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Interview with
Sylvia Mathews Burwell,
President, Global Development Program,
The Bill & Melinda Gates Foundation

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Enacting Biosafety Legislation in Kenya

Managing the opportunities and risks posed by agricultural biotechnology requires countries to have well-functioning biosafety systems, but many countries find that establishing rules and regulations on biosafety can be time consuming and contentious.

Kenya, for instance, began working on drafting and enacting biosafety legislation in 2002, but it was not until February 12, 2009, that President Mwai Kibaki of Kenya signed the nation's Biosafety Bill into law. Minister of Agriculture William Ruto said, "The benefits arising out of the bill are enormous. It gives this country a comprehensive and coordinated manner in which to tap benefits from research and enhance self-sufficiency in food production."

Among the actors laying the groundwork for enactment of the Kenya Biosafety Bill was the IFPRI-managed Program for Biosafety Systems (PBS),

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Wanted: Good Jobs for Fighting Poverty

The current global recession is leading to millions of job losses around the world, pushing some people deeper into poverty and nudging others into poverty for the first time. How can governments and others in developing countries create good jobs to fight poverty and hunger both now and in the long term?

One of the main casualties of the current economic downturn is jobs—employers worldwide are cutting their payrolls in response to plummeting demand and tight credit. In its 2009 report on global employment trends, the International

Labour Organization (ILO) says that global unemployment in 2009 could increase by 18–30 million workers over 2007, and if the situation gets worse, the increase could rise to 50 million, bringing the total number of unemployed to 230 million. ILO Director-

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Investment in Agricultural R&D in Latin America and the Caribbean: Mixed Findings

Considerable evidence shows that investing in agricultural research and development (R&D) is critical to stimulating farmers' production and combating poverty and food insecurity among rural people. At first glance, it appears that the Latin America and the Caribbean (LAC) region has taken this evidence to heart. As a whole, the LAC region invests in agricultural R&D at relatively high levels. But a new report from IFPRI's Agricultural Science and Technology Indicators (ASTI) initiative, "Public Agricultural Research in Latin America and the Caribbean: Investment and Capacity Trends," takes a closer look at the composition of agricultural R&D spending. The report finds that whereas some countries are investing heavily in R&D and reaping the returns, others are lagging behind.

On the positive side, LAC countries spend on average US\$1.14 per US\$100 of agricultural output, whereas spending in the Africa and Asia-Pacific regions averages only US\$0.65 and US\$0.42 of agricultural gross domestic product (GDP), respectively. As a whole, LAC spent close to US\$3 billion on public agricultural R&D in 2006 (measured in 2005 purchasing power parity prices), up from just US\$2.3 million 25 years earlier. The rising investments in agricultural R&D have enabled LAC countries to build more qualified scientist pools and expand research programs that foster the development of new agricultural technologies and varieties and ultimately improve productivity. For instance, the recent boost in fruit and salmon production in Chile and the success of these sectors in the international market demonstrate the ability of Chilean producers to implement the latest technological innovations in their production system.

Yet the ASTI report shows that although many of LAC's middle-income countries realized impressive growth in agricultural R&D spending between 1996 and 2006, spending in many low-income countries declined. Just three countries—Argentina, Brazil, and Mexico—accounted for 70 percent of the region's total agricultural R&D investments in 2006. It is becoming increasingly clear that the region's low-income countries are slipping further behind their middle-income counterparts in their ability to generate new agricultural technologies and varieties. Between 1996 and 2006, low-income countries like Guatemala, El Salvador, and Paraguay experienced cuts in excess of 4 percent a year in their agricultural R&D spending levels, whereas spending levels have risen rapidly in recent years in middle-income countries like Argentina, Costa Rica, and Uruguay.

The report concludes that if the region is to achieve food security, reduce poverty, and compete in an increasingly competitive global market, strong political support for agricultural R&D is called for in addition to financial support.

ASTI is a global research and data-gathering program spearheaded by IFPRI on behalf of the Consultative Group on International Agricultural Research (CGIAR). The program compiles internationally comparable data on investments in agricultural research and development in developing countries, analyzes the information, and reports on trends. In 2008, ASTI received a US\$2.5 million grant from the Bill and Melinda Gates Foundation to expand and update its database on investment and human capacity trends in agricultural R&D.

ASTI's new report on Latin America and the Caribbean, as well as additional information about the program, can be found at www.asti.cgiar.org. ■



HarvestChoice Website Informs Strategic Investment Decisions

Agricultural data has historically been scattered around various research institutes and governments with little understanding of how the data complement or overlap one another, where gaps need to be filled, and which critical data simply do not exist. As a result, decisionmakers have not had the best information available on which to base their agricultural policies and investments, especially in Sub-Saharan Africa (SSA).

To address this problem, the HarvestChoice initiative is both gathering and generating a comprehensive collection of relevant data for its revamped website. The data is intended to guide the investments of lending, donor, private, and government institutions working to make farms in developing countries more productive and profitable and to develop agricultural markets in those regions. Because many decisions aiming to boost crop productivity are location specific, especially in SSA, HarvestChoice takes a geographic—or spatial—approach, using platforms such as Google Maps.

"Getting the biggest productivity bang for the buck requires a good understanding of the specific production and marketing challenges and opportunities at each location and a spatially nuanced assessment of the agronomic and economic tradeoffs

involved," says Stanley Wood, IFPRI Senior Research Fellow and co-project leader.

The interactive portal focuses on factors relevant to crop production and marketing in SSA agriculture, such as climate, soil types and pests, the geographic location and performance of different crops, and access to markets. Much of the information is provided in very specific formats, typically in 10km by 10km grid cells across entire countries and continents.

By providing both public and private investors with a broader and more in-depth understanding of these production and marketing issues, HarvestChoice hopes to reveal the potential benefits for small farmers when productivity-enhancing policies, technologies, and management practices are adopted. By identifying obstacles in accessing markets, HarvestChoice data can also be used to help promote broader market participation by small farmers. The HarvestChoice website will be continuously updated and improved over time. To view the website and download these early data offerings, visit www.harvestchoice.org.

HarvestChoice was launched in October 2006 and is jointly led by IFPRI and the University of Minnesota's International Science and Technology Practice and Policy center. ■

Enacting Biosafety Legislation in Kenya *(continued from page 1)*

which works with partner countries in Africa and Asia to help them develop fully functional biosafety regulatory systems. In 2004, PBS began providing Kenya with biosafety regulatory support and capacity building to facilitate confined field trials of genetically modified crops such as cotton and corn and also worked with international and local partners to establish links among key institutions and build support for the Biosafety Bill among parliamentarians.

According to the Program for Biosafety Systems, the Kenyan experience offers some useful lessons for African countries working to enact biosafety laws. The most fundamental step is to secure firm and consistent political commitment from high-level policymakers and politicians, including permanent secretaries, cabinet ministers from key line ministries, and members of relevant parliamentary committees. These supporters are indispensable for moving the process forward successfully. Building a supportive and well-informed team of parliamentarians also requires a



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focused, holistic, continuous, and sustained strategy for policy communication and outreach.

For more information on PBS: www.ifpri.org/pbs/pbs.asp. ■

“We are convinced that with a sustained focus on—and investment in—effective agricultural development, it is possible to help hundreds of millions of small farmers and their families build better lives.”



Sylvia Mathews Burwell President, Global Development Program, The Bill & Melinda Gates Foundation

IFPRI Forum talks with Sylvia Mathews Burwell about the Gates Foundation’s work to promote agricultural development.

FORUM: Three years ago, the Bill & Melinda Gates Foundation launched the Global Development Program. Why did the foundation decide to tackle additional development issues, specifically agricultural development, along with health in the developing world? What are your goals?

Burwell: The Foundation’s work is motivated by a simple belief that all lives have equal value and that all people should have the opportunity to live a healthy, productive life. Our program teams identify areas where inequity exists and find approaches that will deliver the greatest impact.

Initially, this goal led us to focus our global efforts on health and our domestic efforts on education and access to information through public libraries. In 2005, Bill and Melinda asked me to lead a new group called Strategic Opportunities to understand areas in the developing world, beyond health, where the Foundation could play a meaningful role.

We started by asking ourselves what issues affect the greatest number of people, but receive too little attention and resources. We were looking for the best opportunities to help millions of people lift themselves out of hunger and poverty. It became clear that if we wanted to have impact that was scalable and sustainable, the answer was agriculture.

A majority of the world’s poorest people—the more than 1 billion who live on less than US\$1 a day—rely on agriculture to feed themselves and their families, yet many cannot grow enough to eat or sell. Despite the resulting hunger, malnutrition, and illness, most agricultural research does not account for the needs of the poor, and the share of official assistance to agriculture in developing countries has fallen by two-thirds in the past 20 years, while agricultural productivity has fallen in some parts of the world, including much of Sub-Saharan Africa.

We saw that there was a real problem and believed there was a real solution that worked. We also saw that our approach was well suited to the need.

We are convinced that with a sustained focus on—and investment in—effective agricultural development, it is possible to help hundreds of millions of small farmers and their families build better lives.

FORUM: What is the Foundation’s approach to agriculture?

Burwell: Our work is guided by a few core principles. First, we put small farmers—most of whom are women—at the center of our efforts. A majority of the world’s poor are small farmers, and reducing hunger and poverty on a large scale begins with them.

We know there’s no single, simple solution, so we take a comprehensive approach to support the full range of farmers’ needs. We support projects that help small farmers boost their yields and increase their incomes with improved seeds and healthier soil, and work to

provide them with more reliable access to markets. We support initiatives that explore how science and technology can create solutions for small farmers. And we support data collection and research that is necessary for agriculture policies to be successful.

But we also recognize our limits. We know we can't succeed on our own, so we seek partnerships to achieve shared goals. We believe that our best impact will be in collaboration with other foundations, governments, NGOs, and corporations. One example is our support for the Alliance for a Green Revolution in Africa (AGRA). AGRA is an African-led, Africa-focused partnership that aims to revitalize agriculture on the continent through a new Green Revolution. Through strong partnerships with African leaders, policymakers, scientists, and others, AGRA aims to improve small farmers' access to seeds, farm management techniques, and markets. The world learned a great deal from the original Green Revolution about the importance of considering potential environmental impacts and unintended consequences, and AGRA's strategy reflects that knowledge.

Lastly, throughout all of our work, we focus relentlessly on results. We define our success by increased farm household incomes, reduced proportion of underweight children, and the quality and quantity of people's diets. We set clear goals and milestones and measure and adjust our efforts continually to ensure our impact is as widespread and lasting as possible.

FORUM: Amid the current financial crisis and economic recession, the need for development assistance is increasing rapidly while resources are shrinking. How is the Foundation responding?

Burwell: The financial crisis is affecting everyone. The impact of the global economic turmoil on poverty and hunger in the developing world only makes our efforts more important and our commitment stronger. We believe that positive change is possible, even in the most challenging situations and in the poorest of countries. This is a time of great promise. Advances in science and technology, renewed attention to agriculture in developing countries, and dedicated partners are making great progress possible. The Foundation is committed to its strategy and approach to grantmaking. We will also continue to use our voice to reinforce the critical importance of focusing on more and effective foreign aid and encourage others to continue their commitments during these tough times as well.

FORUM: Can you give us some examples of the kinds of agricultural development efforts you are funding?

Burwell: One key to improving agricultural productivity is improving the data that directs agricultural investment. We are very encouraged by our work with IFPRI on its HarvestChoice project. This effort focuses on informing policy decisions by creating and disseminating information on innovative and promising ways to improve crop productivity. HarvestChoice has made significant progress in mapping important data such as crop production, input use, and soil characteristics. It has also begun mapping data on market access issues such as port locations, time to markets, and access to roads, as well as consumer and population issues. The HarvestChoice website has received visitors from more than 100 countries and is being used by donors, researchers, development organizations, the private sector, and African institutions.

We are also working with the World Food Programme (WFP), the world's single largest purchaser of food for humanitarian operations, on an exciting initiative called Purchase for Progress, or P4P. This innovative partnership has real potential to transform the way WFP buys food in the developing world, giving hundreds of thousands of small farmers access to reliable markets and the opportunity to sell their crops at competitive prices. P4P is a true win-win opportunity that allows WFP to help those who have little or no food, while supporting local farmers who have little or no access to markets to sell their crops.

We are also supporting AGRA's Soil Health Program, which aims to revitalize Africa's severely depleted soils to increase the fertility, yield, and sustainability of small-scale farms. Soil health is critical to sustained agricultural productivity in Africa. Yet the soils of Sub-Saharan Africa are the most weathered and degraded in the world, and soil fertility is in decline. This program will improve soil health by promoting locally appropriate soil management practices that include the use of fertilizers and other inputs to increase farm productivity, secure a sustainable food supply, improve small farmer livelihoods, and develop agricultural markets in Africa.

We value these kinds of partnerships deeply, and we believe they will be the foundation of our success. We believe that if we all redouble our efforts to help revitalize agricultural development, hundreds of millions of people—and entire regions—being left behind today will have the tools and opportunities to move out of poverty and toward prosperity. ■

HarvestPlus Moves into Second Phase

Micronutrient malnutrition is caused by a lack of vitamins and minerals in the diet. It can leave children blind, lower their IQ several points, and make them susceptible to numerous illnesses. It prevents people who are too sick or exhausted to work from climbing out of poverty, and it lowers a country's productivity.

HarvestPlus, an international alliance coordinated by IFPRI and the International Center for Tropical Agriculture, has been working to reduce micronutrient malnutrition through biofortification, the breeding of foodcrops with higher nutritional value. As part of its successful first phase, HarvestPlus collaborated with the International Potato Center and African scientists to develop and disseminate a sweetpotato variety high in vitamin A in Uganda and Mozambique, where vitamin A deficiencies are widespread and sweetpotato is a major part of the diet. Early results suggest that consumers and farmers are adopting the new sweetpotato, even though it has a different color, taste, and consistency than the traditional variety. Other work conducted in this phase included the expansion of research partnerships (now numbering more than 200 scientists), as well as the production of other nutrient-rich crops that are currently moving from the laboratory to field testing.

Because of these achievements, HarvestPlus is now moving on to an ambitious second phase of research with the help of a US\$45 million grant from the Bill & Melinda Gates Foundation. Phase II will focus on seven staple crops: rice, wheat, maize, cassava, beans, sweetpotato, and pearl millet. HarvestPlus plans to release high-iron beans in Rwanda and the Democratic Republic of Congo in 2010 and is working with the International Crops Research Institute for the Semi-Arid Tropics to release high-iron varieties of pearl millet in India in 2011.

Phase II will also allow HarvestPlus to expand its collaboration with national partners to initiate in-country testing, breeding, and adoption of micronutrient-rich crops. This should facilitate the formal release of seed and planting material in target countries, furthering HarvestPlus's efforts to bring micronutrient-rich staple crops from CGIAR laboratories to farmers' fields in Africa and Asia.

For more information on HarvestPlus: www.harvestplus.org. ■



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Bringing Agriculture to the Climate Change Negotiating Table

Gerald Nelson

Since international climate change negotiations began in the early 1990s, agriculture has been largely overlooked. This omission was perhaps understandable, given the knowledge of the time. Now, it no longer is. A growing body of evidence shows that the world's farmers can play a significant role in reducing greenhouse gas emissions and thus contribute to efforts to mitigate climate change. But agriculture also faces serious challenges, and the global food supply will depend on how well agriculture adapts to climate change. As the world prepares for a possible new agreement on climate change in December 2009 in Copenhagen, it is time to put agriculture on the agenda.

When climate negotiations began more than a decade ago, the effects of climate change on agriculture appeared manageable: this is the main reason why agriculture is missing from many of the documents of the United Nations Framework Convention on Climate Change. No one said that agriculture would be unaffected by climate change. In the mid-1990s, however, the general consensus in the scientific community was that rising temperatures and changing precipitation patterns would push down yields in temperate regions and that these downward effects would be offset by trade flows from parts of the world with higher yields and by the fact that increased CO₂ in the atmosphere can act as a crop fertilizer and thus boost yields.

In the early 2000s, climate scientists started to become concerned about crop production. They foresaw moderate increases in agricultural yields in developed countries and declines in developing countries, located mostly in tropical areas, and they perceived a substantially greater risk of hunger in the developing world. Nonetheless, most scientists still believed that CO₂ fertilization and more trade flows could buffer the

negative effects of higher temperatures and more varied precipitation. By the mid-2000s, concern was growing stronger, and increased reliance on CO₂ fertilization and trade flows appeared essential to balance the negative effects in some locations.

Today's picture is much gloomier. It now appears that CO₂ fertilization may not offer all of the benefits once hoped for. On the contrary, recent field experiments have shown that higher levels of atmospheric CO₂ increase some crops' susceptibility to pests. And in any case, crops grown without added nitrogen fertilizer are unable to respond to increases in CO₂. Preliminary findings from research at IFPRI show that if today's maize and rice varieties were planted in a 2050 climate, yields would decline by up to 20 percent. And the outlook could be worse still: If glaciers disappear in the Himalayas, some rice that is irrigated now might not be by 2050. If the world's population rises by 50 percent by 2050 as expected, and if people have higher incomes and thus demand more food, especially animal products, the pressure on agricultural resources to deliver food sustainably will be tremendous.

Of course, our understanding of climate change and of its effects on agriculture is still evolving. Much remains unknown about where, when, and how much climate change will affect agricultural production around the world. One important outcome of the Copenhagen climate negotiations should thus be funding for research to fill the knowledge gaps on the links between climate change and agriculture. Yet enough is known about links between agriculture and climate change to take advantage of the role agriculture can play in mitigation. Worldwide, agriculture contributes about 14 percent of greenhouse gas emissions, with land-use change and forestry adding another 19 percent, and the bulk of these emissions come from the

developing world. Fortunately, research shows that there are cost-effective ways for farmers to help mitigate greenhouse gas emissions, including changing crop mixes, cultivation practices, and livestock feeding practices. Agriculture has the potential to sequester carbon emissions from other sectors as well. Carbon sequestered in soils and trees grown on degraded lands can come from CO₂ emitted in Beijing, Delhi, or Washington. It is extremely important that the Copenhagen negotiations include agriculture-related mitigation investments in any global mitigation funding mechanism.

Negotiating outcomes should also include agriculture in funds for adaptation. Given that climate change may well have its severest effects on poor farmers and other rural people, negotiators should direct funds to technologies, infrastructure, and institutions that will help farmers adapt to climate change (for suggestions on specific negotiating outcomes, see the IFPRI policy brief "Agriculture and Climate Change: An Agenda for Negotiation in Copenhagen" at www.ifpri.org/2020/focus/focus16/focus16br01.asp).

Among scientists, policymakers, and the general public alike, recognition is growing that agriculture is already affecting, and being affected by, climate change. The current climate change negotiations provide a unique opportunity to acknowledge this reality and exploit agriculture's potential to help the world mitigate and adapt to climate change. The international community must therefore push for inclusion of agriculture in the Copenhagen negotiations to help ensure that we meet climate change goals and feed a growing population in a sustainable way. ■

Gerald Nelson is a senior research fellow in the Environment and Production Technology Division of IFPRI.



Potential Promises and Pitfalls of “Land Grabbing”

As the food price crisis of 2007–08 lingers, many countries have begun acquiring farmland in developing countries as an alternative means of producing food. Countries with land and water constraints still rich in capital, like the Gulf States, and those with large populations and food security concerns, like India, are seeking opportunities to produce food overseas. “Land grabbing,” as such, stands to either improve the lives of poor local people or deprive them of access to their land. In this brief, authors Joachim von Braun and Ruth Meinzen-Dick identify policies that can reduce the threats and enhance the opportunities of foreign investments in agricultural land. By promoting transparency in transactions, benefit sharing, environmental sustainability, and other measures, stakeholders can make mutually beneficial partnerships between farmers in developing countries and outside investors. To download “*Land Grabbing*” by *Foreign Investors in Developing Countries: Risks and Opportunities*, go to www.ifpri.org/pubs/bp/bp013.asp. ■



Ten Years of Transgenic Crops

As progressively more farmers in developing countries begin using biotech crops, careful evaluation of such crops’ benefits becomes ever more important. *Food Policy Review 10: Measuring the Economic Impacts of Transgenic Crops in Developing Agriculture during the First Decade* examines the applied economics literature regarding the impact of biotech crops on non-industrialized agriculture and investigates the research methods used in assessing how these crops affect farmers, consumers, the greater agricultural sector, and international trade. This analysis offers a tool for researchers who seek to produce objective, relevant analysis of emerging crop biotechnologies that can in turn be used by national policymakers in developing countries. To download Food Policy Review 10, go to www.ifpri.org/pubs/fpreview/pv10.asp ■



Prioritizing Public Spending in Africa

As African governments work to increase agricultural spending and boost agricultural growth, they need clear principles for prioritizing their scarce public resources. Drawing mainly on case studies from Africa, this brief provides insights on the contributions of different types of spending to poverty, growth, and welfare outcomes. Among other examples, the brief looks at Ethiopia’s relatively large share of public spending allocated to agriculture, Nigeria’s rich natural resource endowments, and Tanzania’s rapid transition from a planned to a market-driven economy. Authors Shenggen Fan, Tewodaj Mogues, and Sam Benin examine the ways in which African governments must use funds efficiently to achieve better-distributed growth and reduce poverty. To download *Setting Priorities for Public Spending for Agricultural and Rural Development in Africa*, go to www.ifpri.org/pubs/bp/bp012.asp. ■

Biosafety Decisions and Perceived Commercial Risks: The Role of GM-Free Private Standards

In many developing countries, biosafety policymaking is driven by the fear of export losses—regardless of whether the risks are real or perceived. This is true even in cases where a decision on a specific genetically modified (GM) crop would have no bearing on exports. For example,

- In Egypt, a GM potato was not commercialized in part because of the fear of losing potato exports to Europe—even though the GM variety is not and was not meant to be exported.
- Namibia has maintained an import ban on GM maize, in part because it wants to keep its cattle “GM-free” to reach a premium market for beef in Europe. However, Namibian cattle eat grass (not maize), while most cattle in Europe are GM fed.

IFPRI researchers examined these and 29 other cases around the world. They found that, by setting GM-free private standards, supermarkets and food companies in Europe, East Asia, and North America have had a significant impact on biosafety decisions in African and Asian countries. Though the researchers found no evidence that these companies are directly involved in biosafety policy processes in developing countries, the companies are indirectly influential via local traders, who face the possibility of being excluded if they do not comply with the GM-free standards.

In their study, the IFPRI researchers differentiated between cases in which there were real or potential commercial risks and cases in which the risks were unproven, such as in the two examples mentioned above. They found that unproven risks are often based on the misleading assumptions that GM and non-GM products cannot be segregated and that GM-free buyers represent the only market for a country's crops. Three other factors have also influenced biosafety decisionmaking: 1) traders and policymakers naturally tend to be overly cautious, 2) policymakers have less access to information about commercial risks than do traders, and 3) traders have less knowledge of importer regulations and market realities than do supermarkets.

More and better information about, biotechnology, market realities, and the trade regulatory environment can help policymakers assess whether or not a biosafety decision is likely to have any impact on exports.

For more information:

- Biosafety Decisions and Perceived Commercial Risks: The Role of GM-Free Private Standards. 2009. *IFPRI Discussion Paper 847*. www.ifpri.org/pubs/dp/ifpridp00847.asp.
- Biosafety and Perceived Commercial Risks: The Role of GM-Free Private Standards. 2009. *PBS Policy Brief 15*. www.ifpri.org/pbs/pdf/pbsbrief15.pdf. ■

Wanted: Good Jobs for Fighting Poverty *(continued from page 1)*

General Juan Somavia has said the world now faces “a global jobs crisis.”

Although the term “crisis” risks becoming commonplace, there is no doubt that employment is key to helping people achieve prosperity and well-being—both in the short term during the global recession and in the long term after the immediate economic crisis has passed. Indeed, even before the recession, millions of people in developing countries were in the ranks of the underemployed and working poor, with jobs that allowed them to survive, but not to thrive. New strategies are needed to create productive and well-paid employment in developing countries.

Putting Jobs Back on the Table

The relationship between poverty alleviation and employment may seem intuitive. For very poor people, employment is particularly important because the ability to work is their only real asset and

they have few safety nets. Yet while having a job can be a path out of poverty, it is not a guarantee. Reliable statistics about employment are notoriously hard to pin down in developing countries, where the informal economy can account for up to 75 percent of jobs, but the working poor make up a very large share of the so-called bottom billion living on less than US\$1 dollar a day. Moreover, many of these workers lack decent working conditions or any kind of workers' rights.

Despite the obvious connection between jobs and poverty, employment usually is not a top priority in the poverty reduction strategies of developing countries. Experts point to a variety of reasons for this neglect. For one thing, the focus on structural adjustment policies that ruled the development debate for many years focused on economic growth, not job creation. According to James Heintz, a professor at the University of Massachusetts, “Specific policies that focused on employment creation didn't figure

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largely in development thinking. It was assumed that employment would be a byproduct of growth.” But jobs did not always follow growth.

Kate Higgins, a research officer at the Overseas Development Institute, adds two other reasons development policy has not prioritized employment issues. First, employment is often a politically charged issue, causing development professionals to be leery about how they approach it. Second, little analytical information is available on which to base sound choices. Miriam Altman, executive director of the Centre for Poverty, Employment, and Growth in South Africa, points out that in Africa employment did not really come onto the agenda until 2004, partly because there is a belief that in poor countries “nearly everyone must already be working in some capacity otherwise they wouldn’t survive.”

While progress to place more emphasis on employment policy has been slow, there is some consensus emerging around the importance of specific policies designed not just to create new jobs, but also to improve existing ones. Says Heintz, “I don’t want to overestimate it, but employment is making a bit of a comeback.”

The Quick Fix: Public Works Programs

When policymakers need to create employment in the short term, they often look to public works programs, a popular response to economic shocks like food-price hikes, currency crises, or seasonal unemployment. In a public works program, the government hires and remunerates workers in food or cash as a way to address poverty while at the same time reaping a public benefit in the form of infrastructure like ports, dams, bridges, cleaner roads, or aid with community services. Maximo Torero, director of the Markets, Trade, and Institutions Division at IFPRI, says, “Essentially public works are a kind of safety net with an economic activity behind them.” According to Anna McCord, a research fellow at the Overseas Development Institute, when looking at social-protection options, governments often prefer public works programs to cash grants for “ideological reasons” because there is a perception that public works are less likely to lead to dependency.

Some public works programs are designed to help participants get a foothold in the larger job market. For example, some programs help participants find permanent jobs after they participate in a public works program, and others have successfully linked training and skills development with public works.

Public works programs now span all regions of the world and vary in range, size, funding sources, and implementation methods, but some are more successful than others. McCord says a major reason for this variation in outcomes is that programs are sometimes implemented in the wrong labor contexts. She says, “You really have to match the program design with the intended outcome and the labor market.” She argues that South Africa’s Expanded Public Works Program, which provides a one-time period of employment for four months, does not address problems of chronic poverty. “There’s no opportunity to accumulate assets or to ensure your children’s participation in school in the long run if the wage transfer is only for a four-month period,” she says.

India’s National Rural Employment Guarantee Act (NREGA), which began in 2006, is the first national public works program to treat employment as a guaranteed right. This program offers employment to one worker per household for 100 days—not just once, but each year—at minimum wage. If work is not provided within 15 days, then the applicant has the right to collect an unemployment allowance. The program is also designed to prevent corruption by providing highly transparent information about who is making decisions, who is participating, and what the pay rate should be.

Although the program is generally hailed as a success, it is not without flaws. Newspapers still report allegations of corruption, and there have been reports that the program coverage is low in the poorest areas where the demand for work is the highest. Akhter Ahmed, a senior research fellow at IFPRI, points out that the wage offered does not always target the right people. “The NREGA wage rate is often higher than the agricultural wages offered by farmers to hired laborers in the poorest districts, so it competes with agriculture labor and then some nonpoor also take advantage of the program,” he says.

Public works programs also have their drawbacks. They can create a heavy financial burden on government budgets while not always meeting their objectives. They may also be subject to political manipulation. Torero says, “Normally, these programs can have a lot of risks. For example, governments can put them

only in areas where they want to get votes.” He cites a past case in Peru where the placement of public works programs was found to be influenced by political motivations. Additionally, if the program is not well supervised, a community can be left with a poor-quality asset.

Finally, in the design of public works programs or employment policies in general, specific segments of the population often need special consideration. For example, many studies point out that women are often more likely to be in the lowest-paying jobs and to face biases that prevent them from taking advantage of job opportunities. Specific policies are also often needed to take into account young people who face the difficulty of coming of age with no job opportunities.

Absorbing Rural Labor

Creating policies for long-term job creation can be complex. Many elements affect outcomes, from macroeconomic policy to international trade to labor laws. Additionally, because every country has different constraints and endowments, no single solution will work across the board.

Creating new jobs requires growth, says Shenggen Fan, director of IFPRI's Development Strategy and Governance Division, but growth must be labor-intensive. In the poorest countries, most poor people live in rural areas, so rural jobs are particularly needed—cities cannot realistically absorb all of the rural poor. One strategy is to promote high-intensification agriculture by using more labor to generate more value per unit of labor input, which can help reduce rural unemployment and the underemployment that plagues many poor farmers, says Fan. High-value crops like fruits, vegetables, and livestock can generate employment for farmers and agricultural laborers because they are particularly labor intensive at harvest time. Achieving high-intensification agriculture will require developing countries and international aid agencies to help farmers get access to better seeds, fertilizer, extension services, and markets where they can sell their products.

Rural industry can also help absorb rural labor. Governments, Fan points out, can promote the development of rural industrial enterprises by building rural infrastructure like roads, water systems, and electrical grids and then offering tax benefits to industries that locate in these rural areas. Agroprocessing, for example, can create jobs as well as add value to the goods produced in rural areas, says Torero. Job training programs and employment agencies can help give people the skills needed by industry and link potential employees and employers.

Altman says that her research shows that the majority of formal job creation comes from the service sector rather than the manu-



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facturing sector, as many people might assume: “Almost invariably 70 to 80 percent of new employment in successful high-growth countries, countries like China and Indonesia, comes from services, everything from personal services to business services, hairdressing, retail, finance. If you don't have a growing service sector you probably don't have much employment growth.”

In some cases, Fan says, the surplus of labor in rural areas is too great, and then workers should be encouraged to migrate to where jobs exist, either domestically or overseas. By reducing competition for jobs at home, this out-migration of workers can help ensure that the people left behind in rural areas have better access to jobs and better wages. Migrating workers may also send home remittances, which can help the remaining household members maintain or increase their consumption and thereby help create local jobs.

Overcoming Constraints to Job Creation

In the effort to create jobs, Heintz recommends looking at the structure of employment and the constraints countries face in their specific context and “then designing policies to remove those constraints.” Lack of capital is often a major hurdle. For example, commercial banking in Sub-Saharan Africa is concentrated in a few banks that usually lend only to big, established firms. The large majority of the population working in agriculture, small firms, or in the informal urban sector have little access to credit that would

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allow them to invest in or expand their businesses. Financial reform can help, says Heintz: “That means putting in place incentives to have the banking sector channel resources through loans at reasonable rates to people in informal activities and in agricultural activities, to medium-sized firms, and maybe to start-up firms in new areas that didn’t exist before.”

A recent World Bank reports says that in times of crisis, small and medium-sized enterprises, which contribute to jobs, income, capacity, and equity, “often act as the best safety net.” According to Altman, “Anything that would enable people to set up a small business is one of the first things governments should do.” Microfinance institutions offer one way to get capital and equity to micro-entrepreneurs. Lenders often bear the risk more readily when they lend to groups instead of individuals. Although micro-finance institutions fill a gap in the banking system, interest rates are often high. Heintz says reforming the overall banking system and finding a way to include low-income individuals might be a better option.

In certain circumstances, new enterprises can develop even in the absence of a well-functioning financial sector. In China, for instance, labor-intensive rural industries have sprung up and expanded at unprecedented rates in the past two or three decades, even without financial services. Xiaobo Zhang, a senior research fellow at IFPRI, conducted a study showing how the Chinese model of clustering industries has worked. In the township of Puyuan, for example, one highly successful cooperative producing cashmere sweaters prompted farmers and other rural workers nearby to set up sweater production workshops in the late 1970s and early 1980s. Most of these entrepreneurs, who had little savings, borrowed money from friends and relatives to start small with secondhand weaving machines. In 1988, the local government helped by constructing a cashmere sweater marketplace and later built a logistics center for centralizing shipping of the sweaters. As demand for sweaters grew, merchants received orders and then contracted out production to the myriad small workshops in the area. By 2004, the Puyuan cashmere sweater industry consisted of more than 3,900 enterprises and family workshops and 6,000 sweater shops and employed more than 50,000 people—38 percent of the total population and 65 percent of the total labor force. By dividing the production process into incremental steps, this industrial model lowers the capital required by start-up enterprises. Moreover, because the workshops are clustered near one another and engage in repeated transactions with one another, they often use credit from firms upstream or downstream in the production chain to meet their requirements for working capital.

Experts also recommend reforming laws and regulations to incorporate the many poor people who work in the informal economy—as street vendors or unregistered household help, for example—into the formal economy. This step would help workers gain rights and get access to credit.

Creating Good Jobs

As industrial countries focus on their own national employment policies to cope with the recession, it is time to rethink employment policies in developing countries as well.

Well-paying jobs can be tickets out of poverty, but governments need to create the conditions in which such jobs can multiply. These conditions include sound infrastructure that connects workers with markets, a well-educated and well-trained work force that can be highly productive, and growing small and medium-sized enterprises. “Labor market regulations often protect small groups of privileged workers and disregard the poor majority,” says IFPRI Director General Joachim von Braun. “In order to include the poor, opportunities must be created by reducing regulation on the one hand and offering basic employment risk insurance for all on the other hand. Safety nets such as public works programs can be part of such policies and are clearly needed for coping with economic shocks. But in the long run, a dynamic labor market is the avenue through which millions of poor people can climb out of poverty.” ■

—Reported by Abigail Somma and Heidi Fritschel

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