Republika ng Pilipinas
PAMBANSANG PANGASIWAAN NG PATUBIG
(National Irrigation Administration)
Lungsod ng Quezon

MC # 49, s. 1974

MEMORANDUM CIRCULAR

TO : ALL REGIONAL IRRIGATION ENGINEERS, CHIEFS OF OPERATIONS DIVISION, IRRIGATION SUPERINTENDENTS, AND OFFICERS-IN-CHARGE OF NATIONAL IRRIGATION SYSTEMS
National Irrigation Administration

SUBJECT : Inventory of National Irrigation Systems

Attached herewith are forms for the inventory of the national irrigation systems under your supervision. The inventory is in connection with the proposed National Irrigation Systems Improvement Study (NISIS) and will be used for the selection of systems that will be upgraded and improved to UPRP standards financed from a loan that will be secured possibly from the IBRD (World Bank).

It is directed that superintendents and officers-in-charge of national systems accomplish said forms as accurately as possible, with same reviewed by the respective Regional Irrigation Engineers with the Chiefs of Operations Division, before they are submitted to the Operations Department, NIA for evaluation. As the inventory will provide a compilation of valuable information on the national systems of NIA not only for the proposed study but also for the different offices of NIA, it is suggested that four (4) copies of the forms be prepared: - one copy for the system's office, one copy for the regional office, and two copies (including the original) for the central office.

The forms were also divided into two parts. Part One is for the individual system. Part Two is for the group of systems supervised by one superintendent. For superintendents who supervise one system only, he shall accomplish one Part One and one Part Two only. For superintendents who supervise two or more systems, he shall accomplish one Part One for every system and one Part Two only for the whole group of systems he supervises.

As directed above, the two (2) copies of the accomplished inventory forms shall be submitted to the central office, (Attention: The Chief, Operations Department, NIA) not later than December 31, 1974.

Strict compliance hereto is enjoined.

ALFREDO L. JUINIO
Administrator

October 17, 1974

(1)

NATIONAL IRRIGATION SYSTEMS IMPROVEMENT STUDY (NISIS)

INVENTORY OF NATIONAL IRRIGATION SYSTEMS[1/]

PART ONE - FOR THE INDIVIDUAL SYSTEM[2/]

A. GENERAL INFORMATION;

1. Name of the Irrigation System: _____

2. Towns or Cities within province served:

   Towns or Cities _____ Province _____

   _____ _____

3. Location of Headquarters of Superintendent:

   Town or City _____ Province _____

4. Regional Office Exercising Supervision: Region _____

5. Date of Official Opening: _____

6. Original Cost of Construction: _____

7. Original Design Service Area _____ Hectares

8. Present Equipped (with facilities) Area _____ Hectares

9. Maximum Irrigated Area in Hectares:

   Wet Season _____ Dry Season _____

   Agricultural Year _____ Agricultural Year _____

10. Maximum Benefited Area in Hectares:

    Wet Season _____ Dry Season _____

    Agricultural Year _____ Agricultural Year _____

11. Main source of Water Supply (river, creek or lake) _____

12. General Description of the System:

_____

_____

_____

_____

_____

_____

NOTE: 1/ - Submit in two copies (including the original) to the Central Office (Attn.; The Chief, Operations Dept., NIA) not later than December 31, 1974.

2/ - For the individual irrigation system only and not for the group of systems supervised by one superintendent:
Ex.: - For the Sta. Cruz River Irrigation System only and not for the group of systems of the Sta. Cruz, Mabacan, Malaunod, Balanac and Lumban RIS in Laguna as supervised by Mr. Danilo Soriano, Irrigation Superintendent I.

B. IRRIGATION FACILITIES:

1. Main Diversion Work

a. Type (ogee, checkgate, intake only, pump) _____

b. Location (river, creek, lake) _____

c. Maximum Intake Capacity _____ cu.m./sec.

d. River or Creek Discharge in cu.m./sec.

Maximum _____ Minimum _____

2. Supplementary Dams/Checkgates and Pumps 3/
(Diverting additional water supply independent of main diversion works).

a. Type (ogee, checkgate, intake only, pump) _____

b. Location (river, creek, lake) _____

c. Maximum Intake Capacity _____ cu.m./sec.

d. River or Creek Discharge in cu.m./sec.

Maximum _____ Minimum _____

3. Canal Structures: type, total number and number provided with steel gates.

a. Control Structures
Lateral headgates, checks, drops No. _____, Gated (_____)

b. Conveyance Structures
Flumes, Siphons, Threasher/Road Crossings No. _____, Gated (_____)

c. Drainage Structures
Drainage Flumes/Siphon, Paddy Drains No. _____, Gated (_____)

d. Terminal Structures
Turnouts, Division Boxes No. _____, Gated (_____)

e. Measuring Structures
Parshall Flumes, Rating Stations No. _____,

f. Checkgate, Brush dam for return flow No. _____, Gated (_____)

g. Total number of Structures No. _____, Gated (_____)

4. Canal Network:

a. Number and length of main canal - _____, _____km.

Type (concrete, pre-cast, CHB, Grouted rip-rap, soil cement)
and length lined(_____, _____km.)

b. Number and length of lateral/sub-lateral _____, _____km.

Type and length lined(_____, _____km.)

c. Total length of main canal, lateral/sub-laterals _____km.

d. Number and length of farm ditches _____, _____km.

5. Drainage System within the Service Area

a. Number and length of Farm Drains _____, _____km.

b. Number and length of Drainage Creeks_____, _____km.

6. Service Roads within the service area

a. Length of roads along main canal _____km.
b. Length of roads along lateral/sub-lateral _____km.
c. Length of Barrio/Municipal Roads _____km.
d. Length of Provincial/National Roads _____km.
e. Total length of all roads _____km.

NOTE:

3/ - If there are more then one supplementary dam/checkgate or pump diverting additional water supply independent of the main diversion works, attach another sheet following the same format given above. Do not include auxillary dam/checkgate or pumps that depends on return flow or excess water from the main canal or laterals.

C. PLANS AND LAYOUTS:

1. Attach two sets of the general layout of the service area of the system (preferably scale 1:10,000) showing the following:

   a. Rivers, creeks and waterways indicate name and direction of flow

   b. Main diversion works and other supplementary or auxillary dam/checkgates and pump sites

   c. Canal structure indicating type, stationing and whether gated

   d. Main canal, laterals and sub-laterals

   e. Roads along canals, Barrio, Municipal, Provincial and National roads

   f. Limits of the Irrigable area

   g. Watermaster Division, Gatekeeper/Ditchtender Sections numbered in accordance with the memorandum of the Administrator dated August 16, 1965

   h. System's office, Watermaster's Field offices

   i. Swamps, submerged areas (indicate if during rainy season only)

   j. Hydrometeorological stations, gaging stations established by NIA or by other government agencies (indicate which)

   k. Scale of layout and North Direction

   l. Legend of symbols used

2. Attach two sets of Parcellary Map of the irrigated area of the system (any convenient scale) showing the following:

   a. Individual lot boundaries and lot number, shaded if irrigated by the system

   b. Main canal, lateral and sub-laterals indicating sections which are lined

   c. Farm ditches and farm drains

   d. River, creeks, drainage, waterways indicating name and direction of flow

   e. Canal structures and turnouts indicating type, stationing and whether gated

   f. Roads indicating whether national, provincial, municipal, barrio roads and roads along canals.

   g. Topography (contour lines) if available.

3. Attach two sets of present profile and cross-section of main canals, laterals and sub-laterals, if available.

4. Attach two sets of as-built plans of main diversion works and supplementary or auxillary dam/checkgates, if available.

1. Attach two sets of available records of stream flow and gage height of the river or creek at the site of the main diversion works and at the sites of any supplementary dam/checkgates covering a number of years especially during extreme high flood and low stream flow.

2. Attach two sets of available records of normal water diversion at the main headgates and at headgates of laterals and sub-laterals.

3. Attach two sets of available discharge rating curve/tables taken of stream flow in rivers, creeks, main canal, lateral, sub-lateral by current meter or other method of measurement.

4. Attach two sets of available records of rainfall, evaporation, temperature and other climatic data covering a number of years especially during extra-ordinary typhoon and drought.

5. Estimated Average Diversion Requirement for the total irrigable area during:

Wet Season: _____ cu.m./sec.

Dry Season: _____ cu.m./sec.

6. Estimated Average Percolation Rate: _____ mm./day

General Soil Type (Sandy loam, loam, clay loam) _____

7. Flood and Drainage Problem (if any): _____

_____

8. Siltation Problem (if any): _____

_____

9. Water Quality Problem (Indicate presence of factories, mines, etc. operating upstream of diversion works of the system and describe if these are provided with anti-pollution devices): _____

_____

10. Disease Problem (Indicate presence of water-borned diseases such as schistosomiasis or others): _____

_____

11. Water Rights (Indicate presence of other water users upstream and downstream of diversion works of the systems): _____

_____

12. Groundwater (Indicate presence of government or private deep or shallow wells within or near the service area)

a. Number within the service area _____

b. Number outside but near the service area _____

c. Free Flowing or pumped _____

d. Size of Casing in inches _____

e. Depth of Casing in feet _____

f. Yield or capacity in GPM _____

g. Pump engine, whether gasoline, diesel or electric driven _____

_____

h. Total area irrigated by the wells in hectares _____

E. AGRICULTURE AND ECONOMIC DATA:

1. Number of Farm lots within the irrigated area _____

2. Sizes of Farm Lots in Hectares

   Minimum _____ Maximum _____ Average _____

3. Number of Farm Families _____

4. Average Annual Farm Family Income P_____

5. Number of Farm Tenure Situation:

   Tenant Farmer _____ Leasee Farmer _____

   Owner Farmer _____ Others _____

6. Crops Planted within the Irrigated Area by Farmer in Hectares

	Wet Season	Dry Season
Rice	_____ Ha.	_____ Ha.
Corn	_____ Ha.	_____ Ha.
Sugar Cane	_____ Ha.	_____ Ha.
Bananas	_____ Ha.	_____ Ha.
Tobacco	_____ Ha.	_____ Ha.
Vegetables	_____ Ha.	_____ Ha.
Others	_____ Ha.	_____ Ha.

7. Percentage of Rice Crop Sharing Practice

   70-30: _____ % 2/2 - 1/3 _____ %

   50-50: _____ % Others _____ %

8. Average Yield of Palay per 50 kg. cavans/ha. per season

   1973-74 Wet Season _____ Dry Season _____

9. Estimated Cost of Production of Palay per Hectare P_____

10. Government agency assisting farmers in the area and number of extension worker assigned:

    _____

F. POSSIBLE EXTENSION OF EXPANSION

1. Area of possible extention in hectares _____

2. Sources of the required additional water supply (whether from the main source, supplementary sources, return flow, water management or pumps)

_____

3. Additional construction necessary:

Auxillary Checkgate or Pump _____

Length of Canal _____

Number of Structures _____

Total Estimated Cost of Construction _____

4. Indicate the above information on the layout map to be submitted.

G. PROBLEMS, REMARKS AND RECOMMENDATIONS

PART TWO - FOR THE GROUP OF SYSTEMS 4/

A. PERSONNEL ORGANIZATION:

1. Attach two sets of the Organization Charts of O & M Personnel only (as per approved Staffing Pattern) showing assignment of the personnel with the

   a. Administrative Section - Cashier, Accounting/Billing Clerks, Clerk, Janitors, Watchman

   b. Field Services Section - Watermaster, Gatekeeper, Ditchtender

   c. Equipment Section - Mechanics, HE Operators, Drivers

2. Attach two sets of List of Personnel indicating

   a. Name

   b. Official Designation

   c. Item No.

   d. Present Rate

   e. Actual Duties

   f. Remarks

NOTE: If any personnel are still on the daily basis, explain in the remarks to what position in the approved staffing pattern he/she is proposed and when the proposal has been submitted to the Central Office, NIA.

NOTE:

4/ - For the group of systems supervised by one Superintendent. It is understood that these information pertains to all systems within the group supervised by the Superintendent. In case the Superintendent supervises one system only, this information is also for that one system.

B. ANNUAL EXPENDITURES:

1. Annual O & M Expenditures (from O & M funds Only)

		FY 1972-73	FY 1973-74
01	Salaries	P_____	P_____
01-15	GSIS Gov't. Share	_____	_____
01-MC	Medicare	_____	_____
01-02	Wages	_____	_____
01-04	Living Allowance	_____	_____
02	Traveling Expenses	_____	_____
06	Sundries	_____	_____
07	Supplies & Materials	_____	_____
21	Equipment	_____	_____
	Total	P_____	P_____

2. Annual Repair and Rehabilitation Expenditures (from Rehab & other funds)

	FY 1972-73	FY 1973-74
Repair of canals	P_____	P_____
Repair of canal structures	_____	_____
Repair of diversion works	_____	_____
Repair of drainage	_____	_____
Repair of service roads	_____	_____
Repair of office building and facilities	_____	_____
Repair of equipment	_____	_____
Other repairs	_____	_____
Total	P_____	P_____

C. ANNUAL COLLECTION OF IRRIGATION FEES AND INTEREST:

Agric. Year	Benefited Area		Amount Collectible		Collected				Percent Collection
	1st Crop	2nd Crop	1st Crop	2nd Crop	1st Crop Fees	1st Crop Int.	2nd Crop Fees	2nd Crop Int.	
1972-73									
1973-74									

Total amount uncollected from start of operation:

From Agricultural Year _____ Uncollected Amount P_____

D. ANNUAL EQUIPMENT UTILIZATION

Unit	Type	Operable Units	Non-Operable Units	Total Units	Rental Rate	Annual Used Hrs./Km.
Crane						
Bulldozer						
Loader						
Truck						
Power Wagon						
Pick Up						
Station Wagon						
Jeep						
Concrete Mixer						
Water Pump						
Others						