

# Aquaculture for whom?

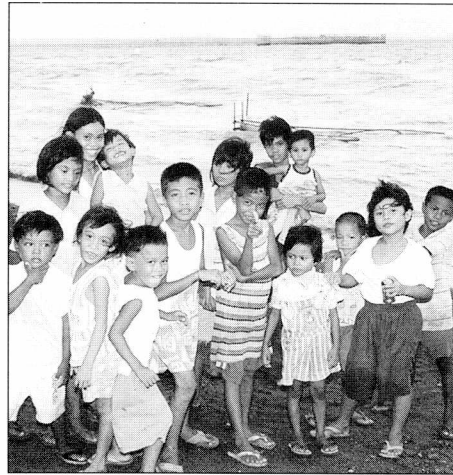
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Aquaculture for whom? Who benefits from aquaculture? These questions must be addressed in the introduction of aquaculture into a community. The socioeconomic context within which aquaculture is introduced is oftentimes the last consideration in many development activities. This is a serious oversight because one of the common objectives for introducing aquaculture is the alleviation of poverty among fishers, other coastal dwellers, and farmers. There is a need to understand the culture, perceptions, knowledge, experiences, and economic situation of target participants before a certain activity or technology is introduced.

## Aquaculture and coastal resources management

Fish and other aquatic products are important sources of protein in many countries. The worldwide phenomenon of fisheries depletion focused attention towards aquaculture for meeting the needs of the world's growing population. Coastal aquaculture such as shrimp farming, however, has been associated with serious environmental and social impacts like the loss of mangroves, the use of pesticides and other harmful chemicals, salinization of groundwater, and displacement of other resource users. To direct aquaculture towards sustainability means that it must be placed within the context of coastal resource management (CRM). Within this framework, aquaculture becomes part of a strategy for solving the problem of overfishing without sacrificing the livelihood of fisheries and other coastal dwellers.

Situated within the context of CRM, proponents of aquaculture must take into account not only technical considerations but also potential environmental and socioeconomic impacts of aquaculture technolo-



gies. But CRM is only a small part of the overall management of our natural resources. What happens in our forests and lowlands eventually affects our coastal ecosystems. The basic ecological tenet that everything is interconnected should be the guiding principle in the development of any aquaculture technology.

## What we need to know

Here are some basic things that we need to know when considering the introduction of aquaculture into a community.

### 1. Resources users and stakeholders

The community is not a homogenous entity. It is differentiated by class, gender, ethnicity, religion, and other characteristics. When we talk of introducing aquaculture in order to raise the standard of living of coastal dwellers, we have to identify not only the target participants but also those who may have an interest in alternative uses of the resource or the adoption of the new technology. Development activities and new technologies will have differential impacts among the different socioeconomic classes and ethnic and religious groups. Resource users are those who are directly engaged in using the resource and may be partly or fully de-

pendent on it for their livelihood. In coastal areas, resource users may include small-scale fishers, reef gleaners, farmers, fish traders and vendors, and fry gatherers. Stakeholders include present resource users as well as those who may have a vested interest in the future use of the resource such as commercial fishers, real estate speculators, tourism operators, and fishpond owners. Some of these resource users and stakeholders possess more economic and political power than others.

### 2. Perception about resources

The environment changes independently of humans but this change is experienced and perceived differently by resource users. For example, the conversion of mangroves into shrimp ponds may mean less fish, shellfish, and other products for coastal dwellers but is being hailed as a 'revolution' in the aquaculture industry. Different stakeholders have different perceptions about what is going on. Resources are socially defined and what is considered as a resource by one group may not be considered as such by another.

### 3. Knowledge about aquaculture

What do target participants such as fishers know about aquaculture? Do they have any experience in the farming of aquatic organisms? Converting fishers and other coastal dwellers into farmers is not an easy task. The integration of aquaculture with other activities may mean a drastic reallocation of time, labor, and financial resources and a waiting period before these investments are transformed into cash. Livelihood activities like shellfish and seaweed farming are unlike capture fisheries wherein the day's catch is immediately exchanged into cash and other commodities.

#### 4. *Property rights regimes*

The concept of property regimes clarifies the question of who has access to, control of, and protects the rights to, resources. Open access is the absence of well-defined property rights. In private property, the individual or group has the right to exclude others from using the resource. In common property, there is an identifiable group of interdependent users regulating local access to the resource. In state property, the government regulates and determines who has access and makes decisions on the nature of resource use.

Those who have access do not necessarily control access to the resource. For example, bangus-fry gathering areas fall under state property but are being converted into private property through concessions awarded to individuals or fishers' associations. An individual holder of a concession may allow open access to bangus fry-gathering areas as long as gatherers sell their catch to the concessionaire; such areas may also be used as a common property resource limited only to members of a fisherfolk association.

#### 5. *Gender matters*

Sex is biologically defined whereas gender is socially constructed. Anywhere in the world, we can guess from the physical appearance of a person whether he or she is a man or a woman. However, expectations about a man's and a woman's role differ among societies. Gender matters in aquaculture because different stages in the production process may be considered by men and women as a women's or a men's domain only. Because men are the usual target participants of training and extension activities, failure to include women could result in a tremendous waste of resources. Moreover, decision-making processes pertaining to household as well as livelihood activities often involve the joint participation of husband and wife.



#### 6. *Consumer preferences*

The demand for farmed fish and shellfish may be affected by the availability of wild fish in the market. Some consumers may only be willing to buy farmed fish if the price is lower than wild fish. Cultural and religious practices may create seasonal demands on seafood that only aquaculture could supply.

#### 7. *Availability of support services*

Extension services, credit facilities, and marketing support are three major services that must be provided in the introduction of aquaculture. Government extension personnel should be able to provide technical assistance to potential and practicing fish farmers. According to eminent rural sociologist Dr. Gelia Castillo, it may be necessary to transfer not only the technology but also the science behind the technology so that target participants could experiment on their own and make it suitable to their own needs and conditions. Financial institutions should be ready to support ventures even of small-scale farmers

such as those engaged in mussel/oyster and seaweed farming. Organizing marketing cooperatives could be one form of assistance that could be extended either by government extension personnel or representatives of financial institutions.

#### **Some issues in aquaculture**

Aquaculture offers so much potential for alleviating poverty among marginalized coastal dwellers as well as feeding a country's growing population. In doing so, however, difficult choices have to be made between the development of low-value species that cater to the needs of more people and high-value species that may be considered as luxury food items. Other issues include displacement of traditional users as in the case of mangrove conversion into fishponds and competition for space within the coastal zone among capture fishers, tourism operators, and fish farmers. In resolving these issues, however, state policies reveal in which direction the government wants the aquaculture industry to go.

*References will be provided upon request.*