INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
IFPRI®

INTERVIEW INSIDE
Dr. Manmohan Singh, Prime Minister of India

ifpri FORUM

MARCH 2005

IFPRI Perspective Presented at Davos

On a scale of zero to ten, global efforts to reduce hunger scored only three, according to the Global Governance Initiative's 2005 annual report. Efforts to diminish poverty earned a rating of four.

The report on the progress in achieving the Millennium Development Goals (MDGs) was prepared for the World Economic Forum, and presented at its meeting in Davos, Switzerland, on January 25. A report panel led by Sartaj Aziz, former finance and foreign minister of Pakistan, and Joachim von Braun, IFPRI director general, assessed global progress in the fight against hunger and poverty. The low scores given by the panel reflected the fact that the world is not on track to meet the World Food Summit goal of halving the number of hungry people by 2015 and the MDG of reducing by half the proportion of people living on less than a dollar a day.

"Agriculture has a tremendously important role to play in meeting these goals. Half of the world's hungry people live in farm households, and three quarters of the world's poor live in rural areas," says von Braun. "To come

(continued on page 2)

When Disaster Strikes

The December 2004 earthquake and tsunami in the Indian Ocean have heightened awareness that poor people and countries are especially vulnerable to the consequences of natural disasters. Can we do better, from the community level to the global level, at mitigating the worst effects of natural disasters on the lives and livelihoods of the poor?

The scale of loss from the December 26 tsunami is by now sadly familiar to most people: More than 200,000 people perished, and over 1.5 million were left homeless. Economic losses have been estimated at more than US$6 billion, and the destruction of infrastructure, fishing fleets, and industry means that economic recovery will take years. In short, the tsunami ranks as one of the worst natural disasters in modern history.

Tragically, the enormous loss of life and property may have been at least

(continued on page 9)

Inside IFPRI FORUM

2020 VISION FOR FOOD, AGRICULTURE, AND THE ENVIRONMENT

African Stakeholders Committed to Building Consensus on Biotechnology

The food emergency in 2002-03 in Southern Africa presented the world with a controversy that had remained latent in the region ever since genetically modified food hit the market in developed countries in the 1990s. When a number of countries suffering from food shortages rejected food aid in the form of genetically modified grain, the highly polarized debate over biotechnology came to the surface. Pro-biotech and anti-biotech camps forcefully argued about the role of modern biotechnology in Africa's economic development, often excluding African policymakers from the dialogue and leaving the public uncertain about where the truth lay.

To enable African countries to make informed choices regarding biotechnology, the New Partnership for Africa's Development (NEPAD) and IFPRI jointly established a stakeholder initiative. Through the African Policy Dialogues on Biotechnology (APDB), "African countries can engage in dialogue and develop a consensus on the controversies, risks, challenges, and myths surrounding the growth and development of biotechnology in Africa," explains John Mugabe, the executive secretary of NEPAD's Science and Technology Forum and chair of the APDB.

The first dialogue roundtable took place in Johannesburg in April 2003 with the Food, Agriculture, and Natural Resources Policy Analysis Network (FANRPAN) the key subregional partner. The second dialogue, which took place in Harare, Zimbabwe in September 2004, led to an agreement on a Statement of Commitments, whereby participants agreed to a number of key recommendations; such as the need to build institutional arrangements to manage intellectual property rights, and the need to strengthen African countries' capacities in biotechnology-related fields.

"The dialogues are unique in combining carefully managed but highly participatory discussions, encapsulating a wide range of stakeholder groups, and feeding directly into national and regional policy processes," says Steven Were Omamo, research fellow in IFPRI's Development Strategy and Governance Division. Indeed, the dialogues are closely integrated with two major regional initiatives: the NEPAD Expert Panel on Biotechnology that makes recommendations to the African Union's ministers of science and technology and heads of state; and the Biotechnology Advisory Committee recently created by the Southern African Development Community's Council of Ministers.

An Africa-wide meeting is scheduled for June 2005, to coincide with the release of IFPRI and FANRPAN's book, *Biotechnology, Agriculture, and Food Security in Southern Africa*, edited by Steven Were Omamo and Klaus von Grebmer. The book is a collection of the proceedings and background papers from the dialogues. For more information on the APDB, go to **www.ifpri.org/africadialogue**. ■

IFPRI Perspective Presented at Davos *(continued from page 1)*

anywhere near reaching the goals by 2015, the year 2005 must see a quantum leap in concerted action."

Von Braun also delivered a presentation on international trade at the Davos meeting. He called for action in three key areas so that the World Trade Organization's Doha round of negotiations can benefit poor farmers:

- OECD countries must improve access to their markets,
- developing countries must avoid protectionism, and
- wealthy nations should provide more assistance to connect poor farmers to markets.

"The battle is on to see whether a coalition for protection and subsidies comes together to oppose a strong Doha outcome, or whether a different coalition prevails to achieve real trade liberalization. The well-being of many of the world's poor depends on overcoming this conflict," says von Braun. ■

A Safety Net with Investments in Children

Safety net programs can protect people from destitution in the short term; they can also offer long-term routes out of poverty, particularly when combined with investments in health, education, and nutrition.

To determine the impact of Nicaragua's safety net program, Red de Protección Social (RPS), IFPRI researchers evaluated its first two years. Begun in 2000 and designed to help children living in extreme poverty in rural Nicaragua, the RPS provides a cash transfer to families, conditional on their children attending school and visiting health clinics.

The evaluation involved quantitative research in which 1,500 households were surveyed three times between 2000 and 2002. In addition, fieldworkers completed a qualitative study using ethnographic techniques during a three-month stay in selected villages.

The study found that RPS improved the nutrition and education of approximately 10,000 of the country's poorest families.

The evaluation also found:

- substantial increases in family purchasing power—up to 40 percent for the extremely poor—with most of the spending going toward more and better food
- a one-third reduction in the extreme poverty rate
- a reduction of five percentage points in the incidence of children under five who are stunted. Few programs in the world have seen this level of improvement in only two years
- a nearly 20 percentage point rise in enrolment rates for primary school children
- the child labor rate cut in half in program areas.

The poorest benefited the most under the program—showing that targeting was effective.

Nearly half of those asked said that family relations—particularly between husbands and wives—had also improved thanks to the resources provided by the program. In addition, they mentioned increased recognition for women's work.

On the negative side, the targeting mechanisms were not well understood at the local level, and people developed local myths to explain inclusion and exclusion. The evaluators' recommendations include strengthening program communications to improve transparency of the selection process.

IFPRI's evaluation played an important role in the decision by the Government of Nicaragua and the Inter-American Development Bank to continue the program and expand it nationwide. ■

Assisting China with Rural Development Challenges

China is often described in terms that have a touch of the epic: it is one of the fastest-growing economies in the world (a 9 percent economic growth rate in 2004, and a GDP per capita five times larger than it was in 1981), it consumes more oil than any nation except the U.S., and it has contributed the most to global poverty reduction (220 million Chinese have escaped poverty since 1978). While boasting impressive achievements, China still faces enormous development challenges, with income growth in rural areas lagging far behind that in urban areas, and its agricultural sector failing to deliver enough food in recent years.

In its recent strategic plans, the Chinese government announced that strong economic growth would remain a priority, but that a more balanced and equitable development agenda focused on raising farmers' incomes and increasing agricultural production capacity would accompany growth policies. To help the Chinese government achieve its goals, IFPRI has increased its presence in and focus on China. "We will provide science-based solutions and advice for reducing rural poverty and dealing with China's emerging problems," explains Nico Heerink, the coordinator of IFPRI's China program.

The program will focus on a number of issues, including regional economic inequality, environmental degradation, the future of small-scale farming, the consequences of China's membership in the World Trade Organization, and the rise of nutrition-related diseases. The program will engage in research, capacity-strengthening and policy communication activities. "Creating stronger collaborative ties with Chinese institutions and researchers, providing support to policy strategies, and drawing lessons for other countries from China's successful transition are among the program's main objectives," says Shenggen Fan, senior research fellow in IFPRI's Development Strategy and Governance Division.

IFPRI's Beijing office and China program are housed within the Chinese Academy of Agricultural Sciences (CAAS). The program team, comprised of internationally and locally recruited staff, is working closely with the newly established International Center for Agricultural and Rural Development (ICARD), a joint initiative of IFPRI and CAAS. "To be sure that our research and outreach work has local impact, we will produce our material in Chinese, and work closely with the Chinese media," says Heerink. ■

Manmohan Singh, Prime Minister of India

In this comprehensive, thought-provoking interview with IFPRI Forum, *Dr. Manmohan Singh discusses the state of agriculture in India.*

FORUM: India has achieved significant economic growth in recent years. What do you see as the main reasons for that success? How do you intend to sustain success?

Manmohan Singh: The main source of the acceleration in economic growth that has taken place in recent years is the unshackling of entrepreneurial initiatives that came about because of the process of economic reforms beginning in the early 1980s and accelerating during the 1990s. This process has still some way to go in the sense that although most central government restraints on entrepreneurial activity have been virtually removed, some barriers continue to exist at the state level. In particular, much of our success up to now has been in the reform of policies, but little has been achieved by way of reforms in procedures. Procedural reforms will therefore have to be the focus in the future in our sustaining the growth momentum that we have achieved.

FORUM: One of the big questions the government is discussing right now is how to raise the growth rate in agriculture. What do you see as the policy and investment priorities for boosting agricultural growth?

Manmohan Singh: To a large extent our policy framework and investment priorities for agriculture were designed for addressing the issue of food security in the country and not really for a more balanced growth of agriculture. Since these policies have their roots in an economy of shortages, there is an excessive focus on controls on storing and trading of agricultural products. The future direction of policy clearly has to recognize that we are no longer in an era of chronic shortage, and that our emphasis now has to be on providing rapid growth in agriculture-based livelihoods. For this we would need to correct the various distortions that have crept into our policy framework both in terms of geographical focus as well as incentives to specific crops. It is necessary for us to create conditions whereby farmers can respond to market signals in deciding what and how much they produce and to whom they sell.

As far as investment priorities are concerned, clearly water management has to take the highest priority. As far as irrigation is concerned, much of the remaining land can be brought under irrigation with expeditious completion of irrigation projects that have been languishing for many years now. The real area of focus has to be our unirrigated and dry land areas. Watershed development and rain water harvesting hold out immense promise in addressing this issue, but we need to gear up our institutional framework to be able to effectively develop such interventions. Two other areas in water management that also need to be addressed are reversing the damage that has been caused by inadequate maintenance of our existing irrigation works and recharging of the underground water sources that have been overexploited.

In addition to water, the other critical areas of investment for rapid agricultural growth are the marketing infrastructure and science and technology inputs. We need to invest not only in developing efficient multipurpose market yards, but also the connectivities that are required both for transport and communication, which would enable farmers to realize the best prices possible for their produce. The extension system for dissemination of science and technology inputs is under strain and considerable investment would be required to ensure that it delivers the available technologies to the farmers as effectively as possible.

"The future direction of policy clearly has to recognize that we are no longer in an era of chronic shortage, and that our emphasis now has to be on providing rapid growth in agriculture-based livelihoods . . . It is necessary for us to create conditions whereby farmers can respond to market signals in deciding what and how much they produce and to whom they sell."

FORUM: Agricultural growth will put additional stress on water resources, which are already under severe pressure from the cities. What do you see as the solution to the problem of growing water scarcity?

Manmohan Singh: As far as stress on water resources is concerned, solutions would have to be found both in augmenting the supply as well as in reducing the demand for water in the country. I have already discussed the interventions that are necessary for improving water availability. There is also considerable potential for reducing the usage of water since, by and large, we have been relatively inefficient in this regard. Technological inputs both in terms of crop varieties and irrigation techniques are only one part of the solution. The other part relates to the institutional structure that governs distribution and use of water. We have been experimenting with water user associations for management of localized water resources, and a number of success stories have been recorded. We need to carry this forward vigorously. Nevertheless, we would have to consider economic disincentives for excess use of water through proper user charges for both water itself as well as energy that is needed for water extraction.

FORUM: What role are smallholder farmers expected to play in the path to faster agricultural growth?

Manmohan Singh: I would like to make it perfectly clear that our vision of Indian agriculture continues and will continue to be based on smallholder farming. In the Indian context, access to land is probably the only source of security that is available to a large percentage of our population, and we do not intend to do anything that would alienate the people from the land at least until alternate social security systems are effectively in place. In view of this, any strategy for agricultural growth in India would have to be based on smallholder farming. We do not, however, see any contradiction between smallholder farming and rapid growth in agriculture. Small farms can be as efficient if not even more efficient than large farms, provided that the requisite support systems exist. In the main there are three types of support that would be required: infrastructure, technology, and credit. There is no reason to believe that we cannot design appropriate public interventions to make these support systems available to our small farmers.

FORUM: In the international development community, there is growing interest in developing public-private partnerships for research and development in agriculture. In your opinion, what scope do such partnerships have for advancing agriculture in a way that benefits those most in need.

Manmohan Singh: There is no doubt that public-private partnerships for research and development in agriculture hold great promise for improving the technological base of agricultural systems around the world. However, it is not entirely clear that as things stand at present these developments would benefit those most in need, such as the small and marginal farmers in most developing countries. The international intellectual property rights regime creates a situation where the costs of new technology are not only well beyond the reach of resource-poor farmers, but also that the individual benefit may not in fact justify the costs that the farmer has to incur. You will recall that the technological breakthroughs that enabled the Green Revolution around the world were carried out primarily in the public domain and were therefore available to poor countries and even more so to poor farmers, at virtually no cost. Public-private partnerships, no matter how efficient, are unlikely to be quite so benevolent. It is, therefore, necessary to devise ways in which privately developed technologies can be accessed into the public domain so that they in turn can be made available to the farmers at costs that are not only affordable, but consistent with risk-to-return ratios. We may need to think of international cooperation in this regard, since it is very unlikely that developing countries would have the resources to be able to access such technologies from private developers for dissemination to their farming communities.

(continued on page 6)

"I would like to make it perfectly clear that our vision of Indian agriculture continues and will continue to be based on smallholder farming. In the Indian context, access to land is probably the only source of security that is available to a large percentage of our population…"

 (continued from page 5)

FORUM: What role do you see social security programs, such as food-for-work programs, playing in the effort to reduce rural poverty? What plans does the government have in this area?

Manmohan Singh: In poor countries like India, it is very difficult to devise social security programs in the sense that it is understood in developed countries, since the potential surplus that can be generated from the upper-income groups is simply not large enough to support the needs of the poor. In such a situation, workfare programs such as food-for-work hold more promise because there is an economic return to the nation from the expenditures made. In view of this, the Indian government proposes to enact an Employment Guarantee Legislation that would ensure a minimum amount of paid work to all poor households at reasonable wages. However, we should not have too much expectations from such programs for reducing rural poverty in the country. These programs are meant primarily to address impoverishment and distress, and not for poverty reduction per se. There may of course be reductions in poverty arising from such programs but this would be a bonus. Our main focus in reducing poverty in the country would be to ensure sustained and rapid growth of our rural economy, in particular agriculture.

FORUM: Agricultural subsidies seem to be politically volatile issues for both developing and developed countries. What are your thoughts on agricultural subsidies in India? Should they be modified? If so, in what way?

Manmohan Singh: Agricultural subsidies per se are not particularly a major issue in India. At present, there are three broad areas of government interventions that are interpreted as subsidies. The first is the Minimum Support Price System for a very limited number of agricultural products. For the most part, the price support that is provided is not hugely out of line with the costs of production, and therefore cannot really be treated as a subsidy. The real subsidy in this regard arises from the reduced price at which foodgrains are made available through the Public Distribution System (PDS). This is a subsidy to consumers and is a part of our Food Security System and not really an agricultural subsidy. Even here, since the entitlements under PDS are limited for each household, the food subsidy may not annually distort the overall food economy at the margin. This is quite unlike what prevails in developed countries, where agricultural/food subsidies tend to be open ended and not limited.

The second area is subsidy on fertilizers. Here again a major part of the so-called subsidy is a price that we pay as a country for maintaining a viable fertilizer production industry. This is a part of the broader concept of food security since we do not want our farmers to be exposed to the volatilities present in the international market for fertilizers. Finally, there are the subsidies on power and water. As far as the first is concerned, I am not sure that low-priced or even free power amounts to much of a subsidy in a situation where the provision of power is highly erratic and unreliable. It would in fact be unfair to charge farmers for electricity that they may not get at the time when they need it. There is considerable evidence that suggests that farmers are more than willing to pay the economic price for power provided that it is supplied on a regular basis and of the right quality. Our focus therefore should be on improving our rural power supply situation so that we could legitimately ask the farmers to bear a fair price. In the case of water, there is no doubt that there has been significant undercharging in our water rates, but a greater problem has been institutional mechanisms that are in place to effectively collect these payments. The experience that we have had with water user associations by and large suggests that with the right kind of institutions, collection of user charges can be made effective. We would, therefore, be attempting to move in the direction of decentralized provisioning of water, with the power to levy water charges also decentralized commensurately. ■

Managing Water Competition in South Asia

by Ruth Meinzen-Dick

South Asia has always had to deal with water scarcity, especially in its arid and semiarid areas. But rapid urbanization and industrial development have made the problem more acute. Farmers, cities, and industry—the three main sources of water demand—now routinely vie for the same water supplies. Irrigation systems, once the preserve of farmers, are now often tapped to supply factories and urban areas, because new water systems are costly to develop.

By 2025, the amount of water needed to meet municipal demand in India is expected to double, while the water going to industry and energy generation is expected to more than triple. Municipal and industrial water use will account for 27 percent of total withdrawals in India by 2025, compared to 17 percent in the mid-1990s. Similar trends are evident in other parts of South Asia.

The greater competition for water among extremely diverse groups with very different types of water needs has made water management an ever more complex task.

- The agriculture sector is still by far the largest user of water, but much of its needs are met during the rainy season, when water is relatively abundant, and most cropping systems are adapted to somewhat unreliable water supply.
- Increasing municipal demand for water comes not only from a growing population, but, more importantly, from urbanization: as people move to cities and incomes rise, lifestyle changes boost per capita water demand. Moreover, this demand is for high-quality water, year round.
- Growing industrial production is accelerating the demand for water even more rapidly. Industries often require the most reliable supplies of water—not just throughout the year, but around the clock.

Each water user not only takes water out, but also puts something back into the water supply: agrochemicals, municipal wastes, and industrial effluents. Very little municipal sewage is treated, but many farmers use it anyway for farming. The sewage provides nutrients for crops, but the accompanying pathogens and heavy metals can harm human health. Improperly treated industrial effluent is even worse for ecosystem and human health. The Noyyal basin of Tamil Nadu, India, for example, has become a "dead river" because of discharges from textile factories. Over 10,000 acres of irrigated area have become unproductive, and drinking water has to be brought in from outside the basin.

In addition to having different water needs, the three groups of water users have competing power bases. Many industries exercise strong economic power, and can argue that they need water to generate employment and foreign exchange. The image of "thirsty cities" is evocative (even though only a relatively small share of municipal water goes for drinking purposes), and large cities have considerable political power. Farmers can also be well-organized, particularly when it comes to demanding water.

Many analysts, looking only at total quantities of water used by each group, argue that relatively small transfers from irrigation water could meet the growing demand from industry and the cities. Moreover, because irrigation is often seen as an inefficient use of water, and agricultural output prices are now relatively low, these analysts see such transfers as going to "higher value" uses.

The crux of the matter comes down to competition for stored water, especially during the hot dry season, when demand peaks in all sectors. Supplying cities and industries at this time of the year often means cutting back on irrigation year-round.

A recent IFPRI study of the impact of water transfers on livelihoods in South Asia found that in Nepal's Kathmandu valley, many farmers were selling their land for urban development or moving into nonfarm occupations, thus benefiting from or at least gaining some compensation for the shift to nonfarm water uses. But this kind of transition does not always take place. In the Bhavani basin of Tamil Nadu, irrigation water has been transferred in increasing amounts to two cities and a growing textile industry. Each transfer was small relative to total irrigation water use, but the cumulative effect on farmers was negative, particularly during dry years. Farmers at the tail end of the irrigation system rarely got water, but they adapted by diversifying their livelihoods. Farmers with the most senior water rights, those whose families had irrigated their land for centuries, suffered badly when rainfall levels fell below normal.

Interestingly, the Bhavani farmers did not object to water transfers to cities, because they placed a strong value on providing "drinking water." All they asked in return was that municipal uses be "reasonable." Water given to industry, however, sparked a groundswell of opposition, despite the creation of thousands of jobs. Much of this opposition hinged on the pollution caused by the factories. A local civil society movement, the Bhavani Basin Environmental Protection Group, mobilized protests and even initiated court cases that shut down a major textile plant for failing to control its effluent.

When water transfers dry up or pollute rural landscapes, rural people whose livelihoods are at stake are likely to protest. To avoid such conflicts, rural people need to be part of the decisionmaking process and share in the benefits. Currently there is little consultation with farmers when irrigation water is transferred. Some programs have been put in place to compensate farmers who give up water for other uses. These negotiated approaches offer promising ways of dealing with the increasing competition for water among agricultural, industrial, and urban water users in South Asia. ■

Ruth Meinzen-Dick is a senior research fellow in IFPRI's Environment and Production Technology Division.

Putting Gender into the Global Food Picture

IFPRI's groundbreaking model of global food supply and demand and natural resource use will soon add a new dimension—gender—to its projections of the future world food situation. Gender is increasingly recognized as an important factor in poverty, inequality, and malnutrition around the world. Over the next year, therefore, IFPRI researchers will be working to incorporate gender dimensions into IMPACT (International Model for Policy Analysis of Agricultural Commodities and Trade) to help inform policymakers as they make decisions on economic and social policy.

Research from IFPRI and elsewhere has shown strong links between, for instance, greater female education, status, and decision-making power with outcomes like reduced fertility, improved child health, and better child nutrition. But do results like these mean that specific, gender-related investments and policy reforms could lead to regional or global improvements in human well-being? Would investing in girls' education, for example, actually lead to greater global food security than investing in education for boys and girls? The goal is to develop a policy tool that will provide decision-makers with science-based answers to these questions.

As a first step, IFPRI conducted a two-day workshop this past November to evaluate the long-term global impact of gender-related investments and policy reforms. At the workshop, leading experts in anthropology, gender policy, and socioeconomic modeling confirmed the need for this kind of study and suggested specific gender issues to be pursued.

As they seek to incorporate gender into IMPACT, IFPRI researchers will focus on well-documented data and relationships and then collaborate with other organizations, such as the U.S. Agency for International Development and the World Bank, to collect and incorporate new data.

The inclusion of gender issues is part of an ongoing process of expanding and enhancing the modeling in IMPACT. A key resource on food security issues for policymakers, IMPACT has been extended over time to include not just food commodity demand, supply, and trade, but also use of water resources, trends for specific food sectors such as fish and livestock, and achievement of the food security related Millennium Development Goals. ■

IMPACT Software Now Available on IFPRI Website

Given the widespread interest in the projections of the world food situation from IFPRI's International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT), the institute has developed a distributable version of the model and made it available on the IFPRI website. Users can download the IMPACT Distributed Version (or IMPACT-D) and use it to develop and run their own scenario analyses without knowing high-level math computer programming.

IMPACT-D currently includes 36 world regions and 32 commodities and allows users to adjust assumptions for growth in (1) yield, (2) crop area/herd size, (3) irrigation, (4) population, and (5) national income by time period (for assumptions made for 1, 2 and 4), by region (for all assumptions), and by commodity (for assumptions made for 1–3).

IMPACT-D works on top of freeware versions of the main software packages used for the model. After developing their own scenarios, users can store the results in separate Excel files, and the program automatically generates a standard-format summary page in the output Excel file.

For more information, go to **www.ifpri.org/themes/impact/impactd.asp** ■

Building Public-Private Partnerships for Agricultural Innovation

Working with an exporter and local producers, EMBRAPA, Brazil's national agricultural research organization, developed technology for small-scale processing of cashew nuts. For more than 30 years, the Chilean Instituto de Investigaciones Agropecuarias partnered with a brewery to finance the breeding of barley varieties suited to Chile's climatic conditions. And Uruguayan farmers, millers, bakeries, and other stakeholders formed a partnership to improve the competitiveness of Uruguayan wheat.

Researchers have studied these and 124 other cases as part of a recently concluded three-year project on public-private partnerships (PPPs) for agroindustrial development in Latin America. The study—led by IFPRI and implemented in collaboration with the International Center for Tropical Agriculture (CIAT), several national agricultural research systems, and regional research bodies—is a first-ever attempt to systematically collect information on PPPs that seek to generate innovations in agriculture.

"Although private-public partnerships recently have become a means of developing technological innovations throughout the world, in Latin America, especially in the less-developed Latin countries, such initiatives are rarely planned and executed well," says Jaime Tola, project leader and research fellow in IFPRI's ISNAR Division. "Many efforts to build partnerships between public research organizations and the private sector fail to bring about pro-poor development or to develop new or improved products for the market, disappointing all parties."

To learn about potential benefits and pitfalls of private-public partnerships and draw lessons from success stories, researchers surveyed nearly 500 people involved in agricultural-development-related PPPs. Project staff also invested heavily in capacity building, training 110 stakeholders from 15 countries in the art and science of partnership building. Based on these findings, IFPRI is currently developing a guidebook that will present a model for building PPPs.

Key lessons include the importance of identifying and negotiating common interests, monitoring partnerships and fostering synergy to improve innovations and outputs, and capitalizing on the benefits of shared resources and learning opportunities. Milk producers and marketers, for example, jointly learned how to improve dairy products in response to production and market demands.

According to IFPRI researcher Frank Hartwich, "Public administrators often view private-public partnerships as the privatization of research. Instead, they should see them as tools for improving public research and opportunities for designing innovative partnerships that address important public needs, such as poverty alleviation and rural development." ■

When Disaster Strikes *(continued from page 1)*

partly avoidable. If the tsunami had taken place on the coast of Japan instead of in the Indian Ocean, it would have swept ashore to a population and a physical environment well prepared for the onslaught of water. The country's Tsunami Warning System aims to give citizens at least 10 minutes to evacuate the area in the path of a tsunami, and an extensive array of tsunami walls, shelters, and floodgates helps protect the shoreline. But none of these were present around the Indian Ocean.

The tsunami illustrates the pattern that natural disasters increasingly display: poor countries and people bear the brunt of the devastation. Natural disasters occur when a natural hazard (such as an earthquake, cyclone, or drought) intersects with human vulnerability (such as poor building standards, inappropriate land use, or lack of knowledge about and preparation for the hazard). And the poor remain highly vulnerable.

Over the past 80 years, whereas the number of recorded natural disasters has increased, the number of fatalities has decreased, so the world has made some progress on reducing the impact of disasters. Still, according to the United Nations Development Programme (UNDP), from 1980 to 2000 about 1.5 million people died in earthquakes, volcanic eruptions, tropical storms, droughts, and other natural disasters. Death rates are far higher in poor countries than in rich ones. Although only 11 percent of the people exposed to natural hazards live in poor countries, these people account for more than 53 percent of deaths recorded from natural disasters. The differences in impact suggest that there is great potential to reduce the devastation caused by natural disasters in developing countries—that, in fact, the key ingredient in these tragedies is human inaction.

(continued on page 10)

When Disaster Strikes *(continued from page 9)*

"There is nothing natural about these disasters," says Andrew Maskrey, chief of the UNDP's Disaster Reduction Unit. "The impact of disasters can be sharply reduced if governments make an effort to reduce risk before a disaster happens, rather than rush to respond after the damage has been done."

Preparing for the Worst

There is increasing recognition that disaster preparedness at the international, national, and local levels is key to reducing the destructiveness of natural disasters. In the wake of the tsunami disaster, plans are afoot to create an international tsunami warning system for the Indian Ocean, using buoys, seismic stations, and satellites. Such a system has the potential to save hundreds of thousands of lives, but it will be of little use if local people, many of whom have no access to modern communications, do not get the warning or do not know what to do when they do get it. To be effective, the early warning system will need to be accompanied by education and public awareness campaigns as well as communications infrastructure. "You need to know who has authority to make decisions, you need emergency radio procedures, and you need evacuation routes," says William Orme, a spokesperson for UNDP.

Bangladesh, which has been called the most disaster-prone country in the world, has shown that even a poor country can effectively prepare for disaster. Bangladesh is subject to cyclones, flooding, storm surges, droughts, tornadoes, and earthquakes. In the wake of a devastating cyclone in 1970 that killed some 500,000 people in Bangladesh, that country began to focus on preparedness. Since then it has built cyclone shelters along its coastline and developed rapid evacuation procedures that have saved millions of lives, according to *World Disasters Report 2002*. A cyclone in 1991 killed about 139,000 people, but thanks to vigorous preparedness efforts, another large cyclone in 1994 claimed only 165 lives.

© 2005 Jeremy Horner/Panos Pictures

Bangladesh is also subject to regular annual flooding of its rivers, but every 10 years or so, the flooding reaches a disastrous scale, according to Paul Dorosh, formerly an IFPRI researcher and coeditor (with Carlo del Ninno and Quazi Shahabuddin) of a book entitled *The 1998 Floods and Beyond: Towards Comprehensive Food Security in Bangladesh*. Severe floods in 1974 were followed by food shortages, widespread hunger, and even famine. Then in 1998, floodwaters rose to cover two-thirds of the country. Because the floods came on slowly, over the course of weeks, there was little loss of life, but the water destroyed more than 2 million tons of rice crops. Fortunately, the country was ready with a new strategy for avoiding a food crisis. The private sector stepped in with enormous imports of rice from India to help keep food supplies in the markets at stable prices, and the government directed well-targeted food transfer programs to the neediest people. "Many people had to borrow and change their expenditure patterns," says Dorosh, now a senior rural development economist with the World Bank, "but for the most part they managed to avoid serious adverse nutrition consequences from the flooding."

According to Margaret Arnold, the director/program manager of the World Bank's Hazard Management Unit, "Poor countries tend to think of investments in disaster prevention and preparedness as luxuries that they can't afford." The evidence shows, however, that disaster preparedness can be a more cost-effective approach than recovery. In an area subject to annual flooding in the Indian state of Bihar,

Tearfund, a UK nongovernmental organization (NGO), and the Discipleship Centre, an Indian NGO, have teamed up with villagers to prepare ahead of time for the inundations. Villagers have built up embankments that serve as evacuation routes, installed hand pumps whose spigots are raised above likely flood levels so that drinking water is not contaminated, and developed evacuation procedures. An analysis by Tearfund showed that every rupee invested in flood preparedness generated 3.8 rupees in benefits, says Sarah La Trobe, Tearfund's policy adviser for environment and disasters.

Indeed, a study by the World Bank and U.S. Geological Survey calculated that US$40 million invested in disaster preparedness, mitigation, and prevention in the 1990s would have reduced economic losses by US$280 million—a sevenfold return. Yet, although communities and governments are taking some steps to make these investments, international donors still tend to focus much of their resources on disaster recovery rather than prevention.

Recovering from Disaster

Despite the international community's emphasis on disaster recovery, foreign NGOs and relief teams are not the first helpers on the scene when disaster strikes. "It is an established fact that in natural disasters, particularly in the post-disaster emergency phases, the survival needs of disadvantaged people are met by the people themselves, their extended families, and nearest communities," says Muhammad Saidur Rahman, director of the Bangladesh Disaster Preparedness Centre. It can take international relief teams days or weeks to arrive, a period during which help from family and neighbors can mean the difference between life and death. Given this reality, argues Saidur Rahman, much more should be done to improve the capacity of local populations to recover from disasters.

Besides destroying lives, disasters devastate livelihoods and economies. After Hurricane Mitch, the deadliest Atlantic hurricane in two centuries, pounded Honduras in 1998, the country's president claimed its development had been set back 50 years. Tens of thousands of people were left homeless, infrastructure was destroyed, crops were wiped out, and thousands of families were left with no source of income. A World Bank/ProVention Consortium study of the recovery in Honduras revealed that four years after the hurricane, people affected still reported being worse off than before the hurricane.

"One major lesson of Hurricane Mitch and other disasters," says Arnold of the World Bank, "is that no one has paid enough attention to livelihood recovery." Some ways of helping rebuild livelihoods, she says, are to use local labor as much as possible for debris removal and reconstruction, giving cash payments in support of livelihoods, and promoting microfinance programs.

So far, the international community appears to be applying this lesson in the wake of the Indian Ocean tsunami. More than 1 million people live in the coastal areas affected by the tsunami, and restoring their livelihoods will take not weeks or months, but years. A number of efforts are underway especially to help fisherfolk, perhaps the most heavily affected group, as well as farmers, rebuild their livelihoods. The WorldFish Center, for example, will lead an initiative of the Consultative Group on International Agricultural Research (CGIAR) to develop a long-term rehabilitation action plan for agriculture and fisheries in the tsunami-affected regions. Over the next five years, the initiative will manage a flexible coalition of donors, research and government agencies, NGOs, and civil society to identify options and implement plans for promoting sustainable livelihoods and reducing future disaster risk. Scientists from the International Rice Research Institute (IRRI) have also begun identifying rice production problems in countries hit by the tsunami, which deposited large amounts of salt in coastal soils, and are responding to requests from Malaysia and Sri Lanka for seeds of saline-tolerant rice varieties suitable for growing in tsunami-affected areas.

One effective way of spreading the economic risk of disaster—insurance—has traditionally not been available to poor people, but this is beginning to change. After a 1999 earthquake in the Marmara region of Turkey, the World Bank helped introduce the Turkish Catastrophic Insurance Pool. The pool is an intermediary between homeowners and the commercial reinsurance market, and because of the pool's size, coverage is affordable for poor homeowners.

Innovative insurance schemes are also being proposed to help farmers recover from natural disasters. According to Peter Hazell, director of IFPRI's Development Strategy and Governance Division, insurance indexed to natural hazards is being tried in a couple of places. Under index insurance, farmers are not insured when they alone suffer losses, but rather when a specific, measurable level of hazard, such as drought or heavy rainfall, is recorded in their district or region. Index insurance contracts could be written against other measurable natural disasters, such as high winds or earthquakes. Private insurers in India have begun pilot programs offering insurance indexed to drought and excess rainfall, and the Mongolian government is undertaking a pilot program of insurance indexed to livestock mortality rates.

"The idea of insurance is to spread the costs of natural disasters more effectively around the world," says Hazell. "Insurance can also provide better incentives so that people do not take more risk than necessary. For example, in the United States people would build fewer houses in hurricane-prone areas if the full cost of any insurance fell on the owners. But when Uncle Sam picks up much of the loss, then everybody is ready to build!"

Disaster as Development Failure

In January 2005 the United Nations held its World Conference on Disaster Reduction in Kobe, Japan, itself the scene of a deadly earthquake in 1995. In the Hyogo Declaration adopted at the

(continued on page 12)

When Disaster Strikes *(continued from page 11)*

conference, delegates recognized "the intrinsic relationship between disaster reduction, sustainable development, and poverty reduction." According to Peter Walker, director of the Feinstein International Famine Center of Tufts University, "This is important. Disasters, at this conference and hopefully from now on, will be seen essentially as an expression of development failure, and their reduction as a matter of good governance, risk reduction, and livelihood focus."

Part of good governance, then, includes taking account of disaster risks. "We need to get out of the mentality that disaster policy is about civil defense and that's all," says Maria Olga Gonzalez, a disaster program specialist with the UNDP Disaster Reduction Unit. "A country's risk profile should shape its development policies."

Incorporating natural disaster considerations into national and local development policies may involve making financial investments or foregoing some development paths. But, says Gonzalez, "it's not always expensive. Sometimes it just requires a different way of doing things."

Urban and housing policies may have to change, to avoid having large numbers of poor people settled in makeshift housing on riverbanks and unstable hillsides. Enforcement of building standards may need to be tightened—earthquakes are shown to kill many more people and destroy more property in countries where populations are urbanizing rapidly and where building standards and land-use planning have consequently been lax. Some development may need to be directed away from coastal areas, which are highly vulnerable to hurricanes and flooding.

In many cases, policies and programs that reduce disaster risk also support development efforts more broadly. Irrigation is a good example, says Hazell. It not only reduces farmers' vulnerability to drought but also increases their average production and incomes.

Similarly, investments in communications and transportation infrastructure serve the economy at large and can be crucial during a natural disaster. Microcredit programs can help poor people achieve sustainable livelihoods, as well as helping them get back on their feet after a crisis. Programs to improve community disaster preparedness can also help build social networks that are useful day to day.

Confronting a Riskier Future?

Local communities and central governments bear much of the responsibility of doing more to prepare for and mitigate the effects of natural disasters. But the international donor community, says La Trobe, has a "particular responsibility." At the January Kobe conference, Tearfund was one of several groups pushing for clear disaster reduction actions, and although delegates agreed to take action, they did not commit themselves to concrete timetables or targets. "It makes no moral or economic sense to ignore the urgent need for disaster prevention," says La Trobe.

So far, the international community remains much more ready to respond after disaster strikes than to invest in preparedness and prevention. But the need for these investments is becoming more urgent. Not only have natural disasters become more frequent in recent decades, but they are also more costly in terms of both economic losses and number of people affected. As climate change occurs, it is likely to produce more extreme weather events like cyclones, heavy rainfall, and drought. Environmental degradation and population growth may also increase the impact of future natural disasters.

Will the Indian Ocean tsunami help highlight the need for broad and sustained action at every level to reduce disaster risks, or will it briefly attract attention and divert resources from other recent and current disasters before national governments and the international community return to business as usual? The tremendous response to the tsunami by donors around the world is encouraging, but now public and private actors must take steps to prevent the next disaster. ■

—Reported by Heidi Fritschel

PUBLISHED BY

International Food Policy Research Institute and its 2020 Vision Initiative

2033 K Street, NW
Washington, DC
20006-1002 USA

T +1.202.862.5600
F +1.202.467.4439

ifpri@cgiar.org

www.ifpri.org

Managing Editor: Uday Mohan
u.mohan@cgiar.org