

DEVTECH Sphere

DEVTECH SYSTEMS, INC.
Spring 2003

Aquaculture and Mariculture Development: Impacts

Aquaculture and mariculture have long been hailed as significant (if not the only) components of the “Blue Revolution” that began in the 1970s. While both have had successes in the subsequent years, they also have been associated with a number of serious environmental problems. That is not to say that they are not valid ways to enhance and concentrate protein production. However, it is important to realize that there may be significant negative environmental externalities associated with aiding in development of these technologies. Below are brief discussions of some of the negative impacts of different technologies that donors might want to evaluate when doing planning in this area.

Brackish Water Aquaculture — Most commonly done for tiger shrimp (*Penaeus monodon*) and milkfish (*Chanos chanos*), this form of aquaculture can produce 1,000 or more kilograms per hectare per year when it is well managed. Typically, ponds are constructed on areas where mangrove forests or other coastal wetlands have been removed. Problems for coastal areas adjacent to these operations include:

Continued on page 3

ISLAMIC EDUCATION IN THE MIDDLE EAST REGION

Recent events have focused the attention of the Western world more closely on Islamic education — its prevalence, its function, and, in particular, its influence. In the fall of 2002, DevTech Systems conducted a global study for USAID on the state of Islamic education. One of the most surprising findings of the study were the significant differences in the evolution and current status of Islamic education in the world. An examination of Islamic education in three Arab countries, Egypt, Morocco, and Yemen, illustrates this diversity.

EGYPT

With the advent of Islam in Egypt, the reading of the Koran became an integral part of many Egyptians’ lives. Initially, the study of the Koran was carried out in mosques, homes, even outdoors, and these congregations served to socialize as well as to educate Egyptians. More formal Koranic schools were the only means of primary education for children until the introduction of Western models of education in the late 1800s.

Currently, Egypt’s Islamic education system is administered by the Central Administration of Al-Azhar Institutes,¹ a department of the Supreme Council of Al-Azhar, which is responsible for the development of general policy and planning to ensure the propagation of Islamic culture and the Arabic language in these schools. Within the Al-Azhar system, as with public education in Egypt, the primary level extends for six years and the preparatory level extends over the next three years. The secondary and final level extends for four years, and graduation from the secondary level allows students to enroll in Al-Azhar University.

There is little divergence between Islamic schools that operate under the Al-Azhar system and the regular public schools. Students can transfer between systems and both follow the Government’s curriculum. In addition to the Al-Azhar schools, however, there are private religious schools that function under the auspices of the Ministry of Education. In 1998, there were 206 such Islamic education institutions in Egypt,² 6 percent of all private schools. The Egyptian State Information Service’s 2001 statistics show a large number of students enrolling in religious schools — 25

percent at the school level and 29 percent at the university level.

MOROCCO

Islamic schools in Morocco fall into two main categories: Koranic preschools and a limited Islamic school system, “Original Education,” that covers grades 1 through 12. Koranic schools were initially established as schools to teach the Koran, the Islamic religion, and the Arabic language. After the country’s independence, their role changed to provision of preschool education in both rural and urban areas. Their function in recent times has been to safeguard the basic precepts of Islam by teaching the Koran to children — both boys and girls — and to prepare them for entry into the public primary school system.³

Through Koranic schools, children learn the basic Arabic alphabet and begin the process of becoming literate in Standard Arabic.

Koranic schools in urban areas fall under the control of the Ministry of National Education (MNE). In rural areas, they are managed by their communities, with loose oversight from the MNE and the Ministry of Religious Affairs.⁴ Although the Government of Morocco, according to its reform agenda, is committed to universal preschool education for all children, it faces budget constraints that make this objective extremely difficult given other, competing priorities. Therefore, the Ministry is relying on private schools — particularly in urban areas — and Koranic as well other types of community schools in rural areas to provide preschool education to Moroccan children.

The incentive for sending children to Koranic schools is quite clear. In the absence of any other type or form of preschools, parents who want to give their children some preparation for the public school system, as well as provide them with the beginnings of a religious education, opt to enroll their children in Koranic schools.

Recent events have focused the attention of the Western world more closely on Islamic education — its prevalence, its function, and, in particular, its influence.

YEMEN

Yemen was once considered the center of Islamic learning. The city of Tareem in the South had numerous *Madaris* and libraries that provided Islamic education to students from all over the Arabian Peninsula.

Madaris have proliferated over the past 20 years. Sectarian tensions between Sunnis and Shi’is, Salafis and Zaydis, and other groups have led to a growth in the number of *Madaris* reflecting these different Islamic religious orientations.⁵ The curriculum of the *Madaris* in Yemen is con-

trolled by the Islah party, a reformist Islamic movement that has become increasingly popular in the country, particularly among the young. The Ministry of Education has purview over the schools.

There are multiple factors working in Yemen to make religious schools a viable and maybe even desirable option for parents. The first is the sectarian tension that is strong in the country and that resulted in the establishment of more *Madaris*. Parents who want to ensure that their children learn their sect’s values, precepts, and traditions send them to the *Madaris* that corresponds to their sect. Another key factor is the unavailability of public schools, particularly in rural Yemen. Some parts of the country, such as the northern mountains, are very hard to reach and are sparsely populated. The Government would need to make a concerted effort to provide education in these regions — a difficult resource issue since Yemen has been undergoing a drastic economic deterioration due to the costs of unification, the aftermath of the Gulf War, and the short, but costly, civil war the country experienced in 1994. *Madaris* may simply be filling the void that the public education system cannot fill.

Tax Administration Modernization Project (TAMP) Showcased at News Media Event in Bosnia

On April 22, 2003, a ceremony was held at the Sarajevo Canton Tax Office to commemorate the successful completion of the re-registration of taxpayers in the Federal Republic of Bosnia and Herzegovina. DevTech’s Samuel Greer, the TAMP Chief of Party, was the Master of Ceremony at this event, which was attended by dignitaries and officials from USAID, Bosnia’s Federation Tax Administration, the Minister of Finance, and the Director of the Statistics Office. Covered by eight television and news media, this event marked the culmination of an important milestone for TAMP.

Private Sector Sponsorship of Public Schools Program

On February 19, 2003, a project that seeks to incorporate private businesses in the sponsorship of public schools was launched in the Dominican Republic. This project is funded by the Dominican Republic Mission of the U.S. Agency for International Development and is being managed by DevTech Systems.

Present at the inauguration of the project were, among others, the United States Ambassador to the Dominican Republic, Mr. Hans Hertell; the Education Secretary of the Dominican Republic, Ms. Milagros Ortiz Bosch; the President of DevTech Systems, Inc., Dr. Jorge A. Sanguinety; and the resident director of the project, Mr. Ronald Saunders.

The project is being executed with the sponsorship of private businesses and the collaboration of the U.S. Secretary of Education and the Embassy of the United States, through USAID.

CONCLUSION

As evidenced by the circumstances in these three Arab countries, Islamic education is not a homogenous concept and has evolved along different lines in the countries where it exists. Each of the three countries discussed above has a long tradition of Islamic education, but its level of visibility, quality, prevalence, and function within each country has evolved due to particular historic and political frameworks that have constrained, modified, or encouraged its growth and proliferation.

Notes:

¹ Taken verbatim from http://www.ed.gov/offices/OUS/PES/int_egypt.html, the U.S. Department of Education - Planning and Evaluation Service.

² Cook, Bradley J. Egyptian Higher Education: Inconsistent Cognition. Ph.D. Dissertation, The University of Oxford, 1999.

³ Bouzoubaa, Khadija. 1998. *An Innovation in Morocco's Koranic Pre-Schools*. The Hague: Bernard van Leer Foundation, 1998.

⁴ World Bank, International Finance Corporation, January 2002. EdInvest News [<http://www.ifc.org/edinvest/012002.htm>].

⁵ Knysh, Alexander. 2001. "The Tariqa on a Landcruiser: The Resurgence of Sufism in Yemen." *Middle East Journal* 3 (Summer): 399–414.

— Nina Etyemezian
Women in Development
DevTech Systems, Inc.

Aquaculture,

Continued from page 1

- Extensive loss of mangrove forest or other coastal wetland, causing subsequent significant decreases in diversity and, often, enhanced sediment load on nearby waters resulting from increased speed of discharge of rivers and sheetflow (Philippines, Indonesia, Ecuador, Bangladesh).
- Increased eutrophication from use of organic and inorganic fertilizers, increased biological oxygen demand (BOD) resulting from flushing of ponds, and dying off of zooplankton and benthic invertebrates (including corals) resulting from releases of pesticide-contaminated pond water (Philippines, Indonesia, Ecuador, Bangladesh).
- Degradation of groundwater quality as a result of infiltration of pond water into the water table. This often results in increased salinity of drinking waters (Bangladesh).

Mariculture — This technology most commonly focuses on culture of various seaweeds, mussels (*Mytilus spp.*), or oysters (*Ostrea spp* or *Crassostrea spp*), although Rabbitfish (*Siganus spp*) and other finfish also can be grown. Mariculture also can be very productive. The typical approach is to construct a series of polyethylene ropes with

bags for seaweed culture, place poles for bivalve culture, or create netted enclosures for finfish. Problems that can occur from these operations include:

- Increased sedimentation resulting from high concentrations of bivalve culture. This occurs sometimes to the extent that navigation is impeded. (Philippines).
- Increased BOD in reef areas where finfish culture occurs (Philippines, Indonesia).
- Loss of common use in almost all cases since culture operators typically refuse access to their areas to protect their harvest. This can mean decreased food availability for the part of the population most at risk for starvation (Philippines, Indonesia).
- In cases where fish are genetically modified (for example, salmon in the United States) the increased possibility of negative impacts on biodiversity.

There are certainly benefits to be gained by supporting these technologies, but it is important to realize that the situation very much has the potential to be a zero sum game.

—J.A. Atchue III, CEP, CHMM
Environmental Practice
DevTech Systems, Inc.

Established in 1984 by economist Jorge A. Sanguinetti, Ph.D., DevTech Systems, Inc. is a consulting firm that offers technical assistance in the following practice areas:

- Economic Growth and Public Sector Management
- Education and Human Capacity Development
- Environment and Natural Resource Development
- Evaluation and Performance Monitoring
- Gender Integration (Women in Development)

WE INVITE OUR READERS TO SEND THEIR LETTERS AND COMMENTS ON THE MATERIAL IN THIS ISSUE OF THE *SPHERE* TO DEVTECH SYSTEMS' ARLINGTON OFFICE.

The DevTECH Sphere
is published quarterly by
DEVTECH SYSTEMS, INC.

1700 N. Moore Street, Suite 1550
Arlington, VA 22209
Tel: 703/312-6038
Fax: 703/312-6039

9350 Dixie Hwy., Suite PH-1
Miami, FL 33156
Tel: 305/666-5150
Fax: 305/666-5165

<http://www.devtechsys.com>

The opinions expressed by our contributors are not necessarily those of DevTech Systems, Inc.

© DEVTECH SYSTEMS, INC. 2003

DEVTECH

DEVTECH SYSTEMS, INC.
1700 N. Moore Street, Suite 1550
Arlington, VA 22209 USA