | - | 0.1 | 16.6 | 2.1 | -14.5 | | |
| 1984 | 16.9 | 6.96 | - | 0.2 | 17.1 | 3.1 | -14.0 | | |
| 1985 | 17.3 | 6.96 | - | 0.2 | 17.5 | 2.8 | -14.7 | | |
| Average | | | | | 16.6 | 2.5 | -14.1 | | |
| 5-3. Papaya | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 98.2 | 2.00 | - | 6.3 | 104.5 | 104.5 | - | - | - |
| 1982 | 88.7 | 1.76 | - | 5.7 | 94.4 | 94.4 | - | - | - |
| 1983 | 75.5 | 1.46 | - | 4.8 | 80.3 | 80.3 | - | - | - |
| 1984 | 81.8 | 1.55 | - | 5.2 | 87.0 | 87.0 | - | - | - |
| 1985 | | | | | | 90.5 | | | |
| Average | | | | | 91.6 | 91.6 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 3.8 | 1.69 | - | 0.1 | 3.9 | 1.4 *1 | -2.5 | | |
| 1982 | 3.9 | 1.69 | - | 0.1 | 4.0 | 1.9 | -2.1 | | |
| 1983 | 4.0 | 1.69 | - | 0.1 | 4.1 | 1.6 | -2.5 | | |
| 1984 | 4.1 | 1.69 | - | 0.1 | 4.2 | 2.1 | -2.1 | | |
| 1985 | 4.2 | 1.69 | - | 0.2 | 4.4 | 3.2 | -2.1 | | |
| Average | | | | | 4.1 | 2.0 | -2.1 | | |
| 5-4. Pineapple | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 695 | 14.17 | - | 52 | 747 | 1,293 | 546 | - | 546 |
| 1982 | 569 | 11.29 | - | 50 | 619 | 1,242 | 623 | - | 623 |
| 1983 | 1,091 | 21.16 | - | 67 | 1,158 | 1,683 | 525 | - | 525 |
| 1984 | 1,033 | 19.55 | - | 69 | 1,102 | 1,719 | 617 | - | 617 |
| 1985 | | | | | | 1,449 | | | |
| Average | | | | | 906 | 1,484 | 578 | - | 578 |
| -Region II *e | | | | | | | | | |
| CY1981 | 37.3 | 16.50 | - | 0.0 | 37.3 | 0.8 *1 | -36.5 | | |
| 1982 | 38.1 | 16.50 | - | 0.0 | 38.1 | 1.2 | -36.9 | | |
| 1983 | 39.1 | 16.50 | - | 0.1 | 39.2 | 1.3 | -37.9 | | |
| 1984 | 40.1 | 16.50 | - | 0.1 | 40.2 | 1.8 | -38.4 | | |
| 1985 | 41.1 | 16.50 | - | 0.1 | 41.2 | 1.8 | -39.4 | | |
| Average | | | | | 39.2 | 1.4 | -37.8 | | |

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 5-5. Calamansi | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 39.8 | 0.81 | - | 2.6 | 42.4 | 42.4 | - | - | - |
| 1982 | 41.2 | 0.82 | - | 2.6 | 43.8 | 43.8 | - | - | - |
| 1983 | 42.1 | 0.82 | - | 2.7 | 44.8 | 44.8 | - | - | - |
| 1984 | 43.8 | 0.83 | - | 2.8 | 46.6 | 46.6 | - | - | - |
| 1985 | | | | | | 46.8 | | | |
| Average | | | | | 44.4 | 44.4 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.9 | 0.82 | - | 0.0 | 1.9 | 0.5 *1 | -1.4 | | |
| 1982 | 1.9 | 0.82 | - | 0.0 | 1.9 | 0.8 | -1.1 | | |
| 1983 | 1.9 | 0.82 | - | 0.0 | 1.9 | 0.6 | -1.3 | | |
| 1984 | 2.0 | 0.82 | - | 0.0 | 2.0 | 1.8 | -1.2 | | |
| 1985 | 2.0 | 0.82 | - | 0.1 | 2.1 | 1.0 | -1.0 | | |
| Average | | | | | 2.0 | 0.7 | -1.3 | | |
| 5-6. Mandrin | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 30.0 | 0.61 | - | 1.9 | 31.9 | 31.9 | - | - | - |
| 1982 | 25.3 | 0.50 | - | 1.6 | 26.9 | 26.9 | - | - | - |
| 1983 | 28.0 | 0.54 | - | 1.8 | 29.8 | 29.8 | - | - | - |
| 1984 | 22.8 | 0.43 | - | 1.5 | 24.3 | 24.3 | - | - | - |
| 1985 | | | | | | 22.9 | | | |
| Average | | | | | 28.2 | 28.2 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.2 | 0.52 | - | 0.1 | 1.3 | 1.4 *1 | 0.1 | | |
| 1982 | 1.2 | 0.52 | - | 0.1 | 1.3 | 1.6 | 0.3 | | |
| 1983 | 1.2 | 0.52 | - | 0.1 | 1.3 | 1.5 | 0.2 | | |
| 1984 | 1.3 | 0.52 | - | 0.1 | 1.4 | 1.1 | -0.3 | | |
| 1985 | 1.3 | 0.52 | - | 0.1 | 1.4 | 1.2 | -0.2 | | |
| Average | | | | | 1.3 | 1.4 | 0.1 | | |
| 5-7. Pomelo | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 32.0 | 0.65 | - | 2.0 | 34.0 | 34.0 | - | - | - |
| 1982 | 35.6 | 0.71 | - | 2.3 | 37.9 | 37.9 | - | - | - |
| 1983 | 33.5 | 0.65 | - | 2.1 | 35.6 | 35.6 | - | - | - |
| 1984 | 33.5 | 0.63 | - | 2.1 | 35.6 | 35.6 | - | - | - |
| 1985 | | | | | | 35.2 | | | |
| Average | | | | | 35.8 | 35.8 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.5 | 0.66 | - | 0.1 | 1.6 | 1.1 *1 | -0.5 | | |
| 1982 | 1.5 | 0.66 | - | 0.2 | 1.7 | 2.9 | 0.2 | | |
| 1983 | 1.6 | 0.66 | - | 0.1 | 1.7 | 2.0 | 0.3 | | |
| 1984 | 1.6 | 0.66 | - | 0.1 | 1.7 | 2.3 | 0.6 | | |
| 1985 | 1.6 | 0.66 | - | 0.1 | 1.7 | 2.1 | 0.4 | | |
| Average | | | | | 1.7 | 2.1 | 0.4 | | |
| 5-8. Guava (Guyabano) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 9.3 | 0.19 | - | 0.6 | 9.9 | 9.9 | - | - | - |
| 1982 | 10.1 | 0.20 | - | 0.7 | 10.8 | 10.8 | - | - | - |
| 1983 | 9.5 | 0.18 | - | 0.6 | 10.1 | 10.1 | - | - | - |
| 1984 | 9.5 | 0.18 | - | 0.1 | 10.1 | 10.1 | - | - | - |
| 1985 | | | | | | 10.4 | | | |
| Average | | | | | 10.2 | 10.2 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.4 | 0.19 | - | 0.0 | 0.4 | 0.2 *1 | -0.2 | | |
| 1982 | 0.4 | 0.19 | - | 0.0 | 0.4 | 0.5 | 0.1 | | |
| 1983 | 0.5 | 0.19 | - | 0.0 | 0.5 | 0.2 | 0.3 | | |
| 1984 | 0.5 | 0.19 | - | 0.0 | 0.5 | 0.2 | 0.3 | | |
| 1985 | 0.5 | 0.19 | - | 0.0 | 0.5 | 0.3 | 0.2 | | |
| Average | | | | | 0.5 | 0.3 | 0.2 | | |

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 5-9. Avocado | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 23.8 | 0.48 | - | 1.5 | 25.3 | 25.3 | - | - | - |
| 1982 | 23.4 | 0.47 | - | 1.5 | 24.9 | 24.9 | - | - | - |
| 1983 | 19.7 | 0.38 | - | 1.3 | 21.0 | 21.0 | - | - | - |
| 1984 | 19.2 | 0.36 | - | 1.2 | 20.4 | 20.4 | - | - | - |
| 1985 | | | | | | 21.1 | | | |
| Average | | | | | 22.9 | 22.9 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.9 | 0.42 | - | 0.0 | 0.9 | 0.3*1 | -0.6 | | |
| 1982 | 1.0 | 0.42 | - | 0.0 | 1.0 | 0.4 | -0.6 | | |
| 1983 | 1.0 | 0.42 | - | 0.0 | 1.0 | 0.5 | -0.5 | | |
| 1984 | 1.0 | 0.42 | - | 0.0 | 1.0 | 0.5 | -0.5 | | |
| 1985 | 1.0 | 0.42 | - | 0.0 | 1.0 | 0.6 | -0.4 | | |
| Average | | | | | 1.0 | 0.5 | -0.5 | | |
| 5-10. Jackfruit | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 91.5 | 1.87 | - | 5.8 | 97.3 | 97.3 | - | - | - |
| 1982 | 88.4 | 1.76 | - | 5.6 | 94.0 | 94.0 | - | - | - |
| 1983 | 68.4 | 1.33 | - | 4.4 | 72.8 | 72.8 | - | - | - |
| 1984 | 66.8 | 1.27 | - | 4.3 | 71.1 | 71.1 | - | - | - |
| 1985 | | | | | | 68.1 | | | |
| Average | | | | | 83.8 | 83.8 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 3.5 | 1.56 | - | 0.1 | 3.6 | 1.1*1 | -2.5 | | |
| 1982 | 3.6 | 1.56 | - | 0.1 | 3.7 | 2.4 | -1.3 | | |
| 1983 | 3.8 | 1.56 | - | 0.1 | 3.9 | 1.3 | -2.6 | | |
| 1984 | 3.8 | 1.56 | - | 0.1 | 3.9 | 1.3 | -2.6 | | |
| 1985 | 3.9 | 1.56 | - | 0.1 | 4.0 | 1.5 | -2.5 | | |
| Average | | | | | 3.8 | 1.5 | -2.3 | | |
| 5-11. Water Melon | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 185.1 | 3.77 | - | 11.8 | 196.9 | 196.9 | - | - | - |
| 1982 | 235.5 | 4.68 | - | 15.0 | 250.5 | 250.5 | - | - | - |
| 1983 | 71.1 | 1.38 | - | 4.6 | 75.7 | 75.7 | - | - | - |
| 1984 | 54.5 | 1.03 | - | 3.5 | 58.0 | 58.0 | - | - | - |
| 1985 | | | | | | 41.5 | | | |
| Average | | | | | 145.3 | 145.3 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 6.1 | 2.70 | - | 0.0 | 6.1 | 0.8*1 | -5.3 | | |
| 1982 | 6.2 | 2.70 | - | 0.1 | 6.3 | 1.6 | -4.7 | | |
| 1983 | 6.4 | 2.70 | - | 0.0 | 6.4 | 0.8 | -5.6 | | |
| 1984 | 6.6 | 2.70 | - | 0.1 | 6.7 | 1.1 | -5.6 | | |
| 1985 | 6.7 | 2.70 | - | 0.1 | 6.8 | 1.2 | -5.6 | | |
| Average | | | | | 6.5 | 1.1 | -5.4 | | |
| 5-12. Orange | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 20.3 | 0.40 | - | 1.3 | 21.6 | 21.6 | - | - | - |
| 1982 | 22.5 | 0.44 | - | 1.5 | 24.0 | 24.0 | - | - | - |
| 1983 | 18.6 | 0.35 | - | 1.2 | 19.8 | 19.8 | - | - | - |
| 1984 | 17.1 | 0.32 | - | 1.1 | 18.2 | 18.2 | - | - | - |
| 1985 | | | | | | 18.6 | | | |
| Average | | | | | 20.9 | 20.9 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.9 | 0.38 | - | 0.0 | 0.9 | 0.4*1 | -0.5 | | |
| 1982 | 0.9 | 0.38 | - | 0.0 | 0.9 | 0.7 | -0.2 | | |
| 1983 | 0.9 | 0.38 | - | 0.0 | 0.9 | 0.5 | -0.4 | | |
| 1984 | 0.9 | 0.38 | - | 0.0 | 0.9 | 0.5 | -0.4 | | |
| 1985 | 0.9 | 0.38 | - | 0.0 | 0.9 | 0.4 | -0.4 | | |
| Average | | | | | 0.9 | 0.5 | -0.4 | | |

Note: *e --- estimated  Source: *1 --- Bureau of Agricultural Economics, MAF

TABLE J-21(6). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- SUGARCANE AND COCONUT -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 6. Sugarcane Products | | | | | | | | | |
| 6-1. Centrifugal sugar | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 1,148 | 23.18 | - | - | 1,148 | 2,313 | 1,165 | - | 1,587 |
| 1982 | 1,038 | 20.44 | - | - | 1,038 | 2,440 | 1,402 | - | 1,133 |
| 1983 | 1,023 | 19.65 | - | - | 1,023 | 2,458 | 1,435 | - | 1,256 |
| 1984 | 1,149 | 21.54 | - | - | 1,149 | 2,335 | 1,186 | - | 890 |
| 1985 | | | | | | 1,718 | | | |
| Average | | | | | 1,090 | 2,387 | 1,297 | - | 1,217 |
| -Region II *e | | | | | | | | | |
| CY1981 | 47.9 | 21.20 | - | - | 47.9 | 25.3*1 | -22.6 | | |
| 1982 | 49.0 | 21.20 | - | - | 49.0 | 38.2 | -10.8 | | |
| 1983 | 50.2 | 21.20 | - | - | 50.2 | 31.4 | -18.8 | | |
| 1984 | 51.5 | 21.20 | - | - | 51.5 | 32.2 | -19.3 | | |
| 1985 | 52.8 | 21.20 | - | - | 52.5 | 24.6 | -27.9 | | |
| Average | | | | | 50.2 | 30.3 | -19.9 | | |
| 6-2. Panocha | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 20.7 | 0.42 | - | - | 20.7 | 20.7 | - | - | - |
| 1982 | 21.9 | 0.43 | - | - | 21.9 | 21.9 | - | - | - |
| 1983 | 21.1 | 0.41 | - | - | 21.1 | 21.1 | - | - | - |
| 1984 | 20.5 | 0.38 | - | - | 20.5 | 20.9 | - | - | - |
| 1985 | | | | | | 17.8 | | | |
| Average | | | | | 21.1 | 21.1 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.9 | 0.41 | - | - | 0.9 | 0.0*1 | -0.9 | | |
| 1982 | 0.9 | 0.41 | - | - | 0.9 | 0.0 | -0.9 | | |
| 1983 | 1.0 | 0.41 | - | - | 1.0 | 0.0 | -1.0 | | |
| 1984 | 1.0 | 0.41 | - | - | 1.0 | 0.0 | -1.0 | | |
| 1985 | 1.0 | 0.41 | - | - | 1.0 | 0.0 | -1.0 | | |
| Average | | | | | 1.0 | 0.0 | -1.0 | | |
| 6-3. Molasses | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | - | - | - | 347.0 | 347.0 | 859.8 | 512.8 | - | 468.0 |
| 1982 | - | - | - | 421.0 | 421.0 | 940.8 | 519.8 | - | 506.0 |
| 1983 | - | - | - | 387.0 | 387.0 | 956.9 | 569.9 | - | 611.0 |
| 1984 | - | - | - | 397.0 | 397.0 | 904.8 | 507.8 | - | 732.0 |
| 1985 | | | | | | 1,011.5 | | | |
| Average | | | | | 388.0 | 915.6 | 527.6 | - | 579.3 |
| -Region II | | | | | | | | | |
| CY1981 | | | | | no data | 9.1*1 | | | |
| 1982 | | | | | -"- | 10.2 | | | |
| 1983 | | | | | -"- | 9.9 | | | |
| 1984 | | | | | -"- | 9.4 | | | |
| 1985 | | | | | -"- | 8.7 | | | |
| Average | | | | | | 9.5 | | | |
| 7. Coconut (Copra Terms) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 80 | 1.66 | - | 1,518 | 1,598 | 3,540 | 1,942 | - | 1,712 |
| 1982 | 80 | 1.62 | - | 1,255 | 1,335 | 3,583 | 2,248 | - | 1,916 |
| 1983 | 64 | 1.27 | - | 1,066 | 1,130 | 3,097 | 1,967 | - | 1,821 |
| 1984 | 68 | 1.32 | - | 918 | 986 | 2,847 | 1,861 | - | 1,767 |
| 1985 | 42 | 0.79 | - | 1,309 | 1,351 | 2,472 | 1,121 | - | 1,038 |
| Average | | | | | 1,280 | 3,108 | 1,828 | - | 1,651 |
| -Region II *e | | | | | | | | | |
| CY1981 | 3.0 | 1.33 | - | 15.4 | 18.4 | 38.5*1 | 20.1 | | |
| 1982 | 3.1 | 1.33 | - | 10.2 | 13.3 | 25.6 | 12.3 | | |
| 1983 | 3.2 | 1.33 | - | 4.8 | 8.0 | 12.1 | 4.1 | | |
| 1984 | 3.2 | 1.33 | - | 4.8 | 8.0 | 11.9 | 3.9 | | |
| 1985 | 3.3 | 1.33 | - | 8.7 | 12.0 | 21.8 | 9.8 | | |
| Average | | | | | 11.9 | 22.0 | 10.1 | | |

Note: *e --- estimated  Source: *1 --- Bureau of Agricultural Economics, MAF

TABLE J-21(7). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- TOBACCO AND FIBER CROPS -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | | |
| | Total | per Capita (kg.) | | | | | | Import | Export |
| 8. Tobacco (Unmanufactured) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | - | - | - | 40.1 | 40.1 | 39.1 | -1.0 | 13.0 | 25.0 |
| 1982 | - | - | - | 40.4 | 40.4 | 46.8 | 6.4 | 12.9 | 26.3 |
| 1983 | - | - | - | 35.0 | 35.0 | 44.8 | 9.8 | 13.2 | 22.5 |
| 1984 | - | - | - | 51.3 | 51.3 | 66.1 | 14.8 | 8.3 | 22.0 |
| 1985 | - | - | - | | | 47.1 | | | |
| Average | | | | | 41.7 | 49.2 | 7.5 | 11.9 | 24.0 |
| -Region II | | | | | | | | | |
| CY1981 | | | | | no data | 11.8*1 | | | |
| 1982 | | | | | -"- | 13.8 | | | |
| 1983 | | | | | -"- | 9.0 | | | |
| 1984 | | | | | -"- | 12.3 | | | |
| 1985 | | | | | -"- | 5.7 | | | |
| Average | | | | | | 10.5 | | | |
| 9. Fiber Crop | | | | | | | | | |
| 9-1. Cotton (lint) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | - | - | - | 28.9 | 28.9 | 4.6 | -24.3 | 27.3 | - |
| 1982 | - | - | - | 24.7 | 24.7 | 5.2 | -19.5 | 19.5 | - |
| 1983 | - | - | - | 26.1 | 26.1 | 4.5 | -21.6 | 21.6 | - |
| 1984 | - | - | - | 22.4 | 22.4 | 4.9 | -17.5 | 16.5 | - |
| 1985 | | | | | | | | | |
| Average | | | | | 25.5 | 4.8 | -20.7 | 21.2 | - |
| -Region II | | | | | | | | | |
| CY1981 | | | | | no data | 0.6*e | | | |
| 1982 | | | | | -"- | 1.5 | | | |
| 1983 | | | | | -"- | 0.3 | | | |
| 1984 | | | | | -"- | 0.3 | | | |
| 1985 | | | | | -"- | 0.1 | | | |
| Average | | | | | | 2.8 | | | |
| 9-2. Abaca (fiber) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | - | - | - | 96.8 | 96.8 | 128.3 | 31.5 | - | 32.7 |
| 1982 | - | - | - | 87.1 | 87.1 | 119.7 | 32.6 | - | 33.0 |
| 1983 | - | - | - | 59.5 | 59.5 | 89.3 | 29.8 | - | 30.0 |
| 1984 | - | - | - | 58.5 | 58.5 | 89.2 | 30.7 | - | 30.7 |
| 1985 | | | | | | | | | |
| Average | | | | | 75.5 | 106.6 | 31.1 | - | 31.6 |
| -Region II | | | | | | | | | |
| CY1981 | | | | | no data | - *1 | | | |
| 1982 | | | | | -"- | - | | | |
| 1983 | | | | | -"- | - | | | |
| 1984 | | | | | -"- | - | | | |
| 1985 | | | | | -"- | - | | | |
| Average | | | | | | - | | | |

Note: *e --- estimated

Source: *1 --- Bureau of Agricultural Economics, MAF

TABLE J-21(8). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- COFFEE, CACAO AND FISH -

(unit: '000 tons)

| REGION/ PROVINCE | PRODUCTION UTILIZATION | | | | | PRODUCTION | SURPLUS/ (Deficit) | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Food Use | | Seed | Others | Total Use | | | Import | Export |
| | Total | Per Capita (kg.) | | | | | | | |
| 10. Coffee (green beans) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 37.3 | 0.76 | - | - | 37.3 | 65.9 | 28.6 | - | 16.3 |
| 1982 | 37.9 | 0.75 | - | - | 37.9 | 80.9 | 43.0 | - | 24.0 |
| 1983 | 34.2 | 0.66 | - | - | 34.2 | 69.0 | 34.8 | - | 24.3 |
| 1984 | 38.3 | 0.72 | - | - | 38.3 | 73.0 | 34.7 | - | 29.6 |
| 1985 | | | | | | | | | |
| Average | | | | | 36.9 | 72.2 | 35.3 | - | 23.6 |
| -Region II *e | | | | | | | | | |
| CY1981 | 1.6 | 0.72 | - | - | 1.6 | 2.5*1 | 0.9 | | |
| 1982 | 1.7 | 0.72 | - | - | 1.7 | 2.5 | 0.8 | | |
| 1983 | 1.7 | 0.72 | - | - | 1.7 | 1.6 | -0.1 | | |
| 1984 | 1.7 | 0.72 | - | - | 1.7 | 1.5 | -0.2 | | |
| 1985 | 1.8 | 0.72 | - | - | 1.8 | 2.3 | 0.5 | | |
| Average | | | | | 1.7 | 2.1 | 0.4 | | |
| 11. Cacao (beans) | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 6.0 | 0.12 | - | - | 6.0 | 4.2 | -1.8 | 14.1 | 12.3 |
| 1982 | 4.7 | 0.09 | - | - | 4.7 | 5.4 | 0.7 | 18.9 | 19.6 |
| 1983 | 4.7 | 0.09 | - | - | 4.7 | 5.5 | 0.8 | 10.7 | 11.5 |
| 1984 | 5.5 | 0.11 | - | - | 5.5 | 4.8 | -0.7 | 5.0 | 4.3 |
| 1985 | | | | | | 5.2 | | | |
| Average | | | | | 5.2 | 5.0 | -0.2 | 12.2 | 11.9 |
| -Region II *e | | | | | | | | | |
| CY1981 | 0.2 | 0.10 | - | - | 0.2 | 0.0*1 | -0.2 | | |
| 1982 | 0.2 | 0.10 | - | - | 0.2 | 0.0 | -0.2 | | |
| 1983 | 0.2 | 0.10 | - | - | 0.2 | 0.0 | -0.2 | | |
| 1984 | 0.2 | 0.10 | - | - | 0.2 | 0.0 | -0.2 | | |
| 1985 | 0.2 | 0.10 | - | - | 0.2 | 0.1 | -0.1 | | |
| Average | | | | | 0.2 | 0.0 | -0.2 | | |
| 12. Fish | | | | | | | | | |
| -Whole Country *1 | | | | | | | | | |
| CY1981 | 1,494 | 30.16 | - | 297 | 1,791 | 1,773 | -18 | 90 | 72 |
| 1982 | 1,553 | 30.58 | - | 420 | 1,973 | 1,897 | -76 | 132 | 56 |
| 1983 | 1,735 | 33.33 | - | 361 | 2,096 | 2,110 | 14 | 51 | 65 |
| 1984 | 1,673 | 31.36 | - | 360 | 2,033 | 2,080 | 47 | 15 | 62 |
| 1985 | | | | | | | | | |
| Average | | | | | 1,973 | 1,965 | -8 | 72 | 64 |
| -Region II *e | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 70.9 | 30.70 | - | 14.5 | 85.4*2 | 11.1*2 | -74.3 | | |
| 1983 | 72.7 | 30.70 | - | 14.9 | 87.6 | 20.1 | -67.5 | | |
| 1984 | 74.6 | 30.70 | - | 15.4 | 90.0 | 24.3 | -65.7 | | |
| 1985 | 76.5 | 30.70 | - | 15.5 | 92.0 | 19.1 | -72.9 | | |
| Average | | | | | 88.8 | 18.7 | -70.1 | | |

Note: *e --- estimated

Source: *1 --- Bureau of Agricultural Economics, MAF

*2 --- NEDA, Region II

TABLE J-21(9). AGRICULTURAL PRODUCTION AND USE ESTIMATES, WHOLE COUNTRY & REGION II

- LIVESTOCK, POULTRY AND DAIRY -

| REGION/ PROVINCE | Food Use | | Production | | | | SURPLUS/ | Quantity Traded | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Per Capita (kg.) | Beginning Inventory | Total Domestic Supply | Head Slaughtered | Production | (Deficit) | Import | Export |
| | ('000 tons) | | ('000 heads) | | | ( '000 tons) | | | |
| 13. Livestock, Poultry and Dairy | | | | | | | | | |
| 13-1. Cattle and Water Buffalo Beef | | | | | | | | | |
| -Whole Country *1 | | | Cattle/Buffalo | | | | | | |
| CY1981 | 113.3 | 2.29 | 1,940/2,850 | 2,342/3,199 | 334/211 *3 | 105.7 | -7.6 | 7.6 | - |
| 1982 | 123.0 | 2.42 | 1,942/2,908 | 2,344/3,264 | 340/236 | 111.9 | -11.1 | 11.1 | - |
| 1983 | 125.4 | 2.40 | 1,938/2,946 | 2,339/3,307 | 424/202 | 121.0 | -4.4 | 4.4 | - |
| 1984 | 106.4 | 2.00 | 1,849/3,022 | 2,232/3,392 | 342/203 | 105.6 | -0.8 | 0.8 | - |
| 1985 | | | 1,786/2,982 | | | | | | |
| Average | 117.0 | | | | | 111.1 | -5.9 | 5.9 | - |
| -Region II | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 10.4 *2 | 4.50 | 189/411 | | | 10.2 *1 | -0.2 | | |
| 1983 | 10.7 | 4.50 | 176/404 | | | 9.9 | -0.8 | | |
| 1984 | 10.9 | 4.50 | 159/345 | | | 8.5 | -1.4 | | |
| 1985 | 11.2 | 4.50 | 135/394 | | | 9.2 | -2.0 | | |
| Average | 11.1 | | | | | 9.5 | -1.6 | | |
| 13-2. Pork | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 559.3 | 11.3 | 7,758 | 19,336 | 9,221 *4 | 558.8 | -0.5 | 1.1 | 0.6 |
| 1982 | 552.8 | 10.9 | 7,795 | 19,432 | 9,120 | 552.7 | -0.1 | 0.8 | 0.7 |
| 1983 | 600.0 | 11.5 | 7,980 | 19,889 | 9,890 | 599.3 | -0.7 | 1.7 | 0.0 |
| 1984 | 547.0 | 10.3 | 7,612 | 18,976 | 9,037 | 547.6 | 0.6 | 0.0 | 0.0 |
| 1985 | | | 7,303 | | | | | | |
| Average | 564.8 | | | | | 564.6 | -0.2 | 0.9 | 0.3 |
| -Region II | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 23.6 *2 | 10.2 | 593 | | | 22.7 *1 | -0.9 | | |
| 1983 | 24.0 | 10.2 | 538 | | | 21.0 | -3.0 | | |
| 1984 | 24.8 | 10.2 | 433 | | | 16.6 | -8.2 | | |
| 1985 | 25.5 | 10.2 | 508 | | | 19.4 | -6.1 | | |
| Average | 24.5 | | | | | 19.9 | -4.6 | | |
| 13-3. Goat | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 11.4 | 0.23 | 1,696 | 3,012 | 881 *5 | 11.4 | - | - | - |
| 1982 | 11.9 | 0.23 | 1,783 | 3,147 | 926 | 11.9 | - | - | - |
| 1983 | 7.4 | 0.14 | 1,859 | 3,321 | 574 | 7.4 | - | - | - |
| 1984 | 14.9 | 0.28 | 2,362 | 4,223 | 1,156 | 14.9 | - | - | - |
| 1985 | | | 2,191 | | | | | | |
| Average | 11.4 | | | | | 11.4 | - | - | - |
| -Region II *e | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 0.5 *1 | 0.22 | 32 | 56 | 16 | 0.2 *1 | -0.3 | | |
| 1983 | 0.5 | 0.22 | 34 | 61 | 11 | 0.1 | -0.4 | | |
| 1984 | 0.5 | 0.22 | 43 | 77 | 21 | 0.3 | -0.2 | | |
| 1985 | 0.5 | 0.22 | 54 | 97 | 27 | 0.3 | -0.2 | | |
| Average | 0.5 | | | | | 0.2 | -0.3 | | |
| 13-4. Chicken | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 164.7 | 3.32 | 57,724 | 260,555 | 162,266 *6 | 163.9 | -0.8 | 0.8 | 0.0 |
| 1982 | 169.7 | 3.34 | 59,711 | 269,402 | 167,378 | 169.1 | -0.6 | 0.7 | 0.0 |
| 1983 | 182.7 | 3.51 | 62,255 | 280,812 | 180,225 | 182.0 | -0.7 | 0.8 | 0.0 |
| 1984 | 168.0 | 3.15 | 59,205 | 267,103 | 165,693 | 167.3 | -0.7 | 0.7 | 0.0 |
| 1985 | | | 52,098 | | | | | | |
| Average | 171.2 | | | | | 170.6 | -0.6 | 0.8 | 0.0 |
| -Region II | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 11.6 *2 | 3.27 | 2,787 | | | 3.3 *1 | -8.3 | | |
| 1983 | 11.9 | 3.27 | 2,715 | | | 3.3 | -8.6 | | |
| 1984 | 12.2 | 3.27 | 1,764 | | | 4.7 | -7.5 | | |
| 1985 | 12.5 | 3.27 | 3,063 | | | 8.2 | -4.3 | | |
| Average | 12.1 | | | | | 4.9 | -7.2 | | |

| REGION/ PROVINCE | Food Use Total ('000 tons) | Food Use Per Capita (kg.) | Production Beginning Inventory ('000 heads) | Production Total Domestic Supply ('000 heads) | Production Head Slaughtered ('000 heads) | Production ('000 tons) | SURPLUS/ (Deficit) ('000 tons) | Quantity Traded Import ('000 tons) | Quantity Traded Export ('000 tons) |
|---|---|---|---|---|---|---|---|---|---|
| 13-5. Ducks | | | | | | | | | |
| -Whole Country | | | | | | | | | |
| CY1981 | 11.6 | 0.24 | 4,783 | 21,524 | 15,005*7 | 11.6 | - | - | - |
| 1982 | 11.6 | 0.23 | 4,905 | 22,073 | 14,998 | 11.6 | - | - | - |
| 1983 | 13.0 | 0.25 | 5,419 | 24,386 | 16,793 | 12.9 | -0.1 | 0.1 | - |
| 1984 | 13.5 | 0.25 | 5,764 | 25,938 | 17,547 | 13.5 | -0.0 | 0.0 | - |
| 1985 | | | 5,276 | | | | | | |
| Average | 12.4 | | | | | 12.4 | 0.0 | 0.0 | - |
| -Region II | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 0.9*2 | 0.24 | 218 | | | 0.3*1 | -0.6 | | |
| 1983 | 0.9 | 0.24 | 244 | | | 0.3 | -0.6 | | |
| 1984 | 0.9 | 0.24 | 228 | | | 0.5 | -0.4 | | |
| 1985 | 0.9 | 0.24 | 350 | | | 0.9 | - | | |
| Average | 0.9 | | | | | 0.5 | -0.4 | | |

PRODUCTION UTILIZATION

(unit: '000 tons)

| REGION/ PROVINCE | Food Use Total | Food Use Per Capita (kg.) | Seed | Others | Total Use | Production | SURPLUS/ (Deficit) | Quantity Traded Import | Quantity Traded Export |
|---|---|---|---|---|---|---|---|---|---|
| 13-6. Eggs | | | | | | | | | |
| -Whole Country*1 | | | | | | | | | |
| CY1981 | 124 | 2.5 | 5 | 7 | 136 | 136 | - | - | - |
| 1982 | 135 | 2.7 | 6 | 8 | 149 | 149 | - | - | - |
| 1983 | 127 | 2.4 | 6 | 7 | 140 | 140 | - | - | - |
| 1984 | 131 | 2.5 | 6 | 7 | 144 | 144 | - | - | - |
| 1985 | | | | | | | | | |
| Average | | | | | 142 | 142 | - | - | - |
| -Region II | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | | | | | 11.1*2 | 1.7*2 | -9.4 | | |
| 1983 | | | | | 11.6 | 1.5 | -10.1 | | |
| 1984 | | | | | 11.7 | 1.2 | -10.5 | | |
| 1985 | | | | | 12.0 | 1.9 | -10.1 | | |
| Average | | | | | 11.6 | 1.6 | -10.1 | | |
| 13-7. Dairy | | | | | | | | | |
| -Whole Country*1 | | | | | | | | | |
| CY1981 | 96.0 | 2.7 | | | 96.0 | 2.6 | -93.4 | 98.4 | 2.4 |
| 1982 | 116.5 | 2.3 | | | 116.5 | 2.6 | -113.9 | 121.3 | 2.5 |
| 1983 | 110.2 | 2.1 | | | 110.2 | 2.6 | -107.6 | 108.4 | 3.6 |
| 1984 | 68.1 | 1.2 | | | 68.1 | 2.5 | -65.6 | 66.6 | 0.5 |
| 1985 | | | | | | | | | |
| Average | | | | | 97.7 | 2.6 | -95.1 | 98.7 | 2.3 |
| -Region II *e | | | | | | | | | |
| CY1981 | | | | | | | | | |
| 1982 | 4.9 | 2.1 | | | 4.9 | 0.3*1 | -4.6 | | |
| 1983 | 5.0 | 2.1 | | | 5.0 | 0.2 | -4.8 | | |
| 1984 | 5.1 | 2.1 | | | 5.1 | 0.2 | -4.9 | | |
| 1985 | 5.2 | 2.1 | | | 5.2 | 0.2 | -5.0 | | |
| Average | | | | | 5.1 | 0.2 | -4.9 | | |

Note: *3 --- 190 kg. per head per cattle and 200.3 kg. per head for water buffalo
*4 --- 60.6 kg. per head for hog
*5--- 12.9 kg. per head for goat
*6 --- 1.01 kg. per head for chicken
*7--- 0.77 kg. per head for duck
*e --- estimated

Source: *1 --- Bureau of Agricultural Economics, MAF
*2 --- NEDA, Region II

TABLE J-22(1). FORECAST OF RICE DEMAND AND PRODUCTION
- IN REGION IV, II AND MRIIS AREA -

| Crop Year | Population ('000 persons) | Demand: Food Use Total ('000 tons) | Demand: Food Use (kg/Capita) | Demand: Seeds, Feed & Waste ('000 tons) | Demand: Total ('000 tons) | Production ('000 tons) | Surplus & Deficit ('000 tons) |
|---|---|---|---|---|---|---|---|
| 1. Region IV (Southern Tagalog) | | | | | | | |
| CY 1981*1 | 12,280 | 1,220 | 99.32 | 49 | 1,269 | 503 | -766 |
| 1982*1 | 12,650 | 1,196 | 94.59 | 47 | 1,243 | 481 | -762 |
| 1983*1 | 13,390 | 1,228 | 94.21 | 48 | 1,276 | 519 | -757 |
| 1984*1 | 13,440 | 1,321 | 98.32 | 50 | 1,371 | 563 | -808 |
| 1985*1 | 13,840 | 1,356 | 97.98 | 52 | 1,408 | 599 | -809 |
| 1986 | 14,200e | 1,390 | (98.0e) | 50e | 1,440 | 620e | -820 |
| (Forecast) | | | | | | | |
| CY 1987 | 14,600e | 1,430 | (98.0e) | 50e | 1,480 | 640e | -840 |
| 1988 | 14,800e | 1,450 | (98.0e) | 50e | 1,500 | 670e | -830 |
| 1989 | 15,200e | 1,490 | (98.0e) | 60e | 1,550 | 700e | -850 |
| 1990 | 15,800*2 | 1,550 | (98.0e) | 60e | 1,610 | 730e | -880 |
| 1991 | 16,200e | 1,590 | (98.0e) | 60e | 1,650 | 750e | -900 |
| 1992 | 16,500e | 1,620 | (98.0e) | 60e | 1,680 | 780e | -900 |
| 2. Region II (Cagayan Valley) | | | | | | | |
| CY 1981*1 | 2,260 | 209 | 99.74 | 54 | 263 | 480 | 217 |
| 1982*1 | 2,310 | 213 | 92.06 | 60 | 273 | 545 | 272 |
| 1983*1 | 2,369 | 189 | 79.96 | 67 | 256 | 608 | 352 |
| 1984*1 | 2,429 | 238 | 97.84 | 54 | 292 | 485 | 193 |
| 1985*1 | 2,491 | 244 | 97.97 | 71 | 315 | 680 | 365 |
| 1986 | 2,560e | 250 | 98.0e | 90 | 340 | 760e | 420 |
| (Forecast) | | | | | | | |
| CY 1987 | 2,620*3 | 260 | 98.0e | 110 | 370 | 840e | 470 |
| 1988 | 2,670*3 | 260 | 98.0e | 120 | 380 | 920e | 540 |
| 1989 | 2,730*3 | 270 | 98.0e | 130 | 400 | 990e | 590 |
| 1990 | 2,790*3 | 270 | 98.0e | 130 | 400 | 1,070e | 670 |
| 1991 | 2,840*3 | 280 | 98.0e | 140 | 420 | 1,150e | 730 |
| 1992 | 2,890*3 | 280 | 98.0e | 150 | 430 | 1,230*3 | 800 |
| 3. MRIIS Service Area | | | | | | | |
| CY 1981 | 490 | 61 | 124.0*4 | 11 | 72 | 133 | 61 |
| 1982 | 510 | 63 | 124.0 | 14 | 77 | 178 | 101 |
| 1983 | 520 | 64 | 124.0 | 14 | 78 | 169 | 91 |
| 1984 | 540 | 67 | 124.0 | 19 | 86 | 232 | 146 |
| 1985 | 550 | 68 | 124.0 | 21 | 89 | 273 | 184 |
| 1986 | 569 | 70 | 124.0 | 20 | 90 | 270 | 180 |
| (Target) | | | | | | | |
| CY 1987 | 590e | 70 | 124.0 | 20 | 90 | 290 | 200 |
| 1988 | 600e | 80 | 124.0 | 30 | 110 | 310 | 200 |
| 1989 | 620e | 80 | 124.0 | 30 | 110 | 350 | 240 |
| 1990 | 630e | 80 | 124.0 | 30 | 110 | 390 | 280 |
| 1991 | 650e | 80 | 124.0 | 40 | 120 | 450 | 330 |
| 1992 | 670e | 80 | 124.0 | 40 | 120 | 500 | 380 |

Note: e .... estimated
*1 ... Bureau of Agricultural Economics, MAF
*2 ... "Population Projections, 1980-2000", NCSO, NEDA
*3 ... The Medium-term Cagayan Valley Regional Development Plan, 1987-1992, NDA Region II
*4 ... Farm Economic Survey in MRIIS Area, June, 1986

TABLE J-22(2). FORECAST OF RICE DEMAND AND PRODUCTION
- Whole Country -

| Crop Year | Population (million persons) | Demand | | | | Production | Surplus & Deficit |
|---|---|---|---|---|---|---|---|
| | | Food Use | | Seed, Feed & Waste | Total | | |
| | | Total | (kg/capita) | | | | |
| | | ('000 tons) | | | | | |
| CY1970 | 36.7 | 3,019 | (83.15) | 357 | 3,376 | 3,278 | -98 |
| 1971 | | 3,237 | (86.54) | 364 | 3,601 | 3,375 | -226 |
| 1972 | | 3,452 | (89.79) | 363 | 3,815 | 3,248 | -567 |
| 1973 | | 2,995 | (75.80) | 331 | 3,326 | 2,835 | -491 |
| 1974 | | 3,141 | (77.35) | 399 | 3,540 | 3,621 | +81 |
| 1975 | 42.1 | 3,430 | (82.18) | 410 | 3,840 | 3,694 | -146 |
| 1976 | | 3,837 | (89.46) | 437 | 4,274 | 4,052 | -222 |
| 1977 | | 3,791 | (86.05) | 451 | 4,242 | 4,281 | +39 |
| 1978 | | 3,725 | (82.31) | 472 | 4,197 | 4,607 | +410 |
| 1979 | | 3,994 | (85.92) | 487 | 4,481 | 4,847 | +366 |
| 1980 | 48.1 | 4,314 | (90.36) | 508 | 4,822 | 5,093 | +271 |
| 1981 | | 4,594 | (93.67) | 495 | 5,089 | 5,020 | -69 |
| 1982 | | 4,569 | (90.87) | 511 | 5,080 | 5,279 | +199 |
| 1983 | | 4,586 | (88.97) | 486 | 5,072 | 5,041 | -31 |
| 1984 | | 5,099 | (96.50) | 487 | 5,586 | 5,128 | -458 |
| 1985 | 54.4 | 5,235 | (96.68) | 507 | 5,742 | 5,363 | -379 |
| 1986 | 56.0* | 5,400 | (97.0$^{e}$) | 530$^{e}$ | 5,930 | 5,900* | -30 |
| (Forecast ) | | | | | | | |
| 1987 | 57.4* | 5,600 | (97.0$^{e}$) | 560$^{e}$ | 6,160 | 6,100* | -60 |
| 1988 | 58.7* | 5,700 | (97.0$^{e}$) | 590$^{e}$ | 6,290 | 6,400* | +110 |
| 1989 | 60.1* | 5,800 | (97.0$^{e}$) | 620$^{e}$ | 6,420 | 6,600* | +180 |
| 1990 | 61.5* | 6,000 | (97.0$^{e}$) | 640$^{e}$ | 6,640 | 6,800* | +160 |
| 1991 | 62.9* | 6,100 | (97.0$^{e}$) | 670$^{e}$ | 6,770 | 7,100* | +330 |
| 1992 | 64.3* | 6,200 | (97.0$^{e}$) | 700$^{e}$ | 6,900 | 7,400* | +500 |

Note : e --- estimated

Source: Bureau of Agricultural Economics, MAF

* --- "Philippine Devetopment Plan, 1987-1992", NEDA

TABLE J-23. PRESENT PADDY PRODUCTION COST

(unit: ₱/has)

| Item | Yield Class (Tons/ha) 2.0 | 3.0 | 4.0 | 5.0 |
|---|---|---|---|---|
| 1. Wet Season Paddy (Yield, tons/ha) | | | | |
| - Seeds | 310 | 330 | 350 | 370 |
| - Fertilizer | 880 | 880 | 960 | 1,100 |
| - Pesticides | 520 | 570 | 620 | 680 |
| - Hired labor | 720 | 1,100 | 1,500 | 1,800 |
| - Machinery, Animals | 1,100 | 1,400 | 1,700 | 1,900 |
| - Irrigation Fee | 350 | 350 | 350 | 350 |
| - Others | 3-0 | 460 | 550 | 620 |
| Total (Owner Farmer) | 4,270 | 5,090 | 6,030 | 6,820 |
| - Land Rent | 1,400 | 1,400 | 1,400 | 1,400 |
| Total (Tenant Farmer) | 5,670 | 6,490 | 7,430 | 8,220 |
| 2. Dry Season Paddy (Yield, tons/ha) | | | | |
| - Seeds | 300 | 310 | 330 | 370 |
| - Fertilizer | 870 | 960 | 1,000 | 1,100 |
| - Pesticides | 430 | 470 | 510 | 530 |
| - Hired labor | 690 | 980 | 1,300 | 1,500 |
| - Machinery, Animals | 1,300 | 1,500 | 1,700 | 1,900 |
| - Irrigation Fee | 520 | 520 | 520 | 520 |
| - Others | 410 | 470 | 540 | 590 |
| Total (Owner Farmer) | 4,520 | 5,210 | 5,900 | 6,510 |
| - Land Rent | 1,400 | 1,400 | 1,400 | 1,400 |
| Total (Tenant Farmer) | 5,920 | 6,610 | 7,300 | 7,910 |

Source: Based on Farm Economic Survey in the Project Area, 1986.

TABLE J-24. MANUFACTURING ESTABLISHMENTS BY MUNICIPALITY IN MRIIS PROJECT AREA, 1983

(unit: '000 ₱)

| Municipalities. | Agro-industry | | Industry | | Cottage Industries | | Total Capitalization |
|---|---|---|---|---|---|---|---|
| | Number | Capita-lization | Number | Capita-lization | Number | Capita-lization | |
| I. ISABELA | | | | | | | |
| Alicia | 33 | 2,044.6 | 7 | 7,690 | 12 | 154 | 9,888.6 |
| Angadanan | 10 | 358 | 7 | 10,049.5 | 1 | 20 | 10,427.5 |
| Aurora | 17 | 751.1 | - | - | 1 | 5 | 756.1 |
| Burgos | 15 | 385.5 | 6 | 155 | 1 | 10 | 550.5 |
| Cabatuan | 28 | 3,254.4 | - | - | 3 | 48 | 3,302.4 |
| Cauayan | 24 | 1,304 | 11 | 947.8 | 59 | 906.2 | 3,158.0 |
| Cordon | 11 | 410 | 28 | 858.0 | 3 | 33 | 1,301.0 |
| Echague | 11 | 833 | 8 | 43.4 | 13 | 78.4 | 954.7 |
| Gamu | 6 | 801.8 | 1 | 1,000 | 1 | 5 | 1,806.8 |
| Luna | 7 | 373.4 | - | - | - | - | 373.4 |
| Naguillan | 4 | 196.7 | 8 | 11,245 | 2 | 29 | 11,470.7 |
| Quirino | 4 | 161.9 | - | - | 3 | 50 | 211.9 |
| Ramon | 23 | 1,663.5 | - | - | - | - | 1,663.5 |
| Reina Mercedes | 2 | 167.2 | - | - | 1 | 10 | 177.2 |
| Roxas | 14 | 757.3 | 10 | 680 | 12 | 81.7 | 1,579.0 |
| San Isidro | 11 | 436.5 | - | - | - | - | 436.5 |
| San Manuel | 11 | 287.0 | 3 | 30 | 17 | 57.5 | 369.5 |
| San Mateo | 25 | 1,245.7 | 22 | 440 | 7 | 83 | 1,768.9 |
| Santiago | 44 | 2,344.0 | 45 | 2,250 | 50 | 655.2 | 5,259.2 |
| II. QUIRINO PROVINCE | | | | | | | |
| Cabarroguis | N.A. | | | | | | |
| Diffun | | | | | | | |
| Saguday | | | | | | | |
| III. IFUGAO | | | | | | | |
| Potia | N.A. | | | | | | |
| Total in MRIIS | 300 | 17,770.6 | 156 | 35,388.7 | 188 | 2,226 | 55,455.4 |
| Total of Isabela 37 Municipalities | 401 | 22,526.8 | 196 | 59,941.5 | 268 | 3,750.5 | 86,218.9 |

Source: Socio-economic profile by Province, Ilagan Provincial Office

TABLE J-25. COMMERCIAL ESTABLISHMENTS BY MUNICIPALITY IN MRIIS PROJECT AREA, 1983

(unit: '000 ₱)

| Municipality | RICE, CORN AND FLOUR | | | | GENERAL COMMERCIAL | | | | Total Capital |
|---|---|---|---|---|---|---|---|---|---|
| | Wholesale | | Retail | | Wholesale | | Retail | | |
| | Number | Capital | Number | Capital | Number | Capital | Number | Capital | |
| I. ISABELA Province | | | | | | | | | |
| 1. Alicia | 57 | 2,551 | 59 | 402 | 22 | 1,083 | 68 | 523 | 4,559 |
| 2. Angadanan | 4 | 50 | 8 | 26 | 4 | 22 | 33 | 109 | 207 |
| 3. Aurora | 42 | 2,842 | 38 | 294 | - | - | 79 | 790 | 3,926 |
| 4. Burgos | 25 | 383 | 9 | 90 | 2 | 85 | 15 | 1,098 | 1,656 |
| 5. Cabatuan | 49 | 4,372 | 34 | 528 | - | - | 23 | 826 | 5,726 |
| 6. Cauayan | 53 | 1,978 | 102 | 662 | 59 | 5,450 | 794 | 8,940 | 17,030 |
| 7. Cordon | 19 | 209 | 27 | 118 | 3 | 75 | 238 | 1,148 | 1,550 |
| 8. Echague | 19 | 525 | 34 | 89 | 8 | 1,233 | 230 | 832 | 2,680 |
| 9. Gamu | 9 | 442 | 2 | 41 | 63 | - | 3 | 20 | 503 |
| 10. Luna | 11 | 185 | 4 | 26 | 8 | 170 | 57 | 570 | 951 |
| 11. Naguilian | 13 | 170 | 13 | 33 | 4 | 330 | 434 | 2,170 | 2,703 |
| 12. Quirino | 5 | 65 | 4 | 16 | - | - | 10 | 60 | 141 |
| 13. Ramon | 45 | 617 | 44 | 207 | - | - | 7 | 74 | 898 |
| 14. Reina Mercedes | 4 | 152 | 1 | 15 | 4 | 62 | - | - | 229 |
| 15. Roxas | 53 | 1,041 | 54 | 212 | 49 | 3,196 | 479 | 3,670 | 8,119 |
| 16. San Isidro | 6 | 140 | 7 | 27 | - | - | 6 | 45 | 212 |
| 17. San Manuel | 40 | 478 | 17 | 83 | 5 | 35 | 17 | 175 | 771 |
| 18. San Mateo | 73 | 1,620 | 40 | 271 | 56 | 3,127 | 421 | 1,403 | 6,421 |
| 19. Santiago | 82 | 6,441 | 133 | 1,618 | 606 | 18,198 | 388 | 46,827 | 73,084 |
| Sub-total | 609 | 24,262 | 630 | 4,758 | 893 | 33,066 | 3,302 | 69,280 | 131,366 |
| II. QUIRINO Province | | | | | | | | | |
| 20. Cabarroguis | N.A. | | -- | | N.A. | | 185 | | |
| 21. Diffun | N.A. | | 7 | | N.A. | | 159 | | |
| 22. Saguday | N.A. | | 3 | | N.A. | | 33 | | |
| III. IFUGAO Province | | | | | | | | | |
| 23. Potia | N.A. | | | | N.A. | | N.A. | | |
| Total in MRIIS | | | 640 | | | | 3,679 | | |
| Total of Isabela | 782 | 29,035 | 870 | 6,200 | 925 | 54,567 | 4,548 | 78,866 | 168,668 |

Source: NFA

TABLE J-26. NUMBER OF AGRICULTURAL INPUT DEALERS AND MACHINERY DEALERS

| Municipality | No. of Agricultural Input Dealers | Agricultural Machinery Dealers | No. of Workshops /Repairshops |
|---|---|---|---|
| Alicia | 8 | 2 | 11 |
| Angadanan | 1 | - | 1 |
| Aurora | 10 | - | 8 |
| Burgos | 2 | - | 6 |
| Cabatuan | 7 | 1 | 5 |
| Cauayan | 18 | 1 | 13 |
| Cordon | 2 | - | 5 |
| Echague | 6 | - | 4 |
| Gamu | 3 | - | 3 |
| Luna | 4 | - | 2 |
| Ramon | 7 | - | 5 |
| Roxas | 14 | 5 | 10 |
| San Isidro | 2 | - | 3 |
| San Manuel | 3 | - | 6 |
| San Mateo | 8 | 3 | 26 |
| Santiago | 16 | 13 | 13 |
| Naguilian | 2 | - | - |
| Quirino | 3 | - | 2 |
| Reina Mercedes | - | - | 1 |
| Potia | NA | - | - |
| Saguday | 1 | - | 1 |
| Diffun | 1 | - | 6 |
| Cabarroguis | - | - | 5 |
| Total | 118 | 25 | 136 |

Note: The number of agricultural machinery dealers and the number of workshops/repairshops were collected from the Municipality Offices, agricultural input dealers from MAF.

TABLE J-27. NUMBER OF GRAIN BUSINESSMEN

| Municipality | Retailers | Wholesalers | Warehouse Men | Milling |
|---|---|---|---|---|
| Alicia | 76 | 93 | 66 | 40 |
| Angadanan | 10 | 6 | 4 | 12 |
| Aurora | 48 | 58 | 48 | 21 |
| Burgos | 14 | 40 | 26 | 19 |
| Cabatuan | 40 | 24 | 53 | 31 |
| Cauayan | 114 | 75 | 62 | 22 |
| Cordon | 35 | 37 | 15 | 15 |
| Echague | 64 | 34 | 19 | 12 |
| Gamu | 4 | 19 | 12 | 10 |
| Luna | 10 | 11 | 13 | 7 |
| Naguilian | 19 | 7 | 10 | 11 |
| Quirino | 7 | 8 | 5 | 10 |
| Ramon | 60 | 58 | 45 | 11 |
| Reina Mercedes | 7 | 7 | 8 | 9 |
| Roxas | 72 | 72 | 80 | 20 |
| San Isidro | 10 | 31 | 7 | 10 |
| San Mateo | 45 | 58 | 43 | 28 |
| Santiago | 190 | 119 | 84 | 39 |
| San Manuel | 35 | 83 | 45 | 14 |
| Potia | 3 | 1 | NA | 4 |
| Saguday | 7 | 6 | 5 | 5 |
| Cabarroguis | 48 | 26 | 9 | 8 |
| Diffun | 30 | 18 | 10 | 11 |

Source: NFA, Isabela, Quirino

TABLE J-28. PADDY PROCUREMENT BY NFA IN THE MRIIS AREA

(unit: bag = 50kg)

| Month | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|
| Jan. | 40,862 | 84,950 | 163,302 | 23,417 | 5,181 |
| Feb. | 7,329 | 27,002 | 129,455 | 7,696 | 652 |
| Mar. | 2,477 | 42,689 | 112,237 | 245 | 148 |
| Apr. | 3,524 | 98,195 | 109,044 | 1,058 | 832 |
| May | 36,288 | 50,216 | 148,975 | 853 | 237 |
| Jun. | 2,547 | 35,196 | 15,097 | 2,197 | 311 |
| Jul. | 43 | 4,693 | 150 | 41 | 18 |
| Aug. | 4 | 11,711 | 23 | - | 283 |
| Sep. | 1,003 | 26,455 | 338 | 310 | 17,090 |
| Oct. | 115,579 | 137,733 | 1,468 | 14,441 | 172,273 |
| Nov. | 161,561 | 230,097 | 4,160 | 29,031 | 166,949 |
| Dec. | 136,427 | 199,501 | 6,800 | 34,441 | 152,574 |
| Total | 507,644 | 948,438 | 691,049 | 113,730 | 516,548 |

Source: NFA Region II, Santiago

TABLE J-29. VOLUME OF SOLD PADDY TO RICE MILL

| Month | Volume * (tons) | | | Percent(monthly total=100) | | |
|---|---|---|---|---|---|---|
| | Dry Paddy | Skin Dry Paddy | Wet Paddy | Dry Paddy | Skin Dry Paddy | Wet Paddy |
| Oct., '85 | 1,170 | 1,145 | 1,379 | 32 | 31 | 37 |
| Nov. | 900 | 1,394 | 1,485 | 24 | 37 | 39 |
| Dec. | 1,265 | 1,555 | 474 | 38 | 47 | 15 |
| Jan., '86 | 1,415 | 1,019 | 350 | 51 | 37 | 12 |
| Feb. | 2,185 | 902 | 289 | 65 | 27 | 8 |
| Mar. | 3,602 | 973 | 57 | 78 | 21 | 1 |
| Apr. | 3,966 | 756 | 33 | 83 | 16 | 1 |
| May | 3,653 | 618 | - | 86 | 14 | - |
| Jun. | 295 | 74 | - | 80 | 20 | - |
| Jul. | - | - | - | - | - | - |
| Aug. | 750 | 782 | 435 | 38 | 40 | 22 |
| Sep. | 1,230 | 1,113 | 748 | 40 | 36 | 24 |
| Oct. | 1,350 | 1,155 | 1,344 | 35 | 30 | 35 |
| Nov. | 1,390 | 1,124 | 1,407 | 35 | 29 | 36 |
| Total | 23,171 | 12,610 | 8,001 | 52 | 29 | 19 |

Note : *--- Volume of skin dry and wet paddy are converted to dry matter at 14% MC.

Source: "Rice Mill survey in the MRIIS Area" conducted by JICA Survey Team (in Cauayan, Alicia and Santiago).

TABLE J-30. AVERAGE FARM-GATE PRICE OF PADDY IN REGION II, REGION III AND PHILIPPINES

(unit: P/Kg)

| Month | Paddy Special | | | Paddy Ordinary | | |
|---|---|---|---|---|---|---|
| | Region | | Whole Country | Region | | Whole Country |
| | II | III | | II | III | |
| 1. Monthly Average | | | | | | |
| Jan. 1984 | 1.96 | 2.30 | 1.96 | 1.84 | 2.09 | 1.85 |
| Feb. | 2.02 | 2.39 | 2.02 | 1.89 | 2.33 | 1.89 |
| Mar. | 2.39 | 2.37 | 2.10 | 2.25 | 2.25 | 1.98 |
| Apr. | 2.40 | 2.54 | 2.14 | 2.29 | 2.28 | 1.94 |
| May | 2.28 | 2.58 | 2.18 | 2.25 | 2.65 | 2.09 |
| Jun. | 2.59 | 2.89 | 2.57 | 2.55 | 2.72 | 2.36 |
| Jul. | 2.92 | 3.09 | 2.65 | 2.86 | 3.00 | 2.46 |
| Aug. | 2.89 | 3.40 | 2.75 | 2.71 | 3.17 | 2.63 |
| Sep. | 2.93 | 3.19 | 2.83 | 2.70 | 3.09 | 2.70 |
| Oct. | 2.74 | 2.96 | 2.76 | 2.54 | 2.92 | 2.61 |
| Nov. | 2.78 | 2.92 | 2.84 | 2.70 | 2.91 | 2.73 |
| Dec. | 2.84 | 3.09 | 2.88 | 2.89 | 3.11 | 2.77 |
| Jan. 1985 | 3.28 | 3.70 | 3.23 | 3.09 | 3.50 | 3.06 |
| Feb. | 3.53 | 3.82 | 3.38 | 3.44 | 3.61 | 3.15 |
| Mar. | 3.52 | 3.82 | 3.38 | 3.41 | 3.60 | 3.15 |
| Apr. | 3.41 | 3.81 | 3.37 | 3.36 | 3.52 | 3.14 |
| May | 3.39 | 3.73 | 3.40 | 3.35 | 3.35 | 3.07 |
| Jun. | 3.61 | 3.84 | 3.49 | 3.58 | 3.53 | 3.27 |
| Jul. | 3.87 | 4.01 | 3.69 | 3.78 | 3.66 | 3.40 |
| Aug. | 3.79 | 3.94 | 3.45 | 3.51 | 3.73 | 3.23 |
| Sep. | 3.53 | 3.77 | 3.05 | 3.39 | 3.61 | 2.94 |
| Oct. | 3.03 | 3.21 | 2.86 | 2.75 | 3.10 | 2.68 |
| Nov. | 2.96 | 3.00 | 2.79 | 2.82 | 2.81 | 2.51 |
| Dec. | 2.95 | 3.24 | 2.86 | 2.54 | 2.85 | 2.69 |
| 2. Yearly Average | | | | | | |
| 1984 | 2.56 | 2.81 | 2.47 | 2.46 | 2.71 | 2.34 |
| 1985 | 3.41 | 3.66 | 3.24 | 3.25 | 3.41 | 3.03 |

Source: Bureau of Agricultural Economics, Ministry of Agriculture

TABLE J-31. FARM-GATE PRICE OF PADDY IN MRIIS AREA

(unit: ₱/Kg)

| Period | Dry Paddy | Skin Dry Paddy | Wet Paddy |
|---|---|---|---|
| Jan.,'84 | 1.91 | 1.71 | 1.51 |
| Feb. | 2.10 | 1.90 | 1.70 |
| Mar. | 2.21 | 2.01 | 1.80 |
| Apr. | 2.21 | 2.02 | 1.85 |
| May | 2.30 | 2.10 | - |
| Jun. | 2.62 | 2.42 | - |
| Jul. | 2.60 | 2.40 | - |
| Aug. | 2.64 | 2.40 | 2.20 |
| Sep. | 2.80 | 2.61 | 2.41 |
| Oct. | 2.61 | 2.42 | 2.22 |
| Nov. | 2.91 | 2.71 | 2.50 |
| Dec. | 3.10 | 2.90 | 2.70 |
| Jan.,'85 | 3.39 | 3.19 | 2.99 |
| Feb. | 3.60 | 3.40 | 3.20 |
| Mar. | 3.51 | 3.31 | 3.10 |
| Apr. | 3.60 | 3.40 | 3.20 |
| May | 3.73 | 3.51 | - |
| Jun. | 3.84 | 3.64 | 3.45 |
| Jul. | 4.04 | 3.83 | 3.60 |
| Aug. | 3.50 | 3.30 | 3.12 |
| Sep. | 3.54 | 3.34 | 3.14 |
| Oct. | 3.02 | 2.73 | 2.40 |
| Nov. | 2.94 | 2.77 | 2.40 |
| Dec. | 2.94 | 2.80 | 2.49 |
| Jan.,'86 | 3.16 | 2.87 | 2.64 |
| Feb. | 2.97 | 2.84 | 2.65 |
| Mar. | 3.01 | 2.76 | 2.33 |
| Apr. | 3.02 | 2.70 | 2.36 |
| May | 3.41 | 2.81 | - |
| Jun. | 3.18 | 2.98 | - |
| Jul. | - | - | - |
| Aug. | 2.76 | 2.68 | 2.55 |
| Sep. | 2.96 | 2.57 | 2.43 |
| Oct. | 2.72 | 2.45 | 2.22 |
| Nov. | 2.53 | 2.20 | 2.16 |

Source: "Rice Mill survey in the MRIIS Area" conducted by JICA Survey Team (in Cauayan, Alicia and Santiago).

TABLE J-32. AVERAGE WHOLESALE AND RETAIL PRICE OF RICE BY VARIETY IN METRO MANILA FOR THE LAST TEN YEARS

(unit: ₱/Kg)

| Year | Special Rice[a/] | | Ordinary Rice[b/] | |
|---|---|---|---|---|
| | Wholesale | Retail | Wholesale | Retail |
| 1986 | 5.87 | 7.46 | 5.34 | 6.80 |
| 1985 | 6.45 | 7.47 | 5.67 | 6.47 |
| 1984 | 4.69 | 5.25 | 4.37 | 4.51 |
| 1983 | 2.96 | 3.20 | 2.80 | 3.08 |
| 1982 | 2.76 | 2.99 | 2.61 | 2.94 |
| 1981 | 2.61 | 2.73 | 2.49 | 2.66 |
| 1980 | 2.29 | 2.57 | 2.13 | 2.38 |
| 1979 | 2.14 | 2.36 | 1.98 | 2.26 |
| 1978 | 1.96 | 2.10 | 1.98 | 2.09 |
| 1977 | 2.05 | 2.10 | 1.98 | 2.09 |

Notes: a/..... Special rice = rice of high quality or high yielding variety.

b/..... Ordinary rice = rice of low quality or local variety.

Source: Bureau of Agricultural Economics Office
Ministry of Agriculture & Food

TABLE J-33. STATUS OF IRRIGATOR'S ASSOCIATION IN MRIIS
(as of July, 1986)

| District | Total | I | II | III | IV |
|---|---|---|---|---|---|
| 1. Target (A) | | | | | |
| No. of IAs | 297 | 95 | 80 | 81 | 41 |
| No. of FIGs Covered | 2,929 | 783 | 815 | 677 | 654 |
| No. of Members | 49,956 | 12,830 | 14,574 | 11,498 | 11,054 |
| Area Covered (ha) | 97,402 | 24,054 | 24,468 | 24,793 | 24,087 |
| 2. Actuality (B) | | | | | |
| No. of IAs | 237 | 77 | 52 | 76 | 32 |
| No. of FIGs Covered | 1,505 | 562 | 343 | 374 | 226 |
| No. of Members | 20,094 | 6,751 | 4,707 | 5,620 | 3,016 |
| Area Covered (ha) | 40,766 | 13,214 | 8,944 | 12,265 | 6,343 |
| 3. Accomplished (B/A x 100) | | | | | |
| No. of IAs | 81 | 82 | 68 | 94 | 78 |
| No. of FIGs Covered | 52 | 74 | 43 | 55 | 35 |
| No. of Members | 40 | 53 | 33 | 49 | 27 |
| Area Covered (ha) | 48 | 55 | 37 | 49 | 26 |
| 4. Total Farmer in the MRIIS | 50,768 | 12,131 | 15,048 | 13,191 | 10,398 |
| 5. Percent of IA Members (%) | 40 | 56 | 31 | 43 | 29 |
| 6. Area coverage per IA (ha) | 170 | 169 | 166 | 161 | 198 |

N.B. FIGs = Farmers' Irrigators' Groups

Source: MRIIS District Offices, NIA

TABLE J-34. STATUS OF FIG/IA ORGANIZATION AS OF JULY 1986

| Item | Total | District I | District II | District III | District IV |
|---|---|---|---|---|---|
| 1. FIG Organized | | | | | |
| - No. of FIG | 2,623 | 672 | 786 | 546 | 619 |
| - No. of Members | 43,828 | 10,214 | 14,188 | 8,928 | 10,498 |
| - Area Covered (ha) | 85,514 | 19,094 | 23,573 | 19,845 | 23,002 |
| 2. IA Organized | | | | | |
| - No. of IA | 237 | 77 | 52 | 76 | 32 |
| - No. of IFG | 1,505 | 562 | 343 | 374 | 226 |
| - No. of Members | 20,094 | 6,751 | 4,707 | 5,620 | 3,016 |
| - Area Covered (ha) | 40,766 | 13,214 | 8,944 | 12,265 | 6,343 |
| 3. IA Registered | | | | | |
| - No. of IA | 210 | 68 | 46 | 66 | 30 |
| - No. of FIG | 1,299 | 481 | 286 | 320 | 212 |
| - No. of Members | 17,636 | 5,908 | 3,933 | 4,981 | 2,814 |
| - Area Covered (ha) | 35,801 | 11,602 | 7,665 | 10,677 | 5,857 |
| 4. IA Lateral Turnover Contracts | | | | | |
| - No. of IA * | 150 | 59 | 30 | 34 | 27 |
| - No. of FIG | 1,033 | 446 | 191 | 197 | 199 |
| - No. of Members | 13,181 | 5,232 | 2,680 | 2,716 | 2,553 |
| - Area Covered (ha) | 27,353 | 10,127 | 4,835 | 6,503 | 5,888 |
| - Length of Canal (km) | 604.16 | 235.60 | 120.80 | 125.50 | 122.26 |
| - DT Section | 169.80 | 67.10 | 31.00 | 40.00 | 31.80 |

Note: * ···, The lateral turnover by year (as of Dec., 1985) is as follow;

| Year | Total | District I | District II | District III | District IV |
|---|---|---|---|---|---|
| 1981 | 4 | 2 | 2 | 0 | 0 |
| 1982 | 20 | 13 | 3 | 3 | 1 |
| 1983 | 49 | 18 | 6 | 14 | 11 |
| 1984 | 36 | 12 | 12 | 2 | 10 |
| 1985 | 41 | 14 | 7 | 15 | 5 |
| Total | 150 | 59 | 30 | 34 | 27 |

Source: MRIIS-ADD, NIA

TABLE J-35. IA ORGANIZATION BY DISTRICT

| Year | Total | | District I | | District II | | District III | | District IV | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of IAs Organized | Area Covered (ha) | No. of IAs Organized | Area Covered (ha) | No. of IAs Organized | Area Covered (ha) | No. of IAs Organized | Area Covered (ha) | No. of IAs Organized | Area Covered (ha) |
| 1978 | 1 | 162 | - | - | - | - | - | - | - | - |
| 1980 | 23 | 3,224 | 3 | 584 | 7 | 1,123 | 8 | 975 | 5 | 542 |
| 1981 | 9 | 1,433 | 5 | 948 | 2 | 187 | - | - | 2 | 298 |
| 1982 | 51 | 8,054 | 21 | 3,100 | 10 | 1,980 | 17 | 2,635 | 3 | 339 |
| 1983 | 85 | 14,455 | 25 | 4,657 | 23 | 3,925 | 22 | 2,911 | 15 | 2,962 |
| 1984 | 54 | 10,719 | 14 | 2,130 | 9 | 1,567 | 25 | 5,176 | 6 | 1,846 |
| 1985 | 10 | 2,068 | 7 | 1,342 | - | - | 2 | 370 | 1 | 356 |
| 1986 | 3 | 651 | 1 | 453 | - | - | 2 | 198 | - | - |
| Total | 237 | 40,766 | 77 | 13,214 | 52 | 8,944 | 76 | 12,265 | 32 | 6,343 |

Source: IDD

TABLE J-36. NUMBER OF FARMER ORGANIZATIONS AT BARANGAY LEVEL

| Municipality | Rural Improvement Club | | No. of Kilusang Bayan | Consumers Coop. | | ARBA | | BISA | | No. of Samahang Nayon |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of Groups | No. of Members | | No. of Units | No. of Members | No. of Groups | No. of Members | No. of Groups | No. of Membership | |
| 1. Alicia | 11 | 357 | 1 | - | - | 30 | 2,867 | 3 | 80 | 18 |
| 2. Angadanan | 5 | 222 | - | - | - | 27 | 976 | 5 | 224 | - |
| 3. Aurora | 11 | 329 | 1 | - | - | 17 | 407 | - | - | 10 |
| 4. Burgos | 5 | 195 | - | - | - | 14 | 252 | - | - | - |
| 5. Cabatuan | 5 | 117 | 1 | - | - | 17 | 527 | - | - | 12 |
| 6. Cauayan | 5 | 120 | 1 | - | - | 39 | 1,855 | - | - | 8 |
| 7. Cordon | 4 | 122 | - | - | - | 10 | 582 | 2 | 104 | - |
| 8. Echague | 5 | 267 | 1 | 1 | 261 | 29 | 1,354 | 7 | 295 | - |
| 9. Gamu | 10 | 272 | - | - | - | 12 | 409 | 1 | 105 | - |
| 10. Luna | - | - | - | - | - | 12 | - | - | - | - |
| 11. Ramon | 10 | 308 | 1 | 1 | 64 | 17 | 837 | - | - | - |
| 12. Roxas | 5 | 120 | 3 | 2 | 317 | 23 | 756 | 4 | 211 | - |
| 13. San Isidro | 4 | 145 | - | - | - | 13 | 814 | 1 | 63 | - |
| 14. San Manuel | - | - | 1 | - | - | 19 | 646 | 1 | 60 | 10 |
| 15. San Mateo | 14 | 429 | - | - | - | 31 | 1,513 | - | - | - |
| 16. Santiago | 5 | 192 | 1 | 1 | 87 | 24 | 1,239 | 3 | 120 | 10 |
| 17. Naguilian | - | - | - | - | - | 2 | 45 | 3 | 246 | - |
| 18. Quirino | 5 | 150 | - | - | - | 19 | 562 | 2 | 68 | - |
| 19. Reina Mercedes | 5 | 103 | - | - | - | 12 | 256 | - | - | - |
| 20. Potia | NA | | NA | NA | NA | 8 | 209 | - | - | 14 |
| 21. Saguday | 9 | 1,275 | 1 | - | - | 6 | 299 | - | - | 7 |
| 22. Diffun | 7 | 205 | 1 | - | - | 9 | 542 | - | - | 17 |
| 23. Cabarroguis | 7 | 500 | 1 | - | - | 7 | 280 | - | - | 8 |
| Total | 132 | 5,428 | 14 | 5 | 729 | 397 | 17,227 | 32 | 1,576 | 114 |

Source: BISA from Data Bank, 1982
Others from MAF and MAR

TABLE J-37. NUMBER OF SEED GROWERS ASSOCIATION

| Municipality | No. of Association | No. of Members | Planted Area (ha) | Seed Production (ton) |
|---|---|---|---|---|
| 1. Alicia | | 5 | 40 | |
| 2. Angadanan | | - | - | |
| 3. Aurora | | 10 | 160 | |
| 4. Burgos | | 3 | 12 | |
| 5. Cabatuan | | 5 | 20 | |
| 6. Cauayan | | 5 | 20 | |
| 7. Cordon | A Associa- | 2 | 15 | 1,814 (3.6 |
| 8. Echague | tion in | 2 | 35 | tons per |
| 9. Gumu | Isabela | 3 | 10 | hectare on |
| 10. Luna | Province | 4 | 17 | an average |
| 11. Ramon | | 2 | 5 | |
| 12. Roxas | | 6 | 15 | |
| 13. San Isidro | | 3 | 20 | |
| 14. San Manuel | | 4 | 25 | |
| 15. San Mateo | | 10 | 60 | |
| 16. Santiago | | 6 | 35 | |
| 17. Naguilian | | 1 | 5 | |
| 18. Quirino | | 3 | 10 | |
| 19. Reina Mercedes | | - | - | |
| 20. Potia | NA | NA | NA | |
| 21. Saguday | | | | |
| 22. Diffun | 1 | 34 | 52 | 149 |
| 23. Cabarroguis | | | | |
| Total | | 108 | 556 | 1,963 |

Note: The major palay varieties are IR-36, IR-54, IR-58, IR-56, IR-60, IR-64 and the planted area is 187 ha, 1 ha, 10.5 ha, 12 ha, 99 ha, and 143 ha, respectively.

Source: BPI cagayan Valley Rice Experiment Station

TABLE J-38. NUMBER OF AGRICULTURAL SERVICE OFFICERS IN MRIIS

| Municipality | MAF | MAR | PNB | RB | LBP | CRB | NFA Buying Stations |
|---|---|---|---|---|---|---|---|
| 1. Alicia | 1 | - | - | - | - | - | - |
| 2. Angadanan | 1 | - | - | 1 | - | - | - |
| 3. Aurora | 1 | - | - | 1 | - | - | - |
| 4. Burgos | 1 | 1 | - | 1 | - | - | - |
| 5. Cabatuan | 1 | 1 | - | 1 | - | - | - |
| 6. Cauayan | 1 | 2 | 1 | 2 | 1 | 1 | - |
| 7. Cordon | 1 | - | - | 1 | - | - | - |
| 8. Echague | 1 | - | - | 1 | - | - | 1 |
| 9. Gumu | 1 | - | - | 1 | - | - | 1 |
| 10. Luna | 1 | 1 | - | 1 | - | - | - |
| 11. Ramon | 1 | - | - | 1 | - | - | - |
| 12. Roxas | 1 | 2 | 1 | 1 | 1 | - | 1 |
| 13. San Isidro | 1 | - | - | 1 | 1 | - | - |
| 14. San Manuel | 1 | - | - | 1 | - | - | 1 |
| 15. San Mateo | 1 | 1 | - | 1 | - | - | 1 |
| 16. Santiago | 1 | 1 | 1 | 1 | - | - | 1 |
| 17. Naguilian | 1 | - | - | 1 | - | - | - |
| 18. Quirino | 1 | 1 | - | - | - | - | - |
| 19. Reina Mercedes | 1 | 1 | - | 1 | - | - | - |
| 20. Potia | 1 | 1 | - | - | - | - | - |
| 21. Saguday | 1 | 1 | - | - | - | - | - |
| 22. Diffun | 1 | 2 | - | 1 | - | - | - |
| 23. Cabarroguis | 1 | 1 | - | 1 | - | - | 1 |
| Total | 23 | 17 | 3 | 21 | 3 | 1 | 7 |

Note: Modified based on the Data Bank issued in 1982.

Source: MAF, Isabela Province

TABLE J-39. NUMBER OF TECHNICIANS

(Unit: Persons)

| Municipality | MAO | PT | HMT | RYDO | LI | ABT | ACDO | Total |
|---|---|---|---|---|---|---|---|---|
| 1. Alicia | 1 | 7 | 1 | 1 | 2 | 1 | - | 13 |
| 2. Angadanan | 1 | 3 | 1 | - | 1 | - | 1 | 7 |
| 3. Aurora | 1 | 6 | 1 | - | - | - | 1 | 9 |
| 4. Burgos | 1 | 4 | 1 | - | 1 | - | - | 7 |
| 5. Cabatuan | 1 | 4 | 1 | 1 | - | - | 1 | 8 |
| 6. Cauayan | 1 | 9 | 1 | 1 | 1 | - | 1 | 14 |
| 7. Cordon | 1 | 4 | NA | NA | 1 | NA | NA | 6 |
| 8. Echague | 1 | 7 | 1 | 1 | - | - | 2 | 12 |
| 9. Gumu | 1 | 3 | 1 | - | 1 | - | 1 | 7 |
| 10. Luna | 1 | 2 | 1 | - | - | - | 1 | 5 |
| 11. Ramon | 1 | 7 | 1 | - | - | - | 1 | 16 |
| 12. Roxas | 1 | 6 | 1 | 1 | 1 | 1 | 1 | 12 |
| 13. San Isidro | 1 | 6 | 1 | 2 | - | - | - | 10 |
| 14. San Manuel | 1 | 3 | - | 1 | 1 | - | 1 | 7 |
| 15. San Mateo | 1 | 6 | 2 | 1 | 1 | - | 1 | 12 |
| 16. Santiago | 1 | 9 | 1 | 1 | 1 | 1 | 2 | 16 |
| 17. Naguilian | 1 | 4 | 1 | - | 1 | - | 2 | 9 |
| 18. Quirino | 1 | 4 | 1 | - | 1 | - | 1 | 8 |
| 19. Reina Mercedes | 1 | 2 | 1 | - | 1 | - | 1 | 6 |
| 20. Potia | 1 | NA | NA | 1 | 1 | NA | NA | NA |
| 21. Saguday | 1 | 4 | 1 | 1 | 1 | - | 1 | 9 |
| 22. Diffun | 1 | 10 | 1 | 1 | 2 | - | 1 | 16 |
| 23. Cabarroguis | 1 | 5 | 1 | 1 | 1 | - | 1 | 10 |
| Total | 23 | 115 | 21 | 14 | 19 | 3 | 22 | 217 |

Note: MAO : Municipal Agricultural Officer
PT : Production Technicians
HMT : Home Management Technician
RYDO: Rural Youth Development Officer
LI : Livestock Inspector
ABT : Artificial Breeding Technician
ACDO: Agricultural Cooperative Development Officer

Source: MAF Provincial Office, Ilagan, Isabela

TABLE J-40. FLUCTUATION OF ADD STAFF

| Year | ODM | LUWMS | FATS | ESS | Total |
|---|---|---|---|---|---|
| 1975 | 7 | - | - | - | 7 |
| 1976 | 10 | 17 | 15 | 15 | 59 |
| 1977 | 12 | 26 | 11 | 7 | 56 |
| 1978 | 11 | 42 | 29 | 26 | 108 |
| 1979 | 8 | 38 | 31 | 26 | 103 |
| 1980 | 12 | 47 | 25 | 23 | 107 |
| 1981 | 11 | 28 | 21 | 19 | 79 |
| 1982 | 10 | 21 | 20 | 14 | 65 |
| 1983 | 11 | 20 | 19 | 14 | 64 |
| 1984 | 17 | 5 | 28 | 8 | 52 |
| 1985 | 15 | - | 19 | 3 | 37 |

Note: ODM : Office of the Division Manager
LUWMS: Land Use and Water Management Section
FATS : Farmers' Assistance and Training Section
ESS : Evaluation and Statistic Section

Source: MRIIS-ADD, NIA

TABLE J-41. STATUS OF KKK PROJECTS

| Municipality | No. of Projects | No. of Beneficiaries | Amount Released (₱) |
|---|---|---|---|
| 1. Alicia | 36 | 530 | 4,922,134 |
| 2. Angadanan | 48 | 327 | 2,301,300 |
| 3. Aurora | 44 | 91 | 1,051,100 |
| 4. Burgos | 39 | 536 | 5,317,225 |
| 5. Cabatuan | 41 | 280 | 4,934,553 |
| 6. Cauayan | 140 | 2,169 | 23,402,635 |
| 7. Cordon | 9 | 186 | 2,142,367 |
| 8. Echague | 12 | 196 | 1,810,181 |
| 9. Gumu | 56 | 133 | 2,080,400 |
| 10. Luna | 41 | 80 | 773,882 |
| 11. Ramon | 32 | 179 | 1,819,235 |
| 12. Roxas | 77 | 640 | 3,089,032 |
| 13. San Isidro | 93 | 216 | 1,770,424 |
| 14. San Manuel | 36 | 290 | 4,484,860 |
| 15. San Mateo | 240 | 1,038 | 5,361,617 |
| 16. Santiago | 36 | 304 | 3,763,004 |
| 17. Naguilian | 30 | 530 | 8,346,726 |
| 18. Quirino | 71 | 383 | 1,759,934 |
| 19. Reina Mercedes | 15 | 196 | 2,109,000 |
| 20. Potia | 33 | 1,089 | 14,580,003 |
| 21. Saguday | 25 | 159 | 1,233,436 |
| 22. Diffun | 42 | 309 | 2,192,339 |
| 23. Cabarroguis | 63 | 286 | 2,464,004 |
| Total | 1,259 | 10,147 | 101,709,391 |

Source: Ministry of Human Settlement, Tuguegarao

TABLE J-42. PRODUCTION AND LOAN AMOUNT OF INTENSIFIED RICE PRODUCTION PROGRAM IN ISABELA PROVINCE

| Phase | No. of Farmers | Total Area Financed (ha) | Total Area Harvested (ha) | Total Production (ton) | Yield (ton/ha) | Total Credit Amount (₱'000) | Total Credit Amount Repaid[1/] (₱'000) | Percent of Repayment (%) |
|---|---|---|---|---|---|---|---|---|
| I ('84 Nov. - '85 Apr.) | 4,052 | 9,101 | 9,101 | 36,404 | 4.0 | 22,828 | 14,257 | 62.5 |
| II ('85 May - '85 Oct.) | 5,713 | 14,559 | 14,488 | 36,729 | 2.5 | 38,624 | 17,460 | 45.2 |
| III ('85 Nov. - '86 Apr.) | 2,599 | 5,921 | 5,904 | 29,402 | 5.0 | 13,866 | 6,118 | 41.1 |

Note: [1/] As of June 30, 1986

Source: MAF, Isabela Province

TABLE J-43. RELEASED AND COLLECTED LOAN AMOUNT OF MASAGANA-99 IN THE MUNICIPALITIES CONCERNED WITH THE MRIIS AREA

| Year | Phase | No. of Farmers Served | Area Served (ha) | Amount of Loan (₱1,000) Released | Amount of Loan (₱1,000) Collected | Repayment Rate (%) |
|---|---|---|---|---|---|---|
| 1973 | I - II | 23,112 | 44,862 | 29,960 | 28,610 | 95.5 |
| 1974 | III - IV | 30,027 | 57,776 | 52,120 | 36,110 | 87.5 |
| 1975 | IV - V | 17,889 | 29,472 | 36,610 | 33,910 | 91.5 |
| 1976 | VI - VII | 12,741 | 22,332 | 27,310 | 25,820 | 94.5 |
| 1977 | VIII - IX | 13,187 | 28,139 | 26,380 | 30,730 | 90.0 |
| 1978 | X - XI | 15,110 | 27,326 | 34,140 | 30,700 | 90.5 |
| 1979 | XII - XIII | 13,211 | 19,722 | 25,580 | 21,650 | 84.5 |
| 1980 | XIV - XV | 9,603 | 16,926 | 21,360 | 17,200 | 81.0 |
| 1981 | XVI - XVII | 7,526 | 14,385 | 18,500 | 13,760 | 78.5 |
| 1982 | XVIII - XIX | 6,760 | 13,628 | 23,890 | 16,700 | 55.0 |
| 1983 | XX - XXI | 7,152 | 14,481 | 22,870 | 1,245 | N.A. |
| 1984 | | 8,169 | 17,930 | 43,172 | 20,917 | 48.5 |
| - NFA Isabela | | 4,756 | 11,116 | 24,933 | 14,419 | 57.8 |
| - NFA Quirino | | 524 | 686 | 1,769 | 564 | 31.9 |
| - PPI Cauayan | | 2,065 | 4,650 | 13,219 | 3,576 | 27.1 |
| - First Isabela Cooperative of Rural Banks | | 496 | 953 | 1,861 | 1,686 | 90.6 |
| - Land Bank of the Philippines in San Isidro | | 328 | 526 | 1,390 | 672 | 48.3 |

Note: The financial sources are 16 Rural Banks, 1 ACA, 4 Phil. National Bank, ICRB, 3 Land Bank of Philis. and 1 MERALCO.
From 1984, NFA was authorized to extend the loan.

Source: Agricultural Development Coordinating Council, Data Bank within the MRMP Service Area, June 30, 1983 and newly collected data.

TABLE J-44. LOANS EXTENDED UNDER CONSOLIDATED RURAL BANK OF SANTIAGO AND REGION II

(unit: '000 ₱)

| Name of Branches | Palay | Commercial | Livestock | Industrial | Money Shop | Others | Total |
|---|---|---|---|---|---|---|---|
| ISABELA | | | | | | | |
| Aurora | ₱ 1,114 | ₱ 409 | ₱ - | ₱ - | ₱ - | ₱ 44 | ₱ 1,567 |
| Burgos | 1,170 | 59 | - | - | - | 5 | 1,234 |
| Cabatuan | 3,922 | 909 | - | 128 | | 1,388 | 6,347 |
| Cordon | 2,749 | 3,417 | - | - | - | 15 | 6,181 |
| Gamu | 544 | 75 | - | - | - | - | 618 |
| Ilagan | 159 | 24 | - | - | 459 | 55 | 697 |
| Roxas | 899 | - | - | - | - | 39 | 938 |
| San Isidro | 1,504 | 60 | - | - | - | 34 | 1,598 |
| Santiago | 4,650 | 5,483 | - | - | 4,174 | 313 | 14,620 |
| QUIRINO PROVINCE | | | | | | | |
| Diadi | 1,234 | 105 | - | - | - | 298 | 1,637 |
| Diffun | 2,455 | 900 | - | - | 63 | 633 | 4,051 |
| Office Total | 20,400 | 11,441 | - | 128 | 4,696 | 2,824 | 39,488 |
| Region II | 87,100 | 14,100 | 29,100* | 1,300 | N.A. | 13,600 | 145,200 |
| Total of Philippines | 673,200 | 566,700 | 1,076,400* | 124,900 | N.A. | 1,450,000 | 3,891,200 |

N.B.* including forestry and fishing

Source: Consolidated Rural Bank, Santiago, Isabela and the Philippine Rural Banking System, Annual Report, 1985

# TABLE J-45. LOANS EXTENDED BY THE LAND BANK OF THE PHILIPPINES AND REGION II

(unit: ₱1000)(Accumulated amount until the end of 1985)

| Field Office | Municipalities Covered | LAND LOAN | | | | | PRODUCTION LOAN AND OTHER LOANS | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Beneficiaries | No. of Estates | Area Covered (has) | Amount Invested | Amount of Repayment | No. of Beneficiaries | Area Covered (has) | Rice | Other Items | Total | Amount of Repayment | |
| Cauayan | | | | | | | | | | | | | |
| | 1. Alicia | 1,576 | 320 | 3,068 | 29,641 | 3,220 | 2,239 | 3,722 | 6,182 | 2,013 | 8,195 | 5,339 | other municipalities |
| | 2. Angadanan | 494 | 67 | 1,116 | 6,958 | 526 | 243 | 756 | 1,664 | 529 | 2,194 | 1,592 | Benito Soliven |
| | 3. Cabatuan | 699 | 21 | 1,018 | 1,091 | 1,668 | 1,220 | 2,106 | 3,804 | 1,059 | 4,863 | 3,091 | Cabagan |
| | 4. Cauayan | 914 | 112 | 1,891 | 15,114 | 1,403 | 1,762 | 5,870 | 4,995 | 2,118 | 7,112 | 3,901 | Ilagan |
| | 5. Luna | 293 | 14 | 395 | 585 | 418 | 301 | 880 | 1,188 | 97 | 2,161 | 513 | Naguillan |
| | 6. Potia (Ifugao) | 70 | 3 | 109 | 793 | 27 | 2 | 5 | - | 30 | 30 | - | San Mariano |
| | 7. Reina Mercedes | 54 | 3 | 69 | 379 | 47 | 15 | 4 | - | 84 | 84 | 51 | San Pablo |
| | 8. San Mateo | 804 | 70 | 1,244 | 11,586 | 2,308 | 2,052 | 5,252 | 5,825 | 1,695 | 7,520 | 5,085 | Tumauini |
| | Other 7 municipalities | 1,672 | 84 | 2,664 | 24,798 | 807 | 669 | 1,337 | 118 | 2,090 | 2,209 | 960 | |
| Sub-total | | 6,574 | 694 | 11,574 | 94,218 | 10,425 | 8,503 | 15,932 | 23,777 | 10,594 | 34,372 | 20,536 | |
| San Isidro | | | | | | | | | | | | | |
| | 1. San Isidro | | 58 | 769 | 6,697 | | | | 442 | 129 | 572 | 209 | other municipalities |
| | 2. Quirino Province | | 46 | 546 | | | | | 170 | 218 | 388 | 110 | Nueva Vizcaya |
| | 3. Ramon | | 69 | 975 | 8,760 | | | | 205 | 1,207 | 1,613 | 77 | |
| | 4. Santiago | | 52 | 673 | 4,976 | | | | 87 | 64 | 151 | 41 | Jones |
| | 5. Echague | | 136 | 1,552 | 8,791 | | | | 71 | 137 | 209 | 30 | San Agustin |
| | 6. Cordon | | 21 | 221 | 1,442 | | | | 45 | 25 | 70 | 51 | Ifugao |
| | Other 4 municipalities | | 73 | 891 | 8,370 | | | | 33 | 38 | 71 | 33 | |
| Sub-total | | 2,712 | 455 | 5,625 | 39,036 | | | | 1,056 | 1,858 | 2,877 | 533 | |
| Roxas | | | | | | | | | | | | | |
| | 1. Roxas | | | | | | | | | | | | other municipalities |
| | 2. San Manuel | | | | | | | | | | | | |
| | 3. Aurora | | | | | | | | | | | | Sto. Tomas & STR |
| | 4. Quirino | | | | | | | | | | | | Marka |
| | 5. Burgos | | | (detailed figures not available) | | | | | | | | | Mallig |
| | 6. Gamu | | | | | | | | | | | | Delfin Albano |
| | Other 6 municipalities | | | | | | | | | | | | Quezon |
| Sub-total | | 2,985 | N.A. | 5,873 | 47,519 | 5,407 | N.A. | N.A. | N.A. | N.A. | 19,521 | 13,613 | |
| Grand Total | | 12,271 | N.A. | 23,072 | 180,773 | 19,545 | N.A. | N.A. | N.A. | N.A. | 56,770 | 34,702 | |
| Total of Region II | | 18,454 | - | 33,683 | 253,890 | - | | | | | | | |

Source: Three Field Offices of the Land Bank Offices and Headquarters in Manila

TABLE J-46. LOANS EXTENDED BY THE PHILIPPINE NATIONAL BANK IN REGION II

| REGION II | Rice (M-99 Phase 25) | | | Corn | | | Total Amount of Loan (A + B) (000 ₱) |
|---|---|---|---|---|---|---|---|
| | No. of Borrowers | Area Financed (ha) | Amount of Loan (₱) (A) (000 ₱) | No. of Borrowers | Area Financed (ha) | Amount of Loan (₱) (B) (000 ₱) | |
| Cagayan | | | | | | | |
| Aparri | 5 | 1,020 | 30 | 129 | 257 | 1,214 | 1,245 |
| Tuguegarao | 56 | 5,350 | 160 | 129 | 137 | 657 | 818 |
| Isabela | | | | | | | |
| Cauayan | 62 | 13,950 | 418 | 191 | 238 | 1,008 | 1,426 |
| Malig Plains | 249 | 57,300 | 1,719 | 53 | 92.5 | 388 | 2,107 |
| Ilagan | - | - | - | 1,430 | 2,101 | 8,821 | 8,821 |
| Santiago | 294 | 70,050 | 2,101 | 212 | 450 | 2,100 | 4,261 |
| Sub-total of Isabela | (605) | (141,300) | (4,239) | (1,886) | (2,881.5) | (12,377) | (16,616) |
| Nueva Vizcaya | | | | | | | |
| Bayombong | 248 | 41,865 | 841 | 158 | 221 | 681 | 1,523 |
| Grand Total in Reg. II | 914 | 189,535 | 5,271 | 2,302 | 3,498.5 | 14,931 | 20,203 |

Note: underlined towns cover the MRIIS Area

Source: PNB Headquarter in Manila, January to December, 1985 and those field offices.

TABLE J-47. FARMERS' LOAN FOR PADDY PRODUCTION IN MRIIS AREA

| Item | Size of Planted Area: below 1.0 ha | 1.0 - 2.0 ha | 2.0 - 3.0 ha | more than 3.0 ha | Total |
|---|---|---|---|---|---|
| A. Loan for Wet Season Paddy | | | | | |
| 1. Total Sample Farm | 48 | 124 | 61 | 56 | 289(100) |
| 2. Farms Borrowed | | | | | |
| - from Merchant * | 26 | 66 | 37 | 21 | 150 (52) |
| - From Bank | 6 | 35 | 15 | 19 | 75 (26) |
| Total | 32 | 101 | 52 | 40 | 255 (78) |
| 3. Average Amount of Loan | | | | | |
| - Loan per Farm | | | | | |
| ∘ from Merchant * | 2,570 | 4,340 | 6,870 | 20,500 | 8,050 |
| ∘ from Bank | 2,930 | 4,770 | 6,290 | 15,500 | 8,560 |
| - Loan per Hectare | | | | | |
| ∘ from Merchant | 3,060 | 2,590 | 2,630 | 3,380 | 2,920 |
| ∘ from Bank | 3,090 | 2,770 | 2,130 | 3,170 | 2,830 |
| B. Loan for Dry Season Paddy | | | | | |
| 1. Total Sample Farm | 53 | 128 | 60 | 54 | 295(100) |
| 2. Farms Borrowed | | | | | |
| - from Merchant * | 21 | 64 | 37 | 18 | 140 (47) |
| - from Bank | 5 | 15 | 8 | 7 | 35 (12) |
| Total | 26 | 79 | 45 | 25 | 175 (59) |
| 3. Average Amount of Loan | | | | | |
| - Loan per Farm | | | | | |
| ∘ from Merchant* | 2,170 | 3,940 | 5,620 | 12,300 | 5,200 |
| ∘ from Bank | 3,100 | 3,930 | 6,290 | 19,200 | 7,410 |
| - Loan per Hectare | | | | | |
| ∘ from Merchant * | 2,620 | 2,270 | 2,070 | 2,460 | 2,280 |
| ∘ from Bank | 3,100 | 2,460 | 2,340 | 3,390 | 2,880 |

Note : *--- Loan from landowner, relative and neighbors are included.

Source: Farm Economic Survey in the Project Area, 1986.

TABLE J-48. REGIONAL DOMESTIC PRODUCT IN THE PHILIPPINES, REGION II

| Item | Philippines Percentage by Sector (Total GDP = 100) 1972 | 1983 | 1984 | 1985 | Philippines Prices Million(₱) 1985 | Region II Percentage by Sector (Total GDP = 100) 1972 | 1983 | 1984 | 1985 | Region II Prices Million(₱) 1985 |
|---|---|---|---|---|---|---|---|---|---|---|
| A. At current prices | | | | | | | | | | |
| 1. Agriculture sector | 28.6 | 22.0 | 25.2 | 25.1 | 156,171 | 61.9 | 47.8 | 56.0 | 57.1 | 9,554 |
| a. Crops | - | 12.4 | 15.9 | 15.5 | 96,599 | - | 21.1 | 27.5 | 31.1 | 5,198 |
| Palay | - | 3.2 | 5.9 | 4.6 | 28,490 | - | 12.8 | 15.7 | 18.8 | 3,142 |
| Corn | - | 1.1 | 1.4 | 1.7 | 10,540 | - | 2.9 | 4.9 | 5.0 | 833 |
| b. Livestock | - | 1.4 | 1.1 | 1.6 | 10,067 | - | 2.5 | 3.3 | 3.0 | 501 |
| c. Poultry | - | 1.9 | 2.1 | 2.4 | 14,783 | - | 3.4 | 4.0 | 4.6 | 703 |
| d. Fishery | - | 4.4 | 3.5 | 3.8 | 23,400 | - | 0.6 | 0.5 | 0.6 | 93 |
| e. Forestry | - | 2.0 | 2.1 | 1.8 | 11,322 | - | 20.2 | 20.6 | 17.9 | 2,999 |
| 2. Industry sector | 32.0 | 35.9 | 33.7 | 32.0 | 199,588 | 9.2 | 21.2 | 12.4 | 10.8 | 1,881 |
| a. Manufacturing | 24.8 | 24.7 | 25.0 | 24.2 | 150,491 | 3.7 | 4.4 | 4.1 | 3.8 | 634 |
| b. Construction | 4.0 | 8.0 | 5.7 | 4.3 | 26,691 | 5.3 | 15.2 | 6.3 | 4.8 | 804 |
| c. Electricity, Gas and water | 0.8 | 1.4 | 1.3 | 1.4 | 8,700 | 0.1 | 0.5 | 0.5 | 0.5 | 87 |
| 3. Service sector | 39.4 | 42.1 | 41.1 | 42.9 | 267,340 | 28.9 | 31.1 | 31.6 | 32.1 | 5,374 |
| a. Transportation | 4.8 | 6.3 | 6.2 | 6.1 | 38,273 | 1.7 | 2.2 | 2.3 | 2.3 | 383 |
| b. Trade | 21.3 | 17.2 | 18.1 | 18.9 | 117,798 | 17.9 | 13.4 | 14.7 | 14.3 | 2,394 |
| c. Finance, housing and others | 13.3 | 8.0 | 7.6 | 8.3 | 51,670 | 9.3 | 6.8 | 7.1 | 7.7 | 1,290 |
| Gross Domestic Product | 56,464* | | | | 625,099 | 1,805* | | | | 16,739 |
| B. At constant prices (based on 1972) | | | | | | | | | | |
| 1. Agriculture sector | 28.6 | 24.8 | 26.2 | 27.6 | 25,361 | 61.9 | 45.7 | 50.2 | 52.2 | 1,213 |
| a. Crops | - | 15.0 | 16.3 | 17.2 | 15,828 | - | 27.4 | 32.3 | 34.6 | 804 |
| Palay | - | 3.9 | 4.4 | 4.7 | 4,344 | - | 16.9 | 18.9 | 20.6 | 479 |
| Corn | - | 1.4 | 1.5 | 1.8 | 1,641 | - | 3.8 | 5.5 | 5.7 | 132 |
| b. Livestock | - | 2.2 | 2.3 | 2.3 | 2,114 | - | 3.8 | 4.3 | 4.1 | 95 |
| c. Poultry | - | 2.5 | 2.7 | 2.8 | 2,576 | - | 4.8 | 5.5 | 5.5 | 129 |
| d. Fishery | - | 4.4 | 4.2 | 4.6 | 4,208 | - | 0.7 | 0.7 | 0.7 | 17 |
| e. Forestry | - | 0.8 | 0.7 | 0.7 | 636 | - | 9.1 | 7.5 | 7.3 | 169 |
| 2. Industry sector | 32.0 | 35.9 | 33.7 | 31.2 | 28,716 | 9.2 | 21.9 | 14.7 | 12.7 | 295 |
| a. Manufacturing | 24.8 | 25.1 | 24.4 | 23.4 | 21,461 | 3.7 | 4.6 | 4.7 | 4.5 | 104 |
| b. Construction | 4.0 | 7.7 | 6.1 | 4.6 | 4,248 | 5.3 | 16.3 | 7.3 | 5.6 | 129 |
| c. Electricity, Gas and water | 0.8 | 1.2 | 1.3 | 1.4 | 1,243 | 0.1 | 0.6 | 0.7 | 0.7 | 16 |
| 3. Service sector | 39.4 | 39.2 | 40.1 | 41.3 | 37,970 | 28.9 | 32.4 | 35.1 | 35.1 | 816 |
| a. Transportation | 4.8 | 5.3 | 5.3 | 5.4 | 4,967 | 1.7 | 1.8 | 1.9 | 1.9 | 44 |
| b. Trade | 21.3 | 13.9 | 14.7 | 15.2 | 13,972 | 17.9 | 12.3 | 13.6 | 13.2 | 306 |
| c. Finance, housing and others | 13.3 | 7.7 | 7.7 | 8.1 | 7,435 | 9.3 | 7.2 | 7.9 | 8.3 | 198 |
| Gross Domestic Product | 56,464* | | | | 92,042 | 1,805* | | | | 2,324 |

Source: NEDA