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Strengthening Aquaculture Health Management in Bosnia and Herzegovina

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Background

Bosnia and Herzegovina (BiH), formerly one of the six federal units constituting the Socialist Federal Republic of Yugoslavia, declared its independence in 1992 during the Yugoslav wars of 1991–1995. It is located on the central part of Balkan Peninsula, which encompasses the eight countries of the former Yugoslavia, at 44°N latitude and 18°E longitude. With a total area of 51 209 km^2 and 1 538 km of land boundaries, it is bordered on the west, north and south by Croatia and on the east by Serbia and Montenegro. On the south, it also has a small coastal area of about 20 km providing access to the Adriatic Sea. The country's total population is estimated at around 4 million, of which about 600 000 live in the capital city of Sarajevo.

BiH has a temperate climate that is described as being moderate continental and agriculture is an important part of the national economy, employing 18 percent of the workforce and contributing 12 percent to the GDP. Politically, the State is comprised of two Entities, the Federation of Bosnia and Herzegovina and the Republic of Srpska, which are responsible for the implementation of State policy and law.

The country has abundant aquatic resources in the form of lakes and rivers and thus has a long history of freshwater aquaculture. Modern fish farming in BiH dates back more than a century. The culture of rainbow trout (*Oncorhynchus mykiss*) was begun at the fish farm "Vrelo Bosne" near Ilidza in 1894, while the farming of common carp (*Cyprinus carpio carpio*) was established near Prijedor in 1902 (FAO National aquaculture sector overview – Bosnia and Herzegovina www.fao.org/fi/). Between 1946 and 1982, a more intensive system of salmonid culture was developed in reservoirs and lakes using floating cages and pelleted feeds. At the same time, cyprinid culture was expanded with the introduction of exotic herbivorous species such as grass carp (*Ctenopharyngodon idella*) and bighead carp *(Aristichthys nobilis*).

By 1964, BiH had 13 trout farms occupying a total area of 38 000 m^2 and by 1990, total aquaculture production had risen to some 3 000 tonnes. However, much of the country's aquaculture infrastructure was destroyed during the war of 1991–1995 and many skilled workers abandoned the industry. As a result, BiH has been faced with the task of rebuilding its aquaculture subsector, as well as the necessary public and private-sector expertise, supporting agencies, regulatory mechanisms, etc. needed to re-establish and expand aquaculture in a modern and sustainable manner.

Unofficial estimates suggest that the country's aquaculture subsector produced 6 344 tonnes of fish and shellfish in 2004, having a value of some US$15.2 million. The bulk of production is derived from the farming of two species: rainbow trout, which accounted for slightly more than half of total production (53.3 percent, 3 380 tonnes) and common carp (37.2 percent, 2 363 tonnes). Other species cultured in small quantities include other salmonids (brown trout and brook trout), other cyprinids (grass carp and bighead carp) and wels catfish and zander in fresh water, and gilthead seabream, European seabass and Mediterranean mussel in coastal waters.

There are two fish processing plants in BiH, one in Salakovac and another in Banja Luka, with a combined annual capacity of some 3 000 tonnes. Most aquaculture produce (65 percent) is sold domestically, while the remainder (35 percent) is exported to the neighboring countries of Serbia, Montenegro and Croatia. Domestic consumption of fish is estimated at 1.4 kg per capita, indicating significant potential for market expansion.

The aquaculture subsector in BiH has many strengths that can lead to its rapid revitalization. These include the country's abundant natural aquatic resources, a strongly motivated and well-organized private sector and a highly competent network of veterinary officers, inspectors and researchers within the State Veterinary Office (SVO), Entity veterinary services and the universities. However, aquaculture faces some hurdles that must be overcome to ensure its development in an environmentally, economically and socially sustainable manner. These include lack of a national planning for aquaculture development (including environmental impact assessment), the need for appropriate expertise in both government and private sector and the need for appropriate supporting legislation, mechanisms for coordination between responsible agencies and improved extension services and stakeholder consultation.

The Government of BiH strongly supports the further expansion of the aquaculture as a means to increase access to animal protein, particularly by the poorer segments of the population, as an important tool for development and income generation in rural areas and as source of foreign exchange earnings through trade, especially with the European Union (EU).

While in the process of negotiating an export license to the EU, the competent authorities,

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Participants of the Inception Planning Workshop, October 2006

in particular the SVO and other stakeholders recognized the lack of capacity in fulfilling some of the EU requirements on issues related to aquatic animal health management and food safety.

In order to fill this gap, the Government of BiH therefore requested FAO's assistance through a Technical Cooperation Project. An official visit of BiH officials to FAO HQ on 27–28 April 2005 was followed by a request from the SVO that lead to an Inception Mission undertaken by MB Reantaso from 10–17 July 2005 to assist in the preparation of a TCP proposal. The project "Strengthening capacity on aquaculture health management" was officially approved on 14 June 2006 with a project budget of US$388 000 and an implementation period of 20 months.

Objectives

The project's development objective is to increase the effectiveness and efficiency of the SVO in aquatic animal health management to support sustainable and healthy aquaculture production. This will enable the country to improve the value and efficiency of the subsector through the implementation of international animal health and food safety standards, especially those of its trading partners in Europe.

The TCP will increase the capacity of the SVO and other actors to support sustainable and healthy aquaculture production, both for domestic consumption and for trade, through the implementation of the same international animal health and food safety requirements that apply to its trading partners. Specifically, the project will develop national policies in the areas

of biosecurity, aquatic health management and disease control and will strengthen the capacity of the veterinary administration, inspectors, laboratories and producers to comply with international health, food safety and quality requirements. The project will also disseminate the lessons learned to neighboring trading partners in order to promote future regional cooperation in aquaculture and aquatic animal health management.

The project provides the services of three international consultants, four national consultants and FAO technical support from FIMA, FIEP, FIIU and LEGN. In addition, laboratory equipment and supplies, official international and in-country travel, several training courses and workshops and operating expenses are included.

Work Accomplished

The National Project Coordinator (NPC), Nihad Fejzić, was appointed in September 2006. The first major activity was a two-day Inception Planning Workshop (30–31 October 2006) and a one-day Training Workshop on Policy and Strategy Development in Aquaculture (1 November 2006). The Workshop and Training was held in the historic city of Mostar and was attended by a total of 30 participants including staff of the SVO, other concerned State and Entity agencies (primarily Entity Veterinary Inspectors), the universities and the private sector, with technical support being provided by MB Reantaso (Fisheries Resources Officer and Lead Technical Officer of the TCP), RP Subasinghe (Senior Fisheries Resources Officer) and R Van Anrooy (Aquaculture Economist) of FAO.

The 2nd Project Workshop and Training on National Aquatic Animal Health Strategy Development was held in Mrakovica, from 16–19 April 2007 and was attended by 31 participants, with technical support being provided by MB Reantaso and JR Arthur (International Consultant on Aquatic Animal Health Management). The workshop advanced national planning by developing and adopting a framework for a National Aquatic Animal Health (NAAH) Strategy, initiating a review of veterinary legislation as related to aquatic animal health management and drafting a diagnostics manual, an extension manual and other publications.

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Future Activities

During the Workshop, planning for the 3rd Project Workshop, to be held in September in Bihać, was also accomplished. The next workshop will further develop the NAAH Strategy, focussing on EU trading and reporting requirements; disease diagnostics; surveillance and reporting; food safety and quality assurance (HACCP, antibiotic analytical techniques and laboratory accreditation). A 4th Project Workshop and Training, to be held in early October, will focus on risks in aquaculture and will develop national capacity in risk analysis for introductions and transfers of live aquatic animals.

Interim activities include work by committees on the review of State and Entity veterinary legislation and on the drafting of diagnostics and veterinary inspection manuals and brochures, upgrading of the National Reference Laboratory for fish virology, study tours for SVO staff and further development of the NAAH Strategy. The project is also developing a proposal for a study to assess marketing opportunities for BiH's aquaculture produce, possibly through a TCP facility.

The project will conclude in a Regional Workshop to be held in March 2008 that will involve participants from neighboring countries to disseminate the outcomes of the TCP and to explore the possibility of developing a regional proposal.

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