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GROWTH AND ECONOMIC DEVELOPMENT: PUBLIC POLICY FOR MANAGING AGRICULTURAL TRANSFROMATION

The previous issue of the newsletter carried excerpts from a Presidential Address by Prabu Pingali, Director, Agricultural and Development Economics Division of Food and Agriculture Organization of the United Nations, to the 26th International Conference of Agricultural Economists held in Gold Coast, Australia, 12-18 August. Prabu called for a re-examination of the relationship between agriculture and development and outlined the factors that affect agricultural transformation. In this second and last part, he argues that traditional policy agenda for promoting agricultural growth and economic development needs to be redesigned and adapted to the new realities of an increasingly inter-connected global economy.

Introduction

DESIGNING food and agriculture policy is substantially more complex in a globalized world than it was in relatively closed food economies. While chronic hunger and poverty continue to be daunting problems in much of the developing world, globalization brings about new policy challenges both for countries well into the process of agricultural transformation and those at the low end of the transformation process. The traditional policy agenda for promoting agricultural growth and economic development needs to be redesigned and adapted to the new realities of an increasingly inter-connected global economy. The following are some of the areas of policy focus and re-direction.

Enhancing food security and reducing poverty

Substantial progress has been made over the last decades in hunger and poverty reduction. This year, Food and Agriculture Organization of the United Nations has projected that the Millennium Development Goal (MDG) of reducing hunger to half the proportion of undernourished by 2015, will be achieved at a global level and for all regions except sub-Saharan Africa. The projections presume continued high levels of investment in and policy commitment to enhancing food security. While the prospects for reducing the proportion of hunger are encouraging, the decline in the absolute number of hungry people will be much slower and halving that number by 2015 is an unattainable goal in all regions of world, except east Asia. While “trickle down” from globalization induced income growth can to some extent help alleviate poverty and food insecurity it will not be adequate without concerted efforts targeted at the neediest populations. For countries at the low end of the transformation process, concerted action towards enhancing food security especially through agricultural productivity growth is crucial in the quest for income growth and economic

development. The same is true for low productivity regions in countries that are well into the process of agricultural modernization.

Hunger and poverty reduction requires a "twin-track approach" which combines, direct interventions and social investments to address the immediate needs of poor and hungry (social safety nets, conditional or unconditional cash transfers, health interventions, food and nutrition programmes) with; long-term development programmes to enhance the performance of the productive sectors (especially to promote agriculture and rural development), create employment and increase the value of the assets held by the poor (physical, human, financial). Coherence between policies and investments to increase productivity and economic efficiency and those in the social sectors improves their effectiveness. Coherence is also needed between agriculture and trade policies in order to achieve an appropriate balance between food imports and domestic productivity growth.

Some argue that the benefits of low food prices are as easily accessed by trade as by investing in domestic agriculture. This argument ignores the strong historical connection between domestic food production and consumption because of the difficulty and expense of transporting and marketing food staples in rural areas, far from ports and efficient transport links. For both microeconomic and macroeconomic reasons, no country has ever sustained the process of rapid economic growth without first solving the problem of food security. Enhancing food security in the rural areas entails improvements in the productivity of smallholder agriculture. In the first instance, enhancing local food supplies contributes to improved household nutrition and thereby contributes to labour performance improvements. In the long term it broadens participation in market-led growth. Promoting sustainable use of natural resources, improving rural infrastructure, research and communications, facilitating the functioning of markets and enhancing rural institutions are integral parts of the strategy. Productivity-induced agricultural growth has a wider impact on rural areas through the strengthening of off-farm activities, rural employment and wages; thus, moving the society, region and country, onto the agricultural transformation trajectory.

Re-orienting agricultural research and development priorities

Harnessing the best of scientific knowledge and technological breakthroughs is crucial in the attempt to "re-tool" agriculture to face the challenges of an increasingly commercialized and globalized agriculture sector. The primary objective of the research system remains to generate new technologies that sustainably improve productivity and farmers' income. Governments have a difficult task to perform: on one hand, continued food security needs to be assured for populations that are growing in absolute terms; on the other hand, research and infrastructural investments need to be made for diversification out of the primary staples. In responding to diversification trends, the research should not abruptly shift from an exclusive focus on one set of commodities to another. The focus of research should be to provide farmers the flexibility to make crop choice decisions and to move relatively freely between crops and other agricultural enterprises.

Both substantial crop-specific research and system level research effort will be required to provide farmers the flexibility of crop choice. Crop-specific research includes increases in yield potential, shorter duration cultivars, improved quality characteristics and greater tolerance to pest stresses. System-level research would include land management and tillage systems that allow for shifts of cropping patterns in response to changing incentives and farm level water management systems that can accommodate a variety of crops within a season. Also important at the system level is research on the carry over effect of inputs and management practices across crops, for instance, high insecticide and herbicide applications, or the effects of intensification in terms of prolonged water saturation, the build up and carryover across crops of pest populations, rapid depletion in soil

micronutrients and changes in soil organic matter could lead to reduced productivity of rice monoculture systems over the long term. Modern science can therefore provide opportunities for enhancing input efficiencies and for developing more sustainable production systems. Modern science and technology can also help provide new impetus for addressing the age-old problems of yield improvement, production variability and food insecurity of rural populations living in marginal production environments.

Whilst the real and potential gains from science and technology are apparent, it is also necessary to take into consideration the fact that research and technology development are more and more in the private domain: biotechnology is a prime example. Biotechnology holds great promise, but may involve new risks. In most countries, the scientific, political, economic or institutional basis is not yet in place to provide adequate safeguards for its development and application, and to reap all the potential benefits. Similarly, the evolution of food chains has been led by the private sector with obvious benefits in terms of food quality, safety and food price reductions. However, there have been casualties as some farmers and firms have been marginalized. Countries at the low end of the agricultural transformation process have gained the least from the above developments. In this case the question becomes one of whether there are technical solutions and business models that can enable engagement of such marginalized groups and countries.

Creating an enabling environment for smallholder transformation

The challenges faced by smallholder agriculture should be seen in the context of the general trends that will influence the structure of agricultural production. Namely, the transformation of diets and rising import competition will contribute to the increasing commercialization of the small farm sector. Governments ought to help create an enabling environment for smallholder commercialization through infrastructure investments and institutional reform. Rural infrastructure investments play a crucial role in inducing farmers to move toward a commercial agricultural system. The emphasis for public investments should be on improving general transport, communications, and market infrastructure, while allowing the private sector to invest in commodity-specific processing, storage, and marketing facilities.

Accessible and cost-effective communication systems such as mobile telephones can help generate information and other market-related services. The Internet explosion and related technologies have drastically reduced exchange and search costs in many countries in the Organization for Economic Co-operation and Development (OECD) and may be highly indicative of the potential benefits to developing countries. Efficient land markets and secure property rights are essential to capture agricultural growth. Where land rights are secure, farmers have the greater incentive needed to invest in land improvements. Moreover, land ownership is an important source of collateral that can improve the credit status of farmers, leading to easier access to funding for inputs and so forth. Individual farmers and households need to be assured “stable engagement” with other resources, such as water, water use rights that are flexible enough to promote comparative advantage in food staples and cash crops. Those rights must be matched by access to rural credit and finance and the dissemination of technology and good practices in water use.

Reducing small farm transactions costs

Smallholder participation in commercial and vertically integrated markets is becoming an issue of major concern, especially in countries with rapidly modernizing agricultural systems. Because transaction costs vary over households and enterprises, commodities and regions, there is no single innovation or intervention, public or private, which can reduce them. However, there are a number of ways in which market entry by small farmers can be developed. These include contract

farming, the development of farmer organizations for marketing, development of the supply chain for high value exports produced by smallholders through an appropriate mix of private and public sector initiatives and facilitating private sector provision of market information via improved telecommunications. The role of government is crucial in specifying property rights and enforcing contracts in order to promote specialization and reduce the costs of market exchange. Moreover, government policy needs to create incentives and send signals that encourage private sector participation in developing rural economies.

Before we target transactions costs as a remedy for increased small farmer participation we need to bear in mind two points. First, while a reduction in transaction costs should in principal allow for a greater number of farmers to trade, the ability to enter is not the same as the ability to stay. This is as much a function of other factors as it is of transaction costs. Therefore, interventions need to be cost-effective. Public money should not be spent in declining and non-competitive sectors. Second, transaction costs are household, commodity and location specific and are subject to constant change. Interventions aimed at targeted reductions in specific costs should not be in the public domain. Public sector interventions are best left for public good provision and institutional reforms to correct incomplete or absent markets. The reduction of transaction costs associated with the specificities of the food system is best left in the hands of the private sector.

Seeking complementarity between trade and domestic policy

Trade liberalization can be a powerful tool to promote economic growth, however, low income countries, in order to benefit from trade reform, will need to enhance domestic competitiveness through policy and institutional reform. Liberalization of domestic markets, through removal of quantitative restrictions on trade, and opening up of economies to internal trade opportunities is often a key step in starting or accelerating the process of commercialization. However, the opening up of markets also exposes producers to increased risk due to the greater short term volatility of world prices. Governments have historically intervened heavily in domestic markets to protect and stabilize the prices of agricultural commodities, with the result that domestic producer prices have varied substantially less than international prices. The relationship between diversification and risk is thus crucial in the context of trade and macroeconomic reform designed to align domestic prices more closely with international prices.

Many low-volume markets are associated with high-price volatility. Moreover, the diversification “start-up” phenomenon, of high prices for several seasons leading to oversupply and a consequent collapse of prices, is all too common. This can be countered by measures to expand the market by lowering transaction costs, improving external linkages or providing storage and processing technologies. Effective rural financial institutions will also assist in risk spreading and in the sharing of the benefits of commercialization more widely across the community and region. In view of the continuing distortions on world markets, the least developed countries must be granted more “policy space” necessary to reduce poverty and hunger by developing their rural areas and agriculture. Trade liberalization should go hand in hand with public support for improving agriculture productivity.

Establishing safety standards and regulations

Globalization increases the “effective demand” for safe and healthy food. Government schemes to certify quality and safe food according to public regulations are required. This is important for

domestic consumption and food safety, and even more so if a country wants to access foreign markets. If a country wants to export, it is necessary that an independent body will guarantee that the produce adheres to the required quality and safety standards. However, public systems to ensure food quality and safety suffer from lack of organization and adequate funding. The Codex Alimentarius Commission, jointly serviced by FAO and the World Health Organization (WHO), is charged with the responsibility of developing a food code. Its recommendations are based on the principle of sound scientific analysis and evidence, involving a thorough review of all relevant information. Codex international food standards are developed to protect the health of the consumers and ensure fair practices in the food trade. The SPS Agreement of the World Trade Organization (WTO) cites Codex standards, guidelines and recommendations as the preferred international measures for facilitating international trade in food. The focus of the Codex is shifting to take account of the changing global food system. Governments do not impose international-level standards; private standards are being implemented by the leading players in retail and food processing.

Enhancing incentives for sustainable resource use

Public policy can play an important role in encouraging the sustainable use of natural resources. First, by correcting incentive-distorting policies that encourage unsustainable use of the resource base. Second, by identifying market based instruments for promoting the supply of environmental services through appropriate changes in agricultural production systems and land use. For example, government interventions in the cereals market, especially through output price support and input subsidies, long provided farmers incentives for increasing cereal crop productivity, particularly the rice monoculture system, and the rice-wheat system in Asia.

Input subsidies that keep input prices low directly affect crop management practices at the farm level; they reduce farmer incentives for improving input use efficiency, which often requires farmer investment in learning about the technology and how best to use it. These policies have contributed to significant degradation of the agricultural resource base by creating soil fertility imbalances; disruptions in pest-predator ecology; salinity and water-logging problems, and higher incidence of soil erosion. The human health costs associated with pesticide use is also well documented. With the progression towards global integration, the competitiveness of domestic cereal agriculture can only be maintained through dramatic reductions in the cost per unit of production. Technologies for more efficient use of fertilizers, pesticides, and water are available and could become worthwhile adopting as price distortions are removed. Increasing input use efficiency would also contribute significantly to the long-term sustainability of intensive food-crop production and help arrest many of the degradation problems mentioned above.

In addition to policy corrections, governments can play an important role in promoting (through payments, if necessary) eco-system conservation through changes in agricultural production systems that complements food and fiber production. Conservation tillage, agro-forestry systems, and silvo-pastoral systems, are some of the many examples of agricultural production systems that can generate environmental benefits in the form of carbon sequestration, biodiversity conservation and watershed protection. The benefit of combining payments for the provision of public environmental goods such as soil carbon sequestration or watershed protection for the adoption of agricultural practices that can eventually lead to increased agricultural productivity is quite attractive. In some cases, however the adoption of the new agricultural practice could lead to a decrease in the returns to agriculture, in which case the payment for the public good component must be sufficient to compensate for such losses at a minimum.

Governments have a role to play in stimulating desirable land use change as well. In the process of economic development, as agricultural populations shrink and non-agricultural sectors grow, the potential for setting aside land for non-agricultural uses is high. Conversion of marginal agricultural lands to forests contributes to carbon sequestration, watershed protection and biodiversity conservation. OECD countries are going through this process of land use change supported by public polices such as the Conservation Reserve Program in the United States of America. For developing countries with similar conditions in the agricultural sector, national and international public sector support for land use changes that generate global environmental goods and services can be an important means of attaining sustainable resource use. Public policy to stimulate land use change is also warranted where the environmental costs of agricultural production outweigh the benefits. For example, The Chinese government has a goal of converting 14.6 million hectares of croplands on sloping lands to forest in order to reduce soil erosion that has serious economic impacts on land and water use efficiency. However, the successful incorporation of environmental services into the livelihoods of the poor via changes in either agricultural production systems or land use is dependent on the presence of enabling conditions such a property rights, food security and low transactions costs, as well as local and global recognition and willingness to pay for environmental goods and services.

Enabling income and livelihood diversification

It is important to start by recognizing that rural households, at all stages of development, rely on a diverse set of non-farm opportunities for earning incomes and sustaining food security and livelihoods. Higher agricultural productivity has contributed to the growth in rural non-farm and off-farm income earning opportunities through backward and forward linkages. Surveys of the rural non-farm literature indicate rural non-farm income represents on average 42 percent of rural income in Africa, 32 in Asia, 40 in Latin America and 44 percent in Eastern Europe and CIS countries. The diversity of income generating activities in the rural areas calls for policies with wider impact as opposed to sector specific policies: education and rural infrastructure such as communications, roads and electrification will have beneficial effects to a wide spectrum of rural activities. Public investments ought to be accompanied by policies that induce complementary flows of private investment. Empirical evidence on whether vertical integration of the food sector would have a negative impact on rural non-farm employment opportunities remains obscure. However, one could postulate that there will certainly be a change in the mix of activities. For example, there could be a drop in small scale agro-processing and an increase in services and commerce. Finally, public investments made to create an enabling environment for non-farm employment will also be useful in preparing populations for exits from rural areas as economic development proceeds.

Conclusions

Agricultural growth has played a historically important role in the process of economic development. Evidence from industrialized countries as well as countries that are rapidly developing today indicates that agriculture was the engine that contributed to growth in the non-agricultural sectors and to overall economic well being.

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