

Aquaculture development in Latin America and the Caribbean: challenges and opportunities

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According to the FAO regional review (FAO, 2005)¹ and the International Bank for Reconstruction and Development/World Bank report on 'Changing the Face of the Waters: The Promise and Challenge of Sustainable Aquaculture'², in Latin America and the Caribbean (LAC), the aquaculture sector has recently undergone a significant development through the use of new technologies and production systems. Commercial production is based largely on alien species (e.g. salmonids in Chile, tilapia and white-legged shrimp in the Atlantic countries) and technologies transferred through joint ventures or foreign expertise. Total production from aquaculture in the region in 2005 was 1.4 million tonnes (worth US\$5.6 billion), or 6.9 percent of total regional fish production. Since 1990, the average annual increase in aquaculture production has been 13.8 percent. During the same period, output from capture fisheries declined and stabilized with an average increase of near zero.

There is great heterogeneity in the region regarding aquaculture growth and three or four groups of countries can be differentiated in the analysis of the sector. One group of four countries provides 84 percent of the present production and where growth rate is decreasing

and stabilizing. Another group of six or seven countries, although presently with comparatively smaller percentage of production, have been steadily increasing with growth rates over 20 percent. Production in the remaining countries had been very small, unsteady or non-existing at all. In some cases, aquaculture is not possible as a source of development because of the absence of adequate aquatic environments.

Since aquaculture is new to the region, it does not have the social and historical background as in Asia; its main growth has therefore been geared towards a business oriented production for foreign export. Commercial aquaculture succeeded first in those countries with the institutional capacity to absorb and apply advanced technologies and with supportive public policies (including policies for foreign investment) and proactive private sectors. The industry is a modest contributor to the GDP, with economic impact most evident in few countries. The main impact of the industry on rural livelihoods has been the direct and indirect generation of employment since the greatest portion of farming production in the leading countries are operated by a few companies/farmers (more than 70 percent of total production in most cases) while the combined total production of numerous small farmers is very minor. In general, subsistence aquaculture systems have



Tanks for fattening Tilapia juveniles, Center for production, Training and Fisheries Research "El Infiernillo"

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had little sustainability, because of insufficient training, low consumer demand and lack of markets for fish in local and rural communities.

The main opportunity for aquaculture in LAC stands on its great potential to increase fish consumption and fish demand in the region in order to both improve nutrition and increase local markets. These can in turn favour small-scale and new farmers therefore giving a boost to the sector. Aquaculture can be envisaged as a very important social and economic option that may offer an alternative contribution to the development of LAC countries. There is still much room for expansion and diversification especially considering the comparative advantage of available clean waters. There is great possibility of expansion for mariculture, e.g. bivalve culture, and some countries already have the technology and the “know how”.

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While rural aquaculture is still dependent on state or international technical and financial support schemes, aquaculture in rural areas is increasingly seen as an opportunity for the overall improvement of rural life and poverty alleviation. Therefore, new alternatives must be sought to enhance this type of aquaculture.

¹Morales, Q.V.V & Morales, R.R. 2005. Regional review on aquaculture development.1.Latin America and the Caribbean – 2005. FAO Circular de Pesca/FAO Fisheries Circular. No. 1017/1. Roma/Rome, FAO. 177 pp. (also available at <ftp://ftp.fao.org/docrep/fao/009/a0651b/a0651b00.pdf>)

²IBRD/WB. 2007. Changing the Face of the Waters: The Promise and Challenge of Sustainable Aquaculture. Report No. 36622 – GLB. Washington, DC. USA. 148 pp. (also available at http://siteresources.worldbank.org/INTARD/Resources/Aquaculture_ESW_vGDP.pdf).

TCP/BRA/3001: Institutional Strengthening of the Aquaculture and Fisheries Secretariat of Brazil.

Initiated in 2005 to strengthen the ability of the SEAP/PR in developing the fundamental infrastructure on information, legal, and technical components essential to support and enhance its capacity. The component on strengthening strategic planning ability and technical capacity for sustainable aquaculture development included three technical seminars for SEAP personnel and other stakeholders. The first seminar was aimed to assess the technical capacities of SEAP in identifying major weaknesses and strengths towards a strategic planning for aquaculture. Two other seminars have been conducted and focused on: (a) institutional strengthening for sustainable development of aquaculture and (b) management of environmental and health issues. Finally a major publication /synthesis of the Brazilian aquaculture sector was produced and launched in September. [Responsible Officer: D Soto (FIMA)].

UTF/MEX/067/MEX: Apoyo al fortalecimiento de programas acuícolas del Estado de Michoacán.

Commenced in 2006 and completed in September 2007. The main goal of the project is to improve the working conditions and standards of living of aquaculturists and fisherfolk from different regions in the state of Michoacan in Mexico. The immediate objectives of the project are: (a) write an operations manual for the start-up of a fish farm hatchery called “Centro de Producción, Capacitación e Investigación Acuícola “El Infiernillo” and conduct training for the hatchery staff; (b) develop a management plan for fisheries and aquaculture for the MelChor Ocampo dam and (c) prepare and conduct a training course on developing aquaculture management capacities for small-scale farmers and develop a marketing study for tilapia, catfish and trout in selected municipalities. The Universidad Michoacana de San Nicolás de Hidalgo in Morelia, Michoacán State, Mexico and the Centro de Investigación en Alimentación y Desarrollo (CIAD, A.C.) in Mazatlán, Sinaloa State, Mexico are the governments institutions responsible for Project institutions. [(Responsible Officers: J Aguilar-Manjarrez and D Soto (FIMA) and H Josupeit (FIU)].