



SEAFDEC Training Programs in Fisheries and Aquaculture

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SEAFDEC offers various training programs at all three Departments. These include long- and short-term courses in marine fisheries and engineering at the Training Department in Thailand, in post-harvest technology at the Marine Fisheries Research Department in Singapore, and in aquaculture at the Aquaculture Department in the Philippines.

Likewise, in order to complement the training program, the Southeast Asian Fisheries Information Service (SAFIS) of the SEAFDEC Secretariat was implemented in early 1982. This program deals with extension manuals in local languages and has received funding support from the International Development Research Centre (IDRC) of Canada (see ICLARM Newsletter, April 1982, p. 25).

Marine Fisheries and Engineering

The Training Department began training fisheries personnel in 1970, even prior to the completion of its extensive facilities.

As regards facilities for practical training at sea, the Department now has three vessels: *M.V. Paknam*, a 386 GT steel stern-trawler, which was donated by the Government of Japan in 1969; *M.V. Platoo*, a 65 GT fiberglass purse-seiner, likewise donated by Japan in 1980; and *M.V. Plalung*, a 17 GT Thai-style trawler acquired in 1982.

Over the long-term program, the Training Department has trained 196 full-time government officers, senior experts and fisheries technicians from the Member Countries. At present, the Department offers regular two-year courses in both fishing and marine engineering for approximately 26 trainees from Southeast Asian countries.

The trainees study a variety of subjects designed to provide them with the best possible theoretical background. This is complemented by extensive practical fisheries experience to ensure effective technology transfer to the rural fishermen in their own countries.

Above: SEAFDEC Training Department, Samutprakarn, Thailand. *Below:* Marine engineering trainees at work. All photos courtesy of SEAFDEC.



After the declaration of the exclusive economic zone by various coastal states, the Training Department adjusted its curricula on fishing technology to emphasize coastal and inshore fisheries to assist Member Countries in the development of their small-scale fisheries.

This shift to coastal fisheries is complemented by short-term practical training courses to upgrade the proficiency of local Thai fishermen. Thus far, 213 local fishermen have been trained in seven courses. The main subjects taught are modern purse-seining, use of the underwater luring lamp for night fishing, and coastal navigation. The Department also plans to set up a mobile training unit for the benefit of local fishermen in other Member Countries in the near future. This means that instead of bringing the local fishermen to the Department for training, the Department personnel will go out to the fishermen in their own environment to demonstrate and to train them on modern fishing techniques utilizing the Department's training vessels.

Another type of short-term training course offered by the Department is a summer course for students from local universities. Thus far, 163 local university students have undergone training in five courses since 1978. They develop skills in fishing technology, fisheries and oceanography to augment their theoretical understanding of marine science.

In 1980, two special short-term courses were held for 40 Royal Thai Customs Officers. These courses were comprised of (a) navigation and seamanship, and boat-handling; and (b) marine electricity and diesel engines. In addition, a special short-term course on coastal navigation was organized for the ship personnel of the Department of Fisheries in October 1982.

On the regional level, the Training Department has organized a number of training courses on stock assessment, fisheries statistics and extension services.

In 1981, two special training courses were held at the Training Department in collaboration with the South China Sea Fisheries Development and Coordinating Programme (SCSP), the Bay of Bengal Programme (BOBP), and the Department of Fisheries of Thailand, and were funded by the Asian Development Bank (ADB). One course stressed stock assessment methodology and the other emphasized fishery statistics. Sixty fisheries personnel participated in these courses.

The four fishery statistical workshops held by SEAFDEC since 1976 have resulted in annual issues of the Fishery Statistical Bulletin for the South China Sea Area published since 1976 and Catch-Effort Statistics published since 1981.

Seventy extension officers have participated in three short-term regional training courses in marine capture fisheries for fishery extension services held at the Training Department since 1981 and funded by the Royal Netherlands Government.

It should also be noted that the Training Department has an extensive publication program and its textbooks and manuals are in great demand.

Fish Post-Harvest Technology

The Marine Fisheries Research Department (MFRD), established in 1968, is located within the Fisheries Complex at Changi Point, Republic of Singapore.

Research personnel and technicians

from various countries in the region have been invited for training at MFRD in marine fisheries sciences and fishery post-harvest technology.

Short-term training courses in post-harvest technology commenced in 1980 to promote the use of small demersal fish (also called "trash fish") in the form of traditional comminuted products for human consumption. These are directed not only at scientists, technicians and extension workers, but also at fish processors, who have subsequently made preparations to manufacture and market some of the products developed by the Department.

MFRD held the fifth short-term regional training course for fish technologists from the region from 19 May to 3 June 1982. The course was thoroughly revised following the recommendations of former participants who attended the 1980 and 1981 courses and under the guidance of Professor Michizo Suyama of the Tokyo University of Fisheries, who also presented lectures to the participants.

MFRD undertakes activities for the extension of technology suitable for upgrading the fish jelly products industry through lecture-cum-demonstration courses and through direct technical advice to fish processors. To further this involvement, from 9 to 11 March 1982, the MFRD organized a three-day practical course for supervisors from fish ball/fish cake factories.

The second lecture-cum-demonstration course, 16 to 19 June 1982, involved the manufacture of comminuted fish products.

In 1983, MFRD proposes to strengthen and upgrade its activities to promote the utilization of low market value fish in the region. Emphasis will be given to effective transfer of the technology developed through training and demonstration courses for high technologists and processors from the region.

Aquaculture

The SEAFDEC Aquaculture Department (AQD), established in 1973 in the Philippines, is geared towards three major programs: mariculture, brackishwater culture and freshwater culture. Under its training program, the AQD provides various levels of aquaculture training, such as the long-term broad-based, multi-disciplinary training in aquaculture for



Short-term crash course for fisheries extension officers, November 1979 (above). Fishing operation at sea (below).



core aquaculture personnel, and the short-term training programs on specific aquaculture systems or techniques.

During 1981, AQD conducted training and extension programs in collaboration with various organizations, including the Bureau of Fisheries and Aquatic Resources (BFAR) and FAO.

On the national level, these included: (a) on-site training for 45 participants in Pangasinan (21-25 April) and 35 participants in Ilocos Sur (18-22 June); (b) National Tilapia Cage Culture Training held at the Binangonan Research Station (16 March-3 April) for 15 participants. A program on small-scale prawn hatchery operation was conducted from 6 September to 29 October 1982. A course on cage and pen farming of Tilapia in freshwater is scheduled from 11 April to 10 June 1983.

Eighty seven student-trainees, mostly fisheries majors, were admitted to the off-campus practicum program under the Training and Extension Division in collaboration with the Research Division during 1981.

On the international level, courses undertaken in 1981 included: (a) international training course in growing food organisms for fish hatcheries (3-22 August) at Tigbauan Research Station for 20 participants and observers; (b) inter-

national training on small-scale prawn hatchery management also at Tigbauan (14 September-13 November) for 18 participants. This latter course was held again from 2 August to 2 October 1982 and attended by 10 participants. Since 1979, a total of 78 participants have attended this type of annual course which has been conducted four times. (c) The international training course on tilapia cage culture (19 October-6 November) at Binangonan for 18 participants. The cage and pen farming of tilapia in freshwater course is being held again from 2 October to 2 December 1982. (d) Special training programs in cage culture (2 weeks), artificial propagation of milkfish and siganids (3 months) under the auspices of the Aquaculture Department and the International Development Research Centre (IDRC); (e) two-month fellowships in milkfish and siganid culture under UNDP/FAO auspices; and (f) involvement in the one-year training program for senior aquaculturists in Asia and the Pacific (see article, p. 17).

In 1983, the implementation of reorganized training and extension programs with emphasis on training of technicians, information dissemination, and technical services will be intensified through the following programs:

1. Graduate Training Program. The program is intended for higher level aquaculturists to provide knowledge and skills to plan, develop, and implement aquaculture development projects:

NACA-SEAFDEC-UPV training course for senior aquaculturists (p. 17)

2. Technician Training Program. This training program is primarily designed for technical level personnel on specific aquaculture systems or techniques. The following courses are scheduled for 1983:

Culture of Food Organisms (1 month)
Cage and Pen Culture of Finfish (2 months)
Prawn Hatchery Operations and Management (2 months)

3. Special Training.
Department Staff Training
In-Service Training (on request)
Aquaculture Management

4. Extension Programs. The 1983 extension activities include the following:
On-site Training, one week for fishfarmers
Practical training for graduating students, one month equivalent
Practical training for government and private sectors as requested. ●