

# WORLD•WATCH

VISION FOR A SUSTAINABLE WORLD

## Population AND ITS DISCONTENTS

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One of 12 features in this special issue

*Excerpted from the September/October 2004 WORLD WATCH magazine*

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# Harmonizing Population and Coastal Resources in the Philippines

With half of the human population now living on or near the world's coasts, maintaining a healthy interdependence between coastal ecosystems and human communities is critical to the stability of both. In the Philippines, progressive communities have begun to show how that interdependence can best work.

Just a 15-minute boat ride off the coast of the Philippines province of Iloilo is the island of Guimaras, famous for its beautiful unspoiled beaches and the Philippines' sweetest mangoes. Tourist companies tout the bountiful seas here, "teeming with fresh fish, shellfish, and lobsters. White-sand beaches, falls, springs, off-shore islets, coves, and caves—gateway to some of the best diving sites." However, the casual visitor smitten by the natural beauty might miss one of the best-kept secrets of the world.

Guimaras and Iloilo, paradoxically, are among the 20 poorest provinces in the country. Both host important marine resources, a growing population, and increasing poverty. But a quiet revolution is taking place here: People have started taking matters into their own hands, testing never-before-seen approaches to staving off poverty, sustaining nature's bounty, and minimizing a growing population's demands on resources. These are ordinary rural folk, hardly within the ambit of modern technology, not even electricity. These are women with limited access, if any, to economic opportunities; men who toil on the land and seas in earnest; and children who trek three kilometers of dirt road to school every day.

The children are observant: they notice that their fathers have been catching less fish. The town has also been losing some of its mangroves and seagrasses, which provide breeding and feeding grounds for fish and economic opportunities for the townsfolk. But over the last three years, the children have been learning about ways to protect the environment, secure their families' wellbeing, and delay sexual initiation and childbearing.

## Coasts and Wellbeing

This realization is critical. In the world today, more than 3 billion people live along a coastline or within 200 kilometers (125 miles) of one, and the coastal population may double by 2025. This concentration of people in coastal regions has many economic benefits: more transportation links, industrial and urban development, revenue from tourism, and food products. The combined effects of booming population growth and economic and technological developments, however, are threatening the ecosystems that provide these economic benefits.

Fourteen of the world's 17 megacities—those with populations of at least 10 million people—are located on coasts, as are two-fifths of smaller cities (populations of 1 million to 10 million). The urbanization of coasts has increased coastal pollution (80 percent of marine pollution comes from land-based sources). Worldwide, sewage remains the largest source of contamination, with discharges increasing dramatically in the past three decades.

Thus population growth and its effects help degrade marine ecosystems in general, including coral reefs, and coastal ecosystems in particular—yet maintaining healthy coastal habitats for marine organisms is critical because most of the world's fish catch produces its young inshore and feeds on organisms in coastal waters. Coastal fish stocks in some regions are down to 30 percent or less of the supply that existed 30 years ago.

One particular type of coastal ecosystem, mangrove forests, has been especially hard hit; about half of the world's mangrove forests are gone. These forests, which grow at the water's edge along about 8 percent of the world's coastlines and 25 percent of the world's tropical coastlines, absorb the impact of storms and provide nutrients for most of the world's marine life. Mangrove forests have been cleared for commercial and development purposes, including fish and shrimp ponds, logging, human settlement, and agricultural and industrial development. The Philippines, as well as Kenya, Liberia, and Puerto Rico, have lost over 70 percent of their mangroves.

## Integrated Solutions

Around the world, a number of programs have sought to address population, health, and environmental connections by incorporating reproductive health information and services into environmental protection efforts or adding environmental issues to reproductive health or population education programs. Examples include the rural development programs of the 1970s and 1980s and the more recent integrated conservation and development projects (ICDPs). ICDPs were popular and well-supported by conservation organizations and development agencies in the mid-1980s. But highly publicized evaluations and critiques of ICDPs questioned their effectiveness in meeting conservation goals.

Today, conservation organizations are exploring other ways to develop integrated programs. Newer projects tend to be smaller than ICDPs and to build on partnerships between sectors instead of incorporating all functions into a single project. A new generation of integrated population, health, and environment programs is being implemented in a variety of countries, including Ecuador, Guatemala, Belize, Madagascar, Tanzania, and the Philippines. The synergy produced by integrating family planning and conservation activities into community-based projects can create more effective and sustainable programs.

In these smaller projects, ecologists, health specialists, and community development experts connect a number of factors, including environmental stress, fertility, migration, women's health, women's educational status, and economic decisions. Nearly 50 of these projects have been documented, and many are being carried out in the world's biodiversity hotspots and tropical wildernesses.

Because the Philippines has the second largest coastline in Asia and 60 percent of its people live on the coasts, the health and economic well-being of Filipinos is acutely tied to the country's coastal ecosystems. A U.S. NGO, Save the Children, is helping Filipinos in 12 fishing communities (including Iloilo and Guimaras) balance the demands of population growth with coastal preservation via an innovative project called People and Environment Co-Existence Project (PESCO-Dev).

Building on participatory research, community mobilization, and pilot projects, PESCO-Dev seeks to understand how population dynamics affect fishing practices. An environmental site assessment investigated coastal environmental conditions, resource management practices, population dynamics, and community attitudes toward both population and environmental issues. Geographic information system maps

compared population and land-use data from 50 years ago with recent trends. Local communities constructed three-dimensional maps highlighting current land-use patterns relative to environmental resources.

"There is a certain awareness now in the *barangay* [village] about coastal resource management," says Barangay Captain Fernando Balidiong, of Alegria in Guimaras. "Residents take care of the mangroves and monitor them and we have also become more alert in looking out for illegal fishing activities." Balidiong also hopes that training couples in family planning will help



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**A fisherman near Iloilo displays his catch. His community is exploring ways to reduce population pressures on the local environment.**

balance population with natural resources. "We do not want to see the day when there will be no more resources for the residents of this barangay," he says.

Local policymakers agree. "We have to take stock of our people and natural resources. The breeding of people as much as the fishes should be addressed," says Felipe Hilan Nava, a physician and mayor of the Municipality of Jordan, Guimaras' capital. "If we don't strike a balance now, we lose eventually." Nava and Dr. Esteban Magalona, municipal health officer of Sibugay, both believe that linking human population issues to the environment accounts for what they describe as an increase in Family Planning (FP) acceptors. Nava says the project "brought in the finer details and fine tuned" the government's family planning program through regular family planning sessions and the skills development training given to the FP trainers.

## Midwives and Messages

At the forefront of these initiatives are local midwives, like Susan Dignadice. Like other Filipina rural midwives, she manages the barangay health center as well as three or four smaller centers. Recently, Susan was recognized as one of the country's outstanding midwives by the Philippines Integrated Midwives Association and Johnson and Johnson, distinguishing herself as an "environmental midwife" for her efforts to link family planning with environmental conservation.

She does this in two ways. The first is her community-based nutrition and clean-green projects that involve backyard gardening; she works hard to motivate people to plant root crops and vegetables. The second is the support she and her network of health workers have given the mangrove reforestation project in barangay Mangoroco. "As a family planning project linked to the environment," she says, "we were part of the entire process, from the moment the barangay made an assessment of its coastal resources to the time when the residents planted mangroves. It is important to be part of the process so that the people will believe you. Leadership by example is key."

Local leaders, in fact, are helping to spread the message, including the popular mayor of the town of Concepción, Dr. Raul Baniyas: "We grow by three babies a day. The town of Concepción has a population growth rate of 2.8 percent, higher than the national average of 2.4 percent.... It stretches our resources, it stretches our services, and if you factor the vulnerability of the ecosystem, especially in the islands, that will be a very big social problem if we do not address it now."

The word is spread in other ways as well. For instance, the teenagers of the Barangay Hoskyn Theater Arts Group include adolescent reproductive and sexual health messages in their plays. They even have a play that brings out the relationships between people and their natural resources. The PESCO-Dev project also uses a slogan that is printed on T-shirts and posted at health clinics and public celebrations. Roughly translated it reads, "With family planning, your health is ensured, your environment is saved." At a recent annual water parade, five boats carried population and environment messages focused on reproductive health, clean water, clean air, solid waste management, and land use.

Once community members realized that population pressure and other factors were increasing coastal sedimentation and threatening corals and fish catches, they started planting forests and began using family planning services offered at the local clinic. As a result, the use of modern family planning methods among couples of reproductive age increased by 7 percent in less than two years, and communities decided to expand protected marine areas from 12 to 203 hectares.

## Government Support

Local governments and barangay councils have helped with money and manpower, especially for area-specific efforts like potable water projects, and with legislation such as local environment laws to define Marine Protected Areas. In some instances, town governments have also deployed pump boats for use in patrolling municipal waters and guarding against illegal fishing. Barangay-based organizations such as the Fisheries and Aquatic Resource Management Council have been deputized as fish wardens and are empowered to arrest illegal fishers.

The challenge now is replication in other communities. By working with other local groups, such as municipal governing bodies, community NGOs, and national and international partners including the Philippine Legislators' Committee on Population and Development and the Population Reference Bureau, the project partners have been mobilizing policymakers' support for policy action and project replication. These partners have formed a national coalition for population and environment called PHE SIGUE. (In the Philippines, SIGUE means "okay, we agree, go ahead.") The SIGUE coalition is promoting regular dialogue at the national and regional levels, research studies on population and sustainable development, and policy papers based on research findings and policy consultations. In November the coalition is organizing a national conference on population, health, and environment in Manila.

While the PESCO-Dev project is small-scale and recent, its initial success provides insight into how local communities and government units can design and implement integrated population, health, and environment programs for the protection and rehabilitation of the coastal environment. Such programs are important because sustainable management of the natural resource base is the foundation of a country's economy. And without health, the economy, no matter how strong, does people no good. We need to test approaches to manage these problems at different geographic levels and for different time periods. And we need to find ways to engage policymakers on these issues. A sustained natural resource base and a healthy populace can bring the goals of poverty reduction and sustainable consumption within sight and keep them there.

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