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Sustainable Aquaculture for a Secure Future

Title: Economic Evaluation of Freshwater Aquaculture Technologies and Policies in Selected Production Systems

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Abstract: The program generally aimed to perform an economic evaluation of Freshwater Aquaculture Technologies (FAT) and policies in selected production systems. It has two project components; one dealt with the analysis of matured FATs both at micro and macro levels (specifically its effects on fish supplies, income, consumption, and employment); the other dealt with policy studies on the role of fishery organizations, land use and fishery rights, dissemination strategies, and trade- related concerns. The nature of the studies required the collection of primary and secondary data. For the primary survey, 540 adopters and 108 non-adopters were interviewed in Luzon covering three top producing regions. The same sampling frame applied to the choice of provinces, towns and barangays. But at the barangay level, 8 adopter-respondents while 2 non-adopter-respondents were selected. The areas covered were Nueva Ecija, Bulacan and Pampanga for fishponds and hatcheries; Laguna, Batangas, and Isabela for fish cage/pens and hatcheries. The matured FATs are focused on grow-out and hatchery. For grow-out system, it included fishponds, cages, and pens. The technologies under grow-out were on broodstock improvement, level of management (extensive, semi-extensive, and intensive), and post harvest activities. For the hatchery component, the study looked at pond, hapa, and tank. The sex-reversed tilapia was included

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under this component. The preliminary results of Study 1 under Project 1 were focused on , the identification of financial benefits and costs of the matured technologies. The yield difference between adopters and non-adopters was 3,030 kg per cycle or about 59% in favor of adopters. Hence, there is an impression that the technology had benefited the adopters. Likewise Study 2 of Project 1 identified and assessed the economic benefits and costs of FATs. It found out that tilapia's contribution to aquaculture was around 9.46% annually from 1992-2000. During the same period, tilapia production had behaved cyclically with an upswing in the first three years, downswing in the middle three years, and another upswing in the last three years. Historically, the significant government programs related to the fishery sector were the Kilusang Kabuhayan at Kaunlaran Biyayang Dagat Program, CB-NFAC Supervised Credit Program, among others. Under Study 1 of Project 2, the organizations were identified and classified as Fisheries Organizations, Fisheries and Agricultural Resource Management Council, and Cooperatives. The organizations were generally aimed to provide technical, financial, and marketing assistance to members. However, the sustainability of these services was delimited by lack of sufficient funds hence, most organizations had failed to deliver and sustain those services to their members. Study 2 made a preliminary review of relevant local laws, rules, regulations, and ordinances within the spirit of the Fisheries Administrative Code. All of the ordinances were meant to ban the use of illegal fishing methods or practices, which are detrimental to fish population, environmental protection and the like. However, the respondents qualified that its aggressive enforcement happened only during the onset of its implementation in the late 80's. Study 3 focused on determining the most effective dissemination strategy of FAT to intended clienteles. Training programs administered by BFAR, DA, LGUs and Santeh Feed Company were the dominant dissemination mode for FAT. The use of print media such as brochure/leaflet/techno guides came next as important mode while the use of broadcast media was the least preferred. Study 4 had shown that the trade policies of the country in 1960s up to 1980s were characterized by lifting of import and foreign exchange restrictions; on and off imposition of quantitative restrictions, and tariff rates. But in the mid 90s, major tariff reform programs were implemented until the country's accession to the WTO-GATT accord. In 1996, quantitative restrictions were lifted, tariff rates for sensitive agricultural products were raised while minimum access volume to these products were defined. The fishery sector was still protected as indicated by positive Effective Protection Rates (EPRs). The trade balance volume of the sector remained negative in most years (from 1990-2000). However, the value of trade balance remained positive, which indicates better terms of trade for fishery products in the export markets. To know the impacts of trade reform on the sector, the initial regression results revealed that the real GDP and (production) was positively (negatively) and significantly affected by EPR

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