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INTERVIEW INSIDE
with
Rob Routs of Shell

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AIDS and Hunger: A Step Forward

Within the next 24 hours, 11,000 people will become infected with HIV and 7,500 will die of AIDS-related causes. Because AIDS kills the most productive—and reproductively active—members of society, the disease is systematically shackling the driving forces of development for numerous countries, especially in southern Africa.

In a newly edited book, *AIDS, Poverty, and Hunger: Challenges and Responses*, IFPRI researcher Stuart Gillespie argues that by its nature, causes, and consequences, AIDS is closely connected to agriculture, nutrition, and other aspects of development. AIDS both affects, and is affected by, government policy and people's livelihood strategies.

Recognizing this, the United Nations General Assembly earlier this summer declared that part of a comprehensive response to HIV and AIDS included ensuring all people access to sufficient, safe, and nutritious food. For Gillespie, who is also director of the Regional Network on AIDS, Rural Livelihoods and Food Security (RENEWAL), this declaration is a step in the right direction.

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Children at Work

Although the most harmful forms of child labor are on the decline, child labor in agriculture persists and may be even more difficult to eradicate. But success in this task would mean a brighter future for both poor children and poor countries.

In 1993, when Vietnam was on the cusp of an economic boom, more than half of its children were engaged in essentially full-time work. Fifty-seven percent of Vietnamese children between the ages of 6 and 15 worked at least seven hours a day. In many ways Vietnam's child labor situation was typical of poor, rural countries. Most child laborers work in agriculture, and Vietnam was an agricultural country—70 percent of its population

worked in agriculture in 1993.

Just five years later, however, in 1998, 2.2 million Vietnamese children had stopped working altogether. The country reduced the share of 6- to 15-year-olds working at least seven hours a day to 38 percent. It did not achieve this decline by undertaking a campaign against child labor. Rather, almost half of the drop came because Vietnam lifted its restrictions on rice exports.

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The Growing Bifurcation of Agricultural R&D

Throughout the 20th century, improvements in agricultural productivity have considerably alleviated poverty and starvation and fueled economic progress. However, significant numbers of developing countries, especially in Africa, continue to face serious funding and institutional constraints that inhibit the effectiveness of local research and development (R&D). In addition, the shifting scientific orientation of rich-country research, combined with changing biosafety and intellectual property regimes internationally, suggests that the technology spillover pathways of the past may not carry forward, even to the near future. Together, these factors may spell serious food deficits for some developing countries.

Two recent IFPRI publications draw attention to this matter: a food policy report entitled *Agricultural Research: A Growing Global Divide?*, by Philip G. Pardey, Nienke Beintema, Steven Dehmer, and Stanley Wood; and a book entitled *Agricultural R&D in the Developing World: Too Little, Too Late?*, edited by Philip G. Pardey, Julian M. Alston, and Roley R. Piggott (both publications are available for download at www.ifpri.org).

The authors of the food policy report found a global bifurcation in the conduct of agricultural R&D: a few developing countries are showing signs of approaching the levels and intensity of agricultural R&D investment typically found in rich countries, while a large number of developing countries are stalling or slipping in the same regard. They conclude that increasing the amount spent on agricultural R&D in low-income countries that are heavily reliant on agriculture is likely to be a wise, but difficult, investment given the pressing demands on the cash-strapped governments in these economies.

According to the book, another problem is that a slower-growing, stagnant, or shrinking public agricultural research pot is increasingly being diverted away from the traditional agenda toward other objectives such as environmental concerns and food quality and safety issues. Given this scenario, who, then, will do the research required to generate sustenance for a growing world population when virtually all the population growth in the near future will occur in the poorer parts of the world? The authors say that developing countries may have to become more self-reliant and perhaps more dependent on one another in terms of agricultural R&D and technology. ■

AIDS and Hunger: A Step Forward (continued from page 1)

"Though it lacks specifics, this political declaration signals a long overdue recognition of the importance of food and nutrition security in a truly comprehensive global response to AIDS," he said. "For the first time, both the evidence and mandate are clear: What we need now is action."

Gillespie took this message to the 16th International AIDS Conference in Toronto in August, where he and other RENEWAL partners from eastern and southern Africa participated in several sessions, including "HIV and AIDS, Food and Nutrition Security: The RENEWAL Initiative in Africa;" "ARVs: From Magic Bullets to (Re)Thinking Systems;" and "The Joint Learning Initiative on Children and HIV/AIDS: Mobilizing Evidence for Action."

At the conference, Gillespie said development experts from different sectors must go well beyond periodic idea sharing to proactively collaborating in intersectoral action aimed at dampening the spread of HIV and responding to the growing impacts of AIDS. To help affected households and communities to better respond, IFPRI and RENEWAL have called for a three-pronged approach to the crisis. It entails:

- strengthening household and community resistance to HIV and resilience to AIDS;
- sustaining and enhancing livelihood opportunities in affected communities; and
- ensuring appropriate social protection systems. ■

Are Farmer Field Schools the Answer to Extension's Problems?

Despite the tremendous need for extension approaches that help reduce poverty in rural Sub-Saharan Africa, most have met with only limited success. Extension programs help farmers by encouraging and assisting them to innovate in order to improve their livelihoods and reduce poverty.

A popular model at the moment is the farmer field schools approach, based on adult-education principles such as experiential learning. Farmer field schools are intensive, season-long programs that enable farmers to meet regularly to learn about and experiment with a given topic. The schools have had remarkable impact in terms of reducing farmers' use of pesticides, increasing their on-farm productivity, improving their knowledge base, and empowering rural communities. However, these impacts have not translated into changes beyond the local level, according to IFPRI researcher Kristin Davis.

"Several studies suggest that the schools are having limited or no effect on the agricultural sector's economic performance, on the sustainable use of the environment, on rural health, and on the dissemination of information by school participants to other farmers," she says. "These limitations have not been addressed, even though farmer field schools are being aggressively promoted by donors, governments, and nongovernmental organizations as the next best thing in extension."

IFPRI has been trying to fill the knowledge gap by conducting research on the schools' impact on genetic diversity in Mali. It also recently developed a framework for conducting research on extension methods, including farmer field schools, to help extension stakeholders and policymakers move beyond "best practices" to "best fits." The research will provide strategies for adapting the farmer field school approach to specific local circumstances, thus providing solutions to problems at the local level. Finally, IFPRI hopes to provide policymakers with evidence on the effectiveness of the approach by assessing the potential of farmer field schools to fight poverty and foster innovation.

This article was derived from a commentary by Kristin Davis in the Journal of International Agricultural and Extension Education, vol. 13, spring 2006 (www.iaaee.org). For further information: Kristin Davis, k.davis@cgiar.org.



Left and right: An Ethiopian farmer field school. Visitors learn about the program (left) and participants explain the natural pesticides they developed (right).

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“In order for the biofuel industry to have a positive impact in developing countries, consumers, governments, and industry leaders must work together to identify an economically viable, sustainable route to low-carbon biofuels for road transport.”



Rob Routs, Executive Director Downstream, Royal Dutch/Shell Group

Rob Routs talks with IFPRI Forum about the role of biofuels as an alternative energy source, the policies required to make them viable, and their impact on poverty.

FORUM: How will biofuels influence energy markets in developing countries?

Rob Routs: We can't predict how all the players in the value chain will influence all developing countries. However, we recognize the positive contribution that biofuel components can potentially make toward addressing economic and sustainable transport challenges, including local air quality, diversity of affordable energy, and the reduction of greenhouse gas production on a well-to-wheel basis. In order for the biofuel industry to have a positive impact in developing countries, consumers, governments, and industry leaders must work together to identify an economically viable, sustainable route to low-carbon biofuels for road transport. This requires a constructive and consultative dialogue to understand and address challenges such as cost, competition with the food chain, consumer acceptance, technology development, fiscal incentives, and investment costs. Also, not all biofuels yield the same CO₂ reduction; it is important that countries consider a 'well-to-wheel' carbon dioxide certification for biofuels and minimum standards for carbon dioxide performance from biofuels. This will help to ensure that policy is delivering economic and sustainability objectives and help to establish consumer confidence in the biofuel industry. It is also important that countries establish tightly defined minimum standards for fuel quality. This will help to ensure fuel system compatibility and further build consumer confidence. To develop a competitive industry, it is important that regulators avoid requiring biofuels in all grades of fuel, but instead allow manufacturers and marketers to compete to their strengths in grades, products, and processes.

FORUM: Are biofuels a viable alternative to fossil fuels? Do they have real potential, or is it just media hype? What role will established energy companies, such as Shell, play in the biofuels arena?

Rob Routs: Unfortunately, there is no "silver bullet" to address the world's sustainable mobility challenges. Fossil fuels remain the primary option for providing the energy needed to meet the rapidly increasing demand for transport over the coming decades, although more efficient vehicles and more sustainable fuels will play an important role. However, biofuels are one of several promising and realistic contenders to be major low-carbon fuel sources in the future. For over 100 years, Shell has been developing one of the broadest fuel technology portfolios to deliver cleaner fuels to market. In addition to being one of the world's leading distributors of first generation biofuels, we are investing in advanced or second-generation biofuel technology, such as cellulose ethanol and biomass-to-liquids production, which have advantages in that the feedstock is taken from agricultural byproducts and not from food sources.

FORUM: Brazil is the world's largest producer of ethanol. What can be learned from its success and can the Brazilian example be a blueprint for other developing countries?

Rob Routs: Brazil's long-term commitment, vision, and experience can serve as a valuable guide for other new markets. In particular, the Brazil experience is a lesson in how to build confidence in investments for biofuels technology. Brazil has been developing its industry for more than 30 years and has demonstrated the long-term potential of biofuels as a new fuel source for road transport. It is important to note two particularly interesting aspects of the Brazil experience. First, the industry has developed through gradual and sustained changes to supply infrastructure and vehicle technology. The second interesting aspect has been the way in which Brazil has capitalized on synergies with sugar production. By building ethanol production capacity based on synergies with sugar production, Brazil has been able to achieve efficiency in its use of biomass energy. Countries like Brazil have to ensure that the rapid growth in sugarcane production does not take away from fertile agricultural lands or rainforests.

FORUM: Some people believe biofuels can help reduce poverty. What are your views on this?

Rob Routs: Biofuels have the potential to help address some of the contributing factors associated with poverty, such as new sources of employment and new sources of affordable fuel. Biofuels can generate a significant number of jobs in the agricultural sector. However, this is dependent on the availability of productive land and the degree of mechanization in production techniques. Biofuels can also contribute positively to a country's trade balance. The production of indigenous fuels can reduce a country's reliance on imported primary energy sources. However, solutions are truly dependent upon the extent of engagement, planning, and coordination among industry, government, and communities.

FORUM: How would you respond to the allegation that the cars of the rich will burn the food of the poor, leading to increased poverty and hunger in developed countries?

Rob Routs: Shell recognizes this concern and supports the efforts of all stakeholders to pay greater attention to the social, economic, and environmental aspects of biofuels. Shell is evaluating biocomponents, such as cellulose ethanol and biomass-to-liquids, that have the potential to offer the lowest overall greenhouse gas production without taking resources away from the food chain for feedstocks. However, commercialization of these technologies is still in development. In the meantime, we are working to better understand the options for sourcing agricultural feedstock in a sustainable manner.

FORUM: On a global scale, who will be the winners and who will be the losers of a growing biofuel supply?

Rob Routs: I think it is incorrect to assume that there will be losers associated with the growth of biofuels supply. As we look to the future, it is clear that to meet the increasing demand for fuels globally, we will need to ensure that there is a diverse range of supply options. ■

“Biofuels can also contribute positively to a country's trade balance. The production of indigenous fuels can reduce a country's reliance on imported primary energy sources. However, solutions are truly dependent upon the extent of engagement, planning, and coordination among industry, government, and communities.”

Poverty Reduction Strategies for the New Millennium

For the past two decades, progress in reducing poverty throughout the developing world has been significant, but largely uneven. While several East Asian countries such as Indonesia, Thailand, Vietnam, and particularly China have made great strides, South Asia has achieved only modest success by comparison, and Africa has experienced a steady increase in poverty.

At a recent conference in Beijing entitled “Poverty Reduction Strategy in the New Millennium: Emerging Issues, Experiences and Lessons,” researchers, policymakers, and representatives from nongovernmental organizations and the donor community from China, India, Ethiopia, Ghana, and other Asian, African, and Latin American countries examined why outcomes have varied so dramatically across developing countries, and identified strategies that can help promote growth and improve the livelihoods of the poor.

Dessalegn Rahmato, from the Forum for Social Studies in Ethiopia, says that one reason China has had significant success in reducing poverty where other countries have not is because it experienced exceptionally high rates of economic growth for more than two decades and invested heavily in basic infrastructure and water conservancy, services, and manufacturing enterprises. Another key factor was that the government was fully committed to these long-term growth and poverty-reduction strategies.

“There are only a few countries in Asia and none in Africa that have experienced economic growth and development comparable to China in the last two decades,” he says. “Indeed, African economies have been pretty much stagnant in this period, fuelling more poverty rather than less.”

Conference participants concluded that the most effective strategies for helping African and South Asian countries to reduce poverty include: (1) a strong commitment by governments to promote broad-based pro-poor growth; (2) a broader participation of various stakeholders, including nongovernmental organizations, the private sector, and mostly importantly, the poor themselves; (3) and the use of different development strategies for different stages of development. According to Shenggen Fan, director of IFPRI’s Development Strategies and Governance Division, promoting broad-based growth should precede the promotion of large, targeted programs. He said that without broad-based growth, targeted programs will not be sustainable and long-term poverty-reduction effects will be compromised. ■

New Research Gateway

The Consultative Group on International Agricultural Research (CGIAR) unveiled a new resource for researchers this summer: the CGIAR Virtual Library (CGVlibrary). The product of a CGIAR centerwide effort led by IFPRI’s Library/Knowledge Management and Information Technology departments, the CGVlibrary is an internet gateway that allows users to search simultaneously the online libraries of CGIAR centers and more than 160 other databases. The external databases include leading electronic resources on development, agriculture, and poverty. Researchers also have access to more than 4,000 online journals.

Users can search pre-selected database groupings, organized according to particular areas of interest (“Water,” “Forestry,” “Genetic Resources”), or create their own database groups. Researchers can also save links to particular journals, documents, and abstracts.

The CGVlibrary can be found at <http://vlibrary.cgiar.org>. ■

Pro-Poor Economic Growth in Latin America: Obstacles and Opportunities

Hans G. P. Jansen

While the 1980s are often described as a "lost decade" for Latin America, as illustrated by negative per capita economic growth during most of the decade, the 1990s were characterized by structural pro-market reforms and a resumption of economic growth to 3 percent a year. The region entered the 21st century with rather sound macroeconomic fundamentals and mostly democratic governments, even though problems of low citizen participation and weak governance remain. After lackluster growth during the first few years of the new millennium, gross domestic product (GDP) in the region grew at 6 and 4.5 percent in 2004 and 2005 respectively, the highest growth rates registered since 1980.

But the resumption of economic growth and return to democracy in Latin America do not mean that all is well in the region. Most Latin American countries are failing to translate economic growth into lower numbers of poor people. This problem is particularly serious in Central America, the poorest region of Latin America. Fifty-five percent of all inhabitants in the region live in poverty, which is heavily concentrated in rural areas. In Guatemala, Honduras, and Nicaragua, four of every five rural inhabitants are poor, and three of every four poor people are extremely poor.

Most rural poor in these three countries are concentrated in areas with relatively favorable socioeconomic and biophysical conditions, according to a recent study by IFPRI's Central America office (in collaboration with the World Bank and Virginia Polytechnic Institute). What they lack are the basic assets to take advantage of economic opportunities. These countries are experiencing very high and increasing levels of income inequality largely because of extreme differences in asset ownership and human capital. Even under appropriate policy regimes, the "asset-poor" are not able

to share in the benefits of growth. IFPRI's research also showed that investments in a single asset (such as land or roads) have little impact on the welfare of the rural poor and may in fact contribute to increasing inequality. For example, since investments in infrastructure are more effective when directed toward areas with better land tenure security and access, an investment in a new road alone may benefit landowners disproportionately. The main policy lesson is that because assets are complementary, governments and donors need to invest in geographically appropriate bundles of assets that enable the rural poor to exploit an area's comparative advantage and transform economic opportunities into greater wellbeing.

The high inequality in most Latin American societies not only prevents significant progress in poverty reduction, but also leads to social unrest and insecurity, which in turn reduce productivity and discourage private investment flows. Latin America is thus increasingly caught in a vicious circle: economic growth is thwarted by high crime rates, and a lack of economic opportunity contributes in turn to a rise in crime. The Inter-American Development Bank estimates that Latin America's GDP would be 25 percent higher if the region's crime rates were equal to the world average. Crime and insecurity are particularly serious problems in Central America, where violent gangs in Honduras, Guatemala, and El Salvador wreak havoc in both urban and rural areas, with severe consequences for poor people.

Tackling corruption is also essential in making poverty history. Guatemala has long had the dubious reputation of being the most corrupt country in Latin America after Venezuela and Paraguay. According to the Global Competitiveness Network of the World Economic Forum, corruption

and insecurity consistently top the list of the most problematic factors for doing business in El Salvador, Guatemala, and Honduras.

Poverty in Latin America is hurting the region's prospects for higher economic growth. A recent "flagship" study by the World Bank shows that the growth-poverty link is a two-way street: not only does a lack of growth lead to higher poverty, but high poverty also acts as a brake on economic growth. Whereas growth in Honduras and Nicaragua has picked up a bit during the past couple of years, the pronounced slowdown of economic growth since 2000 in El Salvador and Guatemala, two of the poorest and most unequal countries in Latin America, will put these countries farther away from achieving the Millennium Development Goal of halving poverty by 2015, while also compromising future economic growth.

In addition to the study on the drivers of economic growth in Central America, IFPRI is undertaking a number of studies in the Latin American region to promote pro-poor growth. Researchers are identifying the policies that will enable the rural poor in Honduras, Nicaragua, El Salvador, Guatemala, and Costa Rica to benefit from the Central America Free Trade Agreement (CAFTA). On another project, researchers are working with the Peruvian government and international donors to significantly reduce rural poverty in the Andes and Amazon rainforest regions. Finally, an upcoming study will examine efficient and equitable ways to improve the delivery of public services to the rural poor in Guatemala. ■

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Lessons from the East African Highlands

The densely populated highlands of Ethiopia, Kenya, and Uganda are home to severe poverty, low productivity, and poor natural-resource management. Despite these problems, some farmers in the area have successfully invested in agriculture and improved resource management, and have been able to generate significant profits.

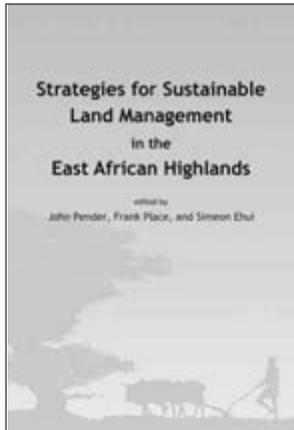
Strategies for Sustainable Land Management in the East African Highlands (available for download at www.ifpri.org), edited by John Pender, Frank Place, and Simeon Ehui, identifies the factors that have been the most critical in enabling some communities and farmers to prosper, and highlights the importance of identifying and promoting profitable income strategies and land-management practices in different biophysical and socioeconomic contexts.

The authors found that in areas with high agricultural potential and favorable access to large urban markets, a virtuous circle is possible. Farmers can increase their production of high-value commodities and employment in nonfarm activities, which contribute to higher incomes and make it possible for farmers to invest in land-improving and productivity-enhancing technologies. These help to further increase farmers' production of high-value commodities.

Areas with relatively high agricultural potential but more limited access to major markets are likely to have a comparative advantage in nonperishable and readily transportable commodities, such as coffee, cereals, and livestock. These areas have suffered from low world prices of cereals and coffee in recent years, which, together with elimination of input subsidies, liberalization of foreign exchange markets, and regional trade restrictions, have reduced the profitability of using inputs in agricultural production. According to the book, efforts to promote the substantially increased use of inputs are unlikely to be successful without major changes in farmers' product portfolios or the market environment.

In lower-potential areas, a combination of targeting the use of costly inputs like fertilizer and improved seeds and implementing soil and water conservation and management practices is likely to be more effective than heavy reliance on external inputs.

As these findings demonstrate, policies and programs that account for the diversity of situations in the region can help improve land management, raise productivity, and make agriculture more profitable for poor rural people in the highlands of East Africa. ■



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Suddenly Vietnamese rice farmers could sell their grain abroad, rice prices increased, and many Vietnamese farm families used their extra income to take children off the job and send them to school. According to Eric V. Edmonds, an associate professor of economics at Dartmouth University who studied Vietnam's child labor transition, families whose income was near the poverty line reduced their children's labor the most, suggesting that "in valuing the child's time, few issues are more important than the desperate need for resources that poverty creates."

"Child labor is part of the survival strategy in many rural areas," says Guy Thijs, director of the International Programme on the Elimination of Child Labour (IPEC) of the International Labour Organization (ILO) in Geneva. In most cases parents would prefer to send their children to school, he says. But two-thirds of the world's poor people live in rural areas, and many rural parents are too poor to do without children's labor or to pay school fees.

Child labor has dropped significantly in recent years. A 2006 ILO report entitled *The End of Child Labour: Within Reach* indicates that the number of child laborers fell from 246 million in 2000 to 218 million in 2004—a drop of 11 percent. Indeed, the worst forms of child labor—dangerous, illegal, and forced labor—fell by 26 percent over that period. Child labor in agriculture, however, has until recently received less attention from advocates and policymakers. "There was a welcome fall in hazardous child labor," says Peter Hurst, a specialist on occupational safety and health at the IPEC, "but in the future much more work needs to be done on child labor in agriculture and in Africa."

How Big a Problem Is Child Labor in Agriculture?

What qualifies as "child labor"? Do chores count? How about caring for younger siblings? What ages are included? Definitions vary among agencies and countries, but many understand "child labor" as it is defined by the ILO Convention No. 182 on the Worst Forms of Child Labour: First, a child is defined as a person under 18 years old. According to the ILO, "child labor" is work performed by all children under 12 years of age engaged in any economic activities, including productive activities that are unpaid. It does not, however, include household chores and school. For children between 12 and 14 years old, "child labor" refers to more than a few hours a week of more than light work. Children aged 15–17 years old may also be classed as child laborers if they engaged in work that harms their wellbeing and hinders their education, development, and future livelihoods. Finally, the ILO definition includes all hazardous, illegal, or coercive forms of work performed by children. Activities like hazardous child labor, prostitution, warfare, and forced labor are termed the "worst forms of child labor."

Based on these parameters, the ILO reports that the Asia-Pacific region has the most child laborers, with 122 million, followed by Sub-Saharan Africa, with 49 million. In Sub-Saharan Africa, which suffers from chronic poverty, rapid population growth, and large numbers of AIDS orphans, the proportion of children engaged in economic activity is 26 percent—the highest of any region.

"One has to be careful about the definition of child labor," says Assefa Admassie, associate professor of economics at the University of Addis Ababa. "Ethiopia has one of the highest rates of child labor in the world. If you define child labor only as dangerous work by children, then the proportion of child labor is low in Ethiopia, but if you consider child labor to be any activity that detracts from children's normal development, then you have a high incidence of child labor in Ethiopia." A 2001 survey by the Ethiopian government and the ILO showed that 52 percent of Ethiopian children between ages 5 and 17 were engaged in productive activities. When housekeeping chores were included, the figure rose to 85 percent.

The sector that employs by far the largest share of children worldwide—nearly 70 percent—is agriculture, and child labor in that sector remains persistent. Child labor in agriculture can harm children in two ways. First, agricultural work can threaten their health, and even their lives. Agriculture

"The sector that employs by far the largest share of children worldwide—nearly 70 percent—is agriculture. . ."



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has been identified as one of the three most hazardous sectors in which to work, along with construction and mining. It can involve working with dangerous chemicals and equipment, lifting heavy loads, and staying at work for long hours—conditions that clearly pose a risk to children. Yet it is less clear whether other work performed by children—like gathering fuelwood, tending livestock, or caring for siblings while parents work in the fields—is harmful to them, and if so, how harmful.

Second, agricultural labor can keep children from attending school, thereby preventing them from gaining education that could help lift them out of poverty in the future. Millions of children engage in part-time work in agriculture that allows them to attend school as well. But when children

work instead of attending school, child labor reduces children's life chances and can help perpetuate poverty from generation to generation.

But reducing children's labor in agriculture is a complicated task. "Part of the difficulty in eliminating child labor in agriculture," says the IPEC's Hurst, "is that it is wrapped up in the whole area of family farming. The children live where they work. There may not be schools nearby. And agriculture is a traditionally underregulated sector."

There may be cases when agricultural labor is better than a child's real-life alternatives. "Should a child be working, or should a child not be working? Well, what would the child be doing if she were not working? There's always this assumption that if a child weren't working, he or she would be in some educational utopia. That's obviously not very realistic," says Dartmouth's Edmonds. "So would the child be doing something unambiguously better?" In some cases the answer may be yes; in others, no.

A Difficult Choice for Parents

Clearly, the most important contributor to child labor is poverty. Rich parents do not send their children to work. A 1996 study shows that child labor declines as a country's income rises and virtually disappears once a country's per capita gross domestic product reaches US\$5,000.

Poor parents in developing countries confront a difficult choice, says Edmonds. They must weigh the family's need for food, shelter, and clothing here and now against an investment in their child's future that could take years to pay off. The child's economic contribution, which can help provide basic goods for the family, may be economically productive farm work, like weeding crops or tending livestock. The contribution may be negligible, or it may be large. In Nepal, children are estimated to contribute 11 percent of the value of agricultural production, according to research by the Centre for Household, Income, Labour, and Demographic Economics (CHILD). Alternatively, children may perform household chores that allow adults to spend more time in income-generating activities. Often, the working child's main economic contribution may consist of freeing up money that would otherwise go to pay for schooling related costs.

In a 2002 study of child labor in the West African cocoa industry conducted by the International Institute of Tropical Agriculture (IITA), farmers reported that falling prices for cocoa in the 1990s had forced them to cut costs, and using family labor was one way of doing so. "I don't send my children to school because I don't have any money," said one Ivorian farmer, "so they help me work in the field."

This trade-off between current and future wellbeing becomes especially clear when a poor farm family faces a sudden shock, like the loss of a crop. Kathleen Beegle, senior economist in the Development Research Group of the World Bank, conducted research in Tanzania showing that poor families, when hit with a temporary loss in income owing to crop failure, tended to increase child labor and reduce their children's school attendance. Households that had more assets (like livestock or cash) and seemingly better access to credit were able to overcome the income drop without depending on more child labor.

So is better access to credit the key to preventing child labor? Not necessarily, says Beegle. Studies in other countries have shown a rise in child labor with increased credit when households start enterprises and use their children as workers in the new firms. "Whether or not credit helps," Beegle explains, "depends on what the credit is for and what the labor market is like."

Complicating the equation, it may be that child labor gives children experience that can benefit them, at least in the short term. Although little research has been done on how child labor affects children's long-term welfare, Beegle and her colleagues looked at how child labor affected young people's education and earnings over time in rural Vietnam. They found that young adults who had worked as children obtained less education but achieved substantially higher earnings than those who had not. It was not until about age 30, the researchers estimated, that the income the young people would have gained from education would exceed the income they gained from the additional work experience as children.

Schools Need to Be Better, Cheaper, Closer

When parents are making decisions about whether to send their children to work, to school, or both, it matters whether the school charges fees, whether it is one kilometer away or five, and whether the school offers a high-quality education. "Parents value education," says the IPEC's Thijs. "They see it as an avenue for social advancement. They want their children to learn to read and write. When school fees are waived, you see a tremendous demand for education."

A recent study of rural Tanzania by researchers at the London School of Economics showed that distance to school also played a major role in whether children attended school but did little to reduce their work hours. In other words, the majority of children worked, and when schools were nearby they could combine this work with schooling. When schools were farther away, they could



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not take the time to travel to school and so became full-time workers. "Schooling and work are not perfect substitutes," explains Beegle. "You can get kids into school, but you may not reduce their work by the same amount."

The frequent shortage of schools in rural areas is an additional disincentive to pulling children out of work and into school. When Vietnam achieved its child labor reductions, it had the advantage of a strong schooling infrastructure. A study of India, however, has shown that if all the children who are supposed to be in rural primary schools showed up, there would be an average of 113 students per classroom. "Before we take steps to move children out of employment, we need to make sure they have somewhere to go," says Edmonds. If declines in child labor further impoverish poor families or do not go hand-in-hand with high-quality schooling, they could leave children even worse off.

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Making School Pay

To help tip poor parents' decisions in favor of school, some countries have decided to pay families to send their children to school. IFPRI has conducted evaluations of several programs that transfer cash or food directly to households that send their children to school and meet other conditions. Findings showed that such programs can help significantly reduce child labor and increase school enrollment.

Mexico was an innovator in this area. In 1997 it launched a program called Progresá (now called Oportunidades). The program pays families between about US\$10 and US\$35 a month if their children regularly attend school in grades three through nine. For children between the ages of 8 and 17, the program reduced the probability that boys would work by 10–14 percent and girls, by 15 percent. Similarly, a conditional cash transfer program in Nicaragua was shown to reduce the percentage of children aged 7–13 who were working by 5.6 percentage points.

Bangladesh instituted a program to increase school enrollment by supplying grain to families that sent their children to school. During the two-year period from the year before the start of the program to the year after the program was introduced, student enrollment in program schools increased by 35 percent overall—44 percent for girls and 28 percent for boys—although it had a smaller impact on child labor. Nonetheless, boys aged 12–14 enrolled in school worked just 2.3 hours a day, compared with boys not enrolled, who worked 7.2 hours. (Few girls worked outside the home in Bangladesh before or after the program.) “Although reducing child labor was not among the programs' goals, if it improves the life chances of the new school enrollees, it may mean that they in turn will not have to send their children to work,” says Akhter Ahmed, a senior research fellow at IFPRI and the lead researcher on an IFPRI project evaluating Bangladesh's Food for Schooling program.

Eliminating Child Labor: Worth the Investment

Substantially reducing child labor in agriculture and providing education to rural children will not be cheap, but it will generate high returns, according to the IPEC, which quantified the costs and benefits of eliminating child labor in a 2003 study. On the one hand, it projected the costs of providing education, managing a cash transfer program, intervening to eliminate the worst forms of child labor; and, for households, doing without the value of lost child labor. On the other hand, it projected the benefits flowing from people's improved productivity and earning capacity owing to more education, as well as better health owing to the elimination of child labor. The study found that benefits outweighed costs by a factor of 6.7.

To help draw attention to child labor in agriculture, the 2007 World Day of Action against Child Labor (June 12) will focus on the issue. And the ILO is bringing together a number of international agricultural organizations, including IFPRI, the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the International Federation of Agricultural Producers (IFAP), and the International Union of Food and Agricultural Workers (IUF) to cooperate on eliminating hazardous child labor in agriculture, including collaboration on projects, training, research, and communication. Through their close contacts with the agricultural communities of individual countries, these organizations hope to bring the issue of child labor into the mainstream of agricultural policymaking.

“We need to build partnerships and alliances to eliminate child labor in agriculture—the numbers are too big and the problems too many,” says Peter Hurst. “We need to work with international agricultural organizations and agricultural ministries in developing countries to help raise farm productivity and income and to improve regulation.”

Ultimately, he says, the goal is to create a healthy agricultural sector that provides families with a livelihood derived from safe, well-paid work performed by young people and adults—and not the labor of children. ■

—Reported by Heidi Fritschel

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