

No.

THE REPUBLIC OF THE PHILIPPINES  
NATIONAL IRRIGATION ADMINISTRATION

THE MASTER PLAN STUDY ON THE SMALL-SCALE  
IRRIGATION DEVELOPMENT PROJECT  
(SSIDP)

ANNEXES

FEBRUARY 1992

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)



THE REPUBLIC OF THE PHILIPPINES  
NATIONAL IRRIGATION ADMINISTRATION

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FEBRUARY 1992

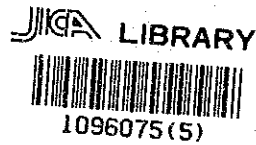
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**THE REPUBLIC OF THE PHILIPPINES  
NATIONAL IRRIGATION ADMINISTRATION**

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(SSIDP)**



**ANNEXES**

**FEBRUARY 1992**

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)**

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## ABBREVIATIONS

(1) Organization

NIA	National Irrigation Administration
C.O.	NIA Central Office
RIO	Regional Irrigation Office of NIA
PIO	Provincial Irrigation Office of NIA
PDD	Project Development Department in NIA
DSD	Design and Specifications Department in NIA
SMD	System Management Department in NIA
IDD	Institutional Development Department in NIA
DPWH	Department of Public Works and Highways
DENR	Department of Environment and Natural Resources
DA	Department of Agriculture
DBM	Department of Budget and Management
AFC	Agricultural and Fisheries Councils
NWRB	National Water Resources Board
FSDC	Farm Systems Development Corporation
CAR	Cordillera Administrative Region
MAR	Moslem Autonomous Region
JICA	Japan International Cooperation Agency

(2) Others

SSIDP	Small Scale Irrigation Development Project
NIP/NIS	National Irrigation Project/System
CIP/CIS	Communal Irrigation Project/System
CIDP	Communal Irrigation Development Project
CIDIP	Communal Irrigation Development Implementation Project
CARP-IC	Comprehensive Agrarian Reform Program-Irrigation Component
VCIPP	Visayas Communal Irrigation Participatory Program
O&M	Operation and Maintenance
SWIM	Small Water Impounding Management Projects
SWIP	Small Water Impounding Projects
IA	Irrigators' Associations
IT	Irrigation Technician
RID	Regional Irrigation Director
PIE	Provincial Irrigation Engineer
IDO	Irrigation Development Officer
GDP	Gross Domestic Product
EIRR	Economic Internal Rate of Return
F/S	Feasibility Study
DD	Detailed Engineering Designs
D/E	Detailed Engineering
BOD	Board of Directors
G.E.S.A.	General Engineering Supervision and Administration
LMC	Local Minor Contract
M&E	Monitoring and Evaluation
NGO	Non-Government Organization
PAP	Provincial Annual Program
PCR	Project Completion Report
POW	Program of Work
PVO	Private Volunteers Organization
RAP	Regional Annual Program
RIM	Regional Irrigation Manager
ROW	Right-of-Way
SEC	Securities and Exchange Commission

₱ Philippine Peso  
¥ Japanese Yen  
US\$ US Dollar

(3) Measurement

Length

mm = millimeter  
cm = centimeter  
m = meter  
km = kilometer

Area

cm<sup>2</sup> = square centimeter  
m<sup>2</sup> = square meter  
ha = hectare

Other Measures

% = percent  
m<sup>3</sup>/s = cubic meter per second  
lit/s = liter per second

Weight

mg = milligram  
g = gram  
kg = kilogram  
ton = metric ton

Volume

cm<sup>3</sup> = cubic centimeter  
l = liter  
kl = kiloliter  
m<sup>3</sup> = cubic meter  
MCM = million cubic meter





**ANNEX A**

**WORK FLOW AND  
METHODOLOGY OF THE STUDY**



**ANNEX A**  
**WORK FLOW AND METHODOLOGY OF THE STUDY**

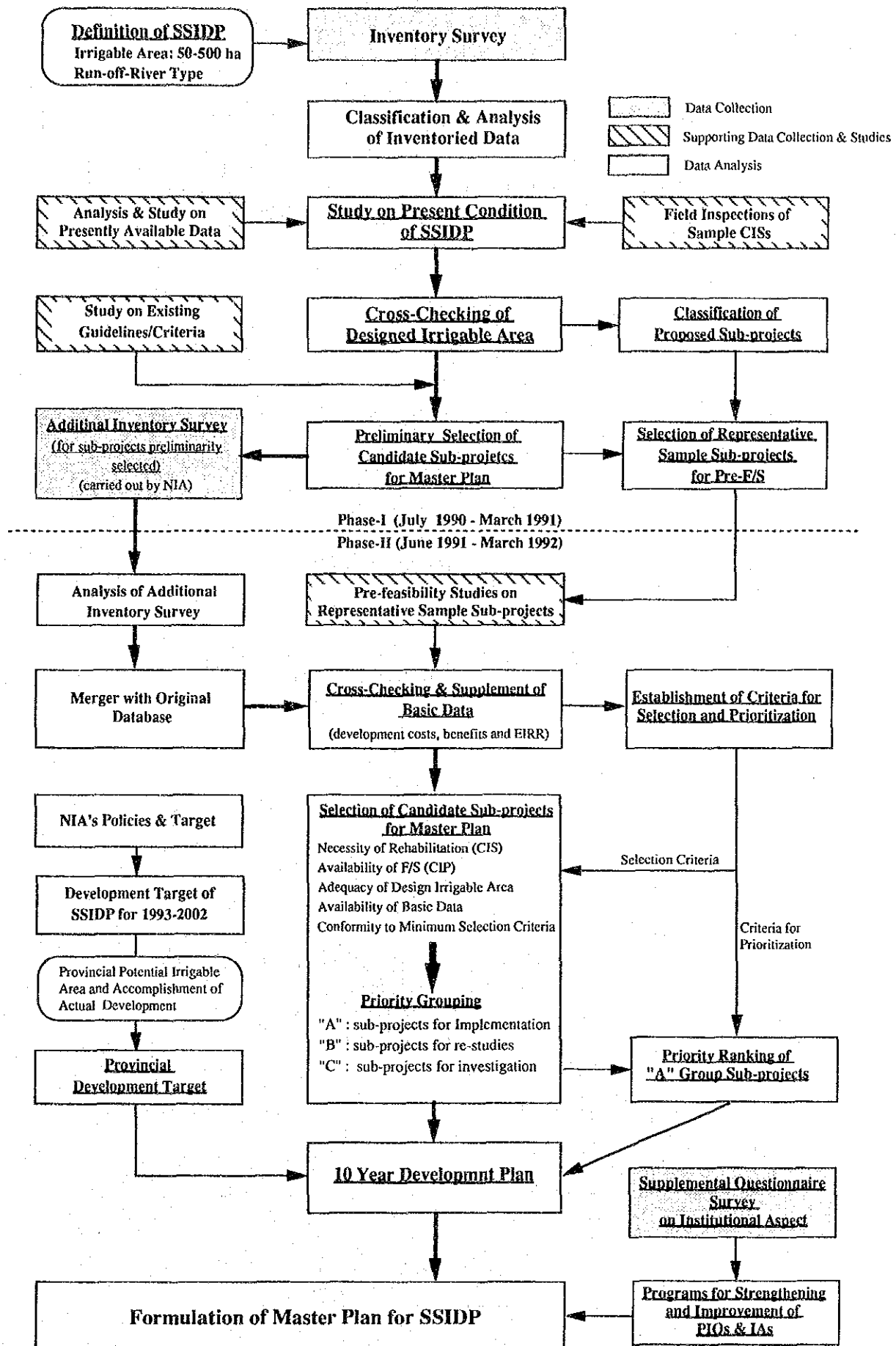
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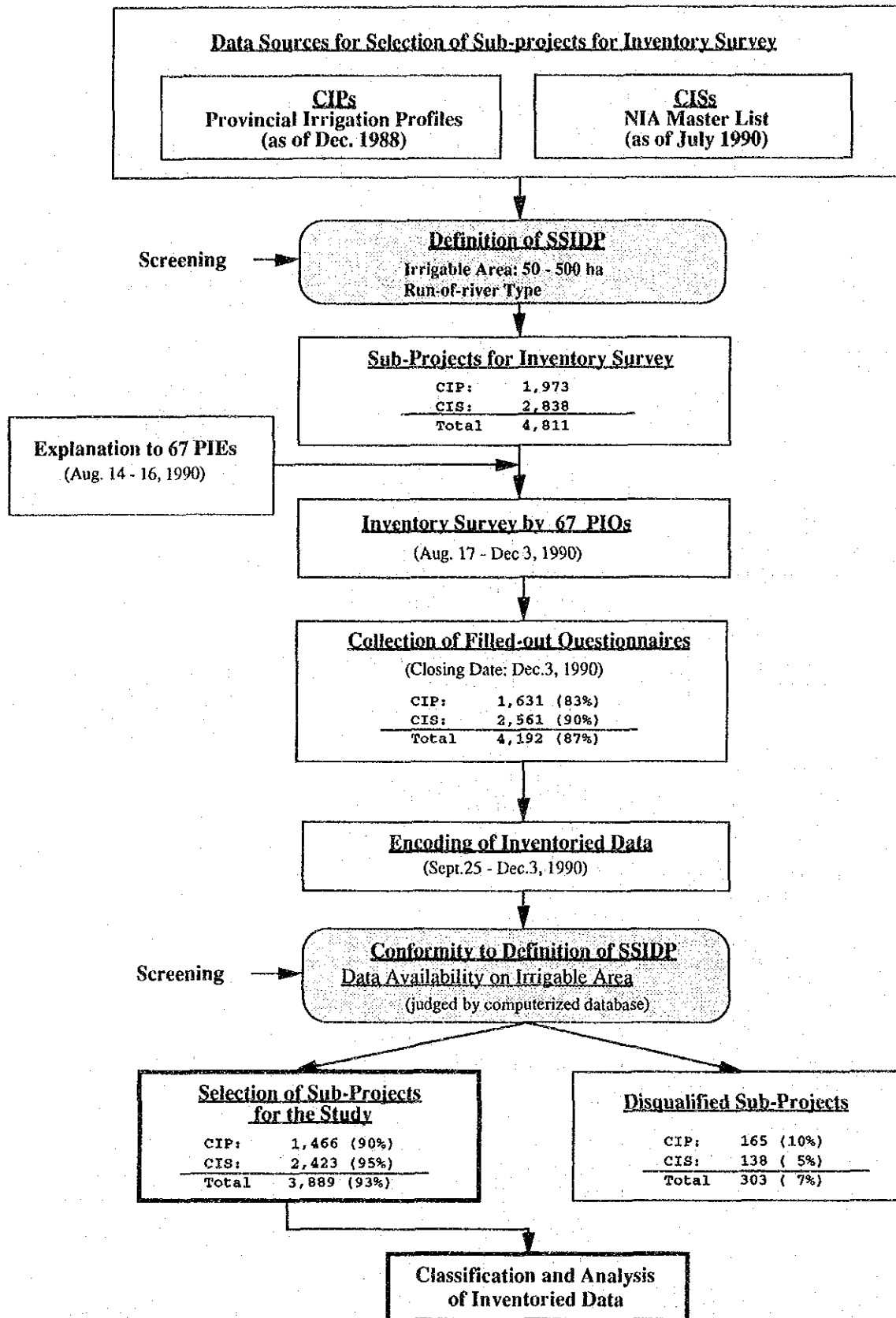


# OUTLINE OF STUDY PROCESS FOR MASTER PLANNING

Fig. A-01

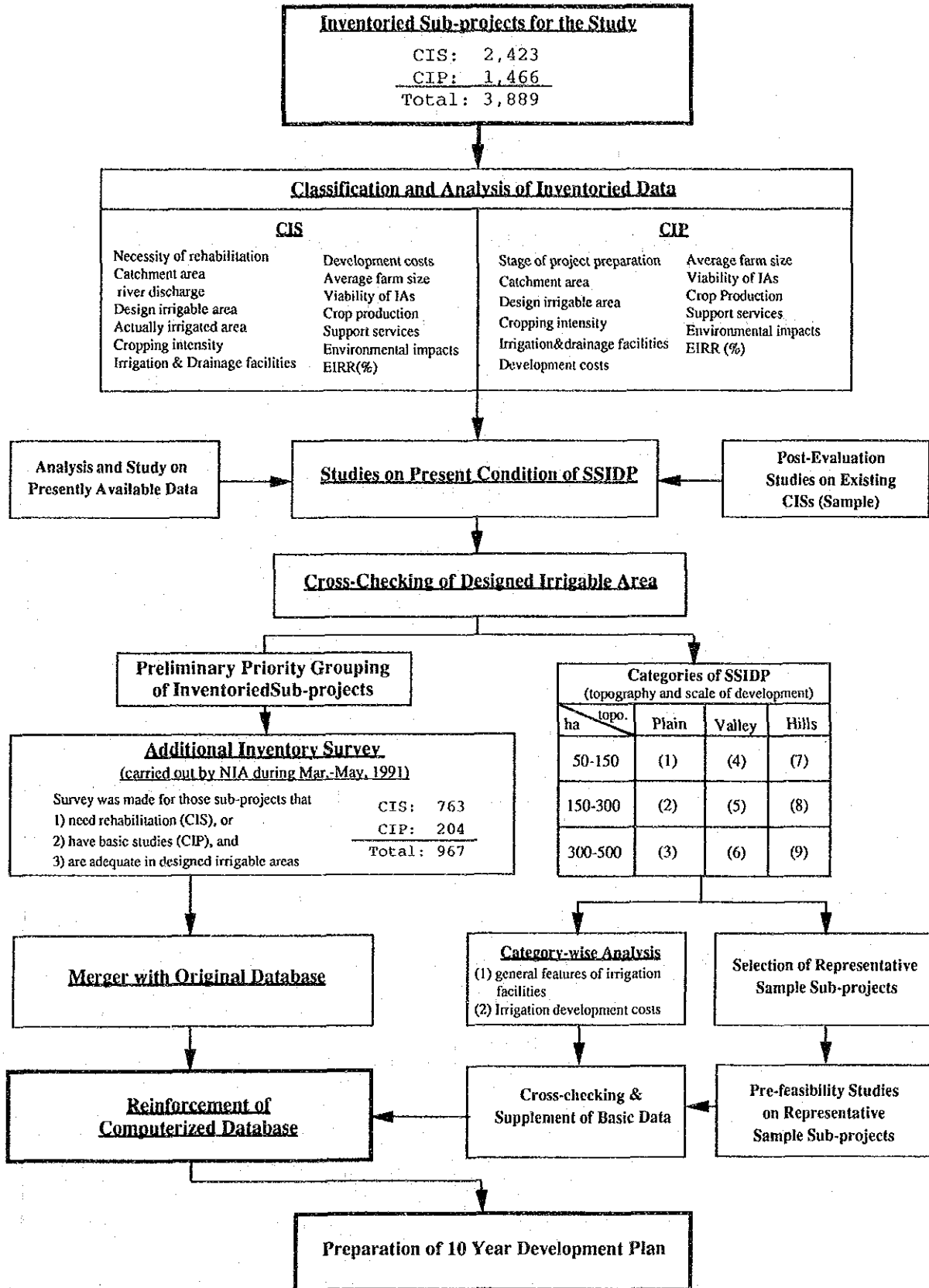


## INVENTORY SURVEY AND SELECTION OF SUB-PROJECTS FOR THE STUDY (OUTLINE OF STUDY PROCESS)

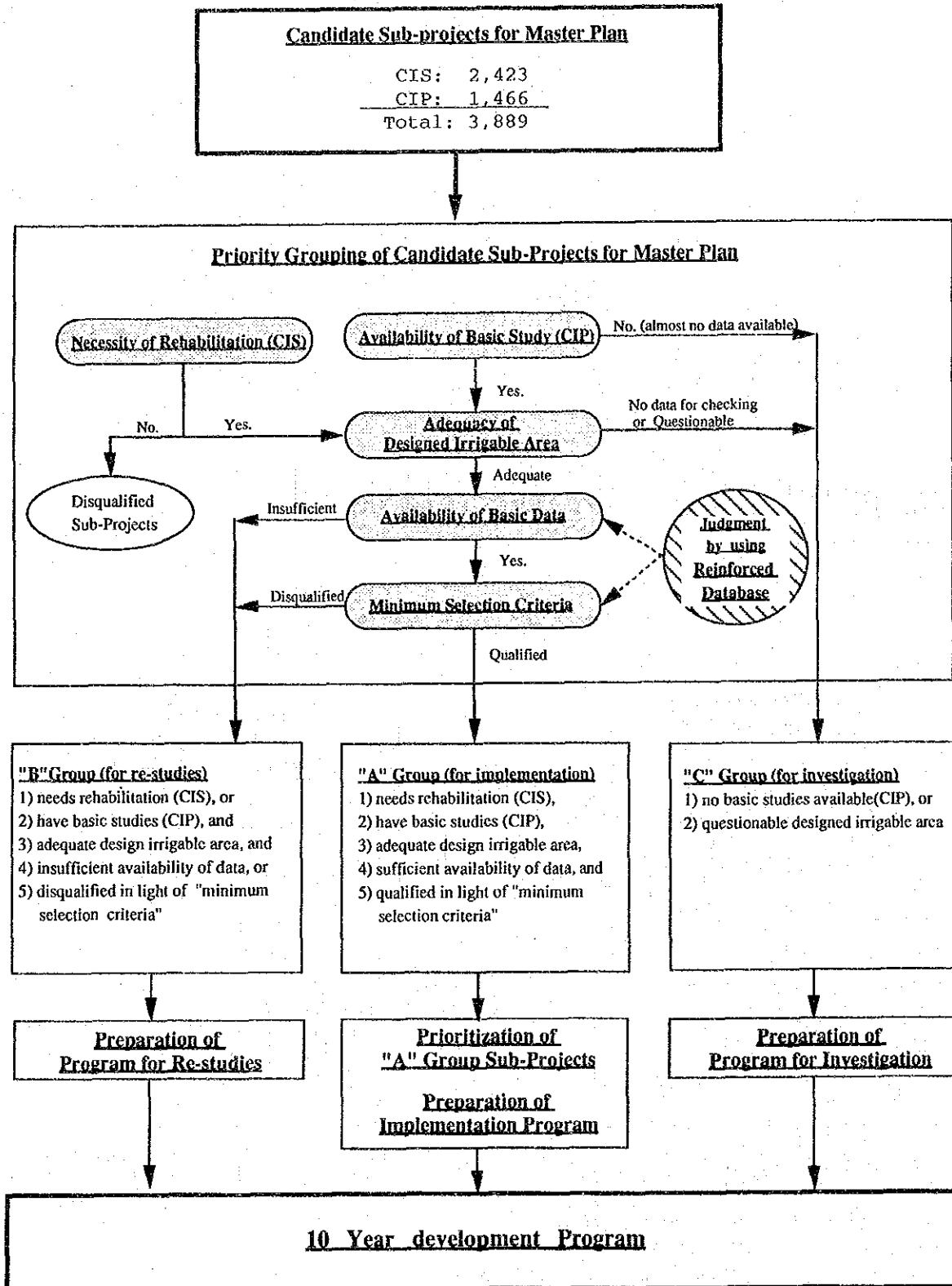


**REINFORCEMENT OF COMPUTERIZED  
DATABASE  
(OUTLINE OF STUDY PROCESS)**

Fig. A-03



**FORM OF 10 YEAR DEVELOPMENT PLAN  
(OUTLINE OF STUDY PROCESS)**





*ANNEX B*

*INVENTORY SURVEY*



**ANNEX B-1**  
**QUESTIONNAIRES FOR INVENTORY SURVEY**

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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
THE MASTER PLAN STUDY  
ON  
THE SMALL-SCALE IRRIGATION DEVELOPMENT PROJECT (SSIDP)

**INSTRUCTION FOR ANSWERING  
QUESTIONNAIRE FOR INVENTORY SURVEY**

I. WHAT IS SSIDP?

The Small Scale Irrigation Development Projects (SSIDP) are a kind of communal irrigation system/projects (CIS/CIP) and are defined as those of run-off-river type having irrigation areas of 50 - 500 ha in net. CIS/CIP by pumping and/or those with storage dams (Small Reservoir Irrigation Projects--SRIP) shall not be inventoried and studied as the candidate projects for the Master Plan Study.

II. CLASSIFICATION OF SSIDP

1. The following basic classifications of SSIDP have been agreed upon between NIA and JICA Study Team:
  - a) Existing Projects:  
Communal Irrigation System (CIS) with the existing irrigation/drainage structures for rehabilitation, reconstruction and improvement, and
  - b) New Projects:  
Communal Irrigation Project (CIP) without the existing irrigation/drainage structures
2. Any CIS which has an expansion plan of the irrigation area will be classified as an existing project. In this case, service area of the CIS means a total area including the expansion area.
3. Any CIP which is under construction or is already constructed but has not been handed over to IA will be tentatively classed as an existing project.

4. Only CIPs which have no irrigation/ drainage facilities at present and are not constructed yet, being still at project preparation stages, will be classified into a category of new project. For such new projects (CIPs), if there is an expansion plan, the service area shall be updated including its expansion area.
5. All the candidate projects shall further be classified into the following four (4) categories:
  - a) Amortizing system/project
  - b) Non-amortizing system/project
  - c) Private system/project
  - d) Unknown / not decided yet

### III. NAMES AND CODES OF CANDIDATE PROJECTS

#### 1. Selection of Candidate Projects

The candidate projects have been selected and listed, in the light of the definitions of SSIDP, from the master lists of NIA for the existing projects (CISs), and 10 Year Irrigation Development Program indicated in the Provincial Irrigation Profile for new projects (CIPs). No additional inclusion of projects shall be allowed in principle.

The candidate projects for the Master Plan Study are shown in the projects lists which are separately compiled province by province. The project lists for each province will be given to the respective PIEs at the Meeting.

#### 2. Names and Codes of Candidate Projects

Please write the name of each candidate project in an appropriate column on page 1 of the questionnaires together with the scheme No. which shall be indicated according to the following:

Example: Existing Project (CIS), Amortizing System in Quirino of Region II

<u>E</u>	<u>02</u>	<u>14</u>	<u>005</u>	<u>A</u>
(1)	(2)	(3)	(4)	(5)

where,

- (1) E: Existing Project  
N: New Project
- (2) Region Number
- (3) Province Number (see attached map)
- (4) Serial number of the candidate projects in each category of "New" and "Existing" projects as indicated (1) above.
- (5) A: Amortizing System/Project  
N: Non-amortizing System/Project  
P: Private System/Project  
U: Unknown / or not decided yet

**IV. GENERAL INSTRUCTIONS FOR ANSWERING QUESTIONNAIRES**

1. Kindly answer all the questions in accordance with the instructions and sample answers.
2. Where the question has parenthesis, please fill the appropriate spaces with check mark "✓".
3. On descriptive questions, please write legibly in block letters and briefly within 30 letters.
4. Where the answer is in number, please confirm necessity of a decimal point according to the sample answer. If decimal point is used in the sample answer, write the numbers (figures) using decimal point. (Whenever decimal point is used in the answer, two decimal digits are required. For example: 2.00, 3.92 and 45.32)
5. Where the answer is in peso, please remove centavos except for Question No. 3501 (average farm gate price per kg).

(good)	(bad)
₱4530	₱4530.21
₱65	₱65.00

6. Where the answer is in number or in peso, please don't use comma (,) in every three digits.

(good)	(bad)
5897490	5,897,490
₱8265400	₱8,265,400

7. Where the question is inappropriate, please write "NA" which means "not applicable" in the answer space.
8. If there is the CIS which has an area expansion program, kindly answer the separate questionnaire on its expansion program together with that for the existing project. In answering the separate questionnaire on the expansion program, please indicate only the data and information regarding the expansion program. In answering the questionnaire on the existing project (CIS), please do not indicate the data and information for the expansion program and limit to only those for the existing ones.
9. Abbreviations used in the questionnaires and to be used by PIEs in answers are as follows:

CIS:	Communal Irrigation System
CIP:	Communal Irrigation Project
PIO:	Provincial Irrigation Office
PIE:	Provincial Irrigation Engineers
IA:	Irrigators' Association
F/S:	Feasibility Study
GS:	Gauging Station
RS:	Rainfall Station
SN:	Samahang Nayon
PBME:	Project Benefit Monitoring and Evaluation
DA/BAS:	Department of Agriculture/Bureau of Agricultural Statistics
DAR:	Department of Agrarian Reform
CARP:	Comprehensive Agrarian Reform Program
LB:	Land Bank
RB:	Rural Bank
PNB:	Philippines National Bank



V. SPECIFIC INSTRUCTIONS FOR ANSWERING QUESTIONNAIRES

V-1. For Both New and Existing Projects

1. "Intake Site" used in the questionnaires means diversion point.
2. "Drainage Water Requirement" used in the questionnaires means drainage module.
3. Question No.2203 (i): please answer name of gauging station with catchment area in Km<sup>2</sup>.

V-2. For Existing Project

i. Question No.42: To be read as follows:

42. Storage/Drying Facilities

- ( ) Available and sufficient; Distance to project site: \_\_\_\_\_ km  
( ) Available and insufficient; Distance to project site: \_\_\_\_\_ km  
( ) Not available

2. Question No. 5101: To be read as follows:

5101. Irrigators Association (IA) Officials

- a. College graduates: \_\_\_\_\_ nos.  
b. 1st to 3rd year college: \_\_\_\_\_ nos.  
c. Secondary education level: \_\_\_\_\_ nos.  
d. Elementary education level: \_\_\_\_\_ nos.  
e. Undergone training course on CIS: \_\_\_\_\_ nos.  
f. No training on CIS: \_\_\_\_\_ nos.

VI. ADDITIONAL REQUESTS RELATED TO INVENTORY SURVEY

1. Kindly indicate locations of all the CISs/CIPs given in the project lists on 1: 250,000 topographic maps, referring to the sample map.

2. Kindly prepare the priority lists of the candidate projects (separate listing shall be made for the existing and new projects).
3. Kindly submit the above lists and maps together with the answered questionnaires to the following address through your NIA Regional Office:

To: The Administrator  
National Irrigation Administration  
EDSA, Diliman, Quezon City  
Attention: Mr. Calixto P. Timonera  
NIA Counterpart Team Leader for SSIDP

4. The above documents and maps shall be accepted by the JICA Team at any time before the following deadlines; therefore please kindly submit the same whenever the assigned work is completed (earlier submission will ease the succeeding data entry to computers and therefore will be highly appreciated.):

- |                              |                                                                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| (1) answered questionnaires: | <u>to the regional Office</u><br>not later than September 25, 1990<br><u>to the central office</u><br>not later than September 28, 1990 |
| (2) priority lists and maps: | <u>to the regional Office</u><br>not later than October 25, 1990<br><u>to the central office</u><br>not later than October 31, 1990     |

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
THE MASTER PLAN STUDY  
ON  
THE SMALL-SCALE IRRIGATION DEVELOPMENT PROJECT

**Questionnaire for Inventory Survey  
(Existing Project)**

Notes:

1. Where the question has parenthesis, write the number or fill the appropriate spaces with "✓".
2. On descriptive questions, answer either by specifying or writing down briefly and clearly.
3. For doubtful points, if any, please see the attached answer sample.

Name of Project: BASAO CIS  
Name of Responsible Office: CAGAYAN PIO  
Filled by: JUAN DELA CRUZ (PIE)

1. GENERAL

11. General

- 1101 Location
- a. Region: II
  - b. Province: CAGAYAN
  - c. Municipality: GATTARAN
  - d. Barangay: NASIPING
  - e. Latitude & Longitude (at intake site):  
N.Lat. 18° 04' 10"  
E.Long. 121° 40' 05"
  - f. Distance from NIA's provincial office: 22 km
- 1102 Project History:
- a. Year of feasibility study completed 1980
  - b. Year of detailed design completed 1981
  - c. Year of construction started 1982
  - d. Year of construction completed 1983
  - e. Year of rehabilitation works made (if any) 19 NA
- 1103 Designed Irrigable Area (as estimated at the time of F/S)
- a. Net irrigable area in the wet season: 135 ha
  - b. Net irrigable area in the dry season: 120 ha

- 1104 Actually Irrigated Area (using paddy map or as reported by IA)
- a. Net irrigated area in the wet season: 120 ha
- b. Net irrigated area in the dry season: 120 ha

1105 Is There the Existing Irrigators' Association (IA) ?:

( ) No

(✓) Yes: Date organized: August in 19 78  
 (Month) (Year)

Was IA registered?

( ) No

(✓) Yes:

- a. Name: NRSIPINA IA
- b. Date registered: July in 19 79  
 (month) (year)
- c. Number of members: 100 nos.

1106 Term of Loan Agreement

- a. Date of loan agreement: JULY IN 1982
- b. Amount of IA loan: ₹ 1475100
- c. Repayment period: 25 years
- d. Amount of annual repayment: ₹ 59000
- e. Repaid amount as of 1989: ₹ 206000

1107 Will the Project be Covered by the Proposed National Irrigation Project?:

(✓) No

( ) Yes: Name of the Proposed National Irrigation Project: \_\_\_\_\_

## 2. ENGINEERING

### 21. Physiography, Soils & Land Classification

2101 Topography:

- ( ) Alluvial Plain
- (✓) Flat area in valley
- ( ) Terrace
- ( ) Hilly

2102 Soil Condition:

- ( ) Heavy clay
- ( ) Silty Clay/Light Clay/Sandy Clay
- (✓) Silty Clay Loam/Clay Loam/Sandy Clay Loam
- ( ) Silty Loam/Loam/Sandy Loam/Loamy Sand
- ( ) Sand

2103 Land Classification for Rice:  
 a. Class 1R 102 ha  
 b. Class 2R 33 ha  
 c. Class 3R 0 ha

2104 Land Classification for Diversified Crops:  
 a. Class 1 70 ha  
 b. Class 2 65 ha  
 c. Class 3 0 ha

2105 Was 1:4000 Topographic Map for the Project Already Prepared?:

- Yes  
 No

22. Water Source

2201 Name of River:

- a. Main source NASIPING RIVER  
 b. Supplementary source(if any) NA

2202 Necessity of Storage Dam and Pumps

a. Was storage dam constructed for the Project in upstream of intake?:

- Yes  
 No

b. Is pump(s) used as an intake of the Project?:

- Yes  
 No

2203 Is there Gauging Station in the River (Main source)?:

- No  
 Yes:

(i) Name of station: NASIPING RIVER GS: 85KM<sup>2</sup>

(ii) Location of station:

- 0.10 km upstream of intake  
 \_\_\_\_\_ km downstream of intake  
 Near the intake

(iii) Observation period: 13 years from 1960 to 1972

- 2204 River Discharge in Dry Season  
 a. Average low flow:  
     - Main source 800 lit/sec  
     - Supplementary source NA lit/sec  
 b. Is the above discharge guessed or measured ?:  
     ( ) Guessed  
     (✓) Measured
- 2205 Catchment Area at Intake Site: 86 km<sup>2</sup>
- 2206 River Bed Elevation at Intake Site: EL 32.20 m
- 2207 Is There Rainfall Station in and near the Area ?:  
 ( ) No  
 (✓) Yes:  
     (i) Name of station: NASIPING RS  
     (ii) Location of station: 2 km SOUTH of the area  
     (iii) Observation period: 30 years from 1960 to 1990
- 2208 Rainfall (use secondary PAGASA data)  
 a. Average annual rainfall: 2120 mm

23. Irrigation Water

- 2301 Diversion Water Requirement at Intake (net farm water requirement x irrigation area / overall irrigation efficiency)  
 a. Designed: 270 lit/sec  
 b. Actual: 208 lit/sec  
 c. Purpose of water taken from intake: (not limited to one)  
     (✓) Irrigation  
     ( ) Drinking water  
     (✓) Inland fishery  
     ( ) Cattle raising  
     ( ) Mini-hydropower  
     ( ) Others:(specify \_\_\_\_\_)
- 2302 Farm Water Requirement (land soaking + ET + percolation - effective rainfall)  
 a. Designed: 1.00 lit/sec/ha  
 b. Actual: 0.85 lit/sec/ha
- 2303 Situation of Water Shortage in Dry Season in Normal Year:  
 ( ) No water shortage

- ( ) Occasional water shortage  
 (✓) Frequent water shortage: Duration from MARCH to APRIL  
 (Month) (Month)

2304 Main Reason of Water Shortage:

- (✓) Shortage of river discharge  
 ( ) Less flow capacity of canal by poor maintenance  
 ( ) Malfunction of irrigation facilities  
 ( ) Improper design of irrigation facilities  
 (bad location, etc.)  
 (✓) Excessive use of water by farmer  
 ( ) Others: (specify \_\_\_\_\_)

24. Irrigation Facilities

2401 Intake structure

- a. Completed year: 1983  
 b. Approximate river width at intake: 25 m  
 c. Is intake accompanied with diversion weir?  
 ( ) No  
 (✓) Yes (i) Material of weir:  
       ( ) Wood  
       ( ) Earth  
       ( ) Masonry  
       (✓) Concrete  
 (ii) Height of weir: 1.50 m  
 (iii) Length of weir: 25.00 m  
 (iv) Crest elevation : El 23.50 m  
 (v) Necessity of rehabilitation/improvement:  
       ( ) Not necessary  
       (✓) Necessary  
 (vi) Estimated rehabilitation/improvement cost  
       as of 1990, (if necessary): ₹ 28800

2402 Irrigation Canals & Structures

- a. Does irrigation canal have dual purpose of irrigation and drainage ?:  
 ( ) Yes  
 (✓) No  
 b. Length of earth canals  
 a Main canals: 1.20 km  
 b Lateral canals: 1.85 km  
 c Sub lateral canals: 0.70 km

d	Field ditches:	<u>40.10</u> km
c.	Length of lined canals	
a	Main canals:	<u>0.30</u> km
b	Lateral canals:	<u>1.15</u> km
c	Sub lateral canals:	<u>0</u> km
d.	Length of earth canals to be rehabilitated/improved (if necessary)	
a	Main canals:	<u>0.5</u> km
b	Lateral canals:	<u>0</u> km
c	Sub lateral canals:	<u>0</u> km
d	Field ditches:	<u>0</u> km
e.	Length of lined canals to be rehabilitated/improved (if necessary)	
a	Main canals:	<u>0</u> km
b	Lateral canals:	<u>0</u> km
c	Sub lateral canals:	<u>0</u> km
2403	Irrigation Canals Structures	
a.	Total numbers of irrigation canal structures	
	Including <u>24</u> nos of Turnouts:	<u>56</u> nos
b.	Numbers of irrigation canal structures to be rehabilitated/improved (if necessary):	<u>20</u> nos
2404	Estimated Rehabilitation/Improvement Costs for Irrigation Facilities as of 1990 (if necessary):	<u>₹ 274 000</u>
25.	Drainage Facilities	
2501	Designed Drainage Water Requirements:	<u>7.20</u> lit/sec/ha
2502	Drainage Canals	
a.	Length of project drains:	<u>1.30</u> km
b.	Length of farm drains:	<u>1.55</u> km
c.	Length of drainage ditches:	<u>21.00</u> km
d.	Length of project drains to be rehabilitated/improved (if necessary):	<u>0</u> km
e.	Length of farm drains to be rehabilitated/improved (if necessary):	<u>1.0</u> km
f.	Length of drainage ditches to be rehabilitated/improved (if necessary):	<u>0</u> km
2503	Drainage Canals Structures	
a.	Total numbers of drainage structures:	<u>25</u> nos
b.	Number of structures to be rehabilitated/improved	<u>5</u> nos
2504	Estimated rehabilitation/improvement costs for drainage facilities as of 1990 (if necessary):	<u>₹ 85 000</u>



26. Drainage and Flood Condition

- 2601 Is Area Affected by Floods ?:
- a. ( ) No floods: \_\_\_\_\_ ha
  - b. (✓) Annual floods: 135 ha
  - c. ( ) Floods in every several years: \_\_\_\_\_ ha
- 2602 What are damaged by floods? (not limited to one)
- ( ) Human lives
  - (✓) Crops
  - ( ) Houses and structures
  - ( ) Others: (specify \_\_\_\_\_)
- 2603 Measures for Drainage Improvement and Flood Mitigation, and Estimated Costs as of 1990 (if necessary) (not limited to one)
- a. ( ) Construction of drainage canals & structures: ₱ \_\_\_\_\_
  - b. (✓) Construction of dikes: ₱ 830 000
  - c. ( ) Construction of control structures: ₱ \_\_\_\_\_
  - d. ( ) Construction of drainage pump house: ₱ \_\_\_\_\_

27. Service & Access Roads

- 2701 Service Roads
- a. Length: 1.50 km
  - b. Width: 3.00 m
- 2702 Access Roads
- a. Length: 7.50 km
  - b. Width: 4.00 m
- 2703 Length of Service Roads to be Rehabilitated/improved (if necessary) 0 km
- 2704 Length of Access Roads to be Rehabilitated/improved (if necessary) 1.20 km
- 2705 Estimated Rehabilitation/Improvement Costs for Service Roads as of 1990 (if necessary): ₱ 0
- 2706 Estimated Rehabilitation/Improvement Costs for Access Roads as of 1990 (if necessary): ₱ 143 000

28. Construction Costs at Time of Completion

- 2801 Diversion Weir including Afflux Dike: ₱ 432 000
- 2802 Intake: ₱ 238 000
- 2803 Irrigation Canals with Structures: ₱ 548 000
- 2804 Drainage Canals with Structures: ₱ 469 000
- 2805 Service Roads with Structures: ₱ 180 000
- 2806 Access Roads with Structures: ₱ 307 000

- 2807 Flood Protection Dikes: ₹ 0
- 2808 Land Reclamation: ₹ 0
29. Operation and Maintenance (O/M) Fee
- 2901 Does IA Collect O/M Fee other than amortization fee?
- ( ) No
- (✓) Yes: How much?:
- a. Wet season paddy: ₹ 175 /ha
- b. Dry season paddy: ₹ 175 /ha
- c. Major diversified crops:(specifies)
- i) CORN : ₹ 150 /ha
- ii) \_\_\_\_\_ : ₹ \_\_\_\_\_ /ha
- iii) \_\_\_\_\_ : ₹ \_\_\_\_\_ /ha
- 2902 O/M Fee in 1989
- a. Amount collectable/due: ₹ 36750
- b. Total O/M fee actually collected: ₹ 25730
- 2903 Are O/M activities satisfactorily carried out ?:
- ( ) Yes
- (✓) No
- (i) ( ) No cooperation of member-farmers
- ( ) Improper design of facilities  
 (Location, capacity etc.)
- (✓) Shortage of fund, materials and equipment
- ( ) Others: (specify \_\_\_\_\_)
- 2904 Total Annual O/M Costs: ₹ 28800 in 1985  
₹ 28100 in 1986  
₹ 27300 in 1987  
₹ 26700 in 1988  
₹ 25730 in 1989

3. AGRICULTURE AND AGRO-ECONOMY

(If primary data can not be generated, use secondary data from latest census, SN, PBME results, DA/BAS and others.)

31. Socio-Economic Background

- 3101 Population in the Project Area in 1989: 672 persons
- 3102 Nos. of Households in the Project Area in 1989
- a. Farming household: 90 nos
- b. Non-farming household: 22 nos

- 3103 Nos. of Farming Beneficiaries in 1989
- a. Inside the project area: 90 nos
  - b. Outside the project area: 10 nos
- 3104 Land Holding Distribution of Farming Beneficiaries
- a. More than 3 ha: 2 nos
  - b. 2.5 to 3 ha: 3 nos
  - c. 2 to 2.5 ha: 5 nos
  - d. 1.5 to 2 ha: 15 nos
  - e. 1 to 1.5 ha: 50 nos
  - f. 0.5 to 1 ha: 20 nos
  - g. Less than 0.5 ha: 5 nos
- 3105 Average Farm Size of Beneficiaries: 1.20 ha
- 3106 Tenurial Status
- a. Full owner: 10 nos and 12 ha in total
  - b. Part owner: 15 nos and 18 ha in total
  - c. Amortizing owner (under CARP): 60 nos and 72 ha in total
  - d. Share tenant: 3 nos and 4 ha in total
  - e. Lessees: 12 nos and 14 ha in total
- 3107 Progress of Agrarian Reform in the Area as of July, 1990:
- ( ) 100% of the total area
  - ( ) 75-100 % of the total area
  - (✓) 50-75 % of the total area
  - ( ) 25-50 % of the total area
  - ( ) Less than 25% of the total area
- 3108 Area Eligible for Distribution under CARP: 27.00 ha
- 3109 Status of Issuance of Emancipation Patents: 60.00 %
32. Cultivation Area
- 3201 Actual Cultivated Area :
- |                                     | <u>1985</u>   | <u>1986</u>   | <u>1987</u>   | <u>1988</u>   | <u>1989</u>   |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|
| a. Wet season paddy:                | <u>120 ha</u> | <u>117 ha</u> | <u>114 ha</u> | <u>112 ha</u> | <u>108 ha</u> |
| b. Dry season paddy:                | <u>85 ha</u>  | <u>82 ha</u>  | <u>79 ha</u>  | <u>76 ha</u>  | <u>72 ha</u>  |
| c. Major diversified crops, if any: |               |               |               |               |               |
| i) <u>CORN</u> :                    | <u>35 ha</u>  | <u>35 ha</u>  | <u>35 ha</u>  | <u>35 ha</u>  | <u>35 ha</u>  |
| ii) _____ :                         | <u>ha</u>     | <u>ha</u>     | <u>ha</u>     | <u>ha</u>     | <u>ha</u>     |
| iii) _____ :                        | <u>ha</u>     | <u>ha</u>     | <u>ha</u>     | <u>ha</u>     | <u>ha</u>     |
- 3202 Can present paddy field be used for diversified crop cultivation without special works?:
- ( ) No

(v) Yes : 120 ha

3203 Can present diversified crop field be used for paddy crop cultivation without special works?:

( ) No

(v) Yes : 120 ha

33. Farming Calendar

3301 Present Cropping Pattern in 1989

a. Wet season paddy: from MAY to SEPTEMBER  
(Month) (Month)

b. Dry season paddy: from NOVEMBER to MARCH  
(Month) (Month)

c. Major diversified crops, if any:

i) CORN: from NOVEMBER to FEBRUARY  
(Month) (Month)

ii) \_\_\_\_\_: from \_\_\_\_\_ to \_\_\_\_\_  
(Month) (Month)

iii) \_\_\_\_\_: from \_\_\_\_\_ to \_\_\_\_\_  
(Month) (Month)

d. Present cropping intensity: 200 %  
(Area planted during dry and wet season / Area planted during wet season x 100)

34. Crop Production

3401 Average Crop Yield in 1989

a. Wet season paddy: 3.00 ton per ha

b. Dry season paddy: 3.50 ton per ha

c. Major diversified crops, if any:

i) CORN: 2.00 ton per ha

ii) \_\_\_\_\_: \_\_\_\_\_ ton per ha

iii) \_\_\_\_\_: \_\_\_\_\_ ton per ha

3402 Total Crop Production in 1989 (Average yield per ha x total area planted)

a. Wet season paddy: 324 ton

b. Dry season paddy: 252 ton

c. Major diversified crops, if any:

i) CORN: 70 ton

ii) \_\_\_\_\_: \_\_\_\_\_ ton

iii) \_\_\_\_\_: \_\_\_\_\_ ton

35. Farm Budget

3501 Average Farm Gate Prices in 1989

- a. Wet season paddy: P 5.00 per kg
- b. Dry season paddy: P 5.00 per kg
- c. Major diversified crops, if any:
  - i) CORN : P 3.00 per kg
  - ii) \_\_\_\_\_ : P per kg
  - iii) \_\_\_\_\_ : P per kg

3502 Average Production Cost in 1989

- a. Wet season paddy P 8000 per ha
- b. Dry season paddy P 9000 per ha
- c. Major Diversified crops, if any:
  - i) CORN : P 3000 per ha
  - ii) \_\_\_\_\_ : P per ha
  - iii) \_\_\_\_\_ : P per ha

4. AGRICULTURAL SUPPORT SERVICES

41. Rice Mill Facilities:

- Available and sufficient; Distance to project site: 20 km
- Available and insufficient; Distance to project site: \_\_\_\_\_ km
- Not available

42. Storage Facilities:

- Available and sufficient; Distance to project site: 20 km
- Available and insufficient; Distance to project site: \_\_\_\_\_ km
- Not available

43. Credit Service:

- Available
  - Formal (LB, RB&PNB); Distance to project site: 7 km
  - Informal; Distance to project site: 7 km
- Not available

44. Farm Input Service

- a. Seed:  Available; Distance to project site: 5 km  
 Not available
- b. Fertilizer:  Available; Distance to project site: 8 km  
 Not available
- c. Chemicals:  Available; Distance to project site: 8 km  
 Not available
- d. Farm machinery:  Available; Distance to project site: 9 km

( ) Not available

5 INSTITUTIONAL ASPECTS

51. Educational Attainment and Training

5101 Irrigators Association (IA) Officials

- a. College graduates: 1 nos.
- b. 1st to 3rd year high-school: 2 nos.
- c. Secondary education level: 5 nos.
- d. Elementary education level: 2 nos.
- e. Undergone training course on CIS: 7 nos.
- f. No training on CIS 3 nos.

5102 Non-IA Officials (members)

- a. Undergone training course on CIS: 224 nos.
- b. No training on CIS: 96 nos.

5103 Type of Training Course Undergone by IA Officials and Members:

- System management and operation
- Organizational management
- Accounting procedures and financial management
- Others (specify \_\_\_\_\_)

5104 Type of Training Course that You (PIE) think are still needed by this particular IA/CIS

- System management and operation
- Organizational management
- Accounting procedures and financial management
- Others (specify CREDIT AND MARKETING)

52. Accessibility to Services of Technicians

5201 Number of technicians assigned to/visiting the project area, by type

- a. Irrigation technician: 1 nos.
- b. Irrigation community organizer: 1 nos.
- c. Others (specify):
  - i) FARM TECHNICIAN: 1 nos.
  - ii) AGRARIAN REFORM TECHNICIAN: 1 nos.
  - iii) \_\_\_\_\_: \_\_\_\_\_ nos.

5202 Are they sufficient to service the need of the project area?:

- Yes
- No

5203 If no, how many more technicians are needed?

- a. Irrigation technician: NA nos.
- b. Irrigation community organizer: NA nos.
- c. Others (specify):
  - i) CREDIT AND MARKETING 1 nos.
  - ii) \_\_\_\_\_: \_\_\_\_\_ nos.
  - iii) \_\_\_\_\_: \_\_\_\_\_ nos.

53. Irrigators' Association

5301 Officers of Irrigators' Association

(Please check whether elected or appointed)

<u>Officers</u>	<u>Elected</u>	<u>Appointed</u>
a. Board members:	(✓)	( )
b. President:	(✓)	( )
c. Vice-president:	(✓)	( )
d. Secretary:	( )	(✓)
e. Treasurer:	(✓)	( )
f. Auditor:	(✓)	( )
g. Others (specify):		
i) <u>COOK</u>	( )	(✓)
ii) <u>SERGEANT-AT-ARMS</u>	( )	(✓)
iii) _____	( )	( )

5302 Frequency of election of officials:

- (✓) Yearly
- ( ) Every two years
- ( ) Others (specify: \_\_\_\_\_)

5303 Existing committees:

- ( ) By laws
- (✓) Irrigation management
- ( ) Complaint/grievance
- (✓) Education and training
- (✓) Others (specify: FINANCE)

5304 Assessment of Working Relationship (based on your (PIE's) opinion)

- a. Among IA officials:
  - ( ) Excellent
  - (✓) Good
  - ( ) Fair
  - ( ) Poor
- b. Among IA members:
  - ( ) Excellent

- Good
- Fair
- Poor
- c. Between IA officials and members
  - Excellent
  - Good
  - Fair
  - Poor

5305 Linkage with other Agencies/entities

- a. NIA:
  - Excellent
  - Good
  - Fair
  - Poor
- b. DA, DAR and other government offices:
  - Excellent
  - Good
  - Fair
  - Poor
- c. Municipal/provincial governments and barangay council/other barangay associations:
  - Excellent
  - Good
  - Fair
  - Poor
- d. Other IAs in the barangay/municipality
  - Excellent
  - Good
  - Fair
  - Poor

54 Farmer-Beneficiaries' Participation in Project Development and Implementation

	<u>Activity</u>	<u>Substantial</u>	<u>Little</u>	<u>None</u>
a.	Project site selection:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b.	Prioritization:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c.	Project conceptualization and proposal preparation:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d.	Feasibility study preparation:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



- |    |                                |     |     |     |
|----|--------------------------------|-----|-----|-----|
| e. | Fund sourcing:                 | ( ) | (✓) | ( ) |
| f. | Project construction:          | (✓) | ( ) | ( ) |
| g. | Operation and maintenance:     | (✓) | ( ) | ( ) |
| h. | Monitoring and evaluation:     | (✓) | ( ) | ( ) |
| i. | Process Documentation:         | ( ) | ( ) | (✓) |
| j. | Others (specify)               |     |     |     |
|    | i) <u>DETAILED ENGINEERING</u> | ( ) | (✓) | ( ) |
|    | ii) _____                      | ( ) | ( ) | ( ) |
|    | iii) _____                     | ( ) | ( ) | ( ) |

55. What do you think are the factors that enhance Farmers' Participation in IA's Activities:

- (✓) Poor economic status
- ( ) Sense of belongingness
- (✓) Encouragement and support from government agencies
- ( ) Encouragement and support from private volunteers/groups
- ( ) Others (specify):
  - i) ENHANCED SOCIAL STATUS
  - ii) \_\_\_\_\_
  - iii) \_\_\_\_\_

6. ENVIRONMENTAL ISSUES

61. River Water Quality (not limited to one):

- (✓) Not polluted
- ( ) Polluted by swamp water
- ( ) Polluted by factory effluent
- ( ) Polluted by mine effluent
- ( ) Polluted by others: (specify \_\_\_\_\_)

62. Deforestation in the Catchment Area

- ( ) Serious
- (✓) Fair
- ( ) Little

63. Soil Erosion in the Catchment Area:

- ( ) Serious
- (✓) Fair
- ( ) Little

64. Sedimentation in Intake and Canals:

- ( ) Serious

- (✓) Fair  
 ( ) Little
65. Quarrying in the river near the intake  
 ( ) Serious  
 (✓) Fair  
 ( ) Little
66. Existence of Schistosomiasis in the Area:  
 ( ) Schistosomiasis are found in the area.  
 (✓) No schistosomiasis are found in the area.
67. Probable Environmental Impacts Induced by Project (not limited to one):  
 (✓) Contamination of surface water and soil due to use of fertilizer and insecticide  
 ( ) Spread of water-borne disease  
 (✓) Change in river bed condition  
 ( ) Reduction in river fishery  
 ( ) Effect of diversion weir in interfering with migratory species  
 ( ) Acceleration of agro-industry  
 ( ) Increase in employment opportunities  
 (✓) Support to agrarian reform  
 ( ) Others (specify):  
 i) \_\_\_\_\_  
 ii) \_\_\_\_\_  
 iii) \_\_\_\_\_

7. PROJECT ECONOMY AT THE TIME OF FEASIBILITY STUDY

(If detailed information is not available, please answer just total chargeable cost and total non-chargeable cost only.)

71. Project Cost (a + b)	<u>₹ 2289 000</u>
a. Direct cost (Chargeable costs) = i)+...+ ix):	<u>₹ 1639 000</u>
i) Diversion weir including afflux dike:	<u>₹ 360 000</u>
ii) Intake:	<u>₹ 198 000</u>
iii) Main canals/laterals/sub-laterals with structures:	<u>₹ 132 000</u>
iv) Farm ditches with structures:	<u>₹ 324 000</u>
v) Project drains/farm drains with structures:	<u>₹ 164 000</u>
vi) Drainage ditches with structures:	<u>₹ 227 000</u>
vii) Service roads:	<u>₹ 150 000</u>
viii) Land reclamations (if any):	<u>₹ 0</u>

ix) Project facilities (storage, bunk houses, etc.):	<u>P 83 000</u>
b. Indirect cost (Non-chargeable cost) = i) + ii) + iii):	<u>P 650 000</u>
i) Access roads to the project site:	<u>P 256 000</u>
ii) Flood protection dikes (if any):	<u>P 0</u>
iii) Overheads (engineering, administration and contingencies):	<u>P 394 000</u>
72. Benefit Build-up Period:	<u>3 years</u>
73. Project Life Span:	<u>25 years</u>
74. Internal Rate of Return at the time of F/S:	<u>15.30 % calculated in 1980</u> (Year)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
THE MASTER PLAN STUDY  
ON  
THE SMALL-SCALE IRRIGATION DEVELOPMENT PROJECT

**Questionnaire for Inventory Survey  
(New Project)**

Notes:

1. Where the question has parenthesis, write the number or fill the appropriate spaces with "✓".
2. On descriptive questions, answer either by specifying or writing down briefly and clearly.
3. For doubtful points, if any, please see the attached answer sample.

Name of Project: GATTARAN CIP  
 Name of Responsible Office: CAGAYAN PIO  
 Filled by: JUAN DELA CRUZ (PIE)

1. GENERAL

11. General

1101 Location

- a. Region: II
- b. Province: CAGAYAN
- c. Municipality: GATTARAN
- d. Barangay: NASIPING
- e. Latitude & Longitude at proposed intake site: N.Lat. 18° 04' 10"  
E.Long. 121° 40' 05"
- f. Distance from NIA's provincial office: 22 km

1102 Present Project Stage:

( ) No feasibility study or planning has been made.  
 (✓) Feasibility study or planning was finished in 19 87.  
 (If F/S was completed, please answer Question 7)  
 (✓) Design was finished in 19 88 (Ready for construction)

1103 Proposed Net Irrigable Area (use methodology developed by NIA in determining net area at F/S level)

a. In the wet season: 120 ha

b. In the dry season: 85 ha

1104 Was Irrigation Association (IA) Organized?:

( ) No: Refer to question on institutional aspects (No. 51,52 and 56)

(✓) Yes: Date organized: AUGUST in 1985

(Month) (Year)

a. Was IA registered?:

( ) No

(✓) Yes

(i) Name of IA : GATTARAN IA

(ii) Date registered: JULY in 1986

(Month) (Year)

(iii) Nos. of members: 100

(iv) Endorsement of project  
 by members:

(✓) 80 to 100%

( ) 60 to 80%

( ) below 60%

1105 Will the Project be Covered by the Proposed National Irrigation Project?:

(✓) No

( ) Yes: Name of the Proposed National Irrigation Project: \_\_\_\_\_

2. ENGINEERING

21. Physiography, Land Use & Soils

2101 Topography:

( ) Alluvial Plain

(✓) Flat area in valley

( ) Terrace

( ) Hilly

2102 Present Land Use

a. Paddy field

i) Irrigated: 0 ha

ii) Rainfed: 100 ha

b. Diversified crop field: 60 ha

c. Forests: 0 ha

d. Bush: 0 ha

e. Grass land: 20 ha

f. Swampy land: 0 ha

- g. Others: 0 ha
- 2103 Proposed Land Use
- a. Irrigated paddy field: 120 ha
- b. Irrigated diversified crop field: 35 ha
- c. Forests: 0 ha
- d. Bush: 0 ha
- e. Grass land: 0 ha
- f. Swamp land: 0 ha
- g. Others: 0 ha
- 2104 Soil Condition:
- ( ) Heavy clay
- ( ) Silty Clay/Light Clay/Sandy Clay
- () Silty Clay Loam/Clay Loam/Sandy Clay Loam
- ( ) Silty Loam/Loam/Sandy Loam/Loamy Sand
- ( ) Sand
- 2105 Land Classification for Rice:
- a. Class 1R 80 ha
- b. Class 2R 40 ha
- c. Class 3R 0 ha
- 2106 Land Classification for Diversified Crops:
- a. Class 1 65 ha
- b. Class 2 55 ha
- c. Class 3 0 ha
- 2107 Was 1:4000 Topographic Map for the Project Already Prepared?:
- () Yes
- ( ) No
22. Water Source
- 2201 Name of River:
- a. Main source: NASIPING RIVER
- b. Supplementary source (if any): NA
- 2202 Necessity of Storage Dam and Pumps
- a. Does the Project include construction of storage dam in the upstream of intake in F/S and design?:
- ( ) Yes
- () No
- b. Does the Project include provision of pumps to take water from the river as an intake structure in F/S and design?:
- ( ) Yes

- ( ) No
- 2203 Is There Gauging Station in the River (Main source)?:
- ( ) No
- (✓) Yes:
- (i) Name of station: NASIPING RIVER GS (55 KM<sup>2</sup>)
- (ii) Location of station:
- ( ) \_\_\_\_\_ km upstream of intake
- ( ) \_\_\_\_\_ km downstream of intake
- (✓) Near the intake
- (iii) Observation period: 13 years from 1960 to 1972  
(Year) (Year)
- 2204 River Discharge in Dry Season
- a. Average low flow
- (i) Main source: 650 lit/sec
- (ii) Supplementary source: NA lit/sec
- b. Is the above discharge guessed or measured ?:
- ( ) Guessed
- (✓) Measured
- c. Does Present River Discharge Seem to be Sufficient for the Project ?:
- (✓) Yes
- ( ) No
- 2205 Catchment Area at Intake Site: 55 km<sup>2</sup>
- 2206 River Bed Elevation at Intake Site: EL 25.50 m
- 2207 Is There Rainfall Station in and near the Area ?:
- ( ) No
- ( ) Yes:
- (i) Name of station: NASIPING RS
- (ii) Location of station: 10 km SOUTH of the area
- (iii) Observation period: 30 years from 1960 to 1990  
(Year) (Year)
- 2208 Rainfall (use secondary PAGASA data)
- a. Average annual rainfall: 2200 mm
- b. Adequacy of rainfall for wet season crop:
- ( ) Less than 80 %
- (✓) 80 to 100 %
- ( ) 100 %

23. Irrigation & Drainage Plan

- 2301 Proposed Diversion Water Requirement at Intake (net farm water requirement x irrigation area / overall irrigation efficiency): 240 lit/sec
- 2302 Proposed Farm Water Requirement (land soaking + ET + percolation - effective rainfall): 1.20 lit/sec/ha
- 2303 Purpose of Water Taken from Intake (not limited to one):  
 Irrigation  
 Drinking water  
 Inland fishery  
 Cattle raising  
 Mini-hydropower  
 Others:(specify \_\_\_\_\_)
- 2304 Drainage Water Requirement: 7.50 lit/sec/ha

24. Proposed Irrigation Facilities

2401 Proposed Intake Structure

- a. Approximate river width at intake: 15 m
- b. Will intake be accompanied with diversion weir?  
 No  
 Yes: (i) Material of weir:  
 Wood  
 Earth  
 Masonry  
 Concrete  
(ii) Height of weir: 1.20 m  
(iii) Length of weir: 15 m  
(iv) Crest elevation : El 26.70 m

2402 Proposed Irrigation Canals & Structures

- a. Will irrigation canal have dual purpose of irrigation and drainage ?:  
 Yes  
 No
- b. Length of proposed earth canals  
i) Main canals: 1.20 km  
ii) Lateral canals: 1.85 km  
iii) Sub lateral canals: 0.70 km  
iv) Farm ditches 20.10 km
- c. Length of proposed lined canals



- i) Main canals: 0.30 km
  - ii) Lateral canals: 1.15 km
  - iii) Sub lateral canals: 0 km
- 2403 Total Numbers of Proposed Irrigation Canals Structures  
 Including 24 nos of Turnouts: 56 nos
- 25. Proposed Drainage Facilities
  - 2501 Length of Proposed Drainage Canals
    - i) Project canals: 1.30 km
    - ii) Farm canals: 1.55 km
    - iii) Drainage ditches: 21.00 km
  - 2502 Total Numbers of Proposed Drainage Canal Structures: 25 nos
- 26 Present Drainage and Flood Condition
  - 2601 Areas Affected by Floods:
    - a. ( ) No floods                      ha
    - b. (✓) Annual floods: 120 ha
    - c. ( ) Floods in every several years:                      ha
  - 2602 Is the Project Area Damaged by Floods ?
    - ( ) No
    - (✓) Yes: What are damaged by floods? (not limited to one)
      - ( ) Human lives:
      - (✓) Crops:
      - ( ) Houses and structures:
      - ( ) Others: (specify \_\_\_\_\_)
  - 2603 Are Measures for Drainage Improvement and  
 Flood Mitigation Included in the Project ?
    - ( ) No
    - ( ) Yes (i) What measures are included in the Project  
 and how much is estimated costs as of 1990 ?
      - a. ( ) Construction of drainage canals &  
 structures: P
      - b. (✓) Construction of dikes: P 830000
      - c. ( ) Construction of control structures: P
      - d. ( ) Construction of drainage pump house: P
- 27. Proposed Service/Access Roads
  - a. Service roads
    - i) Length: 1.50 km
    - ii) Width: 3.00 m
  - b. Access roads

i) Length:	<u>7.50</u> km
ii) Width:	<u>4.00</u> m
28. Land Reclamation Area:	<u>0</u> ha
29. Proposed Construction Costs	
2901 Diversion Weir including Afflux Dike:	<u>₹ 360 000</u>
2902 Intake:	<u>₹ 198 000</u>
2903 Irrigation Canals with Structures:	<u>₹ 457 000</u>
2904 Drainage Canals with Structures:	<u>₹ 391 000</u>
2905 Service Roads with Structures:	<u>₹ 150 000</u>
2906 Access Roads with Structures:	<u>₹ 256 000</u>
2907 Flood Protection Dike	<u>₹ 121 000</u>
2908 Land Reclamation:	<u>₹ 0</u>
291. Proposed O/M Fee per ha per Crop:	
a. Wet season paddy:	<u>₹ 175 /ha</u>
b. Dry season paddy:	<u>₹ 125 /ha</u>
c. Major diversified crops:	
i) <u>CORN</u> :	<u>₹ 150 /ha</u>
ii) _____ :	<u>₹ _____ /ha</u>
iii) _____ :	<u>₹ _____ /ha</u>

### 3. AGRICULTURE AND AGRO-ECONOMY

(If primary data can not be generated, use secondary data from latest census, SN, PBME results, DA/BAS and others.)

#### 31. Socio-Economic Background

3101 Population in the Proposed Project Area in 1989:	<u>672</u> persons
3102 Nos. of Households in the Project Area in 1989	
a. Farming household:	<u>90</u> nos
b. Non-farming household:	<u>22</u> nos
3103 Nos. of Potential Farmer Beneficiaries in 1989	
a. Inside the project area:	<u>90</u> nos
b. Outside the project area:	<u>10</u> nos
3104 Land Holding Distribution of Farmer Beneficiaries	
a. More than 3 ha:	<u>2</u> nos
b. 2.5 to 3 ha:	<u>3</u> nos
c. 2 to 2.5 ha:	<u>5</u> nos
d. 1.5 to 2 ha:	<u>15</u> nos
e. 1 to 1.5 ha:	<u>50</u> nos

	f. 0.5 to 1 ha:	<u>20 nos</u>	
	g. Less than 0.5 ha:	<u>5 nos</u>	
3105	Average Farm Size of Beneficiaries:	<u>1.20 ha</u>	
3106	Tenurial Status		<i>in total</i>
	a. Full owner:	<u>10 nos</u>	& 12 ha ✓
	b. Part owner:	<u>15 nos</u>	& 18 ha ✓
	c. Amortizing owner (under CARP):	<u>60 nos</u>	& 72 ha ✓
	d. Share Tenant:	<u>3 nos</u>	& 4 ha ✓
	e. Lessees:	<u>12 nos</u>	& 14 ha ✓
3107	Progress of Agrarian Reform in the Area as of July, 1990:		
	( ) 100% of the total area		
	( ) 75 to 100 % of the total area		
	( ✓ ) 50 to 75 % of the total area		
	( ) 25 to 50 % of the total area		
	( ) Less than 25% of the total area		
3108	Area Eligible for Distribution under CARP:	<u>27 ha</u>	
3109	Status of Issuance of Emancipation Patents:	<u>60 %</u>	
32.	Cultivation Area		
3201	Present Cultivation Area in 1989:		
	a. Wet season paddy:	<u>100 ha</u>	
	b. Dry season paddy:	<u>0 ha</u>	
	c. Major diversified crops, if any:		
	i) <u>CORN</u> :	<u>60 ha</u>	
	ii) _____:	_____ ha	
	iii) _____:	_____ ha	
	d. Cropping intensity:	<u>133 %</u>	
	(Area planted during dry and wet season / Area planted during wet season x 100)		
3202	Proposed Cultivation Area :		
	a. Wet season paddy:	<u>120 ha</u>	
	b. Dry season paddy:	<u>85 ha</u>	
	c. Major diversified crops, if any:		
	i) <u>CORN</u> :	<u>35 ha</u>	
	ii) _____:	_____ ha	
	iii) _____:	_____ ha	
	d. Cropping intensity:	<u>200 %</u>	
	(Area planted during dry and wet season / Area planted during wet season x 100)		

3203 Can present paddy field be used for diversified crop cultivation without special works?:

- ( ) No  
 (✓) Yes : 120 ha

3204 Can present diversified crop field be used for paddy crop cultivation without special works?:

- ( ) No  
 (✓) Yes : 120 ha

33. Farming Calendar

3301 Present Cropping Pattern in 1989

- a. Wet season paddy: from MAY to SEPTEMBER  
 (Month) (Month)
- b. Dry season paddy: from NA to NA  
 (Month) (Month)
- c. Major diversified crops, if any:
- i) CORN : from NOVEMBER to FEBRUARY  
 (Month) (Month)
- ii) \_\_\_\_\_ : from \_\_\_\_\_ to \_\_\_\_\_  
 (Month) (Month)
- iii) \_\_\_\_\_ : from \_\_\_\_\_ to \_\_\_\_\_  
 (Month) (Month)

3302 Proposed Cropping Pattern

- a. Wet season paddy: from MAY to SEPTEMBER  
 (Month) (Month)
- b. Dry season paddy: from NOVEMBER to MARCH  
 (Month) (Month)
- c. Major diversified crops, if any:
- i) CORN : from NOVEMBER to FEBRUARY  
 (Month) (Month)
- ii) \_\_\_\_\_ : from \_\_\_\_\_ to \_\_\_\_\_  
 (Month) (Month)
- iii) \_\_\_\_\_ : from \_\_\_\_\_ to \_\_\_\_\_  
 (Month) (Month)

34. Crop Production

3401 Present Average Crop Yield in 1989

- a. Wet season paddy: 2.50 ton per ha
- b. Dry season paddy: NA ton per ha
- c. Major diversified crops, if any:

	i) <u>CORN</u> :	<u>1.50</u> ton per ha
	ii) _____ :	_____ ton per ha
	iii) _____ :	_____ ton per ha
3402	Anticipated Average Crop Yield	
	a. Wet season paddy:	<u>4.00</u> ton per ha
	b. Dry season paddy:	<u>4.25</u> ton per ha
	c. Major diversified crops, if any:	
	i) <u>CORN</u> :	<u>3.00</u> ton per ha
	ii) _____ :	_____ ton per ha
	iii) _____ :	_____ ton per ha
3403	Present Total Crop Production in 1989 (average yield per ha x area planted)	
	a. Wet season paddy:	<u>250</u> ton
	b. Dry season paddy:	<u>NA</u> ton
	c. Major diversified crops, if any:	
	i) <u>CORN</u> :	<u>90</u> ton
	ii) _____ :	_____ ton
	iii) _____ :	_____ ton
3404	Anticipated Total Crop Production (average yield per ha x area planted)	
	a. Wet season paddy:	<u>480</u> ton
	b. Dry season paddy:	<u>361</u> ton
	c. Major diversified crops, if any:	
	i) <u>CORN</u> :	<u>105</u> ton
	ii) _____ :	_____ ton
	iii) _____ :	_____ ton
35.	Farm Budget	
3501	Average Farm Gate Price of Crops in 1989	
	a. Wet season paddy:	<u>₱ 5.00</u> per kg
	b. Dry season paddy:	<u>₱ 5.00</u> per kg
	c. Major diversified crops, if any:	
	i) <u>CORN</u> :	<u>₱ 3.00</u> per kg
	ii) _____ :	<u>₱</u> _____ per kg
	iii) _____ :	<u>₱</u> _____ per kg
3502	Present Average Production Cost (1989)	
	a. Wet season paddy	<u>₱ 8000</u> per ha
	b. Dry season paddy	<u>₱ NA</u> per ha
	c. Major diversified crops, if any:	
	i) <u>CORN</u> :	<u>₱ 2500</u> per ha
	ii) _____ :	<u>₱</u> _____ per ha

iii) _____	₹ _____	per ha
3503 Proposed Crop Production Cost (after the Completion of Works)		
a. Wet season paddy	₹ 12000	per ha
b. Dry season paddy	₹ 12000	per ha
c. Major diversified crops, if any:		
i) <u>CORN</u>	₹ 5000	per ha
ii) _____	₹ _____	per ha
iii) _____	₹ _____	per ha
3504 Annual Rice Farm Family Net Income for <u>1.20</u> ha Farm:		
	<u>Irrigated</u>	<u>Rainfed</u>
Present:	₹ <u>0</u>	₹ <u>5800</u>
With Project:	₹ <u>16762</u>	₹ <u>0</u>

4. AGRICULTURAL SUPPORT SERVICE

41. Rice Mill Facilities:

- (✓) Available and sufficient; Distance to project site: 20 km  
 ( ) Available and insufficient; Distance to project site: \_\_\_\_\_ km  
 ( ) Not available

42. Storage/Drying Facilities:

- (✓) Available and sufficient; Distance to project site: 20 km  
 ( ) Available and insufficient; Distance to project site: \_\_\_\_\_ km  
 ( ) Not available

43. Credit Service:

- (✓) Available  
 (✓) Formal (LB, RB & PNB); Distance to project site: 7 km  
 ( ) Informal; Distance to project site: \_\_\_\_\_ km  
 ( ) Not available

44. Farm Input Service

- a. Seed: (✓) Available; Distance to project site: 7 km  
 ( ) Not available:  
 b. Fertilizer: (✓) Available; Distance to project site: 7 km  
 ( ) Not available:  
 c. Chemicals: (✓) Available; Distance to project site: 7 km  
 ( ) Not available:  
 d. Farm machinery:  
 (✓) Available; Distance to project site: 7 km

( ) Not available:

5 INSTITUTIONAL ASPECTS

51. Type of Barangay Association in the Project Site (not limited to one):

- ( ) Irrigators' Association
- ( ) Credit/marketing cooperative
- ( ) General purpose cooperatiive
- ( ) Civic/religious organization
- ( ) Others (specify \_\_\_\_\_)

52. Presence of Potential IA's officials:

- ( ) More than adequate
- ( ) Adequate
- ( ) Inadequate

53. Presence of Potential IA's Members:

- ( ) More than 80 %
- ( ) 60% to 80%
- ( ) Below 60%

54. Types of Training Related to Irrigation Development Undertaken in the Project Site :

- ( ) System management and operation
- ( ) Organizational management
- ( ) Accounting procedures and financial management
- (✓) Others (specify FARM PRODUCTION)

55. Perceived Training Needs of Potential Farmer Beneficiaries :

- (✓) System management and operation
- (✓) Organizational management
- (✓) Accounting procedures and financial management
- ( ) Others (specify \_\_\_\_\_)

56. Accessibility to Service of Technicians:

a. Numbers of technicians assigned to the project area by type:

- i) Irrigation technician: 1 nos.
- ii) Irrigation community organizer: 1 nos.
- iii) Others(specify):
  - 1. FARM TECHNICIAN : 1 nos.
  - 2. AGRARIAN REFORM TECHNICIAN: 1 nos.
  - 3. \_\_\_\_\_ : \_\_\_\_\_ nos.

b. Are they sufficient to service the need of the project area?:

- Yes
- No

- c. If no, how many more are needed?: \_\_\_\_\_ nos.
- i) Irrigation technician: \_\_\_\_\_ nos.
  - ii) Irrigation community organizer: \_\_\_\_\_ nos.
  - iii) Others(specify):
    - 1. \_\_\_\_\_: \_\_\_\_\_ nos.
    - 2. \_\_\_\_\_: \_\_\_\_\_ nos.
    - 3. \_\_\_\_\_: \_\_\_\_\_ nos.

57. What do you think are the factors that enhance farmers' participation in IA?:

- Poor economic condition
- Sence of belongingness
- Encouragement and support from government agencies
- Encouragement and support from private volunteers groups
- Others (specify):

  - i) \_\_\_\_\_
  - ii) \_\_\_\_\_
  - iii) \_\_\_\_\_

6. ENVIRONMENTAL ISSUES

61. River Water Quality (not limited to one):

- Not polluted
- Polluted by swamp water
- Polluted by factory effluent
- Polluted by mine effluent
- Polluted by others: (specify \_\_\_\_\_)

62. Deforestation in the Catchment Area

- Serious
- Fair
- Little

63. Soil Erosion in the Catchment Area:

- Serious
- Fair
- Little

64. Sedimentation in Intake and Canals:

- Serious
- Fair



- ( ) Little
65. Quarrying in the river near the intake  
 ( ) Serious  
 (✓) Fair  
 ( ) Little
66. Existence of Schistosomiasis in the Area:  
 ( ) Schistosomiasis are found in the area.  
 (✓) No schistosomiasis are found in the area.
67. Probable Environmental Impacts Induced by Project (not limited to one):  
 (✓) Contamination of surface water and soil due to use of fertilizer and insecticide  
 ( ) Spread of water-borne disease  
 (✓) Change in river bed condition  
 ( ) Reduction in river fishery  
 (✓) Effect of diversion weir in interfering with migratory species  
 (✓) Acceleration of agro-industry  
 (✓) Increase in employment opportunities  
 (✓) Support to agrarian reform  
 ( ) Others (specify):  
 i) \_\_\_\_\_  
 ii) \_\_\_\_\_  
 iii) \_\_\_\_\_

7. PROJECT ECONOMY AT THE TIME OF FEASIBILITY STUDY  
 (If F/S has not been made yet, no need to answer the following question.)

71. Project Cost (a + b):	<u>₹ 2410 000</u>
a. Direct cost (Chargeable costs) = i)+...+ ix):	<u>₹ 1639 000</u>
i) Diversion weir including afflux dike:	<u>₹ 360 000</u>
ii) Intake:	<u>₹ 198 000</u>
iii) Main canals/laterals/sub-laterals with structures:	<u>₹ 133 000</u>
iv) Farm ditches with structures:	<u>₹ 324 000</u>
v) Project drains/farm drains with structures:	<u>₹ 164 000</u>
vi) Drainage ditches with structures:	<u>₹ 227 000</u>
vii) Service roads:	<u>₹ 150 000</u>
viii) Land reclamations (if any):	<u>₹ 0</u>
ix) Project facilities (storage, bunk houses, etc.):	<u>₹ 83 000</u>

b. Indirect cost (Non-chargeable cost) = i)+ ii)+ iii):	<u>P 771 000</u>
i) Access roads to the project site:	<u>P 256 000</u>
ii) Flood protection dikes (if any):	<u>P 121 000</u>
iii) Overheads (engineering, administration and contingencies):	<u>P 394 000</u>
72. Benefit Build-up Period:	<u>3 years</u>
73. Project Life Span:	<u>25 years</u>
74. Internal Rate of Return: (Calculated at the time of F/S)	<u>15.30% calculated in 1987</u> (Year)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
THE MASTER PLAN STUDY  
ON  
THE SMALL-SCALE IRRIGATION DEVELOPMENT PROJECT

**Questionnaire for Inventory Survey  
(Expansion Program of Existing Project)**

Notes:

1. Where the question has parenthesis, write the number or fill the appropriate spaces with " /".
2. On descriptive questions, answer either by specifying or writing down briefly and clearly.
3. For doubtful points, if any, please see the attached answer sample.

Name of Project: \_\_\_\_\_  
Name of Responsible Office: \_\_\_\_\_  
Filled by: \_\_\_\_\_

1. GENERAL

11. General

1101 Proposed Expansion Area (use methodology developed by NIA in determining net area at F/S level)

- a. In the wet season: \_\_\_\_\_ ha  
b. In the dry season: \_\_\_\_\_ ha

1102 Present Stage of expansion program:

- No feasibility study or planning has been made.  
 Feasibility study or planning was finished in 19\_\_\_\_.  
(If F/S was completed, please answer Question 4)  
 Design was finished in 19\_\_\_\_ (Ready for construction)

1103 Is Irrigation Association (IA) Organized for the Expansion Area?:

- Not Yet  
 Yes: Date organized: \_\_\_\_\_ in 19\_\_\_\_  
(Month) (Year)

- a. Is the IA incorporated into the existing one?:  
 No  
 Yes

- (i) Name of IA : \_\_\_\_\_
- (ii) Date of incorporation: \_\_\_\_\_ in 19 \_\_\_\_\_  
(Month) (Year)
- (iii) Nos. of new members: \_\_\_\_\_

2. ENGINEERING ASPECT OF EXPANSION PROGRAM

21. Land Use and Soils of the Expansion Area

2101 Present Land Use

- a. Paddy field \_\_\_\_\_ ha
  - i) Irrigated: \_\_\_\_\_ ha
  - ii) Rainfed: \_\_\_\_\_ ha
- b. Diversified crop field: \_\_\_\_\_ ha
- c. Forests: \_\_\_\_\_ ha
- d. Bush: \_\_\_\_\_ ha
- e. Grass land: \_\_\_\_\_ ha
- f. Swampy land: \_\_\_\_\_ ha
- g. Others: \_\_\_\_\_ ha

2102 Proposed Land Use

- a. Irrigated paddy field: \_\_\_\_\_ ha
- b. Irrigated diversified crop field: \_\_\_\_\_ ha
- c. Forests: \_\_\_\_\_ ha
- d. Bush: \_\_\_\_\_ ha
- e. Grass land: \_\_\_\_\_ ha
- f. Swamp land: \_\_\_\_\_ ha
- g. Others: \_\_\_\_\_ ha

2103 Soil Condition:

- ( ) Heavy clay
- ( ) Silty Clay/Light Clay/Sandy Clay
- ( ) Silty Clay Loam/Clay Loam/Sandy Clay Loam
- ( ) Silty Loam/Loam/Sandy Loam/Loamy Sand
- ( ) Sand

2104 Was 1:4000 Topographic Map for the Project Already Prepared?:

- ( ) Yes
- ( ) No

22. Water Source

2201 Water Source for the Expansion Area

- ( ) Same as that for the existing area: answer the question No.23

( ) Different water source: answer the following questions No. 2202 to 2207

2202 Name of River:

a. Main source: \_\_\_\_\_

b. Supplementary source (if any): \_\_\_\_\_

2203 Necessity of Storage Dam and Pumps

a. Does the Project include construction of storage dam in the upstream of intake in F/S and design?:

( ) Yes

( ) No

b. Does the Project include provision of pumps to take water from the river as an intake structure in F/S and design?:

( ) Yes

( ) No

2204 Is There Gauging Station in the River (Main source)?:

( ) No

( ) Yes:

(i) Name of station: \_\_\_\_\_

(ii) Location of station:

( ) \_\_\_\_\_ km upstream of intake

( ) \_\_\_\_\_ km downstream of intake

( ) Near the intake

(iii) Observation period: \_\_\_\_\_ years from 19\_\_\_\_ to 19\_\_\_\_  
(Year) (Year)

2205 River Discharge in Dry Season

a. Average low flow

(i) Main source: \_\_\_\_\_ lit/sec

(ii) Supplementary source: \_\_\_\_\_ lit/sec

b. Is the above discharge guessed or measured ?:

( ) Guessed

( ) Measured

c. Does Present River Discharge Seem to be Sufficient for the Project ?:

( ) Yes

( ) No

2206 Catchment Area at Intake Site: \_\_\_\_\_ km<sup>2</sup>

23. Irrigation & Drainage Plan

2301 Additional Diversion Water Requirement at Intake for the Expansion area  
(net farm water requirement x expansion area /

- overall irrigation efficiency): \_\_\_\_\_ lit/sec
- 2302 Proposed Farm Water Requirement  
(land soaking + ET + percolation - effective rainfall): \_\_\_\_\_ lit/sec/ha
- 2303 Purpose of Water Taken from Intake (not limited to one):  
 Irrigation  
 Drinking water  
 Inland fishery  
 Cattle raising  
 Mini-hydropower  
 Others:(specify \_\_\_\_\_)
- 2304 Drainage Water Requirement: \_\_\_\_\_ lit/sec/ha
24. Proposed Irrigation Facilities for the Expansion area
- 2401 Proposed Intake Structure  
 (If the intake structure is not additionally required for the expansion area,  
 no need to answer the following questions)
- a. Approximate river width at intake: \_\_\_\_\_ m
- b. Will the intake be accompanied with the diversion weir?  
 No  
 Yes: (i) Material of weir:  
 Wood  
 Earth  
 Masonry  
 Concrete  
 (ii) Height of weir: \_\_\_\_\_ m  
 (iii) Length of weir: \_\_\_\_\_ m  
 (iv) Crest elevation : El \_\_\_\_\_ m
- 2402 Proposed Irrigation Canals & Structures
- a. Will the irrigation canals have dual purpose of irrigation and drainage ?:  
 Yes  
 No
- b. Length of proposed earth canals  
 i) Main canals: \_\_\_\_\_ km  
 ii) Lateral canals: \_\_\_\_\_ km  
 iii) Sub lateral canals: \_\_\_\_\_ km  
 iv) Farm ditches \_\_\_\_\_ km
- c. Length of proposed lined canals  
 i) Main canals: \_\_\_\_\_ km  
 ii) Lateral canals: \_\_\_\_\_ km

- iii) Sub lateral canals: \_\_\_\_\_ km
- 2403 Total Numbers of Proposed Irrigation Canals Structures  
Including \_\_\_\_\_ nos of Turnouts: \_\_\_\_\_ nos
25. Proposed Drainage Facilities
- 2501 Length of Proposed Drainage Canals
- i) Project canals: \_\_\_\_\_ km
- ii) Farm canals: \_\_\_\_\_ km
- iii) Drainage ditches: \_\_\_\_\_ km
- 2502 Total Numbers of Proposed Drainage Canal Structures: \_\_\_\_\_ nos
26. Proposed Service/Access Roads
- a. Service roads
- i) Length: \_\_\_\_\_ km
- ii) Width: \_\_\_\_\_ m
- b. Access roads
- i) Length: \_\_\_\_\_ km
- ii) Width: \_\_\_\_\_ m
27. Land Reclamation Area: \_\_\_\_\_ ha

3. AGRICULTURE AND AGRO-ECONOMY OF THE EXPANSION AREA

(If primary data can not be generated, use secondary data from latest census, SN, PBME results, DA/BAS and others.)

31. Socio-Economic Background in the Exapansion Area

3101 Nos. of Potential Farmer Beneficiaries in 1989

- a. Inside the project area: \_\_\_\_\_ nos
- b. Outside the project area: \_\_\_\_\_ nos

3102 Land Holding Distribution of Farmer Beneficiaries

- a. More than 3 ha: \_\_\_\_\_ nos
- b. 2.5 to 3 ha: \_\_\_\_\_ nos
- c. 2 to 2.5 ha: \_\_\_\_\_ nos
- d. 1.5 to 2 ha: \_\_\_\_\_ nos
- e. 1 to 1.5 ha: \_\_\_\_\_ nos
- f. 0.5 to 1 ha: \_\_\_\_\_ nos
- g. Less than 0.5 ha: \_\_\_\_\_ nos

3103 Average Farm Size of Beneficiaries: \_\_\_\_\_ ha

3104 Tenurial Status

- a. Full owner: \_\_\_\_\_ nos
- b. Part owner: \_\_\_\_\_ nos

- c. Amortizing owner (under CARP): \_\_\_\_\_ nos
- d. Share Tenant: \_\_\_\_\_ nos
- e. Lessees: \_\_\_\_\_ nos
- 3105 Progress of Agrarian Reform in the Area as of July, 1990:
  - ( ) 100% of the total area
  - ( ) 75 to 100 % of the total area
  - ( ) 50 to 75 % of the total area
  - ( ) 25 to 50 % of the total area
  - ( ) Less than 25% of the total area
- 3106 Area Eligible for Distribution under CARP: \_\_\_\_\_ ha
- 3107 Status of Issuance of Emancipation Patents: \_\_\_\_\_ %
- 32. Cultivation Area within the Expansion Area
  - 3201 Present Cultivation Area in 1989:
    - a. Wet season paddy: \_\_\_\_\_ ha
    - b. Dry season paddy: \_\_\_\_\_ ha
    - c. Major diversified crops, if any:
      - i) \_\_\_\_\_: \_\_\_\_\_ ha
      - ii) \_\_\_\_\_: \_\_\_\_\_ ha
      - iii) \_\_\_\_\_: \_\_\_\_\_ ha
    - d. Cropping intensity: \_\_\_\_\_ %  
 (Area planted during dry and wet season / Area planted during wet season x 100)
  - 3202 Proposed Cultivation Area :
    - a. Wet season paddy: \_\_\_\_\_ ha
    - b. Dry season paddy: \_\_\_\_\_ ha
    - c. Major diversified crops, if any:
      - i) \_\_\_\_\_: \_\_\_\_\_ ha
      - ii) \_\_\_\_\_: \_\_\_\_\_ ha
      - iii) \_\_\_\_\_: \_\_\_\_\_ ha
    - d. Cropping intensity: \_\_\_\_\_ %  
 (Area planted during dry and wet season / Area planted during wet season x 100)
- 33. Crop Production in the Expansion Area
  - 3301 Present Average Crop Yield in 1989
    - a. Wet season paddy: \_\_\_\_\_ ton per ha
    - b. Dry season paddy: \_\_\_\_\_ ton per ha
    - c. Major diversified crops, if any:



- i) \_\_\_\_\_ : \_\_\_\_\_ ton per ha
  - ii) \_\_\_\_\_ : \_\_\_\_\_ ton per ha
  - iii) \_\_\_\_\_ : \_\_\_\_\_ ton per ha
- 3302 Anticipated Average Crop Yield
- a. Wet season paddy: \_\_\_\_\_ ton per ha
  - b. Dry season paddy: \_\_\_\_\_ ton per ha
  - c. Major diversified crops, if any:
    - i) \_\_\_\_\_ : \_\_\_\_\_ ton per ha
    - ii) \_\_\_\_\_ : \_\_\_\_\_ ton per ha
    - iii) \_\_\_\_\_ : \_\_\_\_\_ ton per ha
- 3303 Present Total Crop Production in 1989 (average yield per ha x area planted)
- a. Wet season paddy: \_\_\_\_\_ ton
  - b. Dry season paddy: \_\_\_\_\_ ton
  - c. Major diversified crops, if any:
    - i) \_\_\_\_\_ : \_\_\_\_\_ ton
    - ii) \_\_\_\_\_ : \_\_\_\_\_ ton
    - iii) \_\_\_\_\_ : \_\_\_\_\_ ton
- 3304 Anticipated Total Crop Production (average yield per ha x area planted)
- a. Wet season paddy: \_\_\_\_\_ ton
  - b. Dry season paddy: \_\_\_\_\_ ton
  - c. Major diversified crops, if any:
    - i) \_\_\_\_\_ : \_\_\_\_\_ ton
    - ii) \_\_\_\_\_ : \_\_\_\_\_ ton
    - iii) \_\_\_\_\_ : \_\_\_\_\_ ton

4. PROJECT ECONOMY AT THE TIME OF FEASIBILITY STUDY

(If F/S has not been made yet, no need to answer the following question.)

41. Project Cost (a + b): ₱ \_\_\_\_\_
- a. Direct cost (Chargeable costs) = i) + ... + ix): ₱ \_\_\_\_\_
    - i) Diversion weir including afflux dike: ₱ \_\_\_\_\_
    - ii) Intake: ₱ \_\_\_\_\_
    - iii) Main canals/laterals/sub-laterals with structures: ₱ \_\_\_\_\_
    - iv) Farm ditches with structures: ₱ \_\_\_\_\_
    - v) Project drains/farm drains with structures: ₱ \_\_\_\_\_
    - vi) Drainage ditches with structures: ₱ \_\_\_\_\_
    - vii) Service roads: ₱ \_\_\_\_\_

- viii) Land reclamations (if any): ₹ \_\_\_\_\_
- ix) Project facilities (storage, bunk houses, etc.): ₹ \_\_\_\_\_
- b. Indirect cost (Non-chargeable cost) = i)+ ii)+ iii): ₹ \_\_\_\_\_
  - i) Access roads to the project site: ₹ \_\_\_\_\_
  - ii) Flood protection dikes (if any): ₹ \_\_\_\_\_
  - iii) Overheads (engineering, administration and contingencies): ₹ \_\_\_\_\_
- 42. Benefit Build-up Period: \_\_\_\_\_ years
- 43. Project Life Span: \_\_\_\_\_ years
- 44. Internal Rate of Return: \_\_\_\_\_ % calculated in 19 \_\_\_\_\_  
 (Calculated at the time of F/S) (Year)

**ANNEX B-2**  
**OVERVIEW OF SURVEY RESULTS**

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## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (1/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
<b><u>Area</u></b>					
1	Designed irrigable area (wet season)	ha	2,423	351,769	145
2	Designed irrigable area (dry season)	ha	1,589	213,348	134
3	Actually irrigated area (wet season)	ha	1,670	-	127
4	Actually irrigated area (dry season)	ha	1,205	-	117
<b><u>Project History</u></b>					
5	Duration from F/S to completion of construction	years	563	-	2.8
6	Years after completion of construction	ycars	1,220	-	10
<b><u>Population &amp; Households</u></b>					
7	Population in the project area in 1989	persons	1,572	2,545,430	1,619
8	Households in the project area in 1989				
	Farming household	no.	1,513	266,130	177
	Non-farming household	no.	1,050	162,767	155
<b><u>Topography</u></b>					
9	Classification of CISs by topography	no.	2,207	-	-
	Alluvial plain	no.	734	-	-
	Valley	no.	1,185	-	-
	Terrace/Hilly	no.	288	-	-
10	Availability of 1:4,000 topo. map	no.	1,745	-	-
	Available	no.	913	-	-
	Not Available	no.	832	-	-
<b><u>Soils</u></b>					
11	Classification of CISs by soils	no.	2,331	-	-
	Heavy clay	no.	88	-	-
	Silty, light and sandy clay	no.	354	-	-
	Silty clay loam, clay loam and sandy clay loam	no.	1,535	-	-
	Silty loam, loam, sand loam and loamy sand	no.	349	-	-
	Sand	no.	5	-	-

## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (2/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
<b><u>Hydrology</u></b>					
12	Average low flow in dry season		1,625	-	
	0 - 500 lit/sec	lit/sec	1,115	-	185
	500 - 1,000 lit/sec	lit/sec	256	-	715
	Over 1,000 lit/sec	lit/sec	254	-	4,262
13	River discharge	no.	1,278	-	-
	Measured	no.	1,101	-	-
	Guessed	no.	177	-	-
14	Catchment area at intake site		1,229	-	
	0 - 100 km <sup>2</sup>	km <sup>2</sup>	1,100	-	21
	100 - 1,000 km <sup>2</sup>	km <sup>2</sup>	100	-	283
	Over 1,000 km <sup>2</sup>	km <sup>2</sup>	29	-	3,209
15	Availability of gauging station	no.	2,109	-	-
	Available	no.	190	-	-
	Not Available	no.	1,919	-	-
16	Observation period in gauging station	years	141	-	3.6
17	Availability of rainfall station	no.	2,066	-	-
	Available	no.	1,114	-	-
	Not Available	no.	952	-	-
18	Observation period of rainfall station	years	1,024	-	12
<b><u>Irrigation and Drainage Facilities</u></b>					
19	Purpose of irrigation water	no.	1,940	-	-
	Irrigation	no.	1,936	-	-
	Drinking	no.	31	-	-
	Inland Fishery	no.	227	-	-
	Cattle raising	no.	71	-	-
	Mini-hydro power	no.	3	-	-
	Others	no.	47	-	-
20	Provision of diversion weir	no.	1,871	-	-
	With diversion weir	no.	1,319	-	-
	Without diversion weir	no.	552	-	-
21	Materials of diversion weir	no.	1,189	-	-
	Concrete	no.	907	-	-
	Masonry	no.	251	-	-
	Earth	no.	102	-	-
	Wood	no.	88	-	-
22	Height of diversion weir	m	1,037	-	3.1
23	Length of diversion weir	m	1,025	-	20

## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (3/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
24	Unit diversion water requirement	lit/sec/ha	1,249	-	2.4
25	Overall irrigation efficiency	%	805	-	74
26	Unit drainage water requirement	lit/sec/ha	294	-	5.4
27	Total length of main/lateral canals				
	Earth canal	km	1,770	9,686	5.5
	Lined-canal	km	608	2,049	3.2
28	Total length of field ditches	km	770	8,293	10.8
29	No. of turnouts (main canal)	no.	738	6,853	9
30	No. of canal structures	no.	1,328	23,675	18
31	Total length of project/farm drains	km	148	531	3.6
32	Total length of drainage ditches	km	129	281	2.2
33	Total length of service road	km	412	1,234	3.0
34	Total length of access road	km	544	2,083	3.8
35	Average width of service road	m	392	-	4.9
36	Average width of access road	m	523	-	4.2
37	Situation of water shortage in dry season				
	No watershortage	no.	316	-	-
	Occasional water shortage	no.	677	-	-
	Frequent water shortage	no.	1,007	-	-
<b><u>Agriculture</u></b>					
38	Cropping intensity	%	2,008	-	141
39	Average farm size	ha	1,687	-	1.50
40	Crop yield in 1989				
	Wet season paddy	ton/ha	1,859	-	3.47
	Dry season paddy	ton/ha	1,620	-	3.47
41	Total crop production in 1989				
	Wet season paddy	tons	1,847	739,921	401
	Dry season paddy	tons	1,612	496,403	308
42	Average farm gate price in 1989				
	Wet season Paddy	Peso/kg	1,807	-	4.91
	Dry season paddy	Peso/kg	1,623	-	5.07

## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (4/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
<b><u>Agricultural Support Service</u></b>					
43	Seed supply service	no.	2,128	-	-
	Available	no.	1,841	-	-
	Not Available	no.	287	-	-
44	Fertilizer supply service	no.	2,173	-	-
	Available	no.	2,045	-	-
	Not Available	no.	128	-	-
45	Chemical supply service	no.	2,173	-	-
	Available	no.	2,056	-	-
	Not Available	no.	117	-	-
46	Farm machinery supply service	no.	1,808	-	-
	Available	no.	1,721	-	-
	Not Available	no.	87	-	-
47	Rice mill	no.	2,213	-	-
	Available	no.	2,057	-	-
	Not Available	no.	156	-	-
48	Storage facilities	no.	2,143	-	-
	Available	no.	1,165	-	-
	Not Available	no.	978	-	-
49	Credit service	no.	2,284	-	-
	Available	no.	2,048	-	-
	Not Available	no.	236	-	-
<b><u>Irrigators' Association (IA)</u></b>					
50	Organization status of IA	no.	2,209	-	-
	Organized IA	no.	1,804	-	-
	Not-organized IA	no.	405	-	-
51	Total number of IA members	persons	1,442	143,548	100
52	Total amount of IA loan	pesos	972	1,320,330,780	1,358,365
53	Total repaid amount of 1989	pesos	781	55,957,975	71,649
54	Total amount due to be repaid of 1989	pesos	971	1,264,373,085	1,302,135



## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (5/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
55	Total number of IAs that received NIA's training courses	no.	1,103	-	-
	System management	no.	656	-	-
	Organization management	no.	655	-	-
	Financial management	no.	649	-	-
	Others	no.	375	-	-
56	Working relationship among IA officials and IA members	no.	1,629	-	-
	Excellent	no.	52	-	-
	Good	no.	961	-	-
	Fair	no.	521	-	-
	Poor	no.	95	-	-
57	Linkage with NIA	no.	1,711	-	-
	Excellent	no.	121	-	-
	Good	no.	1,020	-	-
	Fair	no.	455	-	-
	Poor	no.	115	-	-
58	Linkage with DA, DAR and others	no.	1,731	-	-
	Excellent	no.	39	-	-
	Good	no.	1,025	-	-
	Fair	no.	587	-	-
	Poor	no.	80	-	-
59	Farmers (IAs) participation in F/S	no.	1,542	-	-
	Substantial	no.	376	-	-
	Little	no.	618	-	-
	None	no.	548	-	-
60	Farmers (IAs) participation in Construction	no.	1,522	-	-
	Substantial	no.	1,014	-	-
	Little	no.	349	-	-
	None	no.	159	-	-
61	Farmers (IAs) participation in O/M	no.	1,510	-	-
	Substantial	no.	938	-	-
	Little	no.	396	-	-
	None	no.	176	-	-
<b><u>Operation &amp; Maintenance Fee</u></b>					
62	CISs collecting O/M fee other than amortizing fe	no.	1,874	-	-
	CISs collecting O/M fees	no.	741	-	-
	CISs not-collecting O/M fees	no.	1,133	-	-

## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (6/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
63	O/M fee per ha				
	Wet season paddy	Peso/ha	587	-	302
	Dry season paddy	Peso/ha	527	-	285
64	O/M fee collectable due in 1989	pesos	432	27,493,776	63,643
65	O/M fee collection efficiency	%	341	-	62.2
<b><u>CARP</u></b>					
66	Progress of agrarian reform	no.	757	-	-
	100%	no.	52	-	-
	100 - 75 %	no.	87	-	-
	75 - 50 %	no.	112	-	-
	50 - 25 %	no.	98	-	-
	Less than 25 %	no.	408	-	-
67	Total area for distribution under CARP	ha	370	34,372	93
68	Status of issuance of emancipation patents	%	305	-	56.6
<b><u>Environmental Issues</u></b>					
69	River water quality	no.	2,289	-	-
	No pollution	no.	2,015	-	-
	Polluted	no.	274	-	-
70	Deforestation in catchment area	no.	2,167	-	-
	Serious	no.	581	-	-
	Fair	no.	903	-	-
	Little	no.	683	-	-
71	Soil erosion in catchment area	no.	2,182	-	-
	Serious	no.	377	-	-
	Fair	no.	991	-	-
	Little	no.	814	-	-
72	Sedimentation in river	no.	1,898	-	-
	Serious	no.	359	-	-
	Fair	no.	796	-	-
	Little	no.	743	-	-
73	Quarrying in river	no.	1,914	-	-
	Serious	no.	88	-	-
	Fair	no.	522	-	-
	Little	no.	1,304	-	-

## GENERAL FEATURES OF EXISTING SUB-PROJECTS : CIS (7/7)

No. of sub-projects : 2,423

No.	Items	Unit	No. of Answers	Total	Average
<b><u>Costs &amp; Project Economy</u></b>					
74	Development cost estimated at F/S time	Peso/ha	1,056	-	13,650
75	Development cost estimated at F/S time (1990 price level)	Peso/ha	587	-	30,192
76	Ratio of non-chargeable and chargeable costs	%	815	-	20.9
77	Project life span	years	963	-	45.7
78	EIRR	%	657	-	29.5

## GENERAL FEATURES OF NEW SUB-PROJECTS : CIP (1/6)

No. of sub-projects : 1,466

No.	Items	Unit	No. of Answers	Total	Average
<b>Area</b>					
1	Designed irrigable area (wet season)	ha	1,466	211,809	144
2	Designed irrigable area (dry season)	ha	957	122,072	128
<b>Population &amp; Households</b>					
3	Population in the project area in 1989	persons	928	1,103,053	1,189
4	Households in the project area in 1989				
	Farming household	no.	911	125,571	138
	Non-farming household	no.	685	73,026	107
<b>Topography</b>					
5	Classification of CIPs by topography	no.	1,193	-	-
	Alluvial plain	no.	327	-	-
	Valley	no.	615	-	-
	Terrace/Hilly	no.	251	-	-
6	Availability of 1:4,000 topo. map	no.	1,037	-	-
	Available	no.	239	-	-
	Not Available	no.	798	-	-
<b>Soils</b>					
7	Classification of CIPs by soils	no.	1,208	-	-
	Heavy clay	no.	100	-	-
	Silty, light and sandy clay	no.	192	-	-
	Silty clay loam, clay loam and Sandy clay loam	no.	760	-	-
	Silty loam, loam, sand loam and loamy sand	no.	151	-	-
	Sand	no.	5	-	-
<b>Hydrology</b>					
8	Average low flow in dry season		902	-	-
	0 - 500 lit/sec	lit/sec	628	-	186
	500 - 1,000 lit/sec	lit/sec	106	-	735
	Over 1,000 lit/sec	lit/sec	168	-	4,582
9	River discharge	no.	888	-	-
	Measured	no.	705	-	-
	Guessed	no.	183	-	-

## GENERAL FEATURES OF NEW SUB-PROJECTS : CIP (2/6)

No. of sub-projects : 1,466

No.	Items	Unit	No. of Answers	Total	Average
10	Catchment area at intake site		844	-	-
	0 - 100 km <sup>2</sup>	km <sup>2</sup>	783	-	18
	100 - 1,000 km <sup>2</sup>	km <sup>2</sup>	56	-	238
	Over 1,000 km <sup>2</sup>	km <sup>2</sup>	5	-	6,819
11	Availability of gauging station	no.	1,209	-	-
	Available	no.	58	-	-
	Not Available	no.	1,151	-	-
12	Observation period in gauging station	years	40	-	6.2
13	Availability of rainfall station	no.	1,211	-	-
	Available	no.	630	-	-
	Not Available	no.	581	-	-
14	Adequacy of rainfall for wet season paddy	no.	879	-	-
	100%	no.	65	-	-
	100 - 80 %	no.	681	-	-
	Less than 80 %	no.	133	-	-
<b><u>Irrigation and Drainage Facilities</u></b>					
15	Provision of diversion weir	no.	990	-	-
	With diversion weir	no.	740	-	-
	Without diversion weir	no.	250	-	-
16	Materials of diversion weir	no.	690	-	-
	Concrete	no.	639	-	-
	Masonry	no.	133	-	-
	Earth	no.	26	-	-
	Wood	no.	13	-	-
17	Height of diversion weir	m	425	-	2.2
18	Length of diversion weir	m	428	-	18.4
19	Unit diversion water requirement	lit/sec/ha	725	-	2.3
20	Total length of proposed main/lateral canals				
	Earth canal	km	715	4,613	6.5
	Lined-canal	km	182	433	2.4
21	Total length of proposed field ditches	km	451	3,756	8.3
22	No. of proposed turnouts (main canal)	no.	504	5,640	11
23	No. of proposed canal structures	no.	612	11,975	20
24	Total length of proposed project / farm drains	km	165	660	4.0
25	Total length of proposed drainage ditches	km	160	906	5.7
26	Total length of proposed service road	km	197	683	3.5

## GENERAL FEATURES OF NEW SUB-PROJECTS : CIP (3/6)

No. of sub-projects : 1,466

No.	Items	Unit	No. of Answers	Total	Average
27	Total length of proposed access road	km	492	1,957	4.0
28	Average width of proposed service road	m	190	-	5.1
29	Average width of proposed access road	m	479	-	4.2
30	Sufficiency of river discharge	no.	886	-	-
	Sufficient	no.	722	-	-
	Insufficient	no.	164	-	-
<b><u>Agriculture</u></b>					
31	Present cropping intensity	%	724	-	128
32	Proposed cropping intensity	%	997	-	182
33	Average farm size	ha	761	-	1.7
34	Present crop yield				
	Wet season paddy	ton/ha	779	-	2.6
	Dry season paddy	ton/ha	402	-	2.6
35	Proposed crop yield				
	Wet season paddy	ton/ha	821	-	3.9
	Dry season paddy	ton/ha	786	-	3.9
36	Total crop production in 1989				
	Wet season paddy	tons	728	164,825	226
	Dry season paddy	tons	399	62,509	157
37	Anticipated total crop production in 1989				
	Wet season paddy	tons	830	461,153	556
	Dry season paddy	tons	795	404,732	509
38	Average farm gate price in 1989				
	Wet season paddy	Peso/kg	727	-	5.1
	Dry season paddy	Peso/kg	563	-	5.5
<b><u>Agricultural Support Service</u></b>					
39	Seed supply service	no.	1,134	-	-
	Available	no.	941	-	-
	Not Available	no.	193	-	-
40	Fertilizer supply service	no.	1,139	-	-
	Available	no.	984	-	-
	Not Available	no.	155	-	-
41	Chemical supply service	no.	1,142	-	-
	Available	no.	989	-	-
	Not Available	no.	153	-	-

## GENERAL FEATURES OF NEW SUB-PROJECTS : CIP (4/6)

No. of sub-projects : 1,466

No.	Items	Unit	No. of Answers	Total	Average
42	Farm machinery supply service	no.	1,060	-	-
	Available	no.	705	-	-
	Not Available	no.	355	-	-
43	Rice mill	no.	1,171	-	-
	Available	no.	949	-	-
	Not Available	no.	222	-	-
44	Storage facilities	no.	1,163	-	-
	Available	no.	752	-	-
	Not Available	no.	411	-	-
45	Credit service	no.	1,234	-	-
	Available	no.	929	-	-
	Not Available	no.	305	-	-
<b><u>Irrigators' Association (IA)</u></b>					
46	Organization status of IA	no.	1,281	-	-
	Organized IA	no.	129	-	-
	Not-organized IA	no.	1,152	-	-
47	Total number of IA members	persons	106	8,347	79
48	Endorsement of project	no.	235	-	-
	100 - 80%	no.	134	-	-
	80 - 60%	no.	78	-	-
	Below 60 %	no.	23	-	-
49	Training needs perceived by farmers	no.	1,084	-	-
	System management	no.	972	-	-
	Organization management	no.	1,005	-	-
	Financial management	no.	904	-	-
	Others	no.	479	-	-
50	Presence of potential IA officials	no.	1,192	-	-
	More than adequate	no.	308	-	-
	Adequate	no.	779	-	-
	Inadequate	no.	105	-	-
51	Presence of potential IA members	no.	972	-	-
	More than 80 %	no.	308	-	-
	80 - 60 %	no.	585	-	-
	Below 60 %	no.	79	-	-
52	Factors of enhancing farmers' participation in IA (PIEs' ideas)	no.	1,155	-	-
	Poor economic status	no.	844	-	-
	Sense of belongingness	no.	597	-	-
	Support from government agencies	no.	960	-	-
	Support from private groups	no.	234	-	-
	Others	no.	59	-	-

## GENERAL FEATURES OF NEW SUB-PROJECTS : CIP (5/6)

No. of sub-projects : 1,466

No.	Items	Unit	No. of Answers	Total	Average
<b><u>Operation &amp; Maintenance Fee</u></b>					
53	Proposed O/M fee per ha for paddy				
	Wet season paddy	Peso/ha	645	-	348
	Dry season paddy	Peso/ha	623	-	389
<b><u>CARP</u></b>					
54	Progress of agrarian reform	no.	469	-	-
	100%	no.	9	-	-
	100 - 75 %	no.	43	-	-
	75 - 50 %	no.	77	-	-
	50 - 25 %	no.	51	-	-
	Less than 25 %	no.	289	-	-
55	Total area for distribution under CARP	ha	255	25,762	101
56	Status of issuance of emancipation patents	%	157	-	46.9
<b><u>Environmental Issues</u></b>					
57	Present river water quality	no.	1,256	-	-
	No pollution	no.	1,182	-	-
	Polluted	no.	74	-	-
58	Present deforestation in catchment area	no.	1,155	-	-
	Serious	no.	158	-	-
	Fair	no.	594	-	-
	Little	no.	403	-	-
59	Present soil erosion in catchment area	no.	1,141	-	-
	Serious	no.	69	-	-
	Fair	no.	546	-	-
	Little	no.	526	-	-
60	Anticipated sedimentation in river	no.	986	-	-
	Serious	no.	36	-	-
	Fair	no.	458	-	-
	Little	no.	492	-	-
61	Present quarrying in river	no.	1,024	-	-
	Serious	no.	18	-	-
	Fair	no.	266	-	-
	Little	no.	740	-	-



## GENERAL FEATURES OF NEW SUB-PROJECTS : CIP (6/6)

No. of sub-projects : 1,466

No.	Items	Unit	No. of Answers	Total	Average
62	Probable environmental impacts induced by projects	no.	1,185	-	-
	Contamination of surface water/soil	no.	435	-	-
	Spread of water-borne disease	no.	106	-	-
	Change in river bed condition	no.	450	-	-
	Reduction in river fishery	no.	100	-	-
	Effect of diversion weir	no.	122	-	-
	Acceleration of agro-industry	no.	896	-	-
	Increase in employment opportunity	no.	978	-	-
	Support to agrarian reform	no.	695	-	-
	Others	no.	11	-	-
<b><u>Costs &amp; Project Economy</u></b>					
63	Development cost estimated at F/S time	Peso/ha	299	-	30,088
64	Development cost estimated at F/S time (1990 price level)	Peso/ha	215	-	32,527
65	Ratio of non-chargeable and chargeable costs	%	253	-	20.2
66	Project life span	years	329	-	45.2
67	EIRR	%	261	-	25.8

Table B2-03

## NUMBER OF CANDIDATE SUB-PROJECTS FOR THE STUDY: CIS/CIP

(Unit: Nos.)

Region	Province	Inventoried Sub-Projects			Sub-Projects Given Answers as of Dec. 3			Candidate Sub-Projects for SSSDP		
		CISs	CIPs	Total	CISs	CIPs	Total	CISs	CIPs	Total
I	1 ILOCOS NORTE	127	1	128	122	1	123	119	0	119
	2 ABRA	46	19	65	38	17	55	37	17	54
	3 ILOCOS SUR	76	74	150	73	68	141	70	51	121
	4 MOUNTAIN PROVINCE	52	76	128	8	44	52	8	44	52
	5 LA UNION	39	29	68	39	27	66	39	27	66
	6 BENGUBAT	7	56	63	10	53	63	9	42	51
	7 PANGASINAN	311	6	317	187	7	194	178	3	181
	Sub-total	658	261	919	477	217	694	460	184	644
II	8 BATANES	0	0	0	0	0	0	0	0	0
	9 CAGAYAN	103	69	172	105	66	171	105	66	171
	10 KALINGA APAYAO	65	52	117	64	44	108	64	43	107
	11 ISABELA	44	49	93	47	46	93	47	44	91
	12 IFUGAO	37	54	91	42	49	91	35	46	81
	13 NUEVA VISCAYA	137	20	157	134	13	147	131	13	144
	14 QUIRINO	28	47	75	29	45	74	29	41	70
	sub-total	414	291	705	421	263	684	411	253	664
III	15 NUEVA ECJA	45	4	49	45	3	48	43	1	44
	16 TARLAC	40	5	45	37	3	40	36	3	39
	17 ZAMBALES	47	17	64	10	0	10	10	0	10
	18 PAMPANGA	93	22	115	78	20	98	73	20	93
	19 BULACAN	21	5	26	18	4	22	18	4	22
	20 BATAAN	37	2	39	35		35	30	0	30
		sub-total	283	55	338	223	30	253	210	28
IV	21 AURORA	38	14	52	41	10	51	39	10	49
	22 QUEZON	38	19	57	38	18	56	38	16	54
	23 RIZAL	27	2	29	19	1	20	19	1	20
	24 CAVITE	6	9	15	5	6	11	5	6	11
	25 LAGUNA	25	3	28	26	2	28	25	2	27
	26 BATANGAS	20	31	51	23	23	46	22	21	43
	27 MARINDUQUE	4	5	9	6	2	8	5	0	5
	28 MINDORO ORIENTAL	65	28	93	48	26	74	48	18	66
	29 MINDORO OCCIDENTAL	54	20	74	55	15	70	54	15	69
	30 ROMBLON	11	4	15	2	2	4	2	2	4
	31 PALAWAN	41	98	139	42	98	140	41	96	137
		sub-total	329	233	562	305	203	508	298	187
V	32 CAMARINES NORTE	13	67	80	18	63	81	18	63	81
	33 CAMARINES SUR	116	67	183	116	61	177	96	30	126
	34 CATANDUANES	10	4	14	11	1	12	9	1	10
	35 ALBAY	80	77	157	83	66	149	78	48	126
	36 SORSOGON	44	15	59	34	8	42	34	7	41
	37 MASBATE	16	17	33	19	14	33	19	8	27
	sub-total	279	247	526	281	213	494	254	157	411
VI	38 AKLAN	14	4	18	15	2	17	14	2	16
	39 CAPIZ	14	12	26	14	10	24	12	10	22
	40 ANTIQUE	49	23	72	45	21	66	41	19	60
	41 ILOILO	44	14	58	37	3	40	34	3	37
	42 NEGROS OCCIDENTAL	8	45	53	17	35	52	17	34	51
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	0
	sub-total	129	98	227	128	71	199	118	68	186
VII	44 CEBU	13	6	19	13	5	18	11	5	16
	45 NEGROS ORIENTAL	24	19	43	26	15	41	26	14	40
	46 BOHOL	40	0	40	39	0	39	39	0	39
	47 SIKUIJOR	0	4	4	0	4	4	0	4	4
	sub-total	77	29	106	78	24	102	76	23	99
VIII	48 NORTHERN SAMAR	15	42	57	15	42	57	13	40	53
	49 SAMAR	9	24	33	10	23	33	10	29	39
	50 EASTERN SAMAR	1	28	29	2	15	17	2	12	14
	51 NORTHERN LEYTE	110	55	165	106	49	155	101	43	144
	52 SOUTHERN LEYTE	21	7	28	22	4	26	20	4	24
	sub-total	156	156	312	155	133	288	146	118	264
IX	53 ZAMBOANGA DEL NORTE	14	19	33	15	18	33	15	13	28
	54 ZAMBOANGA DEL SUR	60	34	94	52	19	71	51	19	70
	55 BASILAN	1	1	2	2		2	2	0	2
	56 SULU	0	6	6		4	4	0	4	4
	57 TAWI-TAWI	0	6	6		4	4	0	4	4
		sub-total	75	66	141	69	45	114	68	40
X	58 SURIGAO DEL NORTE	34	32	66	26	20	46	22	19	41
	59 CAMIGUIN	3	2	5	3	1	4	3	0	3
	60 AGUSAN DEL NORTE	58	33	91	61	33	94	43	24	67
	61 MISAMIS ORIENTAL	18	22	40	16	17	33	16	13	29
	62 MISAMIS OCCIDENTAL	25	5	30	20	3	23	20	3	23
	63 BUKIDNON	29	50	79	35	44	79	31	41	72
	64 AGUSAN DEL SUR	11	32	43	16	26	42	16	26	42
	sub-total	178	176	354	177	144	321	151	126	277
XI	65 SURIGAO DEL SUR	20	20	40	23	17	40	22	17	39
	66 DAVAO ORIENTAL	15	18	33	15	14	29	12	14	26
	67 DAVAO DEL NORTE	42	19	61	15	9	24	15	9	24
	68 DAVAO DEL SUR	35	10	45	34	7	41	32	7	39
	69 SOUTH COTABATO	26	33	59	33	25	58	31	25	56
		sub-total	138	100	238	120	72	192	112	72
XII	70 LANA DEL NORTE	17	28	45	20	25	45	20	22	42
	71 LANA DEL SUR	7	48	55	10	30	40	10	29	39
	72 NORTH COTABATO	30	84	114	30	78	108	24	77	101
	73 MAGUINDANAO	36	71	107	44	58	102	43	58	101
	74 SULTAN KUDARAT	32	30	62	23	25	48	22	24	46
	sub-total	122	261	383	127	216	343	119	210	329
	Total	2838	1973	4811	2561	1631	4192	2423	1466	3889

## CLASSIFICATION OF EXISTING SUB-PROJECTS: CIS

Region	Province	Nos. of CISs (Nos.)				Designed Irrigable Area (ha)				Average of Designed Irrigable Area (ha)		
		Amortizing	Non-Amortizing	Private	Total	Amortizing	Non-Amortizing	Private	Total	Amortizing	Non-Amortizing	Private
I	1 ILOCOS NORTE	14	105	0	119	2,233	11,397	0	13,630	160	109	-
	2 ABRA	8	2	27	37	1,047	396	3,823	5,266	131	198	142
	3 ILOCOS SUR	12	31	27	70	1,419	4,278	2,486	8,183	118	138	92
	4 MOUNTAIN PROVINCE	3	5	0	8	476	438	0	914	159	88	-
	5 LA UNION	16	23	0	39	2,704	2,367	0	5,071	169	103	-
	6 BENGUET	5	1	3	9	376	50	191	617	75	50	64
	7 PANGASINAN	29	114	35	178	5,998	16,732	4,679	27,409	207	147	134
	sub-total	87	281	92	460	14,253	35,658	11,179	61,090	164	127	122
II	8 BATANES	0	0	0	0	0	0	0	0	-	-	-
	9 CAGAYAN	41	44	20	105	5,971	6,410	2,130	14,511	146	146	107
	10 KALINGA APAYAO	16	0	48	64	1,922	0	3,680	5,602	120	-	77
	11 ISABELA	26	21	0	47	4,190	5,585	0	9,775	161	266	-
	12 IFUGAO	32	3	0	35	3,084	195	0	3,279	96	65	-
	13 NUEVA VISCAYA	19	12	100	131	2,188	1,953	13,977	18,118	115	163	140
	14 QUIRINO	19	10	0	29	2,236	1,224	0	3,460	118	122	-
	sub-total	153	90	168	411	19,591	15,367	19,787	54,745	128	171	118
III	15 NUEVA ECUIJA	14	4	25	43	3,894	465	3,387	7,746	278	116	135
	16 TARLAC	13	5	18	36	2,477	1,508	3,990	7,975	191	302	222
	17 ZAMBALES	9	1	0	10	1,494	69	0	1,563	166	69	-
	18 PAMPANGA	29	44	0	73	3,960	7,561	0	11,521	137	172	-
	19 BULACAN	7	11	0	18	894	1,674	0	2,568	128	152	-
	20 BATAAN	17	8	5	30	2,188	996	748	3,932	129	125	150
		sub-total	89	73	48	210	14,907	12,273	8,125	35,305	167	168
IV	21 AURORA	11	7	21	39	2,100	1,370	2,720	6,190	191	196	130
	22 QUEZON	14	6	18	38	1,447	541	1,887	3,875	103	90	105
	23 RIZAL	10	9	0	19	731	1,038	0	1,769	73	115	-
	24 CAVITE	3	2	0	5	414	182	0	596	138	91	-
	25 LAGUNA	8	4	13	25	733	387	1,354	2,474	92	97	104
	26 BATANGAS	15	4	3	22	1,342	297	393	2,032	89	74	131
	27 MARINDUQUE	5	0	0	5	545	0	0	545	109	-	-
	28 MINDORO ORIENTAL	19	6	23	48	4,009	1,352	2,929	8,290	211	225	127
	29 MINDORO OCCIDENTAL	11	9	34	54	2,263	1,889	6,176	10,328	206	210	182
	30 ROMBLON	2	0	0	2	145	0	0	145	73	-	-
	31 PALAWAN	28	11	2	41	5,213	1,664	345	7,222	186	151	173
	sub-total	126	58	114	298	18,942	8,720	15,804	43,466	150	150	139
V	32 CAMARINES NORTE	14	2	2	18	1,139	165	165	1,469	81	83	83
	33 CAMARINES SUR	39	25	32	96	5,779	4,398	2,835	13,012	148	176	89
	34 CATANDUANES	8	1	0	9	989	60	0	1,049	124	60	-
	35 ALBAY	20	58	0	78	3,782	8,053	0	11,835	189	139	-
	36 SORSOGON	25	9	0	34	2,850	1,554	0	4,404	114	173	-
	37 MASBATE	14	0	5	19	1,400	0	454	1,854	100	-	91
		sub-total	120	95	39	254	15,939	14,230	3,454	33,623	133	150
VI	38 AKLAN	14	0	0	14	1,805	0	0	1,805	129	-	-
	39 CAPIZ	12	0	0	12	1,108	0	0	1,108	92	-	-
	40 ANTIQUE	26	6	9	41	3,085	614	950	4,649	119	102	106
	41 ILOILO	32	2	0	34	4,620	170	0	4,790	144	85	-
	42 NEGROS OCCIDENTAL	17	0	0	17	2,326	0	0	2,326	137	-	-
43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	-	-	-	
	sub-total	101	8	9	118	12,944	784	950	14,678	128	98	106
VII	44 CEBU	11	0	0	11	1,855	0	0	1,855	169	-	-
	45 NEGROS ORIENTAL	18	8	0	26	3,735	1,150	0	4,885	208	144	-
	46 BOHOL	21	17	1	39	3,035	1,569	53	4,657	145	92	53
	47 SIQUIJOR	0	0	0	0	0	0	0	0	-	-	-
	sub-total	50	25	1	76	8,625	2,719	53	11,397	173	109	53
VIII	48 NORTHERN SAMAR	11	2	0	13	1,125	130	0	1,255	102	65	-
	49 SAMAR	10	0	0	10	1,099	0	0	1,099	110	-	-
	50 EASTERN SAMAR	2	0	0	2	252	0	0	252	126	-	-
	51 NORTHERN LEYTE	29	37	35	101	5,839	5,455	4,932	16,226	201	147	141
	52 SOUTHERN LEYTE	13	7	0	20	1,694	537	0	2,231	130	77	-
	sub-total	65	46	35	146	10,009	6,122	4,932	21,063	154	133	141
IX	53 ZAMBOANGA DEL NORTE	11	4	0	15	1,943	280	0	2,223	177	70	-
	54 ZAMBOANGA DEL SUR	42	5	4	51	7,059	501	307	7,867	168	100	77
	55 BASILAN	2	0	0	2	155	0	0	155	78	-	-
	56 SULU	0	0	0	0	0	0	0	0	-	-	-
	57 TAWI-TAWI	0	0	0	0	0	0	0	0	-	-	-
	sub-total	55	9	4	68	9,157	781	307	10,245	166	87	77
X	58 SURIGAO DEL NORTE	10	10	2	22	1,072	788	550	2,410	107	79	275
	59 CAMIGUIN	3	0	0	3	540	0	0	540	180	-	-
	60 AGUSAN DEL NORTE	20	3	20	43	2,950	260	2,797	6,007	148	87	140
	61 MISAMIS ORIENTAL	15	0	1	16	2,440	0	50	2,490	163	-	50
	62 MISAMIS OCCIDENTAL	17	2	1	20	2,270	340	100	2,710	134	170	100
	63 BUKIDNON	26	0	5	31	4,647	0	570	5,217	179	-	114
	64 AGUSAN DEL SUR	15	0	1	16	2,875	0	150	3,025	192	-	150
	sub-total	106	15	30	151	16,794	1,388	4,217	22,399	158	93	141
XI	65 SURIGAO DEL SUR	22	0	0	22	3,619	0	0	3,619	165	-	-
	66 DAVAO ORIENTAL	9	3	0	12	1,415	325	0	1,740	157	108	-
	67 DAVAO DEL NORTE	13	0	2	15	2,600	0	660	3,260	200	-	330
	68 DAVAO DEL SUR	18	14	0	32	3,380	2,346	0	5,726	188	168	-
	69 SOUTH COTABATO	24	0	7	31	4,040	0	1,895	5,935	168	-	271
	sub-total	86	17	9	112	15,054	2,671	2,555	20,280	175	157	284
XII	70 LANA DEL NORTE	18	2	0	20	2,878	380	0	3,258	160	190	-
	71 LANA DEL SUR	10	0	0	10	2,190	0	0	2,190	219	-	-
	72 NORTH COTABATO	18	0	6	24	3,557	0	1,340	4,897	198	-	223
	73 MAGUINDANAO	41	1	1	43	7,940	200	115	8,255	194	200	115
	74 SULTAN KUDARAT	22	0	0	22	4,878	0	0	4,878	222	-	-
	sub-total	109	3	7	119	21,443	580	1,455	23,478	197	193	208
	Total	1,147	720	556	2,423	177,658	101,293	72,818	351,769	155	141	131

Table B2-05

### CANDIDATE SUB-PROJECTS FOR REHABILITATION/IMPROVEMENT AND EXPANSION: CIS

Region	Province	Present Status of Rehabilitation (Nos.)					Designed Eligible Area (ha)					Average of Designed Eligible Area (ha)				
		No Rehab/		Expansion		Under Construction	No Rehab/		Expansion		Under Construction	No Rehab/		Expansion		Under Construction
		Impro. Required	Rehab/ Impro. Required	Impro. Required	Rehab/ Impro. Required		Impro. Required	Rehab/ Impro. Required	Impro. Required	Rehab/ Impro. Required		Impro. Required	Rehab/ Impro. Required			
(Unit: nos.)																
I	1 ILOCOS NORTE	15	87	0	0	17	119	2,020	9,778	0	0	1,832	13,630	135	112	-
	2 ABRA	3	32	0	0	2	37	546	4,241	0	0	479	5,266	182	133	-
	3 ILOCOS SUR	5	57	0	1	7	70	543	6,573	0	160	907	8,183	109	115	160
	4 MOUNTAIN PROVINCE	2	6	0	0	0	8	164	750	0	0	0	914	82	125	-
	5 LA UNION	12	26	0	1	0	39	1,323	3,348	0	400	0	5,071	110	125	400
	6 BENGUET	1	7	0	1	0	9	51	449	0	117	0	617	51	64	117
	7 PANGASINAN	38	135	0	0	5	178	6,183	20,572	0	0	654	27,409	163	152	-
	sub-total	76	350	0	3	31	460	10,830	45,711	0	677	3,872	61,090	143	131	226
II	8 BATANES	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	9 CAGAYAN	30	51	0	3	21	105	4,233	7,706	0	252	2,318	14,511	141	151	81
	10 KALINGA APAYAO	9	9	0	1	45	64	915	1,198	0	147	3,342	5,602	102	133	147
	11 ISABELA	17	15	0	3	12	47	2,730	2,750	0	860	3,435	9,775	161	183	287
	12 IFUGAO	5	30	0	0	0	35	770	2,509	0	0	0	3,279	154	84	-
	13 NUEVA VISCAAYA	29	43	0	2	57	131	3,851	5,468	0	280	8,519	18,118	133	127	140
	14 QUIRINO	9	19	0	1	0	29	910	2,380	0	170	0	3,460	101	125	170
	sub-total	99	167	0	10	135	411	13,411	22,011	0	1,709	17,614	54,745	135	132	171
III	15 NUEVA ECUIJA	14	6	0	0	23	43	2,972	1,609	0	0	3,165	7,746	212	268	-
	16 TARLAC	2	30	0	1	3	36	248	6,861	0	100	766	7,975	124	229	100
	17 ZAMBALES	6	3	0	0	1	10	846	659	0	0	58	1,563	141	220	-
	18 PAMPANGA	27	15	0	0	51	73	4,452	2,240	0	0	4,829	11,521	165	149	-
	19 BULACAN	5	3	0	0	10	18	1,064	350	0	0	1,134	2,368	217	117	-
	20 BATAAN	10	11	0	0	9	30	1,469	895	0	0	1,566	3,932	147	81	-
	sub-total	64	68	0	1	77	210	11,071	12,614	0	100	11,520	35,305	173	186	100
IV	21 AURORA	4	16	0	1	18	39	621	3,006	0	200	2,363	6,190	155	188	200
	22 QUEZON	6	7	0	2	23	38	703	667	0	132	2,373	3,875	117	95	66
	23 RIZAL	2	17	0	0	0	19	119	1,650	0	0	0	1,769	60	97	-
	24 CAVITE	1	2	0	1	1	5	50	158	0	300	88	596	50	79	300
	25 LAGUNA	4	15	1	1	4	25	380	1,511	92	80	411	2,474	95	101	92
	26 BATANGAS	11	0	0	2	9	22	978	0	0	215	839	2,032	89	-	108
	27 MARIKINA	0	4	0	1	0	5	0	370	0	175	0	545	-	93	175
	28 MINDORO ORIENTAL	3	40	0	1	4	48	554	7,220	0	116	400	8,290	185	181	116
	29 MINDORO OCCIDENTAL	4	12	0	2	36	54	1,354	2,131	0	461	6,392	10,328	339	177	231
	30 ROMBLON	0	2	0	0	0	2	0	145	0	0	0	145	-	73	-
	31 PALAWAN	9	19	0	4	9	41	1,513	3,457	0	1,050	1,202	7,222	168	182	263
	sub-total	44	134	1	15	104	298	6,272	20,305	92	2,729	14,068	43,466	143	152	92
V	32 CAMARINES NORTE	4	13	0	0	1	18	328	1,051	0	0	90	1,469	82	81	-
	33 CAMARINES SUR	15	42	0	3	36	96	2,076	6,739	0	309	3,888	13,012	138	160	103
	34 CATANDUANES	2	6	0	0	1	9	113	816	0	0	50	1,049	57	146	-
	35 ALBAY	14	31	0	2	31	78	1,693	4,923	0	800	4,419	11,835	121	159	400
	36 SORSOGON	7	27	0	0	0	34	710	3,694	0	0	0	4,404	101	137	-
	37 MASBATE	9	8	0	0	2	19	1,013	731	0	0	110	1,854	113	91	-
	sub-total	51	127	0	5	71	254	5,933	18,014	0	1,109	8,367	33,623	116	142	222
VI	38 AKLAN	2	8	3	1	0	14	144	1,151	430	80	0	1,805	72	144	143
	39 CAPIZ	1	11	0	0	0	12	60	1,048	0	0	0	1,108	50	95	-
	40 ANTIQUE	0	39	0	1	1	41	0	4,399	0	200	50	4,649	-	113	200
	41 ILOILO	14	20	0	0	0	34	2,030	2,760	0	0	0	4,790	145	138	-
	42 NEGROS OCCIDENTAL	8	0	0	9	0	17	641	0	0	1,685	0	2,326	80	-	187
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	sub-total	25	78	3	11	1	118	2,875	9,358	430	1,965	50	14,678	115	120	143
VII	44 CEBU	4	6	0	1	0	11	563	992	0	300	0	1,855	141	165	306
	45 NEGROS ORIENTAL	6	17	0	3	0	26	1,060	3,045	0	780	0	4,885	177	179	260
	46 BOHOL	9	29	0	0	1	39	736	3,844	0	0	77	4,657	82	133	-
	47 SIQUJOR	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	sub-total	19	52	0	4	1	76	2,359	7,891	0	1,080	77	11,397	124	152	270
VIII	48 NORTIERN SAMAR	4	9	0	0	0	13	345	910	0	0	0	1,255	86	101	-
	49 SAMAR	0	9	0	1	0	10	0	1,049	0	50	0	1,099	-	117	50
	50 EASTERN SAMAR	0	1	0	1	0	2	0	167	0	85	0	252	-	167	85
	51 NORTHERN LEYTE	7	92	0	0	2	101	1,371	14,475	0	0	380	16,226	196	157	-
	52 SOUTHERN LEYTE	1	14	1	4	0	20	146	1,501	116	468	0	2,231	146	107	116
	sub-total	12	125	1	6	2	146	1,862	18,102	116	603	380	21,063	135	145	116
IX	53 ZAMBOANGA DEL NORTE	2	12	0	1	0	15	160	1,968	0	95	0	2,223	80	164	95
	54 ZAMBOANGA DEL SUR	16	19	0	1	15	51	2,919	3,177	0	400	1,371	7,867	182	167	400
	55 BASILAN	1	1	0	0	0	2	75	80	0	0	0	155	75	80	-
	56 SULO	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	57 TAWI-TAWI	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	sub-total	19	32	0	2	15	68	3,154	5,225	0	495	1,371	10,245	166	163	248
X	58 SURIGAO DEL NORTE	9	4	2	1	6	22	890	260	260	500	500	2,410	99	65	130
	59 CAMIGUIN	0	2	1	0	0	3	0	160	380	0	0	540	-	80	380
	60 AGUSAN DEL NORTE	3	31	1	4	4	43	445	4,317	380	345	520	6,007	148	139	380
	61 MISAMIS ORIENTAL	1	13	0	2	0	16	65	1,725	0	700	0	2,490	65	133	350
	62 MISAMIS OCCIDENTAL	1	17	0	1	1	20	56	2,474	0	80	100	2,710	56	146	80
	63 BUKIDNON	7	21	1	1	1	31	970	3,967	50	150	80	5,217	139	189	50
	64 AGUSAN DEL SUR	4	11	0	1	0	16	900	1,975	0	150	0	3,025	225	180	150
	sub-total	25	99	5	10	12	151	3,326	14,878	1,070	1,925	1,200	22,399	133	150	214
XI	65 SURIGAO DEL SUR	0	18	2	2	0	22	0	2,759	340	520	0	3,619	-	153	170
	66 DAVAO ORIENTAL	2	9	0	1	0	12	320	1,360	0	69	0	1,740	160	151	60
	67 DAVAO DEL NORTE	5	3	0	2	5	15	1,130	620	0	660	850	3,260	226	207	330
	68 DAVAO DEL SUR	18	14	0	0	0	32	3,730	1,996	0	0	0	5,726	207	143	-
	69 SOUTH COFABATO	3	23	0	5	0	31	805	3,935	0	1,195	0	5,935	268	171	239
	sub-total	28	67	2	10	5	112	5,985	10,670	340	2,435	850	20,280	214	159	170
XII	70 LANAO DEL NORTE	4	11	0	2	3	20	582	1,466	0	720	490	3,258	146	133	360
	71 LANAO DEL SUR	6	4	0	0	0	10	1,460	730	0	0	0	2,190	243	183	-
	72 NORTH COTABATO	2	17	1	1	3	24	350	3,497	150	100	800	4,897	175	206	150
	73 MAGUINDANAO	17	19	2	5	0	43	3,920	3,455	230	650	0	8,255	231	182	115
	74 SULTAN KUDARAT	2	15	0	4	1	22	185	3,357	0	1,186	150	4,878	93	224	297
	sub-total	31	66	3	12	7	119	6,497	12,505	380	2,656	1,440	23,478	210	189	127
	Total	493	1,365	15	89	461	2,423	73,375	197,274	2,428	17,483	61,009	351,769	149	145	162

Table B2-06

## CANDIDATE SUB-PROJECTS FOR NEW CONSTRUCTION: CIP

Region	Province	Present Status of Preparation (nos.)					Designed Irrigable Area (ha)					Average of Designed Irrigable Area (ha)		
		No		D/D		Total	No		D/D		Total	No		D/D
		Planning	Finished	Finished	Unknown		Planning	Finished	Finished	Unknown		Planning	Finished	
I	1 ILOCOS NORTE	0	0	0	0	0	0	0	0	0	0	64	-	350
I	2 ABRA	15	0	1	1	17	956	0	350	500	1,806	-	-	56
I	3 ILOCOS SUR	29	9	2	11	51	2,779	979	112	1,211	5,081	96	109	99
I	4 MOUNTAIN PROVINCE	38	0	6	0	44	6,525	0	595	0	7,120	172	-	92
I	5 LA UNION	26	1	0	0	27	2,433	280	0	0	2,713	94	280	-
I	6 BENGUET	34	6	1	1	42	2,291	410	92	60	2,853	67	68	92
I	7 PANGASINAN	1	2	0	0	3	75	155	0	0	230	75	78	-
	Sub-total	143	18	10	13	184	15,059	1,824	1,149	1,771	19,803	105	101	115
II	8 BATANES	0	0	0	0	0	0	0	0	0	0	-	-	-
II	9 CAGAYAN	65	1	0	0	66	9,070	392	0	0	9,462	140	392	-
II	10 KALINGA APAYAO	39	1	2	1	43	4,736	250	456	120	5,562	121	250	228
II	11 ISABELA	41	2	1	0	44	6,390	330	100	0	6,820	156	165	100
II	12 IFUGAO	43	2	1	0	46	4,455	310	215	0	4,980	104	155	215
II	13 NUEVA VISCAAYA	12	0	0	1	13	1,730	0	0	250	1,980	144	-	-
II	14 QUIRINO	31	2	0	8	41	3,320	125	0	1,125	4,570	107	63	-
	sub-total	231	8	4	10	253	29,701	1,407	771	1,495	33,374	129	176	193
III	15 NUEVA ECUIA	0	1	0	0	1	0	153	0	0	153	-	153	-
III	16 TARLAC	3	0	0	0	3	514	0	0	0	514	171	-	-
III	17 ZAMBALES	0	0	0	0	0	0	0	0	0	0	-	-	-
III	18 PAMPANGA	16	2	2	0	20	2,360	279	411	0	3,050	148	140	206
III	19 BULACAN	3	0	1	0	4	310	0	110	0	420	103	-	110
III	20 BATAAN	0	0	0	0	0	0	0	0	0	0	-	-	-
	sub-total	22	3	3	0	28	3,184	432	521	0	4,137	145	144	174
IV	21 AURORA	7	1	1	1	10	936	200	200	85	1,421	134	200	200
IV	22 QUEZON	5	4	3	4	16	310	406	223	437	1,376	62	102	74
IV	23 RIZAL	0	0	1	0	1	0	0	75	0	75	-	-	75
IV	24 CAVITE	2	2	1	1	6	200	260	50	85	595	100	130	50
IV	25 LAGUNA	0	1	1	0	2	0	120	50	0	170	-	120	50
IV	26 BATANGAS	2	1	4	14	21	200	50	327	1,440	2,017	100	50	82
IV	27 MARINDUQUE	0	0	0	0	0	0	0	0	0	0	-	-	-
IV	28 MINDORO ORIENTAL	15	3	0	0	18	2,020	422	0	0	2,442	135	141	-
IV	29 MINDORO OCCIDENTAL	7	7	0	1	15	670	1,798	0	200	2,668	96	257	-
IV	30 ROMBLON	1	1	0	0	2	50	70	0	0	120	50	70	-
IV	31 PALAWAN	81	12	1	2	96	13,373	2,195	250	400	16,218	165	183	250
	sub-total	120	32	12	23	187	17,759	5,521	1,175	2,647	27,102	148	173	93
V	32 CAMARINES NORTE	52	8	3	0	63	5,711	730	245	0	6,686	110	91	82
V	33 CAMARINES SUR	17	13	0	0	30	2,781	1,764	0	0	4,545	164	136	-
V	34 CATANDUANES	0	0	0	1	1	0	0	0	90	90	-	-	-
V	35 ALBAY	33	14	0	1	48	4,940	2,448	0	50	7,438	150	175	-
V	36 SORSOGON	2	3	2	0	7	272	217	235	0	724	136	72	118
V	37 MASBATE	5	1	0	2	8	625	376	0	130	1,131	125	376	-
	sub-total	109	39	5	4	157	14,329	5,535	480	270	20,614	131	142	96
VI	38 AKLAN	0	1	1	0	2	0	100	100	0	200	-	100	100
VI	39 CAPIZ	10	0	0	0	10	845	0	0	0	845	85	-	-
VI	40 ANTIQUE	14	3	1	1	19	946	240	450	60	1,696	68	80	450
VI	41 ILOILO	2	1	0	0	3	700	64	0	0	764	350	64	-
VI	42 NEGROS OCCIDENTAL	0	11	2	21	34	0	1,635	441	2,514	4,590	-	149	221
VI	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	0	0	-	-	-
	sub-total	26	16	4	22	68	2,491	2,039	991	2,574	8,095	96	127	248
VII	44 CEBU	3	1	1	0	5	450	200	80	0	730	150	200	80
VII	45 NEGROS ORIENTAL	0	12	2	0	14	0	2,200	440	0	2,640	-	183	220
VII	46 BOHOL	0	0	0	0	0	0	0	0	0	0	-	-	-
VII	47 SIQUIJOR	2	1	1	0	4	260	150	200	0	610	130	150	200
	sub-total	5	14	4	0	23	710	2,550	720	0	3,980	142	182	180
VIII	48 NORTHERN SAMAR	35	2	1	1	40	3,965	125	270	100	4,460	110	63	270
VIII	49 SAMAR	13	3	2	1	19	1,898	650	165	250	2,963	146	217	83
VIII	50 EASTERN SAMAR	9	3	0	0	12	862	195	0	0	1,057	96	65	-
VIII	51 NORTHERN LEYTE	33	2	1	7	43	4,278	520	100	1,542	6,440	130	260	100
VIII	52 SOUTHERN LEYTE	1	2	1	0	4	140	153	55	0	348	140	77	55
	sub-total	92	12	5	9	118	11,143	1,643	590	1,892	15,268	121	137	118
IX	53 ZAMBOANGA DEL NORTE	5	2	2	4	13	600	185	290	860	1,935	120	93	145
IX	54 ZAMBOANGA DEL SUR	9	5	1	4	19	1,105	779	120	270	2,274	123	156	120
IX	55 BASILAN	0	0	0	0	0	0	0	0	0	0	-	-	-
IX	56 SULU	3	0	1	0	4	600	0	350	0	950	200	-	350
IX	57 TAWI-TAWI	2	1	1	0	4	150	500	60	0	710	75	500	60
	sub-total	19	8	5	8	40	2,455	1,464	820	1,130	5,869	129	183	164
X	58 SURIGAO DEL NORTE	16	2	0	1	19	1,229	320	0	100	1,649	77	160	-
X	59 CANGUIN	0	0	0	0	0	0	0	0	0	0	-	-	-
X	60 AGUSAN DEL NORTE	16	4	2	2	24	1,685	402	300	370	2,757	105	101	150
X	61 MISAMIS ORIENTAL	8	3	2	0	13	755	250	145	0	1,150	94	83	73
X	62 MISAMIS OCCIDENTAL	2	0	1	0	3	529	0	200	0	729	265	-	200
X	63 BUKIDNON	26	13	2	0	41	5,680	1,990	600	0	8,270	218	153	300
X	64 AGUSAN DEL SUR	14	7	1	4	26	3,195	1,870	150	1,180	6,395	228	267	150
	sub-total	82	29	8	7	126	13,073	4,832	1,395	1,650	20,950	159	167	174
XI	65 SURIGAO DEL SUR	14	0	3	0	17	2,460	0	670	0	3,130	176	-	223
XI	66 DAVAO ORIENTAL	9	1	3	1	14	520	100	270	150	1,040	58	100	90
XI	67 DAVAO DEL NORTE	7	1	1	0	9	996	370	460	0	1,826	142	370	460
XI	68 DAVAO DEL SUR	0	2	1	4	7	0	150	240	910	1,300	-	75	240
XI	69 SOUTH COTABATO	18	0	3	4	25	3,746	0	540	800	5,086	208	-	180
	sub-total	48	4	11	9	72	7,722	620	2,180	1,860	12,382	161	155	198
XII	70 LANA O DEL NORTE	0	5	2	15	22	0	735	230	1,280	2,245	-	147	115
XII	71 LANA O DEL SUR	14	2	1	12	29	2,980	230	214	2,223	5,647	213	115	214
XII	72 NORTH COTABATO	71	0	4	2	77	17,160	0	839	300	18,299	242	-	210
XII	73 MAGUINDANAO	1	1	2	54	58	500	500	187	9,387	10,574	500	500	94
XII	74 SULTAN KUDARAT	15	8	1	0	24	2,040	1,130	300	0	3,470	136	141	300
	sub-total	101	16	10	83	210	22,680	2,595	1,770	13,190	40,235	225	162	177
	Total	998	199	81	188	1,466	140,306	30,462	12,562	28,479	211,809	141	133	155

## DESIGNED IRRIGABLE AREA: CIS/CIP (1)

Region	Province	Number of Sub-project (Nos.)			Designed Irrigable Area (ha)			Average (ha)		
		CISs	CIPs	Total	CISs	CIPs	Total	CISs	CIPs	
I	1 ILOCOS NORTE	119	0	119	13,630	0	13,630	115		
	2 ABRA	37	17	54	5,266	1,806	7,072	142	106	
	3 ILOCOS SUR	70	51	121	8,183	5,091	13,264	117	100	
	4 MOUNTAIN PROVINCE	8	44	52	914	7,120	8,034	114	162	
	5 LA UNION	39	27	66	5,071	2,713	7,784	130	100	
	6 BENGUET	9	42	51	617	2,853	3,470	69	68	
	7 PANGASINAN	178	3	181	27,409	230	27,639	154	77	
	Sub-total	460	184	644	61,090	19,803	80,893	133	108	
II	8 BATANES	0	0	0	0	0	0			
	9 CAGAYAN	105	66	171	14,511	9,462	23,973	138	143	
	10 KALINGA APAYAO	64	43	107	5,602	5,562	11,164	88	129	
	11 ISABELA	47	44	91	9,775	6,820	16,595	208	155	
	12 IFUGAO	35	46	81	3,279	4,980	8,259	94	108	
	13 NUBYA VISCAAYA	131	13	144	18,118	1,980	20,098	138	152	
	14 QUIRINO	29	41	70	3,460	4,570	8,030	119	111	
	sub-total	411	253	664	54,745	33,374	88,119	133	132	
III	15 NUBYA ECTDA	43	1	44	7,746	153	7,899	180	153	
	16 TARLAC	36	3	39	7,975	514	8,489	222	171	
	17 ZAMBALES	10	0	10	1,563	0	1,563	156		
	18 PAMPANGA	73	20	93	11,521	3,050	14,571	158	153	
	19 BULACAN	18	4	22	2,568	420	2,988	143	105	
	20 BATAAN	30	0	30	3,932	0	3,932	131		
		sub-total	210	28	238	35,305	4,137	39,442	168	148
IV	21 AURORA	39	10	49	6,190	1,421	7,611	159	142	
	22 QUEZON	38	16	54	3,875	1,376	5,251	102	86	
	23 RIZAL	19	1	20	1,769	75	1,844	93	75	
	24 CAVITE	5	6	11	596	595	1,191	119	99	
	25 LAGUNA	25	2	27	2,474	170	2,644	99	85	
	26 BATANGAS	22	21	43	2,032	2,017	4,049	93	96	
	27 MARINDUQUE	5	0	5	545	0	545	109		
	28 MENDORO ORIENTAL	48	18	66	8,290	2,442	10,732	173	136	
	29 MENDORO OCCIDENTAL	54	15	69	10,328	2,668	12,996	191	178	
	30 ROMBLON	2	2	4	145	120	265	73	60	
	31 PALAWAN	41	96	137	7,222	16,218	23,440	176	169	
		sub-total	298	187	485	43,466	27,102	70,568	146	145
	V	32 CAMARINES NORTE	18	63	81	1,469	6,686	8,155	82	106
33 CAMARINES SUR		96	30	126	13,012	4,545	17,557	136	152	
34 CATANDUANES		9	1	10	1,049	90	1,139	117	90	
35 ALBAY		78	48	126	11,835	7,438	19,273	152	155	
36 SORSOGON		34	7	41	4,404	724	5,128	130	103	
37 MASBATE		19	8	27	1,854	1,131	2,985	98	141	
		sub-total	254	157	411	33,623	20,614	54,237	132	131
VI	38 AKLAN	14	2	16	1,805	200	2,005	129	100	
	39 CAPIZ	12	10	22	1,108	845	1,953	92	85	
	40 ANTIQUE	41	19	60	4,649	1,696	6,345	113	89	
	41 ILOILO	34	3	37	4,790	764	5,554	141	255	
	42 NEGROS OCCIDENTAL	17	34	51	2,326	4,590	6,916	137	135	
	43 NEGROS DEL NORTE	0	0	0	0	0	0			
		sub-total	118	68	186	14,678	8,095	22,773	124	119
VII	44 CEBU	11	5	16	1,855	730	2,585	169	146	
	45 NEGROS ORIENTAL	26	14	40	4,885	2,640	7,525	188	189	
	46 BOHOL	39	0	39	4,657	0	4,657	119		
	47 SIQUJOR	0	4	4	0	610	610		153	
		sub-total	76	23	99	11,397	3,980	15,377	150	173
VIII	48 NORTHERN SAMAR	13	40	53	1,255	4,160	5,415	97	112	
	49 SAMAR	10	19	29	1,099	2,963	4,062	110	156	
	50 EASTERN SAMAR	2	12	14	252	1,057	1,309	126	88	
	51 NORTHERN LEYTE	101	43	144	16,226	6,440	22,666	161	150	
	52 SOUTHERN LEYTE	20	4	24	2,231	348	2,579	112	87	
		sub-total	146	118	264	21,063	15,268	36,331	144	129
IX	53 ZAMBOANGA DEL NORTE	15	13	28	2,225	1,935	4,158	148	149	
	54 ZAMBOANGA DEL SUR	51	19	70	7,867	2,274	10,141	154	120	
	55 BASILAN	2	0	2	155	0	155	78		
	56 SULU	0	4	4	0	950	950		238	
	57 TAWI-TAWI	0	4	4	0	710	710		178	
		sub-total	68	40	108	10,245	5,869	16,114	151	147
X	58 SURIGAO DEL NORTE	22	19	41	2,410	1,649	4,059	110	87	
	59 CAMIGUIN	3	0	3	540	0	540	180		
	60 AGUSAN DEL NORTE	43	24	67	6,007	2,757	8,764	140	115	
	61 MISAMIS ORIENTAL	16	13	29	2,490	1,150	3,640	156	88	
	62 MISAMIS OCCIDENTAL	20	3	23	2,710	729	3,439	134	243	
	63 BUKIDNON	31	41	72	5,217	8,270	13,487	168	202	
	64 AGUSAN DEL SUR	16	26	42	3,025	6,395	9,420	189	246	
		sub-total	151	126	277	22,399	20,950	43,349	148	166
XI	65 SURIGAO DEL SUR	22	17	39	3,619	3,150	6,749	165	184	
	66 DAVAO ORIENTAL	12	14	26	1,740	1,040	2,780	145	74	
	67 DAVAO DEL NORTE	15	9	24	3,260	1,826	5,086	217	203	
	68 DAVAO DEL SUR	32	7	39	5,726	1,300	7,026	179	186	
	69 SOUTH COTABATO	31	25	56	5,935	5,086	11,021	191	203	
		sub-total	112	72	184	20,280	12,382	32,662	181	172
XII	70 LANA DEL NORTE	20	22	42	3,258	2,245	5,503	163	102	
	71 LANA DEL SUR	10	29	39	2,190	5,647	7,837	219	195	
	72 NORTH COTABATO	24	77	101	4,897	18,299	23,196	204	238	
	73 MAGUINDANAO	43	58	101	8,255	10,574	18,829	192	183	
	74 SULTAN KUDARAT	22	24	46	4,878	3,470	8,348	222	145	
		sub-total	119	210	329	23,478	40,235	63,713	197	192
	Total	2,423	1,466	3,889	351,769	211,809	563,578	145	144	

Table B2-08

## DESIGNED IRRIGABLE AREA: CIS/CIP (2)

(Unit : Nos.)

Region	Province	CISs				CIPs			
		Designed Irrigable Area (ha)				Designed Irrigable Area (ha)			
		50-150	150-300	300-500	Total	50-150	150-300	300-500	Total
I	1 ILOCOS NORTE	93	22	4	119	0	0	0	0
	2 ABRA	25	6	6	37	15	0	2	17
	3 ILOCOS SUR	56	10	4	70	46	4	1	51
	4 MOUNTAIN PROVINCE	7	0	1	8	24	15	5	44
	5 LA UNION	30	4	5	39	23	4	0	27
	6 BANGUET	9	0	0	9	42	0	0	42
	7 PANGASINAN	115	47	16	178	3	0	0	3
	Sub-total	335	89	35	460	153	23	8	184
II	8 BATANES	0	0	0	0	0	0	0	0
	9 CAGAYAN	77	23	5	105	47	13	6	66
	10 KALINGA APAYAO	60	4	0	64	28	14	1	43
	11 ISABELA	21	16	10	47	28	13	3	44
	12 IFUGAO	33	1	1	35	35	11	0	46
	13 NUEVA VISCAYA	90	28	13	131	8	4	1	13
	14 QUIRINO	22	6	1	29	35	5	1	41
	Sub-total	303	78	30	411	181	60	12	253
III	15 NUEVA ECUIA	26	11	6	43	0	1	0	1
	16 TARLAC	11	16	9	36	2	1	0	3
	17 ZAMBALES	5	4	1	10	0	0	0	0
	18 PAMPANGA	38	30	5	73	13	6	1	20
	19 BULACAN	13	4	1	18	3	1	0	4
	20 BATAAN	21	6	3	30	0	0	0	0
		Sub-total	114	71	25	210	18	9	1
IV	21 AURORA	27	10	2	39	6	4	0	10
	22 QUEZON	34	3	1	38	16	0	0	16
	23 RIZAL	17	2	0	19	1	0	0	1
	24 CAVITE	4	1	0	5	5	1	0	6
	25 LAGUNA	23	2	0	25	2	0	0	2
	26 BATANGAS	21	1	0	22	20	1	0	21
	27 MARINDUQUE	4	1	0	5	0	0	0	0
	28 MINDORO ORIENTAL	25	19	4	48	14	3	1	18
	29 MINDORO OCCIDENTAL	31	12	11	54	10	3	2	15
	30 ROMBLON	2	0	0	2	2	0	0	2
	31 PALAWAN	19	18	4	41	63	26	7	96
	Sub-total	207	69	22	298	139	38	10	187
V	32 CAMARINES NORTE	18	0	0	18	53	10	0	63
	33 CAMARINES SUR	77	12	7	96	21	7	2	30
	34 CATANDUANES	7	1	1	9	1	0	0	1
	35 ALBAY	50	21	7	78	29	15	4	48
	36 SORSOGON	23	10	1	34	6	1	0	7
	37 MASBATE	17	1	1	19	6	0	2	8
		Sub-total	192	45	17	254	116	33	8
VI	38 AKLAN	10	4	0	14	2	0	0	2
	39 CAPIZ	11	1	0	12	10	0	0	10
	40 ANTIQUE	35	4	2	41	18	0	1	19
	41 ILOILO	24	9	1	34	1	1	1	3
	42 NEGROS OCCIDENTAL	11	6	0	17	25	7	2	34
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0
	Sub-total	91	24	3	118	56	8	4	68
VII	44 CEBU	6	4	1	11	2	3	0	5
	45 NEGROS ORIENTAL	13	8	5	26	6	6	2	14
	46 BOHOL	32	6	1	39	0	0	0	0
	47 SIQUJOR	0	0	0	0	2	2	0	4
		Sub-total	51	18	7	76	10	11	2
VIII	48 NORTHERN SAMAR	12	1	0	13	33	7	0	40
	49 SAMAR	9	1	0	10	12	6	1	19
	50 EASTERN SAMAR	1	1	0	2	11	1	0	12
	51 NORTHERN LEYTE	67	24	10	101	31	7	5	43
	52 SOUTHERN LEYTE	17	2	1	20	4	0	0	4
	Sub-total	106	29	11	146	91	21	6	118
IX	53 ZAMBOANGA DEL NORTE	10	4	1	15	9	3	1	13
	54 ZAMBOANGA DEL SUR	34	11	6	51	14	5	0	19
	55 BASILAN	2	0	0	2	0	0	0	0
	56 SULU	0	0	0	0	2	0	2	4
	57 TAWI-TAWI	0	0	0	0	3	0	1	4
		Sub-total	46	15	7	68	28	8	4
X	58 SURIGAO DEL NORTE	19	2	1	22	18	1	0	19
	59 CAMIGUIN	2	0	1	3	0	0	0	0
	60 AGUSAN DEL NORTE	31	10	2	43	19	4	1	24
	61 MISAMIS ORIENTAL	9	6	1	16	12	1	0	13
	62 MISAMIS OCCIDENTAL	13	6	1	20	1	1	1	3
	63 BUKIDNON	22	4	5	31	23	11	7	41
	64 AGUSAN DEL SUR	6	9	1	16	8	13	5	26
	Sub-total	102	37	12	151	81	31	14	126
XI	65 SURIGAO DEL SUR	13	7	2	22	11	3	3	17
	66 DAVAO ORIENTAL	9	2	1	12	14	0	0	14
	67 DAVAO DEL NORTE	7	4	4	15	5	2	2	9
	68 DAVAO DEL SUR	18	12	2	32	3	3	1	7
	69 SOUTH COTABATO	15	12	4	31	13	8	4	25
		Sub-total	62	37	13	112	46	16	10
XII	70 LANA O DEL NORTE	13	6	1	20	18	4	0	22
	71 LANA O DEL SUR	3	6	1	10	13	12	4	29
	72 NORTH COTABATO	12	8	4	24	21	42	14	77
	73 MAGUINDANAO	23	14	6	43	32	20	6	58
	74 SULTAN KUDARAT	9	8	5	22	21	2	1	24
		Sub-total	60	42	17	119	105	80	25
	Total	1,669	554	200	2,423	1,024	338	104	1,466

## AVERAGE FARM SIZE: CIS

Region	Province	Average Farm Size (ha)								Total	Average (ha)
		Less 1	1-2	2-3	3-4	4-5	Over 5	Unknown			
I	1 ILOCOS NORTE	103	9	3	1	0	0	3	119	0.8	
	2 ABRA	27	3	3	0	0	0	4	37	0.8	
	3 ILOCOS SUR	21	17	2	0	0	0	30	70	1.0	
	4 MOUNTAIN PROVINCE	5	3	0	1	0	0	1	8	1.3	
	5 LA UNION	33	5	1	0	0	0	0	39	0.8	
	6 BENGUET	5	3	0	1	0	0	0	9	1.4	
	7 PANGASINAN	45	67	25	19	4	0	18	178	1.7	
	sub-total	237	107	34	22	4	0	36	460	1.2	
II	8 BATANES	0	0	0	0	0	0	0	0	-	
	9 CAGAYAN	13	41	14	5	2	0	30	103	1.8	
	10 KALINGA APAYAO	34	4	5	4	0	0	17	64	0.9	
	11 ISABELA	2	16	3	1	3	0	22	47	2.0	
	12 IFUGAO	27	4	0	2	0	0	2	35	0.8	
	13 NUEVA VISCAAYA	5	5	0	0	0	0	121	131	1.1	
	14 QUIRINO	4	9	3	4	2	0	7	29	2.1	
	sub-total	85	79	25	16	7	0	199	411	1.5	
III	15 NUEVA ECIA	0	4	1	1	0	0	37	43	2.0	
	16 TARLAC	3	15	15	1	0	0	2	36	2.0	
	17 ZAMBALES	3	5	0	0	1	0	1	10	4.5	
	18 PAMPANGA	4	22	17	3	4	0	23	73	2.2	
	19 BULACAN	2	4	7	1	0	0	4	18	2.1	
	20 BATAAN	2	8	1	0	0	0	19	30	1.4	
	sub-total	14	58	41	6	5	0	86	210	2.0	
IV	21 AURORA	5	7	7	0	0	0	20	39	1.8	
	22 QUEZON	4	8	2	0	0	0	24	38	1.3	
	23 RIZAL	6	12	1	0	0	0	0	19	1.3	
	24 CAVITE	0	4	0	1	0	0	0	5	2.1	
	25 LAGUNA	13	10	0	0	0	0	2	25	1.1	
	26 BATANGAS	2	3	0	1	0	0	16	22	1.4	
	27 MARINDUQUE	3	2	0	0	0	0	0	5	0.8	
	28 MINDORO ORIENTAL	5	5	0	0	0	0	38	48	1.3	
	29 MINDORO OCCIDENTAL	1	6	2	0	0	0	45	54	1.7	
	30 ROMBLON	1	1	0	0	0	0	0	2	1.1	
	31 PALAWAN	2	6	5	5	3	1	19	41	2.8	
	sub-total	42	64	17	7	3	1	164	298	1.6	
	V	32 CAMARINES NORTE	2	4	0	1	2	0	9	18	2.3
33 CAMARINES SUR		18	17	5	1	1	0	54	96	1.5	
34 CATANDUANES		6	0	0	0	0	0	3	9	0.5	
35 ALBAY		16	6	2	0	0	0	54	78	1.0	
36 SORSOGON		23	3	0	0	0	0	8	34	0.8	
37 MASBATE		5	6	0	0	0	0	8	19	1.0	
sub-total		70	36	7	2	3	0	136	254	1.2	
VI	38 ARLAN	11	3	0	0	0	0	0	14	0.9	
	39 CAPIZ	4	6	1	0	0	0	1	12	1.1	
	40 ANTIQUE	19	21	0	0	1	0	0	41	1.2	
	41 ILOILO	7	7	3	0	0	0	17	34	1.3	
	42 NEGROS OCCIDENTAL	5	6	4	2	0	0	0	17	1.8	
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	-	
	sub-total	46	43	8	2	1	0	18	118	1.3	
VII	44 CEBU	7	4	0	0	0	0	0	11	0.9	
	45 NEGROS ORIENTAL	7	9	7	2	0	0	1	26	1.7	
	46 BOHOL	30	5	0	1	0	0	3	39	0.7	
	47 SIQUIJOR	0	0	0	0	0	0	0	0	-	
	sub-total	44	18	7	3	0	0	4	76	1.1	
VIII	48 NORTHERN SAMAR	2	0	1	0	1	0	9	13	2.1	
	49 SAMAR	3	4	2	1	0	0	0	10	1.6	
	50 EASTERN SAMAR	1	1	0	0	0	0	0	2	1.2	
	51 NORTHERN LEYTE	28	44	11	8	4	0	6	101	1.7	
	52 SOUTHERN LEYTE	14	6	0	0	0	0	0	20	0.8	
sub-total	48	55	14	9	5	0	15	146	1.5		
IX	53 ZAMBOANGA DEL NORTE	5	5	5	0	0	0	0	15	1.6	
	54 ZAMBOANGA DEL SUR	5	17	6	2	1	0	20	51	1.8	
	55 BASILAN	0	1	0	0	0	0	1	2	1.9	
	56 SULU	0	0	0	0	0	0	0	0	-	
	57 TAWI-TAWI	0	0	0	0	0	0	0	0	-	
	sub-total	10	23	11	2	1	0	21	68	1.7	
X	58 SURIGAO DEL NORTE	16	4	1	0	0	0	1	22	0.9	
	59 CAMIGUIN	2	0	0	0	0	0	1	3	0.5	
	60 AGUSAN DEL NORTE	11	17	5	5	4	0	1	43	1.9	
	61 MISAMIS ORIENTAL	4	7	2	0	2	0	1	16	1.8	
	62 MISAMIS OCCIDENTAL	13	3	0	0	1	0	3	20	0.9	
	63 BUKIDNON	3	16	5	5	1	0	1	31	2.1	
	64 AGUSAN DEL SUR	5	7	2	0	1	0	1	16	1.6	
sub-total	54	54	15	10	9	0	9	151	1.6		
XI	65 SURIGAO DEL SUR	6	10	3	1	0	0	2	22	1.5	
	66 DAVAO ORIENTAL	2	3	1	1	1	0	4	12	2.1	
	67 DAVAO DEL NORTE	5	6	2	0	0	0	2	15	1.3	
	68 DAVAO DEL SUR	7	17	2	2	0	0	4	32	1.4	
	69 SOUTH COTABATO	1	20	6	2	0	0	2	31	1.8	
	sub-total	21	56	14	6	1	0	14	112	1.6	
XII	70 LANA O DEL NORTE	3	10	5	1	0	0	1	20	1.8	
	71 LANA O DEL SUR	1	8	1	0	0	0	0	10	1.6	
	72 NORTH COTABATO	4	10	6	1	0	0	3	24	1.8	
	73 MAGUINDANAO	1	19	11	3	0	0	9	43	2.0	
	74 SULTAN KUDARAT	1	12	4	3	0	1	1	22	2.2	
sub-total	10	59	27	8	0	1	14	119	1.9		
Total		681	652	220	93	39	2	736	2,423	1.5	



Table B2-10

## AVERAGE FARM SIZE: CIP

Region	Province	Average Farm Size (ha)							Total	Average (ha)
		Less 1	1-2	2-3	3-4	4-5	Over 5	Unknown		
I	1 ILOCOS NORTE	0	0	0	0	0	0	0	0	-
	2 ABRA	16	1	0	0	0	0	0	17	0.6
	3 ILOCOS SUR	13	13	1	0	0	0	24	51	1.1
	4 MOUNTAIN PROVINCE	25	12	1	0	0	0	6	44	0.9
	5 LA UNION	26	0	0	0	1	0	0	27	0.8
	6 BENGUBAT	18	24	0	0	0	0	0	42	1.0
	7 PANGASINAN	2	1	0	0	0	0	0	3	0.8
	Sub-total	100	51	2	0	1	0	30	184	0.9
II	8 BATANES	0	0	0	0	0	0	0	0	-
	9 CAGAYAN	1	0	0	0	0	0	65	66	0.8
	10 KALINGA APAYAO	11	9	4	0	0	0	19	43	1.4
	11 ISABELA	1	0	0	1	0	0	42	44	1.9
	12 IFUGAO	19	17	5	2	2	0	1	46	1.5
	13 NUEVA VISCAAYA	0	4	3	0	1	0	5	13	2.3
	14 QUIRINO	0	5	12	15	2	0	7	41	3.2
	sub-total	32	35	24	18	5	0	-139	253	2.0
III	15 NUEVA ECJA	0	1	0	0	0	0	0	1	2.0
	16 TARLAC	0	1	0	1	0	0	1	3	2.4
	17 ZAMBALES	0	0	0	0	0	0	0	0	-
	18 PAMPANGA	3	7	10	0	0	0	0	20	1.9
	19 BULACAN	0	0	1	0	0	0	3	4	2.2
	20 BATAAN	0	0	0	0	0	0	0	0	-
	sub-total	3	9	11	1	0	0	4	28	2.0
IV	21 AURORA	0	1	0	1	0	0	8	10	2.1
	22 QUEZON	2	4	4	1	0	0	5	16	2.0
	23 RIZAL	0	1	0	0	0	0	0	1	1.9
	24 CAVITE	3	3	0	0	0	0	0	6	1.1
	25 LAGUNA	0	2	0	0	0	0	0	2	1.3
	26 BATANGAS	3	3	2	0	0	0	13	21	1.7
	27 MARINDUQUE	0	0	0	0	0	0	0	0	-
	28 MINDORO ORIENTAL	1	0	0	0	0	0	17	18	1.0
	29 MINDORO OCCIDENTAL	0	8	0	0	0	0	7	15	1.8
	30 ROMBLON	1	0	0	0	0	0	1	2	0.9
	31 PALAWAN	0	5	5	3	0	2	81	96	3.0
	sub-total	10	27	11	5	0	2	132	187	2.0
V	32 CAMARINES NORTE	0	0	0	0	0	0	63	63	-
	33 CAMARINES SUR	3	1	0	0	0	0	26	30	1.1
	34 CATANDUANES	1	0	0	0	0	0	0	1	0.4
	35 ALBAY	12	6	1	1	2	0	26	48	1.3
	36 SORSOGON	3	4	0	0	0	0	0	7	1.1
	37 MASBATE	0	5	0	0	0	0	3	8	1.3
	sub-total	19	16	1	1	2	0	118	157	1.2
VI	38 AKLAN	2	0	0	0	0	0	0	2	0.8
	39 CAPIZ	0	1	0	0	0	0	9	10	1.2
	40 ANTIQUE	12	5	2	0	0	0	0	19	1.0
	41 ILOILO	0	1	0	0	0	0	2	3	2.0
	42 NEGROS OCCIDENTAL	4	11	5	1	0	0	13	34	1.8
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	-
sub-total	18	18	7	1	0	0	24	68	1.4	
VII	44 CEBU	1	2	0	1	0	0	1	5	1.8
	45 NEGROS ORIENTAL	4	6	2	2	0	0	0	14	1.8
	46 BOHOL	0	0	0	0	0	0	0	0	-
	47 SIQUIJOR	1	2	1	0	0	0	0	4	1.5
	sub-total	6	10	3	3	0	0	1	23	1.7
VIII	48 NORTHERN SAMAR	1	2	0	0	0	0	37	40	1.6
	49 SAMAR	6	8	2	2	1	0	0	19	1.8
	50 EASTERN SAMAR	5	6	1	0	0	0	0	12	1.2
	51 NORTHERN LEYTE	17	13	6	3	0	0	4	43	1.5
	52 SOUTHERN LEYTE	2	2	0	0	0	0	0	4	1.4
	sub-total	31	31	9	5	1	0	41	118	1.5
IX	53 ZAMBOANGA DEL NORTE	6	2	1	3	1	0	0	13	1.8
	54 ZAMBOANGA DEL SUR	0	6	0	0	0	0	13	19	1.5
	55 BASILAN	0	0	0	0	0	0	0	0	-
	56 SULU	0	0	1	0	0	0	3	4	2.7
	57 TAWI-TAWI	1	0	0	0	0	0	3	4	0.9
	sub-total	7	8	2	3	1	0	19	40	1.7
X	58 SURIGAO DEL NORTE	12	5	1	0	0	0	1	19	1.0
	59 CAMIGUIN	0	0	0	0	0	0	0	0	-
	60 AGUSAN DEL NORTE	4	6	9	1	0	0	4	24	2.0
	61 MISAMIS ORIENTAL	4	5	3	0	1	0	0	13	1.7
	62 MISAMIS OCCIDENTAL	0	0	1	0	0	0	2	3	2.1
	63 BUKIDNON	3	3	11	10	7	0	7	41	3.1
	64 AGUSAN DEL SUR	1	3	1	1	1	1	18	26	2.9
	sub-total	24	22	26	12	9	1	32	126	2.2
XI	65 SURIGAO DEL SUR	1	9	2	0	0	0	5	17	1.8
	66 DAVAO ORIENTAL	0	1	0	1	0	0	12	14	2.7
	67 DAVAO DEL NORTE	0	2	3	0	1	1	2	9	3.3
	68 DAVAO DEL SUR	0	3	1	2	0	1	0	7	2.9
	69 SOUTH COTABATO	7	6	6	1	2	1	2	25	2.0
sub-total	8	21	12	4	3	3	21	72	2.3	
XII	70 LANA DEL NORTE	0	3	2	2	0	0	15	22	2.4
	71 LANA DEL SUR	5	18	6	0	0	0	0	29	1.6
	72 NORTH COTABATO	1	4	1	0	0	0	71	77	1.5
	73 MAGUINDANAO	4	7	4	0	0	0	43	58	1.5
	74 SULTAN KUDARAT	0	2	6	1	0	0	15	24	2.2
	sub-total	10	34	19	3	0	0	144	210	1.7
Total	268	282	127	56	22	6	705	1,466	1.7	

Table B2-11

## CROPPING INTENSITY: CIS

(Unit: No.)

Region	Province	Present Cropping Intensity (%)													Over	Unknown	Total	Average of Present Cropping Intensity (%)	Ratio below 130% Cropping Intensity (18)
		0	50	75	100	110	120	130	140	150	160	170	180	190					
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)					
I	1 ILOCOS NORTE	0	0	31	0	7	6	12	8	12	5	7	8	17	0	6	119	143.8	0.37
	2 ABRA	0	0	0	1	1	1	2	2	4	3	2	4	16	0	1	37	175.3	0.08
	3 ILOCOS SUR	0	0	30	3	5	6	1	3	1	5	2	0	9	1	4	70	130.0	0.63
	4 MOUNTAIN PROVINCE	0	0	0	0	0	0	0	1	0	0	0	0	6	0	1	8	192.4	0.00
	5 LA UNION	0	0	9	1	3	2	3	2	1	1	0	1	14	0	2	39	152.2	0.38
	6 BENGUET	0	0	0	0	0	0	0	0	0	0	1	2	5	0	1	9	194.2	0.00
	7 PANGASINAN	0	0	29	9	8	7	15	26	7	12	7	12	39	1	6	178	151.6	0.30
	sub-total	0	0	99	14	24	22	33	42	23	26	19	27	106	2	21	460	149.8	0.35
II	8 BATANES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
	9 CAGAYAN	0	0	2	0	0	1	3	0	4	3	7	7	55	3	20	105	189.7	0.03
	10 KALINGA APAYAO	0	0	1	1	1	1	2	2	2	1	0	1	17	0	35	64	175.6	0.06
	11 ISABELA	0	0	1	1	1	2	4	1	1	2	1	4	15	0	14	47	172.0	0.11
	12 IPUGAO	0	0	0	0	0	0	0	3	1	2	4	7	12	1	5	35	187.5	0.00
	13 NUEVA VISCAAYA	0	0	2	0	2	4	3	5	2	2	3	2	103	0	3	131	189.2	0.06
	14 QUIRINO	0	0	0	0	0	1	1	0	2	2	3	0	16	0	4	29	185.8	0.03
	sub-total	0	0	6	2	4	9	13	11	12	12	18	21	218	4	81	411	186.0	0.05
III	15 NUEVA ECUIA	0	0	19	0	0	2	5	1	2	1	2	0	7	1	3	43	137.4	0.49
	16 TARLAC	0	0	3	0	1	1	4	3	1	4	3	2	13	0	3	36	168.5	0.14
	17 ZAMBALES	0	0	1	0	0	1	2	1	0	1	1	0	2	0	1	10	152.3	0.20
	18 PAMPANGA	0	0	7	1	2	5	2	3	5	3	2	1	5	1	36	73	150.2	0.21
	19 BULACAN	0	0	2	0	0	0	2	2	0	0	0	0	1	2	9	18	202.6	0.11
	20 BATAAN	0	0	0	0	0	1	3	3	3	0	2	1	16	0	1	30	178.2	0.03
	sub-total	0	0	32	1	3	10	15	14	13	6	11	4	44	4	53	210	159.1	0.22
IV	21 AURORA	0	0	2	0	0	0	2	2	3	0	3	3	9	0	15	39	171.1	0.05
	22 QUEZON	0	0	1	0	0	0	0	0	0	1	0	0	29	0	7	38	195.7	0.03
	23 RIZAL	0	0	0	1	0	0	1	2	1	0	0	0	1	1	12	19	170.7	0.05
	24 CAVITE	0	0	0	0	0	0	0	0	0	0	1	0	2	0	2	5	191.5	0.00
	25 LAGUNA	0	0	0	0	0	0	0	0	0	0	0	1	21	1	2	25	200.9	0.00
	26 BATANGAS	0	0	6	0	0	0	0	0	0	0	0	1	13	0	2	22	169.1	0.27
	27 MARINDUQUE	0	0	1	0	0	0	0	0	2	0	0	0	0	1	1	5	154.9	0.20
	28 MINDORO ORIENTAL	0	0	26	0	0	1	2	1	1	2	1	2	7	0	5	48	109.3	0.56
	29 MINDORO OCCIDENTAL	0	0	9	0	4	4	3	3	1	2	7	5	7	0	9	54	149.5	0.31
	30 ROMBLON	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	198.2	0.00
	31 PALAWAN	0	0	1	0	0	0	5	3	0	0	3	1	8	0	20	41	168.1	0.02
	sub-total	0	0	46	1	4	5	13	11	8	5	15	13	99	3	75	298	164.9	0.19
V	32 CAMARINES NORTE	0	0	0	0	0	0	0	2	0	2	2	2	6	0	6	18	185.9	0.00
	33 CAMARINES SUR	0	0	14	1	2	0	5	3	6	8	5	9	33	1	9	96	167.0	0.18
	34 CATANDUANES	0	0	0	0	0	0	1	1	2	0	1	0	1	0	3	9	161.3	0.00
	35 ALBAY	0	0	0	0	0	0	0	0	0	1	1	4	42	2	28	78	198.4	0.00
	36 SORSOGON	0	0	1	0	0	0	0	1	2	3	2	8	16	0	1	34	183.5	0.03
	37 MASBATE	0	0	0	0	0	1	0	1	0	3	2	3	6	0	3	19	180.3	0.05
	sub-total	0	0	15	1	2	1	6	6	12	15	13	26	104	3	50	254	179.3	0.07
VI	38 AKLAN	0	0	2	0	0	0	0	0	0	0	1	0	10	0	1	14	181.6	0.14
	39 CAPIZ	0	0	0	0	0	0	0	1	2	0	2	3	1	0	3	12	173.1	0.00
	40 ANTIQUE	0	0	0	0	0	1	0	1	0	2	6	7	18	1	5	41	188.1	0.02
	41 ILOILO	0	0	0	0	0	0	0	0	3	2	2	5	14	0	8	34	186.2	0.00
	42 NEGROS OCCIDENTAL	0	0	0	0	0	0	0	0	0	0	0	0	9	0	8	17	200.0	0.00
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
	sub-total	0	0	2	0	0	1	0	2	5	4	11	15	52	1	25	118	186.4	0.03
VII	44 CEBU	0	0	0	0	0	0	0	0	1	1	1	1	4	1	2	11	193.9	0.00
	45 NEGROS ORIENTAL	0	0	0	0	0	1	0	0	0	2	5	4	10	0	4	26	185.6	0.04
	46 BOHOL	0	0	0	0	0	0	3	2	4	6	4	6	13	0	1	39	176.9	0.00
	47 SIQUJOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
	sub-total	0	0	0	0	0	1	3	2	5	9	10	11	27	1	7	76	181.9	0.01
VIII	48 NORTHERN SAMAR	0	0	1	0	0	1	0	1	1	0	0	0	0	0	9	13	134.3	0.15
	49 SAMAR	0	0	0	0	0	1	0	0	2	2	2	2	0	0	1	10	167.1	0.10
	50 EASTERN SAMAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	-	-
	51 NORTHERN LEYTE	0	0	0	1	1	3	3	9	10	10	12	9	38	0	5	101	176.8	0.05
	52 SOUTHERN LEYTE	0	0	0	0	0	0	0	0	0	0	1	3	16	0	0	20	195.1	0.00
	sub-total	0	0	1	1	1	5	3	10	13	12	15	14	54	0	17	146	177.7	0.05
IX	53 ZAMBOANGA DEL NORTE	0	0	0	0	0	2	2	0	0	1	1	0	8	0	1	15	176.4	0.13
	54 ZAMBOANGA DEL SUR	0	0	1	0	0	0	2	1	1	4	4	2	27	0	9	51	185.5	0.02
	55 BASILAN	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	162.5	0.00
	56 SULU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
	57 TAWI-TAWI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
	sub-total	0	0	1	0	0	2	4	1	1	6	5	2	35	0	11	68	182.9	0.04
X	58 SURIGAO DEL NORTE	0	0	1	0	2	0	1	1	1	1	0	3	8	1	3	22	174.8	0.14
	59 CAMIGUIN	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	198.3	0.00	
	60 AGUSAN DEL NORTE	0	0	1	0	1	1	5	8	2	3	1	1	12	0	8	43	165.2	0.07
	61 MISAMIS ORIENTAL	0	0	0	0	0	0	0	0	0	0	1	10	0	5	16	198.6	0.00	
	62 MISAMIS OCCIDENTAL	0	0	0	0	0	0	0	0	1	1	0	1	15	0	2	20	195.2	0.00
	63 BUKIDNON	0	0	0	0	0	0	1	0	1	3	2	2	18	0	4	31	189.3	0.00
	64 AGUSAN DEL SUR	0	0	0	0	0	0	0	0	0	0	1	9	0	6	16	198.0	0.00	
	sub-total	0	0	2	0	3	1	7	9	5	8	3	9	75	1	28	151	182.8	0.04
XI	65 SURIGAO DEL SUR	0	0	0	0	0	1	1	0	0	3	0	1	5	0	11	22	177.2	0.05
	66 DAVAO ORIENTAL	0	0	0	0	0	0	1	0	2	1	0	1	3	0	4	12	173.8	0.00
	67 DAVAO DEL NORTE	0	0	0	0	0	0	1	0	0	0	0	2	9	0	3	15	193.3	0.00
	68 DAVAO DEL SUR	0	0	0	0	0	0	2	0	1	3	1	25	0	0	32	192.9	0.00	
	69 SOUTH COTABATO	0	0	0	0	0	1	1	1	0	3	1	1	22	0	1	31	188.5	0.03
	sub-total	0	0	0	0	0	2	3	4	2	8	4	6	64	0	19	112	188.1	0.02
XII	70 LANA DEL NORTE	0	0	2	0	0	0	1	3	0	3	0	2	7	0	2	20	168.3	0.10
	71 LANA DEL SUR	0	0	0	0	0	0	0	0	1	1	2	1	0	0	5	10	174.2	0.00
	72 NORTH COTABATO	0	0	0	0	0	0	1	2	1	3	6	0	6	0	5	24	176.1	0.00
	73 MAGUINDANAO	0	0	4	0	0	1	2	8	5	5	3	0	4	1	10	43	164.0	0.12
	74 SULTAN K																		



Table B2-13

## ORGANIZATION STATUS OF IAS: CIS

(Unit: Nos.)

Region	Province	IAS' Status			Total (4) = (1) + (2) + (3)	IA Organization Ratio (%) (5) = (2) / (4) x 100	Average of IA Members (nos.)	
		Non-Existence of IA (1)	IA Organized (2)	Unknown (3)				
I	1 ILOCOS NORTE	1	117	1	119	98	127	
	2 ABRA	25	10	2	37	27	283	
	3 ILOCOS SUR	22	44	4	70	63	117	
	4 MOUNTAIN PROVINCE	0	8	0	8	100	145	
	5 LA UNION	0	39	0	39	100	177	
	6 BENGUET	0	9	0	9	100	44	
	7 PANGASINAN	35	132	11	178	74	117	
	Sub-total	83	359	18	460	78	125	
II	8 BATANES	0	0	0	0			
	9 CAGAYAN	4	91	10	105	87	84	
	10 KALINGA APAYAO	24	18	22	64	28	59	
	11 ISABELLA	3	30	14	47	64	80	
	12 IFUGAO	2	33	0	35	94	100	
	13 NUEVA VISCAAYA	4	126	1	131	96	105	
	14 QUIRINO	0	28	1	29	97	46	
	sub-total	37	326	48	411	79	85	
III	15 NUEVA ECUIA	25	16	2	43	37	117	
	16 TARLAC	3	33	0	36	92	100	
	17 ZAMBALES	0	10	0	10	100	77	
	18 PAMPANGA	12	32	29	73	44	54	
	19 BULACAN	5	13	0	18	72	75	
	20 BATAAN	7	19	4	30	63	85	
	sub-total	52	123	35	210	59	82	
IV	21 AURORA	5	22	12	39	56	82	
	22 QUEZON	0	15	23	38	39	100	
	23 RIZAL	0	19	0	19	100	73	
	24 CAVITE	0	5	0	5	100	52	
	25 LAGUNA	9	16	0	25	64	94	
	26 DATANGAS	0	19	3	22	86	79	
	27 MARINDUQUE	0	5	0	5	100	171	
	28 MINDORO ORIENTAL	26	22	0	48	46	108	
	29 MINDORO OCCIDENTAL	12	15	27	54	28	110	
	30 ROMBLON	0	2	0	2	100	71	
	31 PALAWAN	5	28	8	41	68	36	
		sub-total	57	168	73	298	56	85
	V	32 CAMARINES NORTE	2	15	1	18	83	42
33 CAMARINES SUR		35	61	0	96	64	92	
34 CATANDUANES		0	9	0	9	100	100	
35 ALBAY		40	23	15	78	29	163	
36 SORSOGON		3	31	0	34	91	135	
37 MASBATE		1	17	1	19	89	65	
	sub-total	81	156	17	254	61	103	
VI	38 Aklan	0	13	1	14	93	124	
	39 CAPIZ	0	12	0	12	100	62	
	40 ANTIQUE	5	35	1	41	85	108	
	41 ILOILO	2	32	0	34	94	76	
	42 NEGROS OCCIDENTAL	0	17	0	17	100	65	
	43 NEGROS DEL NORTE	0	0	0	0			
	sub-total	7	109	2	118	92	90	
VII	44 CEBU	0	11	0	11	100	118	
	45 NEGROS ORIENTAL	3	23	0	26	88	132	
	46 BOHOL	13	25	1	39	64	278	
	47 SIQUIOR	0	0	0	0			
	sub-total	16	59	1	76	78	186	
VIII	48 NORTHERN SAMAR	7	6	0	13	46	54	
	49 SAMAR	0	10	0	10	100	77	
	50 EASTERN SAMAR	0	2	0	2	100	46	
	51 NORTHERN LEYTE	44	54	3	101	53	82	
	52 SOUTHERN LEYTE	1	18	1	20	90	152	
	sub-total	52	90	4	146	62	93	
IX	53 ZAMBOANGA DEL NORTE	1	14	0	15	93	101	
	54 ZAMBOANGA DEL SUR	0	44	7	51	86	89	
	55 BASILAN	0	2	0	2	100	48	
	56 SULU	0	0	0	0			
	57 TAWI-TAWI	0	0	0	0			
		sub-total	1	60	7	68	88	90
X	58 SURIGAO DEL NORTE	2	20	0	22	91	92	
	59 CAMIGUIN	0	3	0	3	100	132	
	60 AGUSAN DEL NORTE	10	33	0	43	77	81	
	61 MISAMIS ORIENTAL	0	15	1	16	94	91	
	62 MISAMIS OCCIDENTAL	0	20	0	20	100	231	
	63 BUKIDNON	1	30	0	31	97	64	
	64 AGUSAN DEL SUR	0	15	1	16	94	58	
	sub-total	13	136	2	151	90	100	
XI	65 SURIGAO DEL SUR	1	21	0	22	95	70	
	66 DAVAO ORIENTAL	0	12	0	12	100	58	
	67 DAVAO DEL NORTE	0	14	1	15	93	77	
	68 DAVAO DEL SUR	1	31	0	32	97	72	
	69 SOUTH COTABATO	0	31	0	31	100	120	
	sub-total	2	109	1	112	97	84	
XII	70 LANA DEL NORTE	0	18	2	20	90	82	
	71 LANA DEL SUR	0	10	0	10	100	123	
	72 NORTH COTABATO	1	23	0	24	96	87	
	73 MAGUINDANA O	3	36	4	43	84	90	
	74 SULTAN KUDARAT	0	22	0	22	100	87	
	sub-total	4	109	6	119	92	90	
	Total	405	1,804	214	2,423.0	74	100	

Table B2-14

## ORGANIZATION STATUS OF IAS: CIP

(Unit: Nos.)

Region	Province	IAS Status			Total (4) = (1) + (2) + (3)	IA Organization Ratio (%) (5) = (2) / (4) x 100	Average of IA Members (nos.)	
		Non-Existence of IA (1)	IA Organized (2)	Unknown (3)				
I	1 ILOCOS NORTE	0	0	0	0	-	-	
	2 ABRA	16	0	1	17	0	-	
	3 ILOCOS SUR	38	1	12	51	2	41	
	4 MOUNTAIN PROVINCE	41	3	0	44	7	238	
	5 IA UNION	27	0	0	27	0	-	
	6 BENGUET	39	3	0	42	7	41	
	7 PANGASINAN	3	0	0	3	0	-	
	sub-total	164	7	13	184	4	119	
II	8 BATANES	0	0	0	0	-	-	
	9 CAGAYAN	65	0	1	66	0	-	
	10 KALINGA APAYAO	41	0	2	43	0	-	
	11 ISABELA	41	0	3	44	0	-	
	12 IFUGAO	44	1	1	46	2	96	
	13 NUEVA VISCAAYA	11	0	2	13	0	-	
	14 QUIRINO	40	0	1	41	0	-	
	sub-total	242	1	10	253	0	96	
III	15 NUEVA ECJA	0	1	0	1	100	106	
	16 TARLAC	3	0	0	3	0	-	
	17 ZAMBALES	0	0	0	0	-	-	
	18 PAMPANGA	15	5	0	20	25	90	
	19 BULACAN	3	1	0	4	25	-	
	20 BATAAN	0	0	0	0	-	-	
	sub-total	21	7	0	28	25	93	
IV	21 AURORA	8	1	1	10	10	60	
	22 QUEZON	8	2	6	16	13	30	
	23 RIZAL	1	0	0	1	0	-	
	24 CAVITE	1	5	0	6	83	53	
	25 LAGUNA	0	2	0	2	100	62	
	26 BATANGAS	16	3	2	21	14	-	
	27 MARINDUQUE	0	0	0	0	-	-	
	28 MINDORO ORIENTAL	15	1	2	18	6	127	
	29 MINDORO OCCIDENTAL	8	4	3	15	27	128	
	30 ROMBLON	1	1	0	2	50	-	
	31 PALAWAN	86	7	3	96	7	35	
		sub-total	144	26	17	187	14	71
	V	32 CAMARINES NORTE	61	0	2	63	0	-
33 CAMARINES SUR		22	6	2	30	20	102	
34 CATANDUANES		0	1	0	1	100	160	
35 ALBAY		38	4	6	48	8	169	
36 SORSOGON		6	1	0	7	14	87	
37 MASBATE		7	0	1	8	0	0	
	sub-total	134	12	11	157	8	145	
VI	38 AKLAN	2	0	0	2	0	-	
	39 CAPEZ	0	1	9	10	10	-	
	40 ANTIQUE	15	4	0	19	21	167	
	41 ILOILO	2	1	0	3	33	266	
	42 NEGROS OCCIDENTAL	19	3	12	34	9	-	
	43 NEGROS DEL NORTE	0	0	0	0	-	-	
	sub-total	38	9	21	68	13	217	
VII	44 CEBU	4	0	1	5	0	0	
	45 NEGROS ORIENTAL	12	2	0	14	14	50	
	46 BOHOL	0	0	0	0	-	0	
	47 SIQUIJOR	3	1	0	4	25	80	
	sub-total	19	3	1	23	13	60	
VIII	48 NORTHERN SAMAR	33	2	5	40	5	85	
	49 SAMAR	15	0	4	19	0	-	
	50 EASTERN SAMAR	10	0	2	12	0	-	
	51 NORTHERN LEYTE	37	6	0	43	14	32	
	52 SOUTHERN LEYTE	3	1	0	4	25	29	
	sub-total	98	9	11	118	8	37	
IX	53 ZAMBOANGA DEL NORTE	13	0	0	13	0	31	
	54 ZAMBOANGA DEL SUR	8	4	7	19	21	63	
	55 BASHAN	0	0	0	0	-	0	
	56 SULU	4	0	0	4	0	0	
	57 TAWI-TAWI	2	2	0	4	50	49	
	sub-total	27	6	7	40	15	51	
X	58 SURIGAO DEL NORTE	9	8	2	19	42	40	
	59 CAGUIN	0	0	0	0	-	-	
	60 AGUSAN DEL NORTE	16	8	0	24	33	46	
	61 MISAMIS ORIENTAL	9	4	0	13	31	34	
	62 MISAMIS OCCIDENTAL	2	1	0	3	33	70	
	63 BUKIDNON	34	5	2	41	12	99	
64 AGUSAN DEL SUR	23	2	1	26	8	54		
	sub-total	93	28	5	126	22	54	
XI	65 SURIGAO DEL SUR	15	0	2	17	0	0	
	66 DAVAO ORIENTAL	13	0	1	14	0	0	
	67 DAVAO DEL NORTE	5	4	0	9	44	121	
	68 DAVAO DEL SUR	2	5	0	7	71	76	
	69 SOUTH COTABATO	18	6	1	25	24	76	
	sub-total	53	15	4	72	21	84	
XII	70 LANA O DEL NORTE	17	1	4	22	5	65	
	71 LANA O DEL SUR	22	3	4	29	10	121	
	72 NORTH COTABATO	6	1	70	77	1	10	
	73 MAGUINDANAO	50	1	7	58	2	55	
	74 SULTAN KUDARAT	24	0	0	24	0	0	
	sub-total	119	6	85	210	3	82	
	Total	1,152	129	185	1,466	9	79	

Table B2-15

## VIABILITY OF IAS: CIS

(Unit: Nos.)

Region	Province	Viability of IAs					Total
		Excellent	Good	Fair	Poor	Unknown	
I	1 ILOCOS NORTE	8	86	14	2	9	119
	2 ADRA	2	8	0	0	27	37
	3 ILOCOS SUR	1	48	14	6	1	70
	4 MOUNTAIN PROVINCE	0	5	2	0	1	8
	5 LA UNION	0	17	19	1	2	39
	6 BENGUET	0	5	2	1	1	9
	7 PANGASINAN	3	10	13	0	152	178
	Sub-total	14	179	64	10	193	460
II	8 BATANES	0	0	0	0	0	0
	9 CAGAYAN	0	10	53	9	33	105
	10 KALINGA APAYAO	0	13	29	2	20	64
	11 ISABELA	1	12	11	4	19	47
	12 IFUGAO	1	1	24	4	5	35
	13 NUEVA VISCAAYA	0	91	29	1	10	131
	14 QUIRINO	0	9	9	9	2	29
	sub-total	2	136	155	29	89	411
III	15 NUEVA ECJIA	0	4	6	2	31	43
	16 TARLAC	0	8	20	4	4	36
	17 ZAMBALES	0	4	5	1	0	10
	18 PAMPANGA	0	35	14	1	23	73
	19 BULACAN	0	4	8	0	6	18
	20 BATAAN	0	13	10	1	6	30
	sub-total	0	68	63	9	70	210
IV	21 AURORA	0	12	4	0	23	39
	22 QUEZON	0	7	4	1	26	38
	23 RIZAL	0	17	2	0	0	19
	24 CAVITE	0	0	4	0	1	5
	25 LAGUNA	0	12	5	0	8	25
	26 BATANGAS	1	12	4	0	5	22
	27 MARINDUQUE	0	3	1	0	1	5
	28 MINDORO ORIENTAL	1	11	3	1	32	48
	29 MINDORO OCCIDENTAL	1	8	2	1	42	54
	30 ROMBLON	0	2	0	0	0	2
	31 PALAWAN	0	10	8	7	16	41
	sub-total	3	94	37	10	154	298
V	32 CAMARINES NORTE	0	14	0	0	4	18
	33 CAMARINES SUR	9	23	25	5	34	96
	34 CATANDUANES	0	3	4	0	2	9
	35 ALBAY	0	13	7	0	58	78
	36 SORSOGON	0	17	10	3	4	34
	37 MASBATE	0	10	3	1	5	19
	sub-total	9	80	49	9	107	254
VI	38 AKLAN	0	5	8	0	1	14
	39 CAPIZ	0	6	6	0	0	12
	40 ANTIQUE	4	15	15	3	4	41
	41 ILOILO	0	13	9	1	11	34
	42 NEGROS OCCIDENTAL	0	10	7	0	0	17
	43 NEGROS DEL NORTE	0	0	0	0	0	0
	sub-total	4	49	45	4	16	118
VII	44 CEBU	0	7	4	0	0	11
	45 NEGROS ORIENTAL	0	16	6	0	4	26
	46 ROHOL	2	7	9	2	19	39
	47 SIQUIJOR	0	0	0	0	0	0
	sub-total	2	30	19	2	23	76
VIII	48 NORTHERN SAMAR	0	3	1	0	9	13
	49 SAMAR	0	1	6	2	1	10
	50 EASTERN SAMAR	0	0	1	0	1	2
	51 NORTHERN LEYTE	1	30	31	8	31	101
	52 SOUTHERN LEYTE	0	10	7	0	3	20
	sub-total	1	44	46	10	45	146
IX	53 ZAMBOANGA DEL NORTE	0	7	5	2	1	15
	54 ZAMBOANGA DEL SUR	0	22	23	1	5	51
	55 BASILAN	0	0	1	0	1	2
	56 SULU	0	0	0	0	0	0
	57 TAWI-TAWI	0	0	0	0	0	0
		sub-total	0	29	29	3	7
X	58 SURIGAO DEL NORTE	2	8	4	0	8	22
	59 CAMIGUIN	0	0	2	1	0	3
	60 AGUSAN DEL NORTE	1	12	14	5	11	43
	61 MISAMIS ORIENTAL	1	6	7	0	2	16
	62 MISAMIS OCCIDENTAL	0	15	4	0	1	20
	63 BUKIDNON	0	14	11	3	3	31
	64 AGUSAN DEL SUR	0	8	3	0	5	16
	sub-total	4	63	45	9	30	151
XI	65 SURIGAO DEL SUR	1	9	7	5	0	22
	66 DAVAO ORIENTAL	0	7	2	1	2	12
	67 DAVAO DEL NORTE	0	4	7	0	4	15
	68 DAVAO DEL SUR	2	23	4	1	2	32
	69 SOUTH COTABATO	0	18	12	1	0	31
	sub-total	3	61	32	8	8	112
XII	70 LANA DEL NORTE	3	8	4	1	4	20
	71 LANA DEL SUR	0	3	1	1	5	10
	72 NORTH COTABATO	0	8	14	2	0	24
	73 MAGUINDANAO	2	18	11	4	8	43
	74 SULTAN KUDARAT	0	12	4	0	6	22
	sub-total	5	49	34	8	23	119
	Total	47	882	618	111	765	2,423

Table B2-16

**IRRIGATION DEVELOPMENT COST PER HA: CIS  
(AT A 1990 PRICE LEVEL)**

(Unit : nos.)

Region	Province	Irrigation Development Cost per ha (Peso/ha)					Unknown	Total	Average (Peso/ha)
		0 18,000	18,000 35,000	35,000 55,000	55,000 100,000	Over 100,000			
I	1 ILOCOS NORTE	10	6	2	2	0	99	119	19,828
	2 ABRA	1	4	0	0	0	32	37	25,958
	3 ILOCOS SUR	5	3	3	3	1	55	70	40,205
	4 MOUNTAIN PROVINCE	0	1	6	1	0	0	8	45,802
	5 LA UNION	6	2	1	0	0	30	39	17,377
	6 BENGUBAT	1	5	2	0	0	1	9	27,385
	7 PANGASINAN	10	1	0	0	0	167	178	9,173
	sub-total	33	22	14	6	1	384	460	25,950
II	8 BATANES	0	0	0	0	0	0	0	-
	9 CAGAYAN	4	2	1	0	0	98	105	17,379
	10 KALINGA APAYAO	3	2	0	0	0	59	64	16,240
	11 ISABELLA	9	5	3	2	0	28	47	26,476
	12 IFUGAO	4	4	4	0	0	23	35	26,637
	13 NUEVA VISCAYA	2	4	2	2	0	121	131	34,252
	14 QUIRINO	9	0	1	1	0	18	29	15,086
	sub-total	31	17	11	5	0	347	411	23,969
III	15 NUEVA ECJA	4	1	1	0	0	37	43	13,403
	16 TARLAC	9	0	0	0	0	27	36	7,231
	17 ZAMBALES	4	0	0	0	0	6	10	4,099
	18 PAMPANGA	7	0	0	0	0	66	73	3,970
	19 BULACAN	1	0	0	0	0	17	18	4,688
	20 BATAAN	1	0	0	0	0	29	30	5,370
		sub-total	26	1	1	0	0	182	210
IV	21 AURORA	2	5	2	0	0	30	39	26,736
	22 QUEZON	0	1	1	0	0	36	38	39,619
	23 RIZAL	1	0	0	0	0	18	19	8,895
	24 CAVITE	0	0	0	0	1	4	5	113,309
	25 LAGUNA	6	2	0	0	0	17	25	10,584
	26 BATANGAS	1	2	2	1	0	16	22	36,159
	27 MARINDUQUE	2	0	1	0	0	2	5	20,310
	28 MINDORO ORIENTAL	8	2	0	0	0	38	48	12,288
	29 MINDORO OCCIDENTAL	3	1	0	0	0	50	54	15,796
	30 ROMBLON	0	0	1	0	1	0	2	172,948
	31 PALAWAN	2	1	2	1	0	35	41	33,970
	sub-total	25	14	9	2	2	246	298	29,621
V	32 CAMARINES NORTE	5	2	1	2	0	9	18	23,425
	33 CAMARINES SUR	5	3	2	0	0	86	96	21,045
	34 CATANDUANES	3	1	0	1	0	4	9	26,539
	35 ALBAY	19	9	1	0	0	49	78	13,483
	36 SORSOGON	14	4	0	1	1	14	34	23,647
	37 MASBATE	3	2	0	0	0	14	19	16,935
		sub-total	49	21	4	3	1	176	254
VI	38 AKLAN	6	3	0	0	0	5	14	14,531
	39 CAPIZ	1	1	1	1	0	8	12	37,713
	40 ANTIQUE	7	7	3	0	0	24	41	22,800
	41 ILOILO	2	0	2	0	0	30	34	23,851
	42 NEGROS OCCIDENTAL	3	5	0	2	0	7	17	28,836
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	-
	sub-total	19	16	6	3	0	74	118	23,931
VII	44 CEBU	0	2	3	5	1	0	11	59,547
	45 NEGROS ORIENTAL	6	4	3	2	0	11	26	27,908
	46 BOHOL	0	1	0	0	0	38	39	24,881
	47 SIQUIJOR	0	0	0	0	0	0	0	-
	sub-total	6	7	6	7	1	49	76	40,686
VIII	48 NORTHERN SAMAR	0	1	0	1	0	11	13	52,286
	49 SAMAR	1	0	2	1	0	6	10	45,464
	50 EASTERN SAMAR	0	0	1	0	0	1	2	51,355
	51 NORTHERN LEYTE	6	0	0	0	0	95	101	8,311
	52 SOUTHERN LEYTE	2	5	2	0	1	10	20	36,439
	sub-total	9	6	5	2	1	123	146	32,698
IX	53 ZAMBOANGA DEL NORTE	2	1	1	1	0	10	15	31,009
	54 ZAMBOANGA DEL SUR	1	5	1	1	0	43	51	29,787
	55 BASILAN	0	0	1	0	0	1	2	46,061
	56 SULU	0	0	0	0	0	0	0	-
	57 TAWI-TAWI	0	0	0	0	0	0	0	-
		sub-total	3	6	3	2	0	54	68
X	58 SURIGAO DEL NORTE	0	0	0	0	0	22	22	-
	59 CAMIGUIN	3	0	0	0	0	0	3	13,403
	60 AGUSAN DEL NORTE	9	4	2	4	1	23	43	37,188
	61 MISAMIS ORIENTAL	8	1	0	1	1	5	16	27,220
	62 MISAMIS OCCIDENTAL	9	1	0	0	0	10	20	12,040
	63 BUKIDNON	7	2	1	1	0	20	31	17,581
	64 AGUSAN DEL SUR	12	0	2	1	0	1	16	16,510
		sub-total	48	8	5	7	2	81	151
XI	65 SURIGAO DEL SUR	9	6	0	2	2	3	22	29,463
	66 DAVAO ORIENTAL	1	0	0	0	1	10	12	65,182
	67 DAVAO DEL NORTE	0	0	2	0	1	12	15	793,161
	68 DAVAO DEL SUR	4	2	1	1	0	24	32	27,802
	69 SOUTH COTABATO	11	5	4	2	1	8	31	29,904
	sub-total	25	13	7	5	5	57	112	71,106
XII	70 LANA DEL NORTE	2	4	0	0	0	14	20	21,182
	71 LANA DEL SUR	2	1	1	0	0	6	10	21,311
	72 NORTH COTABATO	6	6	2	1	3	6	24	41,143
	73 MAGUINDANAO	6	7	1	1	0	28	43	23,615
	74 SULTAN KUDARAT	1	2	6	2	2	9	22	59,064
	sub-total	17	20	10	4	5	63	119	37,053
	Total	291	151	81	46	18	1,836	2,423	30,192

IRRIGATION DEVELOPMENT COST PER HA: CIP  
(AT A 1990 PRICE LEVEL)

Table B2-17

(Unit: nos.)

Region	Province	Irrigation Development Cost per ha (Peso/ha)						Total	Average (Peso/ha)
		0	18,000	35,000	55,000	Over	Unknown		
		18,000	35,000	55,000	100,000	100,000			
I	1 ILOCOS NORTE	0	0	0	0	0	0	0	23,000
	2 ABRA	0	1	0	0	0	16	17	41,315
	3 ILOCOS SUR	0	4	6	1	0	40	51	39,191
	4 MOUNTAIN PROVINCE	0	3	2	1	0	38	44	45,857
	5 LA UNION	0	0	1	0	0	26	27	45,999
	6 BENGUET	1	0	4	1	0	36	42	63,227
	7 PANGASINAN	0	1	0	0	1	1	3	42,997
	sub-total	1	9	13	3	1	157	184	
II	8 BATANES	0	0	0	0	0	0	0	64,056
	9 CAGAYAN	0	0	0	1	0	65	66	38,399
	10 KALINGA APAYAO	0	1	2	0	0	40	43	35,306
	11 ISABELA	0	0	1	0	0	43	44	15,425
	12 IFUGAO	2	1	0	0	0	43	46	
	13 NUEVA VISCAAYA	0	0	0	0	0	13	13	
	14 QUIRINO	0	0	0	0	0	41	41	
	sub-total	2	2	3	1	0	245	253	32,604
III	15 NUEVA ECUA	0	0	0	0	0	1	1	
	16 TARLAC	0	0	0	0	0	3	3	
	17 ZAMBALES	0	0	0	0	0	0	0	8,043
	18 PAMPANGA	3	0	0	0	0	17	20	9,073
	19 BULACAN	1	0	0	0	0	3	4	
	20 BATAAN	0	0	0	0	0	0	0	
	sub-total	4	0	0	0	0	24	28	8,301
IV	21 AURORA	0	1	1	0	0	8	10	38,550
	22 QUEZON	1	3	2	1	0	9	16	38,363
	23 RIZAL	0	1	0	0	0	0	1	33,333
	24 CAVITE	0	1	1	0	0	4	6	37,500
	25 LAGUNA	1	0	0	1	0	0	2	36,754
	26 BATANGAS	1	1	2	0	1	16	21	51,900
	27 MARINDUQUE	0	0	0	0	0	0	0	
	28 MINDORO ORIENTAL	0	1	0	1	0	16	18	44,280
	29 MINDORO OCCIDENTAL	4	3	0	0	0	8	15	17,881
	30 ROMBLON	0	0	0	1	0	1	2	57,063
	31 PALAWAN	1	1	2	0	0	92	96	29,664
	sub-total	8	12	8	4	1	154	187	35,649
V	32 CAMARINES NORTE	4	2	0	0	0	57	63	11,618
	33 CAMARINES SUR	9	3	0	0	0	18	30	13,491
	34 CATANDUANES	0	0	0	0	0	1	1	
	35 ALBAY	3	6	0	0	0	39	48	17,225
	36 SORSOGON	2	2	1	0	0	2	7	23,743
	37 MASBATE	0	0	0	0	0	8	8	
	sub-total	18	13	1	0	0	125	157	15,792
VI	38 AKLAN	0	1	1	0	0	0	2	39,574
	39 CAPIZ	0	0	0	0	0	10	10	
	40 ANTIQUE	0	1	1	1	0	16	19	48,104
	41 ILOILO	0	1	0	0	0	2	3	26,248
	42 NEGROS OCCIDENTAL	2	7	2	1	0	22	34	31,767
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	
	sub-total	2	10	4	2	0	50	68	35,050
VII	44 CEBU	0	1	1	0	0	3	5	29,004
	45 NEGROS ORIENTAL	0	1	2	0	0	11	14	37,824
	46 BOHOL	0	0	0	0	0	0	0	
	47 SIKUOR	0	0	0	1	0	3	4	75,000
	sub-total	0	2	3	1	0	17	23	41,080
VIII	48 NORTHERN SAMAR	0	0	2	0	0	38	40	49,061
	49 SAMAR	1	1	1	0	0	16	19	32,136
	50 EASTERN SAMAR	0	1	1	1	0	9	12	40,288
	51 NORTHERN LEYTE	1	1	0	0	0	41	43	11,495
	52 SOUTHERN LEYTE	0	1	1	1	0	1	4	52,235
	sub-total	2	4	5	2	0	105	118	38,083
IX	53 ZAMBOANGA DEL NORTE	0	1	2	1	0	9	13	40,204
	54 ZAMBOANGA DEL SUR	0	2	0	0	0	17	19	27,950
	55 BASILAN	0	0	0	0	0	0	0	
	56 SULU	0	1	0	0	0	3	4	31,993
	57 TAWI-TAWI	0	0	1	0	0	3	4	47,131
	sub-total	0	4	3	1	0	32	40	36,980
X	58 SURIGAO DEL NORTE	0	0	2	0	0	17	19	37,454
	59 CAMIGUIN	0	0	0	0	0	0	0	
	60 AGUSAN DEL NORTE	2	2	1	0	1	18	24	36,204
	61 MISAMIS ORIENTAL	0	1	1	0	0	11	13	34,281
	62 MISAMIS OCCIDENTAL	0	0	0	0	0	3	3	
	63 BUKIDNON	2	7	3	0	0	29	41	26,004
	64 AGUSAN DEL SUR	1	4	1	1	0	19	26	29,912
	sub-total	5	14	8	1	1	97	126	30,418
XI	65 SURIGAO DEL SUR	0	2	0	1	0	14	17	35,849
	66 DAVAO ORIENTAL	2	1	0	0	1	10	14	41,098
	67 DAVAO DEL NORTE	1	0	1	0	0	7	9	25,076
	68 DAVAO DEL SUR	1	1	1	1	0	4	7	34,129
	69 SOUTH COTABATO	0	3	0	0	0	22	25	28,374
	sub-total	4	7	1	2	1	57	72	33,573
XII	70 LANA DEL NORTE	1	1	1	0	0	19	22	24,501
	71 LANA DEL SUR	1	2	0	0	0	26	29	17,975
	72 NORTH COTABATO	0	3	0	1	0	73	77	35,073
	73 MAGUINDAON	0	0	2	1	0	55	58	57,456
	74 SULTAN KUDARAT	0	5	3	1	0	15	24	40,270
	sub-total	2	11	6	3	0	188	210	36,478
	Total	48	88	55	20	4	1,251	1,466	32,527



Table B2-18

## ECONOMIC INTERNAL RATE OF RETURN (EIRR): CIS

(Unit: Noe.)

Region	Province	EIRR (%)								Total	Average (%)
		0-5	5-10	10-15	15-20	20-25	25-30	Over 30	Unknown		
I	1 ILOCOS NORTE	0	0	10	37	30	3	10	29	119	22.9
	2 ABRA	0	0	0	2	1	1	2	31	37	30.4
	3 ILOCOS SUR	0	0	3	3	2	3	4	55	70	26.5
	4 MOUNTAIN PROVINCE	0	0	0	7	1	0	0	0	8	18.7
	5 LA UNION	0	0	1	1	1	1	6	29	39	32.6
	6 BENGUET	0	0	0	1	1	2	4	1	9	30.1
	7 PANGASINAN	0	0	0	3	1	2	6	166	178	34.7
	Sub-total	0	0	14	54	37	12	32	311	460	25.3
II	8 BATANES	0	0	0	0	0	0	0	0	0	-
	9 CAOAYAN	0	0	0	3	1	2	1	98	105	24.0
	10 KALINGA APAYAO	0	0	0	2	0	0	2	60	64	25.0
	11 ISABELA	0	0	1	0	2	0	1	43	47	40.5
	12 IPUGAO	0	1	3	1	0	1	4	25	35	29.8
	13 NUEVA VISCAAYA	0	0	1	0	1	0	0	129	131	16.8
	14 QUIRINO	0	0	0	0	0	0	1	28	29	36.3
	sub-total	0	1	5	6	4	3	9	383	411	28.5
III	15 NUEVA ECJA	0	0	0	1	2	0	2	38	43	27.2
	16 TARLAC	0	0	1	0	3	1	4	27	36	27.8
	17 ZAMBALES	0	0	1	0	1	0	1	7	10	22.9
	18 PAMPANGA	0	0	0	2	1	2	2	66	73	26.0
	19 BULACAN	0	0	0	0	0	0	0	18	18	-
	20 BATAAN	0	0	0	0	1	0	0	29	30	22.0
	sub-total	0	0	2	3	8	3	9	185	210	26.3
IV	21 AURORA	0	0	4	2	1	1	6	25	39	25.3
	22 QUEZON	0	0	2	3	0	0	1	32	38	30.3
	23 RIZAL	0	0	0	0	1	1	0	17	19	25.8
	24 CAVITE	0	0	0	0	1	0	0	4	5	24.8
	25 LAGUNA	0	0	0	3	3	2	3	14	25	25.3
	26 BATANGAS	0	0	1	3	0	0	2	16	22	27.8
	27 MARINDUQUE	0	0	0	1	0	0	4	0	5	57.5
	28 MINDORO ORIENTAL	0	0	0	3	0	2	7	36	48	35.2
	29 MINDORO OCCIDENTAL	0	0	1	4	3	0	0	46	54	19.1
	30 ROMBLON	0	0	1	1	0	0	0	0	2	15.1
	31 PALAWAN	0	0	2	5	1	0	1	32	41	20.4
		sub-total	0	0	11	25	10	6	24	222	298
V	32 CAMARINES NORTE	0	0	1	0	0	0	3	14	18	45.3
	33 CAMARINES SUR	0	0	0	0	1	1	7	87	96	51.2
	34 CATANDUANES	0	1	0	1	2	0	3	2	9	41.2
	35 ALBAY	0	0	1	3	6	5	13	50	78	35.1
	36 SORSOGON	0	0	4	0	1	0	2	27	34	22.9
	37 MASBATE	0	0	1	0	0	0	0	18	19	15.0
		sub-total	0	1	7	4	10	6	28	198	254
VI	38 AKLAN	0	0	1	2	3	0	7	1	14	34.9
	39 CAPIZ	0	0	2	1	2	2	0	5	12	20.8
	40 ANTIQUE	0	0	1	2	8	2	2	26	41	23.2
	41 ILOILO	0	0	1	5	4	0	7	17	34	29.0
	42 NEGROS OCCIDENTAL	0	0	3	4	2	0	1	7	17	20.1
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	0	-
	sub-total	0	0	8	14	19	4	17	56	118	26.5
VII	44 CEBU	0	0	1	3	5	2	0	0	11	20.9
	45 NEGROS ORIENTAL	0	0	1	2	1	2	1	19	26	23.4
	46 BOHOL	0	0	0	8	6	1	0	24	39	20.3
	47 SIKULJOR	0	0	0	0	0	0	0	0	0	-
		sub-total	0	0	2	13	12	5	1	43	76
VIII	48 NORTHERN SAMAR	0	0	6	4	0	1	0	2	13	17.0
	49 SAMAR	0	1	1	2	2	1	1	2	10	22.6
	50 EASTERN SAMAR	0	0	1	0	0	0	0	1	2	14.8
	51 NORTHERN LEYTE	0	0	0	1	3	2	2	93	101	27.4
	52 SOUTHERN LEYTE	0	0	1	4	4	0	3	8	20	24.3
		sub-total	0	1	9	11	9	4	6	106	146
IX	53 ZAMBOANGA DEL NORTE	0	0	0	0	0	1	0	14	15	26.1
	54 ZAMBOANGA DEL SUR	0	0	0	4	2	0	2	43	51	39.1
	55 BASILAN	0	0	0	0	0	0	1	1	2	46.8
	56 SULU	0	0	0	0	0	0	0	0	0	-
	57 TAWI-TAWI	0	0	0	0	0	0	0	0	0	-
		sub-total	0	0	0	4	2	1	3	58	68
X	58 SURIGAO DEL NORTE	0	0	1	0	1	0	0	20	22	19.0
	59 CAMIGUIN	0	0	0	0	0	0	0	3	3	3.0
	60 AGUSAN DEL NORTE	0	0	3	2	7	3	4	24	43	30.4
	61 MISAMIS ORIENTAL	0	0	0	3	1	1	3	8	16	32.2
	62 MISAMIS OCCIDENTAL	0	0	0	0	0	1	12	7	20	77.8
	63 BUKIDNON	0	0	1	1	0	1	3	25	31	45.2
	64 AGUSAN DEL SUR	0	0	0	0	1	1	3	11	16	37.9
	sub-total	0	0	5	6	10	7	25	98	151	44.3
XI	65 SURIGAO DEL SUR	0	0	3	3	3	2	8	3	22	31.6
	66 DAVAO ORIENTAL	0	0	0	0	0	0	0	12	12	-
	67 DAVAO DEL NORTE	0	0	1	0	0	0	0	14	15	13.7
	68 DAVAO DEL SUR	0	1	3	1	2	1	4	20	32	29.3
	69 SOUTH COTABATO	0	0	1	5	4	2	11	8	31	29.7
	sub-total	0	1	8	9	9	5	23	57	112	30.0
XII	70 LANA O DEL NORTE	0	0	0	0	5	4	7	4	20	41.2
	71 LANA O DEL SUR	0	0	0	0	1	3	0	6	10	25.3
	72 NORTH COTABATO	0	0	5	3	1	3	7	5	24	29.0
	73 MAGUINDANAO	0	0	1	2	2	4	11	23	43	30.7
	74 SULTAN KUDARAT	0	0	0	1	2	1	7	11	22	34.2
	sub-total	0	0	6	6	11	15	32	49	119	32.9
	Total	0	4	77	155	141	71	209	1,766	2,423	29.5

Table B2-19

## ECONOMIC INTERNAL RATE OF RETURN (EIRR): CIP

(Unit: Nos.)

Region	Province	EIRR (%)								Total	Average (%)	
		0-5	5-10	10-15	15-20	20-25	25-30	Over 30	Unknown			
I	1 ILOCOS NORTE	0	0	0	0	0	0	0	0	16	17	12.1
	2 ABRA	0	0	1	0	0	0	0	0	40	51	23.0
	3 ILOCOS SUR	0	0	3	3	1	1	3	0	38	44	18.7
	4 MOUNTAIN PROVINCE	0	0	0	1	0	0	0	0	26	27	17.3
	5 LA UNION	0	0	0	0	0	0	3	0	36	42	30.6
	6 BENGUET	0	0	0	0	0	0	3	0	1	3	28.7
	7 PANGASINAN	0	1	0	0	0	0	1	0	1	3	23.5
	sub-total	0	1	4	9	2	4	7	137	184	23.5	
II	8 BATANES	0	0	0	0	0	0	0	0	65	66	23.3
	9 CAGAYAN	0	0	0	0	1	0	0	0	40	43	28.5
	10 KALINGA APAYAO	0	0	0	1	0	0	2	0	43	44	24.0
	11 ISABELA	0	0	0	0	1	0	0	0	43	46	12.1
	12 IFUGAO	0	0	3	0	0	0	0	0	13	13	-
	13 NUEVA VISCAYA	0	0	0	0	0	0	0	0	41	41	-
	14 QUIRINO	0	0	0	0	0	0	0	0	0	0	-
	sub-total	0	0	3	1	2	0	2	245	253	21.2	
III	15 NUEVA ECJA	0	1	0	0	0	0	0	0	1	1	10.0
	16 TARIAC	0	0	0	0	0	0	0	0	3	3	-
	17 ZAMBALES	0	0	0	0	0	0	0	0	0	0	-
	18 PAMPANGA	0	0	0	1	0	1	1	17	20	28.7	-
	19 BULACAN	0	0	0	0	0	0	1	3	4	38.0	-
	20 BATAAN	0	0	0	0	0	0	0	0	0	0	-
	sub-total	0	1	0	1	0	1	2	23	28	26.8	-
IV	21 AURORA	0	0	0	1	0	1	0	8	10	23.5	-
	22 QUEZON	0	0	0	1	3	2	1	9	16	26.6	-
	23 RIZAL	0	0	1	0	0	0	0	0	1	14.0	-
	24 CAVITE	0	0	2	1	0	0	0	3	6	15.3	-
	25 LAGUNA	0	0	0	0	0	1	1	0	2	30.8	-
	26 BATANGAS	0	0	1	0	0	3	1	16	21	25.8	-
	27 MARINDUQUE	0	0	0	0	0	0	0	0	0	0	-
	28 MINDORO ORIENTAL	0	0	1	0	0	1	1	15	18	28.0	-
	29 MINDORO OCCIDENTAL	0	0	0	2	3	2	0	8	15	22.5	-
	30 ROMBLON	0	0	1	0	0	0	0	1	2	15.0	-
	31 PALAWAN	0	0	4	4	5	3	0	80	96	20.3	-
	sub-total	0	0	10	9	11	13	4	140	187	22.7	-
V	32 CAMARINES NORTE	0	0	0	0	1	1	4	57	63	64.0	-
	33 CAMARINES SUR	0	0	1	0	1	1	9	18	30	30.4	-
	34 CATANDUANES	0	0	0	0	0	0	1	0	1	46.0	-
	35 ALBAY	0	0	2	3	2	4	0	37	48	21.5	-
	36 SORSOGON	0	0	1	1	0	2	0	3	7	22.1	-
	37 MASBATE	0	1	0	0	0	0	0	7	8	5.4	-
	sub-total	0	1	4	4	4	8	14	122	157	39.0	-
VI	38 AKLAN	0	0	1	0	1	0	0	0	2	16.2	-
	39 CAPIZ	0	0	0	0	0	0	0	10	10	-	-
	40 ANTIQUE	0	0	1	1	0	0	0	17	19	14.9	-
	41 ILOILO	0	0	0	1	0	0	0	2	3	17.2	-
	42 NEGROS OCCIDENTAL	0	0	6	7	8	0	0	13	34	18.0	-
	43 NEGROS DEL NORTE	0	0	0	0	0	0	0	0	0	0	-
	sub-total	0	0	8	9	9	0	0	42	68	17.6	-
VII	44 CEBU	0	0	0	1	0	1	0	3	5	21.9	-
	45 NEGROS ORIENTAL	0	1	0	0	3	3	0	7	14	23.6	-
	46 BOHOL	0	0	0	0	0	0	0	0	0	0	-
	47 SIQUIJOR	0	1	0	0	0	0	0	3	4	8.0	-
	sub-total	0	2	0	1	3	4	0	13	23	21.7	-
VIII	48 NORTHERN SAMAR	0	0	0	1	1	0	0	38	40	19.8	-
	49 SAMAR	0	0	1	0	0	2	1	15	19	24.6	-
	50 EASTERN SAMAR	0	1	0	3	0	0	0	8	12	15.0	-
	51 NORTHERN LEYTE	0	0	1	0	1	1	0	40	43	21.0	-
	52 SOUTHERN LEYTE	0	0	1	0	1	0	1	1	4	25.0	-
	sub-total	0	1	3	4	3	3	2	102	118	21.0	-
IX	53 ZAMBOANGA DEL NORTE	0	0	1	0	1	1	1	9	13	26.6	-
	54 ZAMBOANGA DEL SUR	0	0	0	3	1	0	0	15	19	18.9	-
	55 BASILAN	0	0	0	0	0	0	0	0	0	0	-
	56 SULU	0	0	0	0	0	0	1	3	4	36.3	-
	57 TAWI-TAWI	0	0	0	1	0	0	1	2	4	26.6	-
	sub-total	0	0	1	4	2	1	3	29	40	24.7	-
X	58 SURIGAO DEL NORTE	0	0	0	0	2	0	0	17	19	24.5	-
	59 CAMIGUIN	0	0	0	0	0	0	0	0	0	0	-
	60 AGUSAN DEL NORTE	0	0	1	1	1	1	1	19	24	21.9	-
	61 MISAMIS ORIENTAL	0	0	0	1	0	0	3	9	13	45.4	-
	62 MISAMIS OCCIDENTAL	0	0	0	0	0	0	0	3	3	-	-
	63 BUKIDNON	0	0	2	4	0	2	5	29	41	28.9	-
	64 AGUSAN DEL SUR	0	0	1	1	0	2	3	19	26	27.9	-
	sub-total	0	0	4	7	3	5	12	95	126	29.4	-
XI	65 SURIGAO DEL SUR	0	0	0	2	1	0	0	14	17	18.3	-
	66 DAVAO ORIENTAL	0	0	0	0	0	0	2	11	14	70.7	-
	67 DAVAO DEL NORTE	0	0	1	1	0	0	0	7	9	16.9	-
	68 DAVAO DEL SUR	0	1	2	1	2	0	1	0	7	18.9	-
	69 SOUTH COTABATO	0	0	0	3	1	0	2	19	25	25.3	-
	sub-total	0	1	3	8	4	0	5	51	72	27.9	-
XII	70 LANA O DEL NORTE	0	0	0	0	3	1	3	15	22	30.3	-
	71 LANA O DEL SUR	0	0	0	1	0	0	0	28	29	15.3	-
	72 NORTH COTABATO	0	0	2	1	0	0	1	73	77	18.7	-
	73 MAGUINDANAO	0	0	0	1	2	0	0	55	58	20.6	-
	74 SULTAN KUDARAT	0	0	1	0	3	4	1	15	24	25.3	-
	sub-total	0	0	3	3	8	5	5	186	210	24.6	-
	Total	0	7	43	60	51	44	56	1,205	1,466	25.8	-

Table B2-20

## CIS/CIP IN CARP STRATEGIC OPERATION PROVINCES

Region	Province	SSIDP Candidate Sub-Projects						CARP - IC					
		CISs		CIPs		CISs		CIPs					
		Nos.	Average Area (ha)	Nos.	Average Area (ha)	Nos.	Average Area (ha)	Nos.	Average Area (ha)				
I	1 ILOCOS NORTE					11	2,530	230	36	2,508	70		
	2 ABRA					30	1,366	46	18	744	41		
	3 ILOCOS SUR					10	1,686	169	26	2,591	100		
	4 MOUNTAIN PROVINCE					4	46	12	93	5,620	60		
	5 LA UNION					7	3,186	455	8	1,135	142		
	6 BENGUET					5	285	57	39	1,003	26		
	7 PANGASINAN	178	27,409	154	3	230	77	41	13,661	333	3	630	210
	Sub-total	178	27,409	154	3	230	211	108	22,760	211	223	14,231	64
II	8 BATANES												
	9 CAGAYAN					11	3,751	341	19	4,015	211		
	10 KALINGA APAYAO	64	5,602	88	43	5,562	129	5	321	64	51	2,491	49
	11 ISABELA	47	9,775	208	44	6,820	155	4	440	110	8	5,420	678
	12 IFUGAO	35	3,279	94	46	4,980	108	0	0	-	7	5,685	812
	13 NUEVA VISCAAYA							5	1,630	330	10	1,470	147
	14 QUIRINO							0	0	-	20	1,850	93
	Sub-total	146	18,656	128	133	17,362	131	25	6,162	246	115	20,911	182
III	15 NUEVA ECIJA	43	7,746	180	1	153	153	27	15,612	578	20	9,625	481
	16 TARLAC							2	2,510	1,255	7	2,620	374
	17 ZAMBALES							4	1,561	390	9	5,466	607
	18 PAMPANGA	73	11,523	158	20	3,050	153	18	3,294	183	21	2,537	121
	19 BULACAN							13	1,520	117	5	910	182
	20 BATAAN							7	4,550	650	12	2,527	211
		sub-total	116	19,269	166	21	3,203	153	71	29,047	409	74	23,685
IV	21 AURORA							4	2,575	644	13	1,860	143
	22 QUEZON	38	3,875	102	16	1,376	86	12	622	52	14	1,910	136
	23 RIZAL							7	323	46	18	1,658	92
	24 CAVITE							0	0	-	19	2,287	120
	25 LAGUNA							2	62	31	7	310	44
	26 BATANGAS	22	2,032	93	21	2,017	96	2	360	180	18	1,783	99
	27 MARINDUQUE							14	1,402	100	5	405	81
	28 MINDORO ORIENTAL							9	1,697	189	9	1,706	190
	29 MINDORO OCCIDENTAL	54	10,328	191	15	2,668	178	0	0	-	22	6,818	310
	30 ROMBLON							18	1,397	78	12	782	65
	31 PALAWAN							1	200	200	24	5,290	220
		sub-total	114	16,235	142	52	6,061	117	69	8,638	125	161	24,809
V	32 CAMARINES NORTE							7	346	49	4	330	83
	33 CAMARINES SUR	96	13,012	136	3	4,545	152	7	958	137	17	3,225	190
	34 CATANDUANES							4	742	186	14	1,058	76
	35 ALBAY							5	814	163	12	1,818	152
	36 SORSOGON	34	4,404	130	7	724	103	6	404	67	9	686	76
	37 MASBATE							7	4,022	575	1	60	60
		sub-total	130	17,416	134	10	5,269	527	35	7,286	202	57	7,177
VI	38 AKLAN							7	593	85	1	100	160
	39 CAPIZ							3	1,150	383	13	2,125	163
	40 ANTIQUE	41	4,649	113	19	1,696	89	10	2,008	201	22	2,090	95
	41 ILOILO							4	1,150	288	5	940	188
	42 NEGROS OCCIDENTAL	17	2,326	137	31	4,590	135	1	60	60	37	9,696	262
	43 NEGROS DEL NORTE							0	0	-	0	0	-
	sub-total	58	6,975	120	53	6,286	119	25	4,961	198	78	14,951	192
VII	44 CEBU							7	2,020	289	4	890	223
	45 NEGROS ORIENTAL	26	4,885	188	14	2,640	189	0	0	-	10	4,115	412
	46 BOHOL	39	4,657	119	0	0		5	1,150	230	24	7,150	298
	47 SIQUIDOR							0	0	-	0	0	-
	sub-total	65	9,542	147	14	2,640	189	12	3,170	264	38	12,155	320
VIII	48 NORTHERN SAMAR							7	1,125	161	10	1,960	196
	49 SAMAR	10	1,099	110	19	2,963	156	1	625	625	5	1,804	361
	50 EASTERN SAMAR							1	130	130	20	4,817	241
	51 NORTHERN LEYTE	191	16,226	161	43	6,440	150	6	5,085	848	3	1,600	533
	52 SOUTHERN LEYTE	20	2,231	112	4	348	87	8	1,153	144	5	567	113
	sub-total	131	19,556	149	66	9,751	148	23	8,118	353	43	10,748	250
IX	53 ZAMBOANGA DEL NORTE							7	2,090	299	10	1,386	139
	54 ZAMBOANGA DEL SUR	51	7,867	154	19	2,274	120	10	4,982	498	10	2,435	244
	55 BASILAN							0	0	-	3	105	35
	56 SULU							2	100	50	2	386	193
	57 TAWI-TAWI							0	0	-	4	718	180
	sub-total	51	7,867	154	19	2,274	120	19	7,172	377	29	5,030	173
X	58 SURIGAO DEL NORTE							0	0	-	13	2,075	160
	59 CAMIGUIN							0	0	-	0	0	-
	60 AGUSAN DEL NORTE							0	0	-	30	2,596	87
	61 MISAMIS ORIENTAL							1	102	102	17	1,735	102
	62 MISAMIS OCCIDENTAL							1	625	625	4	2,500	625
	63 BUKIDNON	31	5,217	168	41	8,270	202	0	0	-	16	5,090	318
	64 AGUSAN DEL SUR	16	3,025	189	26	6,395	246	0	0	-	18	4,526	251
	sub-total	47	8,242	175	67	14,665	219	2	727	364	98	18,522	189
XI	65 SURIGAO DEL SUR							3	710	237	15	3,230	215
	66 DAVAO ORIENTAL							8	1,630	206	2	155	78
	67 DAVAO DEL NORTE	15	3,260	217	9	1,826	203	0	0	-	6	1,310	218
	68 DAVAO DEL SUR							2	1,580	790	5	2,240	448
	69 SOUTH COTABATO	31	5,935	191	25	5,086	203	3	893	298	4	1,400	350
	sub-total	46	9,195	200	34	6,912	203	16	4,833	302	32	8,335	260
XII	70 Lanao del Norte							12	3,018	254	27	5,057	187
	71 Lanao del Sur							0	0	-	0	0	-
	72 North Cotabato	24	4,897	294	77	18,299	238	20	8,380	419	28	9,200	329
	73 Maguindanao	43	8,255	192	58	10,574	183	7	1,235	176	14	19,505	1,393
	sub-total	67	13,152	196	135	28,873	214	44	15,463	351	80	40,822	510
	Total / Average	1,149	173,514	151	607	103,526	171	450	118,337	263	1,028	201,406	196

Table B2-21

## DESIGNED IRRIGABLE AREA AND ACTUALLY IRRIGATED AREA: CIS

Region	Province	Nos. of CISs	Wet Season			Dry Season		
			Designed Irrigable Area (ha)	Actually Irrigated Area (ha)	Decrease Ratio (1)	Designed Irrigable Area (ha)	Actually Irrigated Area (ha)	Decrease Ratio (1)
			(1)	(2)	(3) = (2)/(1)	(4)	(5)	(6) = (5)/(4)
I	1 ILOCOS NORTE	119	13,630	12,976	0.952	9,902	9,001	0.909
	2 ABRA	37	5,266	4,739	0.900	5,051	3,692	0.731
	3 ILOCOS SUR	70	8,183	7,447	0.910	6,110	4,240	0.694
	4 MOUNTAIN PROVINCE	8	914	720	0.788	914	651	0.712
	5 LA UNION	39	5,071	4,736	0.934	5,071	3,793	0.748
	6 BENGUET	9	617	383	0.620	617	366	0.594
	7 PANGASINAN	178	27,409	19,406	0.708	15,321	9,131	0.596
	sub-total	460	61,090	50,406	0.825	42,986	30,875	0.718
II	8 BATANES	0	0	0	-	0	0	-
	9 CAGAYAN	105	14,511	11,362	0.783	13,819	10,060	0.728
	10 KALINGA APAYAO	64	5,602	3,540	0.632	4,682	3,657	0.781
	11 ISABELA	47	9,775	5,435	0.556	8,624	3,924	0.455
	12 IFUGAO	35	3,279	2,318	0.707	3,119	2,024	0.649
	13 NUEVA VISAYA	131	18,118	15,636	0.863	18,118	14,712	0.812
	14 QUIRINO	29	3,460	1,436	0.415	3,148	1,102	0.350
	sub-total	411	54,745	39,727	0.726	51,510	35,479	0.689
III	15 NUEVA ECJIA	43	7,746	6,685	0.863	7,400	5,269	0.712
	16 TARLAC	36	7,975	6,978	0.875	7,027	5,692	0.810
	17 ZAMBALES	10	1,563	1,261	0.807	938	870	0.927
	18 PAMPANGA	73	11,521	6,544	0.568	4,669	3,466	0.752
	19 BULACAN	18	2,568	981	0.382	2,435	1,368	0.557
	20 BATAAN	30	3,932	3,350	0.852	3,361	2,659	0.791
	sub-total	210	35,305	25,799	0.731	25,770	19,262	0.747
IV	21 AURORA	39	6,190	4,432	0.716	5,825	3,419	0.587
	22 QUEZON	38	3,875	3,453	0.891	3,822	3,432	0.898
	23 RIZAL	19	1,769	1,392	0.787	1,187	1,187	1.000
	24 CAVITE	5	596	596	1.000	411	411	1.000
	25 LAGUNA	25	2,474	2,264	0.915	2,535	2,304	0.909
	26 BATANGAS	22	2,032	1,863	0.917	1,694	1,596	0.942
	27 MARIQUETTE	5	545	403	0.739	411	309	0.752
	28 MINDORO ORIENTAL	48	8,290	7,958	0.960	7,344	5,883	0.801
	29 MINDORO OCCIDENTAL	54	10,328	8,758	0.848	7,437	5,719	0.769
	30 ROMBLON	2	145	111	0.766	130	111	0.855
	31 PALAWAN	41	7,222	2,528	0.350	5,204	2,690	0.517
	sub-total	298	43,466	33,258	0.777	36,000	27,062	0.752
V	32 CAMARINES NORTE	18	1,469	632	0.430	1,301	546	0.420
	33 CAMARINES SUR	96	13,012	9,967	0.766	12,142	8,026	0.661
	34 CATANDUANES	9	1,049	718	0.684	1,014	515	0.508
	35 ALBAY	78	11,835	10,344	0.874	11,636	10,135	0.871
	36 SORSOGON	34	4,404	3,783	0.859	4,385	3,166	0.722
	37 MASBATE	19	1,854	1,151	0.621	1,207	721	0.597
	sub-total	254	33,623	26,595	0.791	31,685	23,109	0.729
VI	38 AKLAN	14	1,805	1,186	0.657	1,779	1,247	0.701
	39 CAPIZ	12	1,108	565	0.510	765	765	1.000
	40 ANTIQUE	41	4,649	3,975	0.855	4,507	3,543	0.786
	41 ILOILO	34	4,790	3,530	0.737	3,740	2,816	0.753
	42 NEGROS OCCIDENTAL	17	2,326	1,400	0.602	2,130	1,385	0.650
	43 NEGROS DEL NORTE	0	0	0	-	0	0	-
	sub-total	118	14,678	10,656	0.726	12,921	9,755	0.755
VII	44 CEBU	11	1,855	701	0.378	1,538	589	0.383
	45 NEGROS ORIENTAL	26	4,885	3,527	0.722	4,885	2,955	0.605
	46 BOHOL	39	4,657	3,991	0.857	4,632	3,127	0.675
	47 SIKUIJOR	0	0	0	-	0	0	-
	sub-total	76	11,397	8,219	0.721	11,055	6,671	0.603
VIII	48 NORTHERN SAMAR	13	1,255	555	0.442	418	418	1.000
	49 SAMAR	10	1,099	636	0.579	1,025	473	0.461
	50 EASTERN SAMAR	2	252	0	0.000	239	0	0.000
	51 NORTHERN LEYTE	101	16,226	10,904	0.672	14,354	8,612	0.600
	52 SOUTHERN LEYTE	20	2,231	1,383	0.620	2,211	1,304	0.590
	sub-total	146	21,063	13,478	0.640	18,247	10,807	0.592
IX	53 ZAMBOANGA DEL NORTE	15	2,223	1,536	0.691	2,163	1,004	0.464
	54 ZAMBOANGA DEL SUR	51	7,867	6,593	0.838	7,757	5,794	0.747
	55 BASILAN	2	155	155	1.000	75	75	1.000
	56 SULU	0	0	0	-	0	0	-
	57 TAWI-TAWI	0	0	0	-	0	0	-
	sub-total	68	10,245	8,284	0.809	9,995	6,873	0.688
X	58 SURIGAO DEL NORTE	22	2,410	2,145	0.890	2,082	1,741	0.836
	59 CAMIGUIN	3	540	243	0.450	540	237	0.439
	60 AGUSAN DEL NORTE	43	6,007	4,181	0.696	4,569	2,933	0.642
	61 MISAMIS ORIENTAL	16	2,490	1,509	0.606	2,490	1,484	0.596
	62 MISAMIS OCCIDENTAL	20	2,710	2,160	0.797	2,613	2,015	0.771
	63 BUKIDNON	31	5,217	3,010	0.577	4,459	2,377	0.533
	64 AGUSAN DEL SUR	16	3,025	871	0.288	2,985	836	0.280
	sub-total	151	22,399	14,119	0.630	19,738	11,622	0.589
XI	65 SURIGAO DEL SUR	22	3,619	2,338	0.646	3,453	1,799	0.521
	66 DAVAO ORIENTAL	12	1,740	813	0.467	1,434	637	0.444
	67 DAVAO DEL NORTE	15	3,260	2,008	0.616	3,260	1,949	0.598
	68 DAVAO DEL SUR	32	5,726	4,598	0.803	5,683	4,575	0.805
	69 SOUTH COTABATO	31	5,935	4,564	0.769	5,685	4,099	0.721
	sub-total	112	20,280	14,321	0.706	19,515	13,039	0.669
XII	70 LANA DEL NORTE	20	3,258	2,398	0.736	2,993	1,823	0.609
	71 LANA DEL SUR	10	2,190	2,102	0.960	1,515	1,515	1.000
	72 NORTH COTABATO	24	4,897	3,996	0.816	3,992	2,727	0.683
	73 MAGUINDANAO	43	8,255	5,836	0.707	6,703	3,439	0.513
	74 SULTAN KUDARAT	22	4,878	3,858	0.791	4,482	3,604	0.804
	sub-total	119	23,478	18,191	0.775	19,685	13,106	0.666
	Total	2,423	351,769	263,354	0.749	299,107	207,681	0.694

Table B2-22

## DESIGNED IRRIGABLE AREA AND ESTIMATED NET IRRIGABLE AREA: CIP

Region	Province	Nos. of CIPs	Wet Season			Dry Season		
			Designed Irrigable Area (ha) (1)	Ratio (2)	Estimated* Net Irrigable Area (ha) (3) = (1) x (2)	Designed Irrigable Area (ha) (4)	Ratio (5)	Estimated* Net Irrigable Area (ha) (6) = (4) x (5)
I	1 ILOCOS NORTE	0	0	0.952	0	0	0.909	0
	2 ABRA	17	1,806	0.900	1,623	1,787	0.731	1,306
	3 ILOCOS SUR	51	5,081	0.910	4,624	3,915	0.694	2,717
	4 MOUNTAIN PROVINCE	44	7,120	0.788	5,611	7,120	0.712	5,069
	5 LA UNION	27	2,713	0.934	2,534	2,713	0.748	2,029
	6 BIRNGUET	42	2,853	0.620	1,769	2,814	0.594	1,672
	7 PANGASINAN	3	230	0.708	163	171	0.596	102
	sub-total	184	19,803		16,325	18,520		12,896
II	8 BATAINES	0	0	-	0	0	-	0
	9 CAGAYAN	66	9,462	0.783	7,409	9,532	0.728	6,939
	10 KALINGA APAYAO	43	5,562	0.632	3,515	4,532	0.781	3,539
	11 ISABELA	44	6,820	0.536	3,792	6,734	0.455	3,064
	12 IFUGAO	46	4,980	0.707	3,521	4,705	0.649	3,054
	13 NUEVA VISCAYA	15	1,990	0.863	1,709	1,428	0.812	1,160
	14 QUIRINO	41	4,570	0.415	1,897	4,587	0.350	1,605
	sub-total	253	33,374		21,842	31,518		19,361
III	15 NUEVA ECUIA	1	153	0.863	132	72	0.712	51
	16 TARLAC	3	514	0.875	450	0	0.810	0
	17 ZAMBALES	0	0	0.807	0	0	0.927	0
	18 PAMPANGA	20	3,050	0.568	1,732	2,164	0.752	1,627
	19 BULACAN	4	420	0.382	160	400	0.537	215
	20 BATAAN	0	0	0.852	0	0	0.791	0
		sub-total	28	4,137		2,475	2,636	
IV	21 AURORA	10	1,421	0.716	1,017	1,421	0.587	834
	22 QUEZON	16	1,376	0.891	1,226	1,376	0.898	1,236
	23 RIZAL	1	75	0.787	59	75	1.000	75
	24 CAVITE	6	595	1.000	595	330	1.000	330
	25 LAGUNA	2	170	0.915	156	100	0.909	91
	26 BATANGAS	21	2,017	0.917	1,850	1,614	0.942	1,520
	27 MARINDUQUE	0	0	0.739	0	0	0.752	0
	28 MINDORO ORIENTAL	18	2,442	0.960	2,344	1,650	0.801	1,322
	29 MINDORO OCCIDENTAL	15	2,668	0.848	2,262	2,043	0.769	1,571
	30 ROMBLON	2	120	0.766	92	120	0.855	103
	31 PALAWAN	96	16,218	0.350	5,676	7,693	0.517	3,931
	sub-total	187	27,102		15,278	16,332		11,012
V	32 CAMARINES NORTE	63	6,686	0.430	2,875	5,902	0.420	2,479
	33 CAMARINES SUR	30	4,545	0.766	3,481	4,428	0.661	2,927
	34 CATANDUANES	1	90	0.684	62	90	0.508	46
	35 ALBAY	48	7,438	0.874	6,501	7,079	0.871	6,166
	36 SORSOGON	7	724	0.859	622	724	0.722	523
	37 MASBATE	8	1,131	0.621	702	446	0.597	266
		sub-total	157	20,614		14,243	18,669	
VI	38 AKLAN	2	200	0.657	131	200	0.701	140
	39 CAPIZ	10	845	0.510	431	0	1.000	0
	40 ANTIQUE	19	1,696	0.855	1,450	1,623	0.786	1,276
	41 ILOILO	3	764	0.737	563	764	0.753	575
	42 NEGROS OCCIDENTAL	34	4,590	0.602	2,763	4,231	0.650	2,750
	43 NEGROS DEL NORTE	0	0	-	0	0	-	0
	sub-total	68	8,095		5,339	6,818		4,741
VII	44 CEBU	5	730	0.378	276	522	0.383	200
	45 NEGROS ORIENTAL	14	2,640	0.722	1,906	2,374	0.605	1,436
	46 BOHOL	0	0	0.857	0	0	0.675	0
	47 SIQUIJOR	4	610	-	-	430	-	-
	sub-total	23	3,980		2,182	3,326		1,636
VIII	48 NORTHERN SAMAR	40	4,460	0.442	1,971	4,460	1.000	4,460
	49 SAMAR	19	2,963	0.579	1,716	2,573	0.461	1,186
	50 EASTERN SAMAR	12	1,057	-	-	815	-	-
	51 NORTHERN LEYTE	43	6,440	0.672	4,328	5,672	0.600	3,403
	52 SOUTHERN LEYTE	4	348	0.620	216	328	0.590	194
	sub-total	118	15,268		8,230	13,848		9,243
IX	53 ZAMBOANGA DEL NORTE	13	1,935	0.691	1,337	1,445	0.464	670
	54 ZAMBOANGA DEL SUR	19	2,274	0.838	1,906	2,172	0.747	1,622
	55 BASILAN	0	0	1.000	0	0	1.000	0
	56 SULU	4	950	-	-	950	-	-
	57 TAWI-TAWI	4	710	-	-	710	-	-
		sub-total	40	5,869		3,243	5,277	
X	58 SURIGAO DEL NORTE	19	1,649	0.890	1,468	1,157	0.836	967
	59 CAMIGUIN	0	0	0.450	0	0	0.439	0
	60 AGUSAN DEL NORTE	24	2,757	0.696	1,919	1,594	0.642	1,023
	61 MISAMIS ORIENTAL	13	1,150	0.606	697	1,054	0.596	628
	62 MISAMIS OCCIDENTAL	3	729	0.797	581	0	0.771	0
	63 BUKIDNON	41	8,270	0.577	4,772	8,240	0.533	4,392
	64 AGUSAN DEL SUR	26	6,395	0.288	1,842	6,421	0.280	1,798
	sub-total	126	20,950		11,278	18,466		8,809
XI	65 SURIGAO DEL SUR	17	3,130	0.646	2,022	2,590	0.521	1,349
	66 DAVAO ORIENTAL	14	1,040	0.467	486	910	0.444	404
	67 DAVAO DEL NORTE	9	1,826	0.616	1,125	1,826	0.596	1,092
	68 DAVAO DEL SUR	7	1,300	0.803	1,044	1,196	0.805	963
	69 SOUTH COTABATO	25	5,086	0.769	3,911	4,982	0.721	3,592
		sub-total	72	12,382		8,588	11,504	
XII	70 LANA DEL NORTE	22	2,245	0.736	1,652	2,010	0.609	1,224
	71 LANA DEL SUR	29	5,647	0.960	5,421	4,381	1.000	4,381
	72 NORTH COTABATO	77	18,299	0.816	14,932	18,299	0.683	12,498
	73 MAGUINDANAO	58	10,574	0.707	7,476	8,621	0.513	4,423
	74 SULTAN KUDARAT	24	3,470	0.791	2,745	3,470	0.804	2,790
	sub-total	210	40,235		32,226	36,781		25,316
	Total	1,466	211,809		141,248	183,695		117,006

Table B2-23

## RATIO OF WET AND DRY IRRIGATED AREAS: CIS

Region	Province	Nos. of CISs	Designed Irrigable Area			Actually Irrigable Area		
			Wet Season (ha) (1)	Dry Season (ha) (2)	Ratio (3) = (2) / (1)	Wet Season (ha) (4)	Dry Season (ha) (5)	Ratio (6) = (5) / (4)
I	1 ILOCOS NORTE	119	13,630	9,902	0.726	12,976	9,001	0.694
	2 ABRA	37	5,266	5,051	0.959	4,739	3,692	0.779
	3 ILOCOS SUR	70	8,183	6,110	0.747	7,447	4,240	0.569
	4 MOUNTAIN PROVINCE	8	914	914	1.000	720	651	0.904
	5 LA UNION	39	5,071	5,071	1.000	4,736	3,793	0.801
	6 BENGUET	9	617	617	1.000	383	366	0.958
	7 PANGASINAN	178	27,409	15,321	0.559	19,406	9,131	0.471
	sub-total	460	61,090	42,986	0.704	50,406	30,875	0.613
II	8 BATANES	0	0	0	-	0	0	-
	9 CAGAYAN	105	14,511	13,819	0.952	11,362	10,060	0.885
	10 KALINGA APAYAO	64	5,602	4,682	0.836	3,540	3,657	1.033
	11 ISABELA	47	9,775	8,624	0.882	5,435	3,924	0.722
	12 IPUGAO	35	3,279	3,119	0.951	2,318	2,024	0.873
	13 NUBVA VISAYA	131	18,118	18,118	1.000	15,636	14,712	0.941
	14 QUIRINO	29	3,460	3,148	0.910	1,436	1,102	0.767
	sub-total	411	54,745	51,510	0.941	39,727	35,479	0.893
III	15 NUBVA ECJA	43	7,746	7,400	0.955	6,685	5,269	0.788
	16 TARLAC	36	7,975	7,027	0.881	6,978	5,692	0.816
	17 ZAMBALES	10	1,563	938	0.600	1,261	870	0.689
	18 PAMPANGA	73	11,521	4,609	0.400	6,544	3,466	0.530
	19 BULACAN	18	2,568	2,435	0.948	981	1,308	1.333
	20 BATAAN	30	3,932	3,361	0.855	3,350	2,659	0.794
	sub-total	210	35,305	25,770	0.730	25,799	19,262	0.747
	IV	21 AURORA	39	6,190	5,825	0.941	4,432	3,419
22 QUEZON		38	3,875	3,822	0.986	3,453	3,432	0.994
23 RIZAL		19	1,769	1,187	0.671	1,392	1,187	0.853
24 CAVITE		5	596	411	0.690	596	411	0.690
25 LAGUNA		25	2,474	2,535	1.025	2,264	2,304	1.018
26 BATANGAS		22	2,032	1,694	0.834	1,863	1,596	0.856
27 MARINDUQUE		5	545	411	0.754	403	309	0.767
28 MINDORO ORIENTAL		48	8,290	7,344	0.886	7,958	5,883	0.739
29 MINDORO OCCIDENTAL		54	10,328	7,437	0.720	8,758	5,719	0.653
30 ROMBLON		2	145	130	0.897	111	111	1.001
31 PALAWAN		41	7,222	5,204	0.721	2,528	2,690	1.064
sub-total		298	43,466	36,000	0.828	33,758	27,062	0.802
V		32 CAMARINES NORTE	18	1,469	1,301	0.886	632	546
	33 CAMARINES SUR	96	13,012	12,142	0.933	9,967	8,026	0.805
	34 CATANDUANES	9	1,049	1,014	0.967	718	515	0.718
	35 ALBAY	78	11,835	11,636	0.983	10,344	10,135	0.980
	36 SORSOGON	34	4,404	4,385	0.996	3,783	3,166	0.837
	37 MASBATE	19	1,854	1,207	0.651	1,151	721	0.626
	sub-total	254	33,623	31,685	0.942	26,595	23,109	0.869
	VI	38 AKLAN	14	1,805	1,779	0.986	1,186	1,247
39 CAPIZ		12	1,108	765	0.690	565	765	1.354
40 ANTIQUE		41	4,649	4,507	0.969	3,975	3,543	0.891
41 ILOILO		34	4,790	3,740	0.781	3,530	2,816	0.798
42 NEGROS OCCIDENTAL		17	2,326	2,130	0.916	1,400	1,385	0.989
43 NEGROS DEL NORTE		0	0	0	-	0	0	-
sub-total		118	14,678	12,921	0.880	10,656	9,755	0.915
VII		44 CEBU	11	1,855	1,538	0.829	701	589
	45 NEGROS ORIENTAL	26	4,885	4,885	1.000	3,527	2,955	0.838
	46 BOHOL	39	4,657	4,632	0.995	3,991	3,127	0.783
	47 SIQUJOR	0	0	0	-	0	0	-
	sub-total	76	11,397	11,055	0.970	8,219	6,671	0.812
VIII	48 NORTHERN SAMAR	13	1,255	418	0.333	555	418	0.754
	49 SAMAR	10	1,099	1,025	0.933	636	473	0.743
	50 EASTERN SAMAR	2	252	239	0.948	0	0	-
	51 NORTHERN LEYTE	101	16,226	14,354	0.885	10,904	8,612	0.790
	52 SOUTHERN LEYTE	20	2,231	2,211	0.991	1,383	1,304	0.943
	sub-total	146	21,063	18,247	0.866	13,478	10,807	0.802
IX	53 ZAMBOANGA DEL NORTE	15	2,223	2,163	0.973	1,536	1,004	0.653
	54 ZAMBOANGA DEL SUR	51	7,867	7,757	0.986	6,593	5,794	0.879
	55 BASILAN	2	155	75	0.484	155	75	0.484
	56 SULU	0	0	0	-	0	0	-
	57 TAWI-TAWI	0	0	0	-	0	0	-
	sub-total	68	10,245	9,995	0.976	8,284	6,873	0.830
X	58 SURIGAO DEL NORTE	22	2,410	2,082	0.864	2,145	1,741	0.811
	59 CAMIGUIN	3	540	540	1.000	243	237	0.976
	60 AGUSAN DEL NORTE	43	6,007	4,559	0.761	4,181	2,933	0.702
	61 MISAMIS ORIENTAL	16	2,490	2,490	1.000	1,509	1,484	0.983
	62 MISAMIS OCCIDENTAL	20	2,710	2,613	0.964	2,160	2,015	0.933
	63 BUKIDNON	31	5,217	4,459	0.855	3,010	2,377	0.790
	64 AGUSAN DEL SUR	16	3,025	2,985	0.987	871	836	0.959
	sub-total	151	22,399	19,738	0.881	14,119	11,622	0.823
XI	65 SURIGAO DEL SUR	22	3,619	3,453	0.954	2,338	1,799	0.770
	66 DAVAO ORIENTAL	12	1,740	1,434	0.824	813	637	0.784
	67 DAVAO DEL NORTE	15	3,260	3,260	1.000	2,008	1,949	0.971
	68 DAVAO DEL SUR	32	5,726	5,683	0.992	4,598	4,575	0.995
	69 SOUTH COTABATO	31	5,935	5,685	0.958	4,564	4,099	0.898
	sub-total	112	20,280	19,515	0.962	14,321	13,059	0.912
XII	70 LANA O DEL NORTE	20	3,258	2,993	0.919	2,398	1,823	0.760
	71 LANA O DEL SUR	10	2,190	1,515	0.692	2,102	1,515	0.721
	72 NORTH COTABATO	24	4,897	3,992	0.815	3,996	2,727	0.682
	73 MAGUINDANAO	43	8,255	6,703	0.812	5,836	4,589	0.589
	74 SULTAN KUDARAT	22	4,878	4,482	0.919	3,858	3,604	0.934
	sub-total	119	23,478	19,685	0.838	18,191	13,106	0.720
Total	2,423	351,769	299,107	0.850	263,554	207,681	0.788	