

TRENDS AND OPPORTUNITIES

Beginning in the mid-1980s, Mexico embarked on a series of sweeping economic reforms and a period of economic growth and industrial restructuring followed. The progress of economic development was substantially set back by a sudden devaluation of the peso in December 1994. Beginning in 1996, the Mexican economy began to rebound and economic growth resumed. Much of the new development has occurred in coastal zones.

PORT TECHNOLOGY

Although several ocean port concessions have already been awarded, as of mid-1996 several were still in the planning stages. They include Puerto Vallarta, Tuxpan, Topolobampo, Mazatlán and Guaymas. The privatization program will create a continuing demand for all types of port equipment as well as specialized consulting services. Tug boats will also be privatized during 1996.

SHIPBOARD TECHNOLOGY

Mexico's ships are generally old and in poor condition even by traditional standards, and they lack the modern shipboard systems needed to compete in today's market. As a result, domestic ships carry less than 5 percent of export cargo and only a little more than half of coastal traffic. This implies huge potential for expansion and modernization. But to a large extent, the future of this sector depends upon the outcome of the government's port privatization plan.

ENVIRONMENTAL TECHNOLOGY

Mexico's efforts to clean up its ocean environment are still in an early stage of development. Therefore, demand is concentrated mainly in assessment technologies. As environmental regulations become more actively enforced, the regulatory authorities will require

more monitoring and testing equipment. The market for pollution control and remediation technologies will expand as this sector matures.

OFFSHORE OIL AND GAS

In its 1996 operations program, *Petróleos Mexicanos (Pemex)*, the national oil company, sets out ambitious production goals for its exploration and production subsidiary. They include an increase in crude oil extraction of up to 230,000 barrels per day during 1995. Natural gas production extraction would rise by 539 million cubic feet per day.

New strategies for 1996 to 2000 will focus exploration efforts in the Gulf of Mexico, particularly off the coasts of Tabasco and Campeche. Plans call for a total of 101 development wells and 19 exploratory wells during 1996. An increased emphasis on exploration and extraction in the marine region will drive growing markets for related technologies.

MARINE SCIENCE TECHNOLOGIES

Virtually all marine science equipment used in Mexico is imported, as are many specialized services. Updating equipment and conducting evaluations is considered expensive given the devalued peso. Nonetheless, there is continuing demand for essential technologies. According to observers, there is particular demand for equipment and software used for tri-dimensional seismic recording, geo-chemistry and numeric simulation. Although Canada has strong expertise in this field, most of this technology is currently purchased from American suppliers.

FISHERIES AND AQUACULTURE

In 1995, the new government of President Ernesto Zedillo issued its six-year program for the development of the fisheries. It calls for the expansion of fishing infrastructure and production capacity, to be balanced

by the development of more modern models of fisheries management to prevent over-exploitation. The government's other priorities include modernizing the fishing fleet, rehabilitating coastal ecosystems and developing aquaculture.

MARINAS

A recent trend is leading to the development of marinas along both of Mexico's coasts. Boating in Mexico has always been limited to a small segment of the population. At the end of 1995, the nation still had only about 25 marinas in operation. But several new facilities are under construction and many more are planned.

THE REGULATORY ENVIRONMENT

Mexico's ocean resources are governed by a large number of laws, regulations, decrees and inter-governmental agreements. Many of them have not been rigorously enforced, and others are in a state of flux as the government proceeds with its deregulation plans.

The legal framework for government regulation of ocean environmental issues is set out in Articles 27 and 42 of the Mexican constitution, and in the *Ley Federal del Mar*, Federal Law of the Sea. More specific regulation is provided under the *Ley General del Equilibrio Ecológico y la Protección del Ambiente*, General Law of Ecological Equilibrium and Environment Protection. Several other laws have some application to the marine environment.

A series of *Normas Oficiales Mexicanas (NOMs)*, official standards, regulate the fishing industry. These are issued under the authority of the *Ley de Pesca y su Reglamento*, Fishery Law. Additional regulations govern the operation of ports and navigable waters.