

THE PHILIPPINE COUNCIL FOR AQUATIC AND MARINE  
RESEARCH AND DEVELOPMENT (PCAMRD) AND  
ITS NATIONAL INFORMATION PROGRAM<sup>1/</sup>

By

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1. BACKGROUND INFORMATION ON THE PCAMRD

The Philippine Government established the Council under the Department of Science and Technology (DOST) by virtue of Executive Order No. 128 which became operational in January, 1988. As mandated, PCAMRD takes charge of the country's R and D in fisheries and aquatic resources in the: 1) formulation of the national program; 2) coordination and monitoring of projects; 3) gathering of database for various end users; and 4) packaging and dissemination of mature technologies.

Based on the foregoing, the Council is actively involved in a national information program on fisheries and aquatic resources that is aimed at strengthening the science community and spreading the benefits of research and development.

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## 2. THE AQUATIC RESOURCES MANAGEMENT INFORMATION UNIT (ARMIU)

In pursuing its mandate, PCAMRD established the ARMIU in July, 1988. This information unit on fisheries and aquatic resources is envisioned to produce an immediate impact on the regionalization of R and D efforts in the country. Being the first of its kind in the Philippines, ARMIU is benefiting various sectors in terms of:

### 2.1 Regional dissemination of information on fisheries and aquatic resources.

This provides a solution to the existing imbalance in the information flow among the 12 regions in the country. The regions gain direct access to research results and aquaculture technologies through publications, computerized data bank and media.

### 2.2 Accelerated technology implementation in the regions.

With a highly efficient information system coupled with technical backstopping and close monitoring, technology application up to the grass-roots level becomes highly successful.

### 2.3 Economic upliftment of the rural poor.

Information on gainful livelihood projects in the countryside are encouraging fisherfolks to start their own backyard ventures. They are now able to augment their meager income in this way.

### 2.4 Heightened awareness among Filipinos on the need to protect our fishery and aquatic resources.

ARMIU initiated an information campaign on the need to save the coral reefs and increase the productivity of the oceanic waters, coastal and estuarine areas and mangroves.

## ACTIVITIES

The National Aquatic Resources R and D System (NARRDS) including private sector and specialized agencies in the Philippines are provided with timely and updated information by ARMIU. The following services are covered in the national information program:

### 3.1 Research information system in fisheries and aquatic resources.

This includes processing and compilation of approved, completed and on-going researches funded locally or with foreign counterpart. This information is important to avoid duplication of efforts and optimize use of existing manpower and physical resources.

### 3.2 Literature search in fisheries and aquatic resources.

This information storage and retrieval system is computerized to facilitate literature search in journals, monographs, books, thesis/manuscripts etc.

### 3.3 Regional Fisheries Technology Information System.

Matured technologies are processed, packaged in layman's language and immediately disseminated to members of the NARRDS as well as private sector. This is in support of the government's all-out campaign to encourage entrepreneurship.

Technology updating is also a major focus in the national information program. The fast pace of development for some export commodities like prawn (Penaeus monodon) require constant monitoring. Modern methods of farming, availability of high quality feeds and marketing trends are some of the most-awaited publication needs of industry.

### 3.4 National Fisheries and Aquatic Resources Manpower Systems

Directory of available manpower in the NARRDS is being compiled for publication. Expertise to conduct researches relevant to fisheries and aquatic resources are identified. Availability of consultants in the aquatic sciences is also made known for local and foreign assignments.

A summarized listing of database which are being prepared for storage in the ARMIU's computer system is found in Table 1. These are categorized under the three technical divisions of PCAMRD: Aquaculture and Inland Fisheries Division, Marine Fisheries Division and Aquatic Resources Management and Oceanography Division.

#### 4. STRATEGY FOR INFORMATION DISSEMINATION

##### 4.1 Organizational Structure and Information Flow.

With the ARMIU as the focal point in disseminating information on the national level, members of the NARRDS consisting of State Colleges and Universities, research agencies and extension agents are given the necessary information inputs through broadcast and print media. Seminars are conducted on a monthly basis dealing with timely issues and recent advances in the aquatic sciences. The technical divisions of the Council also conduct workshops and conferences.

The NARRDS consists of 4 national centers, 6 regional centers and 34 cooperating stations spread out all over the 12 regions of the country (Fig. 1a & 1b). In addition, specialized agencies and private sectors are included in the system.

With the very limited resources of ARMIU at present, it could hardly cope with the information needs of NARRDS. ARMIU is relying heavily on using existing communication channels of the Department of Science and Technology. The information flow is depicted in Fig. 2.

## 4.2 Publication Lines.

During the last year ARMIU produced three types of publications specifically addressed to the needs of the scientific community as well as industry and fishfarmers in the various regions of the country.

### 4.2.1 PCAMRD WAVES

A quarterly newsletter in English which highlights current issues, developments and information on all aspects of fisheries and aquatic resources R and D. It includes bibliographies on recent library acquisitions and notices of meetings, conferences/workshops/seminars.

### 4.2.2 PCAMRD's "AGOS KAALAMAN" (CURRENTS)

A weekly publication featuring important issues and new aquaculture technologies. This is written in Filipino for easy understanding of fishermen, fishfarmers etc.

### 4.2.3 "BALITANG MANGINGISDA" (FISHERMEN'S BULLETIN)

A monthly publication which focuses on industry problems, protection and conservation of the aquatic environment and technology updates. This is also written in Filipino for the consumption of ordinary fishfarmers etc.

## 4.3 Collaboration with other Agencies.

### 4.3.1 Science and Technology Information Institute (DOST).

The STII has been extending assistance to ARMIU thru library loans, current awareness and selective dissemination information. Considering that both STII and ARMIU are under the Department of Science and Technology, sharing of facilities is often resorted to whenever necessary.

#### 4.3.2 Technology and Livelihood Resource Center

A Memorandum of Agreement with the above government corporation provides for the implementation of a comprehensive technology dissemination and promotion program. Video courses on aquaculture technologies, practical guides, manuals, handbook etc. are being prepared jointly to accelerate this outreach program.

### 5. FUTURE PLANS

The ARMIU as an effective information arm of PCAMRD is envisioned to grow and expand in the next five years. This is in line with the Philippine Development Plan (1988-1992) which underscores the need to expedite technology flow for commercialization. In support of the plan, ARMIU shall undertake the following activities:

- 5.1 Strengthen the information processing unit to come up with computerized bibliographic searches etc.
- 5.2 Foster cooperation and linkages with national and international agencies.
- 5.3 Provide training of information personnel in the NARRDS on recent developments in Information Technology as well as standardization of basic indexing and abstracting procedures.
- 5.4 Provide referral services to identify experts and agencies for specific information needs.
- 5.5 Establish document delivery services for members of the NARRDS.

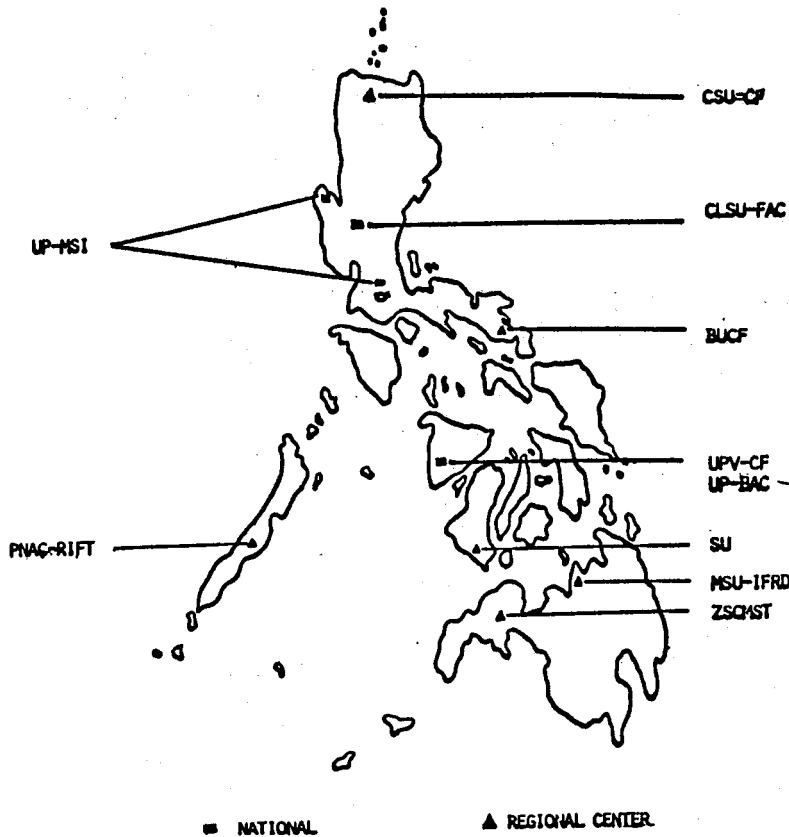


Figure 1a. National and Regional Centers for Aquatic Resources Management and Information Unit (ARMIU).

<u>National Centers</u>		<u>Regional Centers</u>	
UP-MSI	- Univ. of the Philippines Marine Science Institute	CSU-CF	- Cagayan State Univ. College of Fisheries
CLSU-FAC	Central Luzon State Univ. Freshwater Aquaculture Center	BUCF	- Bicol University College of Fisheries
UPV-CF	- University of the Phils. in the Visayas	PNAC-RIFT	- Palawan National Agr. Coll. Regional Inst. of Fisheries and Technology
UP-BAC	- University of the Phils. Brackishwater Aquaculture Center	SU	- Silliman University
		MSU-IFRD	- Mindanao State University Institute of Fisheries Research and Development
		ZSCMST	- Zamboanga State College of Marine Science and Tech.

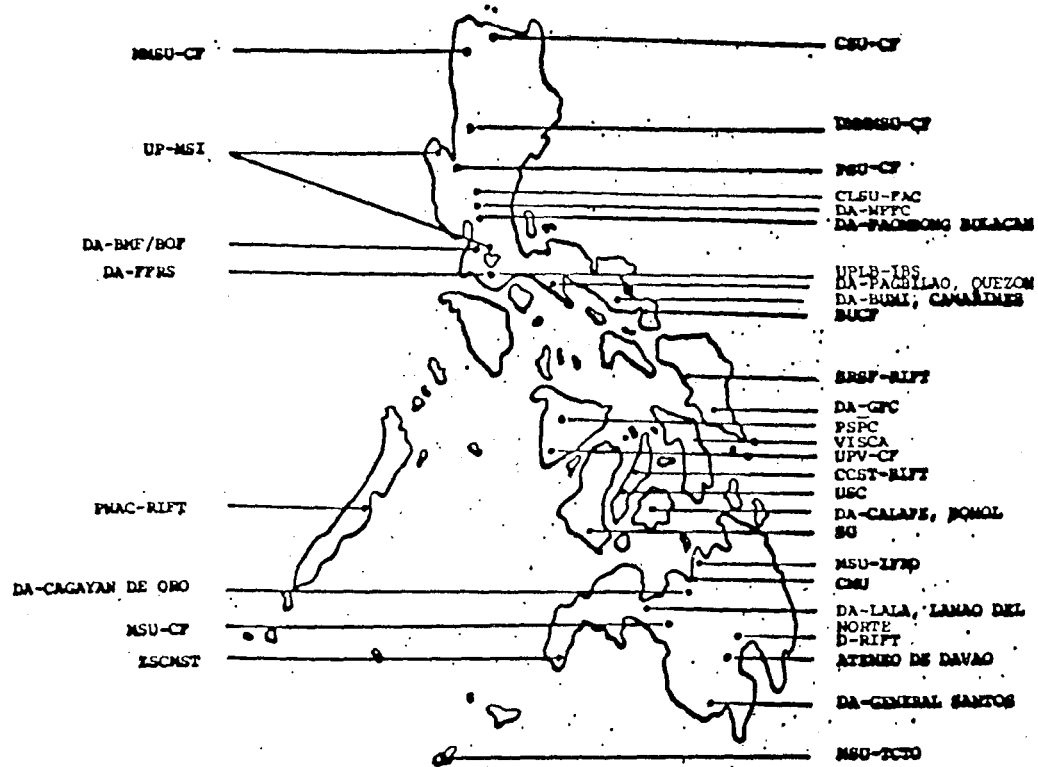


FIGURE 1B. COOPERATING STATIONS FOR AQUATIC RESOURCES MANAGEMENT AND INFORMATION UNIT (ARMIU).

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|-----------|---|-----------|--|
| CSU-CF    | - Cagayan State University<br>College of Fisheries                                  | MSU-CF    | - Mindanao State Univ.<br>College of Fish.                             |
| DMSU-CF   | - Don Mariano Marcos Memorial<br>State University<br>College of Fisheries           | ZSCNST    | - Zamboanga State College<br>of Marine Sci. & Tech.                    |
| CLSU-FAC  | - Central Luzon State University<br>Freshwater Aquaculture Center                   | D-RIPT    | - Davao Regional Institut.<br>of Fish. Technology                      |
| MMSU-CF   | - Mariano Marcos State University<br>College of Fisheries                           | DA        | - Department of Agriculture<br>National Freshwater<br>Fisheries Center |
| PSU-CF    | - Pangasinan State University<br>College of Fisheries                               |           | - Pagbilao, Quezon   |
| PNAC-RIPT | - Palawan National Agricultural<br>College<br>Regional Institute of Fish. Tech.     |           | - Pagbong, Bulacan   |
| UP-MSI    | - University of the Philippines<br>Marine Science Institute                         |           | - Buhi, Camarines Sur  |
| UPLB-IBS  | - University of the Philippines<br>at Los Baños<br>Institute of Biological Sciences |           | - Freshwater Fisheries<br>Research Station<br>Los Baños, Laguna        |
| BUCF      | - Bicol University College of Fish.   |           | - Binakayan Mussel/Oyster<br>Farm<br>Binakayan, Cavite                 |
| SRSF-RIPT | - Samar Regional School of Fisheries<br>Regional Institute of Fish. Tech.           |           | - Quian Fishery Complex<br>Quian, Eastern Samar                        |
| PSPC      | - Panay State Polytechnic College   |           | - Calape, Bohol  |
| VISCA     | - Visayas State College of Agriculture  |           | - Lanao, Dal Norte   |
| UPV-CF    | - Univ. of the Philippines in the Visayas<br>College of Fisheries                   |           | - Cagayan de Oro City  |
| USC       | - University of San Carlos  |           | - General Santos City  |
| SU        | - Silliman University   | CCST-RIPT | - Carmen State College<br>of Technology-RIPT<br>Carmen, Cebu           |
| CMU       | - Central Mindanao University<br>Musuan, Bukidnon                                   |           | Ateneo de Davao  |
| MSU-ITPD  | - Mindanao State University<br>Institute of Fish. Res. & Dev.                       |           |  |
| MSU-TCTO  | - Mindanao State University<br>Tawi-tawi College of Technology &<br>Oceanography    |           |  |



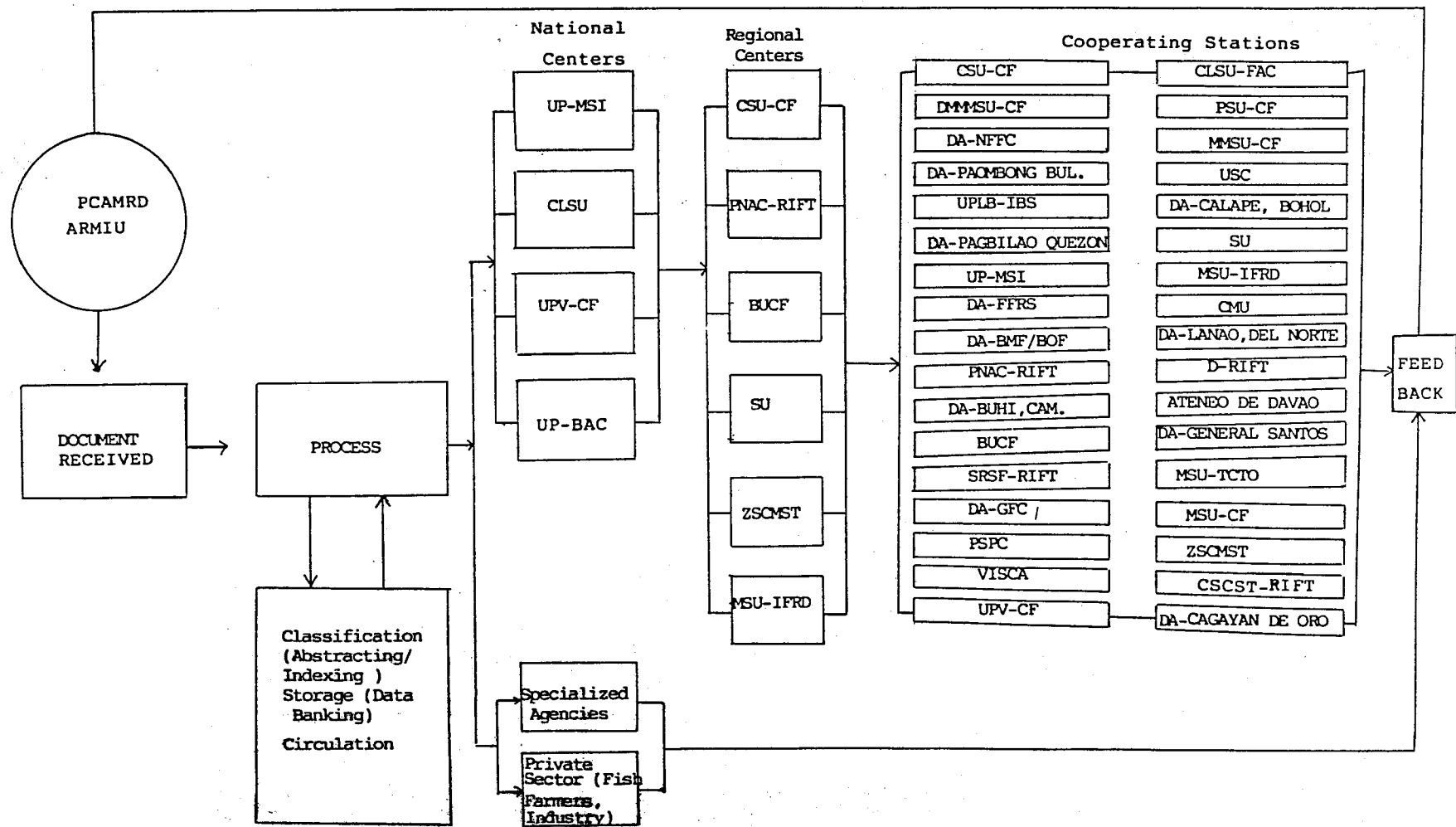


Figure 2. Information Flow in the National Aquatic Resources Research and Development System (NARRDS).

Table 1. DATA TO BE STORED IN THE ARMIU'S COMPUTER SYSTEM

A. Marine Fisheries

1. Abstracts of Technical papers/Reports (State of the Art and Bibliography) by Research Area
2. Directory of Experts/Scientists
3. Directory of Ongoing and Completed Researches by Commodity, by Implementing Agency and by Source of Fund
4. Marine Fisheries Division Mailing List
5. Demographic Data on Fishing Communities
6. Marine Fisheries Statistics
7. Mangrove Development Program of the National Marine Research Network
8. Seasonality, Distribution and Abundance of Important Fisheries in the Various Fishing Grounds
9. Production by Gear of the Various Fishing Grounds

B. Aquatic Resources Management and Oceanography

1. Directory of Researches by Status, by Agency, by Commodity, etc
2. Directory of Manpower in the Network
3. Directory of Available Literature, References by Commodity/ Research Areas
4. Terminal Reports
5. Coastal Resources Management Strategies such as:
  - a. Searanching
  - b. Artificial reefs
  - c. Open water stocking
  - d. Habitat restoration
  - e. Seagrass transplantation
  - f. Marine parks development
6. Oceanographic data
7. Remote sensing data

C. Aquaculture/Inland Fisheries

1. Directory of projects by status, by agency, by commodity, etc.
  2. Directory of manpower in the network
  3. Directory of available literature, references by commodity by research areas
  4. Terminal reports
  5. Commodity profiles
    - a. Technology packages
    - b. Production statistics
    - c. Resource base
    - d. Economic analyses
  6. Directory of support services and facilities
    - a. R & D institutions
    - b. Fishfarmer/fishermen associations
    - c. Hatcheries by region
    - d. Commercial farms by region
    - e. Consultancy firms
    - f. Training facilities for various aquaculture areas/  
disciplines
    - g. Suppliers of aquaculture material/equipment
    - h. Exporting and trading firms
    - i. Post harvest and processing facilities
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