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Opinion

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Recommendations for the formulation of commercial aquaculture development plans for caribbean and latin American countries (1)

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Germán Robaina G
Director of Fisheries Development of the Venezuelan Ministry of Agriculture and Breeding (MAC), Venezuela

Correspondence: Germán Robaina G, Director of Fisheries Development of the Venezuelan Ministry of Agriculture and Breeding (MAC), Venezuela

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Opinion

Fish farming is a very old practice, developed as a strategy to stabilize the food supply. It is estimated that the first references to this activity come from China, about four thousand years ago, while the integration of fish farming in ponds and rice production is documented in China from A.D. 25 - 220.

Today, aquaculture production has intensified in many regions of the world, the volume of this activity has increased by almost 200% during the last decade, while the production offered by fisheries has remained relatively stable or has been declining sharply for many regions and/or resources.

It is very clear that man-made aquatic organisms are acquiring an important role in the food industry, as the pressure on natural fishing increases, and as an example the case of salmon stands out, to the point that approximately 98% of the world's production comes from the Norwegian network of farms. Chile and Canada, among others.

Several systems have emerged focused on fish farming in marine, brackish and freshwater environments, and many countries enjoy the benefits that this activity generates in terms of food production, jobs, foreign exchange, development and independence, having specified that within many years aquaculture production could be greater than the production of beef, pork, poultry and fisheries; so, aquaculture could become the main supplier of animal protein in the world.

Currently, aquaculture represents between 48 and 60% of the total global fishery products, depending on whether algae production is considered, and is considered the activity that will contribute the most resources to the production of seafood in the future.

Recent reports recommend aquaculture development in the face of a clear global food crisis and the decline of fisheries, since approximately 84 percent of the world's fishery resources are now depleted or overexploited, which means the decline of numerous schools of wild fish, which will not be able to meet the needs of an expansive population. So, it is estimated that world aquaculture production should increase by more than 50 percent, to maintain the current level of consumption.

Aquaculture activity has been defined by FAO as:

"The breeding of aquatic organisms (fish, molluscs, crustaceans and plants, among others) that involves some type of human intervention to improve production above the natural capacity of the environment, including individual or business ownership of the cultivated stock, the planning, development and operation of systems, locations, facilities, production practices, transport, processing and marketing."

For its proper development and sustainability, provisions must be taken to ensure that it is environmentally clean, technically appropriate, economically and socially acceptable, engineering-safe, biologically viable and legally feasible.

Among the main justifications to support the development of aquaculture activity of commercial scope in the country are:

Considerations:

i. Aquaculture is the science or technique aimed at the mass production of aquatic organisms for human consumption, fodder, ornament or raw material for industry, in environmental conditions controlled by man.

ii. As an example of its importance, the FAO states that no other type of terrestrial animal production can generate as many tons of biomass per unit area as the cultivation of some resources (fish) in intensive controlled systems.

iii. Recent reports by the FAO and WWF recommend aquaculture development in the face of a clear global food crisis and the decline of fisheries.

iv. Approximately 84 percent of the world's fisheries resources are depleted or overexploited, which means that schools of wild fish are depleted, which will not be able to meet the needs of an expansive population.

v. Aquaculture production currently accounts for more than 50% of world fish production, a trend that has been consolidating in recent years.

vi. The World Bank says that about one-fifth of all fish taken from the oceans is used to make fishmeal and fish oil, and not for direct human consumption.

vii. The FAO estimates a world average of apparent per capita consumption of fishery products of 20 Kg/Hab/year, while for Latin America and the Caribbean it estimates it at 12.2 Kg/Hab/Year.

viii. Expert nutritionists worldwide recommend the consumption of fish two or three times a week with average portions of 150 gr each, which would raise our per capita demand to 21.6 Kg/Person/year.

ix. Like poultry, livestock and pig farming, aquaculture is an activity that generates a large amount of high-quality protein for human consumption for the national market and/or for export.

x. Given the evident decline in fish catches, aquaculture is considered to be the activity that can contribute the most resources to the production of seafood, both marine and freshwater, from the controlled culture of fish, crustaceans, molluscs and many others.

xi. Most Latin American and Caribbean countries have favourable geographical and climatological conditions for the development of aquaculture activities of commercial scope.

xii. These activities, although they are an excellent support for food production, job creation, development and foreign exchange, are very marginally used.

xiii. Many countries have a high potential for the development of commercially available aquaculture activities, especially due to the presence of a climate suitable for the main aquaculture requirements; many coastal and continental areas available; great demand in national and international markets for the fishery products produced, great national interest in aquaculture activity; institutions linked to the activity; available, unlinked and unused aquaculture infrastructure; public and private distribution channels; availability of environmentally friendly technologies; species of high potential and national and international demand, as well as trained and available national technicians and investors interested in developing aquaculture activities of commercial scope.

xiv. To a large extent, the stumbles and failures obtained in regional aquaculture come from the lack of experience and expertise predominant in the governing institutions, from the inefficiency that has prevailed in the promotion of the activity, the exaggerated opposition in the environmental field to the activity, the distortion of the current regulations, and the disconnection between the Academy and the reality of the sector. Among many others and

xv. Although in aquaculture activities the social, commercial and/or ecological scope of the activity must be considered, none of them has to exclude the other, and all three are indispensable tools for the harmonious development of the country, but the requirements, end users, products to be obtained, markets to be covered and volume of biomass to be obtained with each of them, they are totally different and deserve different strategies and actions for their promotion, development and consolidation.

xvi. As far as mass and sustained production is concerned, only commercial-scope aquaculture can generate the biomass that the country requires to meet its food and nutritional requirements, also complying with the quality standards demanded by international markets.

xvii. The different initiatives carried out for the development of aquaculture activities have suffered the constant, repeated and exaggerated attacks of those unfamiliar with the subject, which often exceed the requirements established for other activities with a proven negative effect on the environment.

xviii. National aquaculture producers are the main stakeholders in protecting the national aquatic environment, as the only alternative to guarantee the sustainability of the activity on which they depend economically, and.

xix. That there are numerous and varied diagnoses in the country that demonstrate both the potential and the viability of national aquaculture activity, which have not been considered by the different bodies responsible for the promotion of national aquaculture.

Objective situation

In our opinion, it is essential that Latin American aquaculture offers signs of consolidation as a successful commercial activity in terms of the production of fishery biomass, generating a significant amount of biomass for domestic consumption, and contributing significantly to the permanent and programmed supply of fresh and/or value-added fishery products, at competitive prices and in optimal quality conditions, safety, traceability and sustainability.

All this based on programs, projects, strategies and actions that allow for a year-on-year increase in current production, until the full supply of the different countries of the region is reached, the average regional per capita consumption estimated by FAO, and the incursion into international markets, promoting and facilitating the development of a regional aquaculture industry that generates jobs. Development, top quality food of fishery origin with adequate traceability, at competitive prices, satisfying the food and nutritional requirements of the population, generating in the medium term surpluses that allow opening lines of commercialization to international markets, with the corresponding generation of foreign exchange but guaranteeing the strictest adherence to the preservation of water and the surrounding environment of the farms.

We reiterate that the above can be achieved as little traumatically as possible and without delay, through the development of strategic programs and projects duly formulated, coordinated, accompanied by programs for the promotion of commercial fish farming (strategies other than subsistence, extensive, restocking and tourist fish farming) by the governing bodies, which allow numerous producers to incorporate into the development of the activity, increase the productivity of the agricultural units, incorporate and transfer new and adequate integral production alternatives, which reduce operating costs, guarantee adequate production and financial profitability and guarantee adherence to current legal regulations.

By having a legal framework and an ideal philosophy, the private sector will incur most of the investment costs, and it only remains for the public sector to adequately regulate the activity, promoting it, managing it, and if possible, under a process of institutional and functional reassignment, to fine-tune the network of fish farming facilities that exist throughout the different countries of the region. With exceptionally low efficiency, productivity and high lack of coordination, in favor of the activity.

An orderly Plan of Action that allows the synchronization of the different activities to be carried out is the only means of achieving orderly participation, preventing duplication of efforts and optimizing the use of existing resources, so that the action of the national, regional and state government plays a fundamental role, and the solution of the

Only the design and implementation of a comprehensive plan aimed at the promotion of national fish production, which with commercial criteria is responsible for the true promotion of the different activities required for the cultivation of fish, its processing and its distribution for human consumption at the national level and/or for its export, including financing, advice, equipment, input, distribution, etc.), can make this a reality.

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Specific objectives proposed

a. To promote the development of aquaculture production activities on a harmonious and sustainable commercial scale, rationally taking advantage of the different species, environments, and natural resources available in each country.

b. To propose and promote the adaptation of the legal regulations in force towards the achievement of the goals set.

c. Promote the organization of the national aquaculture sector through appropriate practices of associativity and public-private production grouped according to the species(s) cultivated and/or the related activity conducted.

d. To favor the transfer of required commercial aquaculture production technologies (engineering, reengineering, and/or adaptation of technologies), designing adequate protocols and management guidelines for their sustainable use, with packages of proven success that facilitate the achievement of the proposed objectives at the lowest possible cost and time.

e. Increase the supply of excellent quality food at an affordable price to the consumer, gradually increasing national per capita consumption until it reaches the average estimated by FAO for the region.

f. Diversify the presence of national aquaculture products in international markets, without neglecting the coverage of the national market, based on species of high price in the international market.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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