AQUACULTURE AS PART OF THE SOLUTION: FOOD AND ECOLOGICAL RESTORATION

Because of the way we behave with the environment in terms of energy expenditure, water usage, food production and conservation, we are headed to a planetary collapse with severe consequences for humanity. The solution so as to minimize such behavior can be achieved with a multilateral approach with serious thoughts and actions, involving governments, communities and industry, so as to pursue a future, hard to achieve, that would be environmentally better, with less of an ecological footprint for those to whom we are indebted: the future generations.

When we put together data and projections about population increase, contamination, climate change and the exhaustion of marine resources with the aggravating loss of biodiversity, the future scenario of food supply and the ecological sustainability becomes worrisome. Aquaculture emerges as part of the solution.

Although some analyses indicate that, at a worldwide scale, land, soil and particularly the existing water are sufficient and that there is enough potential to make yields grow so as to make possible the needed production in the future, the truth is that the production of healthy foods will not be enough if the population keeps growing as it has been, more so if it is menaced by its irrational behavior regarding the exploitation of natural resources, the contamination and the acceleration of climate change, all of which has implications in biodiversity, the focal point of the earth's maintenance.

Following the industrial revolution, the biggest socio-economical, technological and cultural transformations in the history of mankind took place, and with that, the raging growth of the human population reached the current levels of over 7,200 million people, expecting for 2025 some 2,000 million people more… mostly in underdeveloped countries… Where is the food to supply the demand? Where will it come from?

The pragmatic thing is that despite the efforts, clearly insufficient, of some organizations, a great part of the population suffers, particularly in emerging and developing countries, an alarming percentage of malnutrition (close to 30% of the world population suffers some form of malnutrition), turning imperative the production of nutritive and healthy food…as that which the sea offers us.

Agriculture and livestock have been fundamental for the evolution of mankind, and it is vital to make optimal use of the most modern technology in order that farmers produce more innocuous and healthy food in a sustainable manner. However, its development is not at par with the future food demands, beside the fact that much land is occupied and intervened. The sea, which covers 70% of the earth surface, would be part of the solution; but no matter how huge the oceans seem to be, their resources are limited and their ecosystems are vulnerable. Independently of how technically sophisticated and modernized fisheries are, fish production has remained stalled for over 30 years, with an annual growth of only 1.1%. Also, what can we expect if governments do not seriously face the growing problem of over-exploitation of marine resources, when in 2007 FAO estimated the sum of over-exploited, fully exploited or exhausted fish stocks to be 76% of the evaluated resources, increasing to 87% in 2009 and currently reaching levels of 90%.

Fisheries' exploitation frequently does not become an alarming issue and has even been overseen, in view of the impacts of deforestation, desertification and exploitation of energetic resources, and other catastrophic scenarios that reduce biodiversity. But it certainly merits the highest attention and constitutes great part of the base of the future of mankind and of the planet. Overfishing cannot continue! It already represents one of the great menaces to food supply and particularly to biodiversity. Governments ought to be more responsible, particularly with their diagnostics and the establishment of Marine Protected Areas, as was subscribed by 180 countries in UNDP agreements. But in front of 90% of the resources being fully exploited, over-exploited and exhausted, less than 1% of the world oceans and seas are in marine protected areas.

Aquaculture grows every year more rapidly (6.3-8% in recent years) than the sectors producing food of animal origin, and since the change of pace in its development in the 80's it is providing food supplies that fisheries cannot supply anymore. It is a highly productive and profitable activity, but in view of the threats it should not be seen merely as business, but as an immediate need, particularly in emerging countries, where it should be a fundamental objective for their development.

Nevertheless, aquaculture, as any human activity, causes an environmental impact that must be minimized, which depends basically upon the choice of species to cultivate, procuring the selection of those that are close to the base of the trophic chain to minimize the ecological footprint. Aquaculture should not be used only for the direct production of foodstuff or other products beneficial to mankind, whether by communities or industries, but also to compensate the ecological damage to the natural resources. The use of aquaculture for ecological restoration and resettlement of aquatic resources would give great benefits to mankind, and we should bet on it.

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