Rural Poverty in Southeast Asia: Issues, Policies, and Challenges

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ABSTRACT

Economic growth among Southeast Asian countries during the last 25 years has averaged at five percent per year and has been accompanied by a decline in the relative importance of agriculture in the national output and employment. The response of poverty to this growth and structural transformation has been equally remarkable, with the headcount ratio in 2002 registering a more than 50 percent drop from the 1990 figure.

Although impressive, Southeast Asia's overall record in growth and poverty reduction has not been uniform, as evident in the experiences of countries like Indonesia, Philippines and East Timor, as well as the transition economies, namely, Cambodia, Lao PDR, Myanmar and Vietnam. In these countries, liberalizing agricultural trade, combined with public investment in productivity-enhancing support services, would advance the interests of the poor. To contribute in the efforts to strengthen the continuing war on poverty especially in these transition economies, the paper highlights the lessons learned in poverty reduction so as to identify more clearly the policy options for achieving the Millenium Development Goals in the Region.

One powerful lesson that has emerged in tackling poverty and food insecurity concerns the use of policy, investment and institutional reforms to enable the rural poor to partake of the windfall from efficient domestic markets and the improved access to technology, infrastructure and education. The success stories would show that the main push to these efficiency-enhancing reforms has come, not from globalization nor agricultural policy but from the internal realization that the country and its citizens were the major beneficiaries of the reform. Another important challenge facing countries in the Region is to find the appropriate mix of policies and institutions that would maximize the enormous benefits from globalization while protecting against its risks and pitfalls. Lastly, given that the investment requirements for poverty reduction are beyond the resources of low-income countries, the paper identifies the critical role of the development assistance community.

INTRODUCTION

By international standards, Southeast Asia has done remarkably well in both economic growth and poverty reduction. The region's economic growth rate during the past 25 years averaged about 5.0% per year, while the corresponding figures for Asia and the world were about 3.9% and 2.6%, respectively. The growth accompanied a historic rapid poverty reduction, especially in Indonesia,

[1] Revised version of the paper was presented at the Expert Group Meeting on Rural Development and Rural Poverty Reduction (organized by ESCAP), held in Bangkok, Thailand on 19–20 May 2005.

Malaysia, Thailand, and Vietnam. While the Asian financial crisis in the late 1990s adversely affected the welfare of the region's population, Southeast Asia's achievements in economic and human development during the past quarter-century remain impressive, especially when seen against the performance of South Asia.

These achievements, however, have not been uniform across countries in the region. While Indonesia, Thailand, and Vietnam have posted rapid economic growth and are well on their way to achieving the Millennium Development Goals (MDGs), the same cannot be said for Cambodia, Lao PDR, Myanmar, and the Philippines whose growth rates of output were comparatively low, and those of population, high. Even within countries, the diversity of performance in growth and poverty reduction is very evident (Balisacan 2004; Balisacan and Fuwa 2004). Sub-national studies suggest that the nature of growth, not just its speed, matters to poverty reduction. They also suggest considerable heterogeneity in impacts across households with different characteristics, including location, at any given level of income (Ravallion 2004).

As is the case in developing regions of the world, nearly three-fourths of the poor in Southeast Asia live in rural areas; the majority are dependent on agriculture. Agricultural and rural development is thus key to achieving broad-based growth and the MDGs.

In this paper, we distill the lessons learned in poverty reduction efforts in Southeast Asia and beyond, and examine the issues and challenges for the continuing war on poverty in the region, especially in Cambodia, Lao PDR, Myanmar, and Vietnam (hereafter collectively referred to as CLMV). The aim is to contribute to understanding the policy options for achieving the MDGs in the region.

MDGS AND RURAL POVERTY

It is unfortunate that the MDGs' target indicators are not broken down into urban and rural sectors. If this had been the case, it would have become evident that the MDGs lean more heavily toward the rural sector. In the following, we highlight this disparate statistics by covering four countries for which such disaggregation is available, namely: Philippines, Indonesia, Vietnam, and Cambodia. These countries account for about 72% of Southeast Asia's total population and roughly 50% of the poor (based on a poverty line of US$1 a day).

Goal 1: Eradicate extreme poverty and hunger

As noted above, over 70% of the poor people are in rural areas. In Vietnam and Cambodia, almost all the poor (90%) are found in rural areas.[2] The number of Indonesia's poor in urban areas declined from 20% in 1987 to 14% in 2002, while rural poverty decreased from 45% in 1984 to 21% in 2002. In the case of the Philippines, rural poverty decreased from 53% in 1988 to 47% in 2000. Table 1 shows the data for other countries in the region.

One of the most obvious expressions of poverty is malnutrition. Persistent malnutrition diminishes poverty alleviation efforts by limiting human capital accumulation, hampering labor productivity growth, and generating welfare losses to society through later adult disability, chronic disease, and early mortality. It most adversely affects women and children of poor households in rural areas. In 1990, 36% of pre-school children in Southeast Asia were malnourished; this figure was slightly reduced to 29% in 2000.

Specifically, in Cambodia, 33% of children under age five in rural areas are moderately underweight and 13% are severely underweight. In rural areas, 22% of women aged 15–49 suffer from malnutrition.

Goal 2: Achieve universal education

Participation rate, even in primary education, is disproportionately lower in rural areas than in urban areas. In the Philippines, the participation rate among 6-10 years old is about 88% in urban areas and only 78% in rural areas.

[2] Estimates are based on figures from the ADB Key Indicators 2004. Note that the definition of a "rural" (or an "urban") area varies widely across countries. The usual practice is to first characterize an urban sector, and then take the rural sector as the complement, that is, the non-urban areas. Some countries require a substantial percentage of the labor force to be employed in agriculture for a locality to be classified as rural. Thus, a rural area has often become synonymous with an agricultural area.

Table 1. Poverty in Southeast Asia

Country		Poverty incidence (%) using national poverty line			Contribution of rural poverty to total poverty[a]
		Total	Urban	Rural	
Cambodia	(1999)	35.9	18.2	40.1	93.8
Indonesia	(2002)	18.2	14.5	21.1	70.3
Lao PDR	(1997)	38.6	26.9	41.0	80.7
Malaysia	(1999)	7.5	3.4	12.4	69.3
Myanmar	(1997)	22.9	23.9	22.4	70.4
Philippines	(2000)	34.0	20.4	47.4	72.4
Thailand	(2002)	9.8	4.0	12.6	91.3
Vietnam	(2002)	28.9	6.6	35.6	92.3

[a] Author's estimates.
Source: ADB, *Key Indicators 2004*.

Goal 3: Promote gender equality and empower women

In the region, the proportion of women aged 15-49 who had completed at least the fifth grade is lower in rural than in urban areas. In the Philippines, where "completion rates" are high, only 86% of women in rural areas completed the fifth grade, in contrast to 96% of women in urban areas. In Cambodia, where the figures are generally low, only 27% of women in rural areas completed the fifth grade, while the corresponding figure for urban areas is 56%.

Goal 4: Reduce child mortality

In the countries that we considered, mortality ranges from 30 per thousand among Vietnamese children under age five to a high of 93 per thousand among Cambodian children in urban areas. This is a disturbing figure but doubtless better than the corresponding figure for Cambodia's rural areas, which is recorded at 126 per thousand children.

Goal 5: Improve maternal health

Only 34% of pregnant women in rural areas in Cambodia get to see medically trained personnel at least once during their term, compared with 62% of pregnant women in urban areas. We observe better maternal practices among pregnant women in Indonesia. In rural areas, 88% of them visit medically trained personnel at least once during their term; 98% of their urban counterparts are able to do so.

Goal 6: Combat HIV/AIDS, malaria, and other diseases

The best approach to achieve this goal is to put in place preventive measures. An example would be the ownership and use of a bednet. An average of 80% of rural households in Cambodia have at least one bednet; the figure for the urban areas is slightly higher at 88%. Another indicator worth looking at is how knowledgeable people are in avoiding the transmission of HIV. In the region, Cambodia has the highest prevalence, with almost 2% among their females aged 15-24 infected with HIV. This may be due to the fact that only 33% of the females of reproductive age in rural areas know of at least one way of avoiding sexually transmitted diseases.

Goal 7: Ensure environmental sustainability

UNDP (1998) reports that out of the 2.7 million premature deaths caused by environmental degradation, more than 1.8 million deaths occur among the rural poor households, which are exposed to indoor air pollution.

Simply put, the chances of the countries in the region meeting the MDGs largely depend on the success of rural development. In fact, it is only appropriate that global partnership will

primarily concentrate more on rural development. However, even if we agree on the primacy of rural development, the modalities of multilateral partnership, in particular, can be highly contentious. We only need to be reminded of the difficulties in defining minimum agreements regarding agricultural trade liberalization and the even greater problem of ensuring compliance.

STRUCTURAL TRANSFORMATION AND THE AGRICULTURAL PROBLEM

The total output of the region increased by more than threefold between 1980 and 2000 (expressed in US$ 2000). There are, however, substantial inter-country variations, particularly with respect to per capita incomes (Figure 1). The top performers, whose per capita incomes more than doubled are Thailand, Singapore, Indonesia, and Malaysia. Among the transition economies, Lao PDR and especially Vietnam, exhibited very impressive growth rates but the absolute levels are still low. While per capita income increased almost threefold in Vietnam, it virtually stagnated in the Philippines. Trailing far behind though, both in absolute level and growth rate, is Cambodia, where per capita income in 2003 was only about 90% of its level in 1980.

Economic growth among the countries in Southeast Asia, as in other countries, has been accompanied by structural transformation. With the exception of Singapore and Brunei Darussalam, where agriculture is a relatively small component of the local economy, the share of agriculture in national output has also declined quite sharply during the past two decades, especially in the original members of the ASEAN (Table 2). For the transition economies, agriculture still accounts from about one-fourth (Vietnam) and one-third (Cambodia) to nearly one-half (Lao PDR and Myanmar) of total output.

That agriculture declines in relative importance as per capita income increases is an empirical regularity (Chenery and Syrquin 1975; Oshima 1987; Bravo-Ortega and Lederman 2005). Agriculture share tends not only to have a negative relationship with per capita GDP and total foreign trade, but also to be greater (in absolute values) in countries with an agricultural economy growing slower than the rest of the economy. The development process could also bring about absolute declines in the number of farm workers.

As further discussed below, the pattern of agricultural growth and the relative importance of agriculture in the economy reflect not only a long-term structural phenomenon but also the influence of government policies and strategies on the sector and the overall economy. The latter factor comes about partly in response to an "agricultural problem" resulting from disequilibria brought about

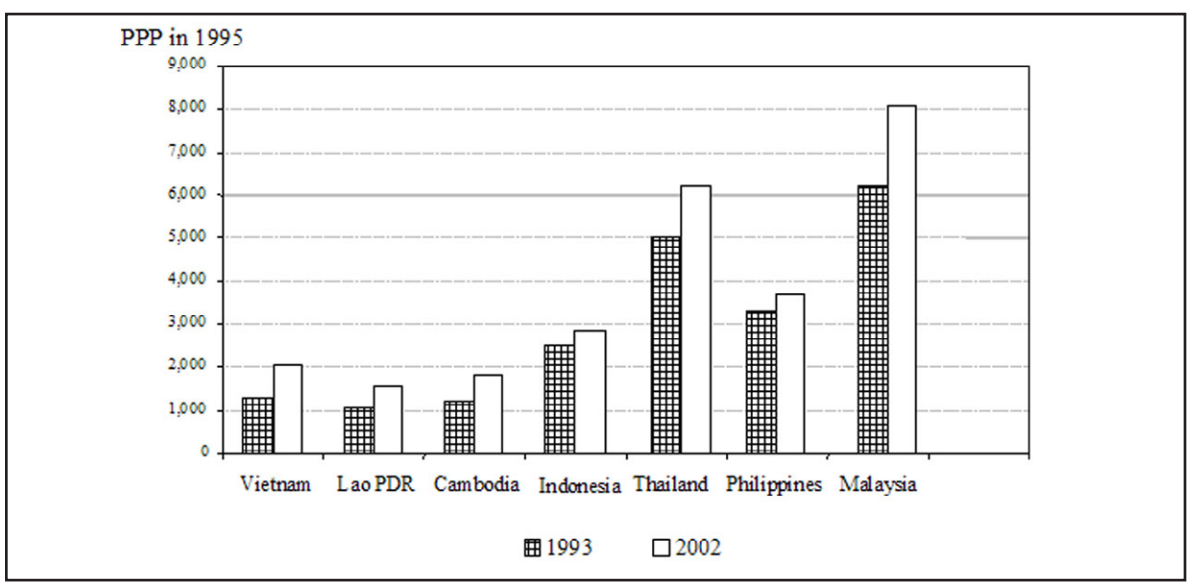

Fig. 1. Per capita GDP, 1993 and 2002.

Table 2. Share of sectoral outputs to total output

	Agriculture			Industry			Services		
	1980	1990	2002	1980	1990	2002	1980	1990	2002
Indonesia	24.8	19.4	17.5	43.4	39.1	44.5	31.8	41.5	38.1
Malaysia	21.2	15.2	9.5	43.8	42.2	48.2	35.2	44.2	45.6
Philippines	25.1	21.9	14.7	38.8	34.5	32.5	36.1	43.6	52.8
Singapore	1.2	0.3	0.1	38.0	33.1	33.6	64.7	67.8	66.6
Thailand	23.2	12.5	9.0	28.7	31.1	37.0	48.1	43.0	46.5
Brunei	0.6	2.4	3.5	84.8	54.8	41.8	15.1	45.0	53.2
Vietnam	43.0	38.7	24.6	23.3	22.7	35.9	33.7	38.6	39.5
Lao PDR	55.3	60.7	49.9	17.2	14.4	24.5	34.6	25.0	23.5
Myanmar	46.5	57.3	49.7	12.7	10.5	10.3	40.8	32.2	31.0
Cambodia	39.5	50.9	34.7	10.1	11.9	23.8	46.0	38.8	34.5

Source: United Nations Statistical Division.

by disparate growth experiences of the agriculture and non-agriculture sectors as countries go through the different development stages.

Hayami and Godo (2004) describe the agricultural problem as "the problem of an overriding concern of policymakers with respect to designing and implementing policies for agriculture as part of policies to promote national economies in their own countries." Following Schultz (1953), they refer to the agricultural problem faced by the low-income countries as the "food problem." The problem arises because, in these countries, which typically have rapid population growth and high food demand elasticity, the growth of food demand outpaces the growth of food supply. The resulting high food prices pull up the cost of living, thereby putting upward pressure on the wages of non-farm workers. Increases in wages, if not supported by increases in productivity, erode the competitiveness of the non-farm sector (as well as the farm sector), thereby suppressing industrialization, employment generation, and economic growth. Simply put, the basic problem is that of supplying food at low prices, especially to urban workers. In practice, this has meant government procurement of farm outputs at lower-than-market prices, or accepting food aid from developed countries for local distribution to non-farm workers at the expense of farmers.

In contrast, Hayami and Godo (2004) refer to the agricultural problem faced by high-income countries as the "protection problem." The problem has to do with food demand growing more slowly than food supply. The growth in the demand for food is very slow because of the low population growth and the saturation of food consumption. Meanwhile, the food supply increases at a fast rate mostly because of the high rate of investment in agricultural supply, particularly research. This wedge between low demand and high supply tends to pull down prices and farm incomes, thereby driving resources out of agriculture. In reality, however, the reallocation of resources takes time; therefore, government implements protection policies to mitigate the social cost of adjustment. Moreover, powerful farm lobbies put pressure on government to provide measures aimed at preventing farm incomes from substantially falling relative to non-farm incomes.

An even more complicated picture is the agricultural problem of middle-income countries. Their governments must balance two political objectives: (1) secure cheap food for urban workers, and (2) prevent farmers' incomes from falling below that of urban workers. Hayami and Godo (2004) label this as the "disparity problem." We note that these two objectives require contrasting solutions. While these may be addressed simultaneously, governments can only do so at the expense of fiscal resources and the economy as a whole. This is exemplified in the case of governments conferring subsidies to both consumers and producers of food. The sheer size of the agriculture sector in relation to the overall economy, as well as the urban population in relation to the total population, at this stage of

development suggests that conferring subsidies to both groups have potentially high economic costs.

POVERTY AND INSECURITY DURING GROWTH

As noted earlier, by international standards, Southeast Asia's economic growth during the past 20 years has been quite impressive. The response of poverty to this growth and structural transformation has been equally remarkable. Using the international poverty line of US$1 a day per capita, ADB (2004) reports that Southeast Asia's headcount ratio registered only 10% in 2002, representing a more than 50% drop from the figure in 1990 (the benchmark year for the MDGs).[3] The region has already met its MDG target, more than a decade before the deadline. Contributing to the dramatic decline were Vietnam (from 51% to 13%) and Indonesia (20% to 7%). The slowest reduction of poverty was in the Philippines. The poverty incidence was 15% in 2002, reflecting a meager improvement from the 1990 level of 20%.

We can safely assume that, in the midst of opportunities to improve living standards offered by economic growth, the remaining poor are the ones seriously lacking in capabilities, or altogether separated from the rest of the economy. This incapability or isolation may be the main problem of rural poverty.

Edillon et al. (2004) surveyed the poorest of the poor families residing in rural Philippines, and gleaned the following profile:

- Access conditions are very poor to nonexistent. These pertain to access to information, technology, markets, services, and centers of governance. In one area, the fare going to the town center is equivalent to the average monthly expenditure of a family.
- The assets the poor command are of very low quality and land tenure is not secure. Very few own the lands they till and the houses they live in. Only about 40% of agricultural lands are in the plains. Only 20% of the rice lands are irrigated. The quality of labor supply is very low. Average educational attainment of employed members is only 43% of expected, given their age.
- Social capital is very rudimentary.
- There is very little evidence of empowerment, whether economic or political, even among the political leaders in the *barangay* (smallest political/administrative unit in the Philippines). They do not have mechanisms to exact accountability from government officials. Participation in development activities is token, at best, limited only to attending the *barangay* assemblies. For instance, they are not aware of the income and expense accounts of their *barangay* even though these are reported during the *barangay* assemblies.

On a larger scale, Narayan et al. (2000) conducted a participatory action research to delve deeper into the social dimensions of poverty. While the poor highlight hunger and other material deprivations, they also "speak forcefully of social, physical and psychological dimensions, and of lacking freedom of choice and action." A poor woman from Latvia remarked, "Poverty is humiliation, the sense of being dependent, and of being forced to accept rudeness, insults, and indifference when we seek help."

The authors describe the situation faced by the poor in 10 dimensions, as follows:

- They look hungry, exhausted, and sick.
- They lack capabilities due to their lack of education, information, and skills. They also lack confidence.
- They live in isolated, risky, and unserviced places. If in urban areas, these would be in stigmatized sections.
- They have weak organizations, if at all, and these are most probably not connected to any higher-level or apex organizations.
- Their sources of livelihood are precarious, seasonal, and inadequate. The same goes for the assets they possess, if any.
- The gender relations can be described as troubled and unequal. There is usually discord between the spouses of families where the women earn more than the men.

[3] The countries included are Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, and Vietnam.

- The poor are usually taken for granted, if not abused, by the more powerful.
- Outside their familiar circles, the poor are isolated and discriminated.
- They generally find institutions meant to serve them as disempowering and excluding.
- They lack protection and peace of mind.

Poverty feeding into indignity leads to loss of self-worth and more severe poverty. This cycle needs to be stopped.

The underlying premise of the MDGs is still the concept of human development. We note that none of the MDGs concentrate on economic growth; rather, the goals focus on the distribution of capabilities – income, health and nutrition, education, gender relations, and physical environment. Still, we recognize that meeting MDG1 — eradication of extreme poverty and hunger — is key to meeting the other goals. The usual prescriptions for poverty reduction are not entirely independent of the principle of development, particularly when the second strategy is spelled out: (1) sustained economic growth, (2) improved linkages between the growing sectors and the lagging sectors, and (3) reduced vulnerabilities of those who will graduate out of poverty.

Bravo-Ortega and Lederman (2005) adopted a slightly different concept of development, almost similar to utilitarian theories. They assumed that the objective of society is to maximize national welfare, say W. W is expressed as a utility function with determinants: GDP per capita (y), average income of the poorest quintile (y1), environmental quality (E), and a measure of the volatility or unexpected shocks (v). W increases with y, y1, and E and decreases with v. The question they tried to resolve was how best to maximize national welfare – via agricultural or non-agricultural growth.

They began by estimating the marginal impact of agriculture vs. non-agriculture growth on each of the determinants of W. The result showed that the effect varied with the income level of the country. There was a positive causal effect running from agriculture to non-agriculture output in developing countries. But this turned negative for developed countries. An interesting result showed that while agricultural labor productivity had a significant effect on the average income of the poorest quintile, this was smaller than the impact of non-agricultural output per worker. The result with respect to environmental quality was mixed. The non-agriculture sector was the main determinant of CO^2 emissions, but the agriculture sector was the main source of deforestation.

Meanwhile, data showed that agriculture output was more volatile than non-agriculture output. Bravo-Ortega and Lederman (2005) found that the volatility-reducing effect of the non-agriculture sector increased with the level of income, while that of agriculture exhibited the opposite pattern.

Combining the findings on each of the determinants of overall welfare and using two weight scenarios (1- equal weights, and 2- GDP per capita gets 40% weight), they concluded that the national welfare in high-income countries is best served through non-agricultural growth. In developing countries, welfare is also best served by non-agricultural growth, although the contribution of agriculture is positive and relatively larger than its share in GDP.

At present, we observe that the focus of development efforts is shifting to developing the rural non-farm sector, with the hope that this shift will catalyze the development of the farm sector. Ravallion (2002) adopts the same distinction in his study of the externalities in rural development in China. First, there is the so-called "own effects", where the level of economic activity in a given sector positively affects the growth of income from that source. Next, there are "cross effects" where farm output positively impacts on the output of forestry, animal husbandry, and fishing that, in turn, positively affects handicrafts, industry, processing, and transportation. Thus, rural development generates externalities.

On the other hand, there is hardly any sign of reverse linkages. If anything, there are indications of negative external effects from some non-farm activities on farm output.

Islam (1997) enumerates the sources of demand for goods and services produced by the rural non-farm sector. The various demands consist of the demand for consumer goods by farm households, their demand for productions and inputs to be used in agriculture, and the demand for consumer goods and processed agricultural goods by the urban sector. He warns that improving access between the rural non-farm sector and the urban sectors could have the perverse effect of disenfranchising

the farm sector and some rural non-farm sectors. When both sectors are disenfranchised, competition comes in from the more efficient producers from the urban sector and the rest of the world. Inevitably, we may not observe any backward linkage going from urban to rural sectors.

The resulting perverse effect of improved access on the poor also comes out in the model estimated by Balisacan and Pernia (2003), where quality-adjusted road density negatively affects the income of the poorest quintile. However, when the variable is interacted with education, the coefficient turns positive and significant.

Ravallion and Datt (2002), meanwhile, find that better initial conditions increase the responsiveness of the poor to state-led anti-poverty programs. These initial conditions have to do with higher female literacy rate, lower infant mortality rate, and better distribution of land ownership. In effect, better capabilities could be a leverage for better poverty outcomes.

PERSISTENT AND EMERGING ISSUES IN RURAL POVERTY REDUCTION

The most controversial issues said to significantly affect the poor are globalization, applications of modern science in agriculture (biotechnology), and environmental degradation. Closely related to globalization are the recent accession of China to the World Trade Organization (WTO) and the emergence of India as an economic powerhouse. In this section, we examine the constraints to, and opportunities for, advancing rural poverty reduction in Southeast Asia given these developments.

Globalization

Conventional wisdom tells us that if we assume the rural poor to consist mostly of subsistence farmers, then, by character, they are insulated from the risks associated with globalization, to wit: structural transformation, volatility of prices, and contagion of crisis effects (Clarete 2002). However, this can only mean that they do not share in the benefits of globalization. We may then see a worsening of income inequality between those who participate in market transactions and those who are isolated from the market.

Dollar and Kraay (2004), however, did not find any systematic relationship between changes in trade volumes (a proxy for openness) and changes in household income inequality. They based their conclusions on the economic performance and the poverty reduction experience of post-1980 globalizers. The increased openness to trade coincided with faster growth rates of their economy, even as growth in the rich countries and in the other developing countries has declined. These two results can only mean that absolute poverty has fallen sharply.

For example, Vietnam (although it has been excluded from the econometric estimation) has seen its poverty incidence dropping by about half in only a period of 10 years: from 75% in 1988 to 37% in 1998. The period in between was when Vietnam opened its markets to the rest of the world. Most notable is the rise in its export of rice and other labor-intensive products.

Ravallion (2004) cautions us against making conclusions based on average or aggregate results. Using Morocco as one case study, he finds that since the majority of Morocco's poor are net consumers, the overall result is that they gain from the reduction in domestic prices brought about by the trade reform on cereals. However, most of the rural poor are net producers; thus, the increased openness to trade also increases rural poverty. Focusing on a panel data of households in China, he finds that the generally positive gains from globalization among urban households tend to fall slightly as income rises. Unfortunately, the impacts on rural households are, in general, negative and worst among the very poorest.

Economic Boom in China and India, and China's Accession to WTO

Taken together, India and China make up almost 40% of the world's population and produce 6% of the world's output. These are two very large markets. We can safely assume that with greater integration their economic performance would have externalities—good and bad—on the rest of Asia and the world.

For the more advanced economies in Southeast Asia, notably Singapore, Malaysia, Brunei, and Thailand, the rapid economic expansion in both China and India is likely to be a boon. But for their

less-advanced neighbors, notably the transition countries, as well as Philippines and Indonesia, it is likely to be a bane, at least initially since unskilled labor, which fuels their production processes, are far more abundant and cheap in the two giant economies. It takes, however, more than cheap and abundant labor to gain competitive advantage. The economic climate, particularly infrastructure and the rules-of-the-game, is an equally crucial determinant of investment and competitiveness. The smaller, less-advanced countries of the region can seize the opportunity for domestic growth brought about by the economic boom in the two giants by putting in place efficiency-enhancing reforms in both policy and governance.

A bigger concern, though not articulated in official circles, is the political stand of China regarding issues that could affect security in Southeast Asia. The more prominent issues concern the boundary dispute over the Spratlys, and its attitude towards Taiwan and North Korea. There is also concern that resentment over the worsening income inequality in China could lead to massive unrest, as it did in 1989. An economic downturn in China could easily lead to an internal upheaval. The contagion effects are still uncertain, but what worries the neighbors more is the political implication as China tries to maintain party control and probably re-institute authoritarian rule.

Environmental Degradation

Another major problem that is waiting to confront the poor is the degradation of the environment. We are not just talking of physical disasters, though their effects are indeed catastrophic. Rather, we refer to renewable and non-renewable resources that form the natural capital of the poor. Lopez (1997) emphasizes that the degradation of the natural capital is likely to be devastating for the poor who, generally having little human capital, continue to depend on natural capital for their income. Because the poor have few possibilities for substituting other assets for natural resources, the degradation of these resources (e.g., water, soil fertility, etc.) could lead to irreversible vicious circles of poverty and environmental destruction.

Likewise, numerous disruptions in the agricultural market have occurred owing to animal diseases like the avian flu[4], foot-and-mouth disease (mostly in China and Korea), mad cow (isolated cases in Japan since 2001), etc. Outbreaks, or even just reports of incidence, of these diseases can cause commodity demand to drop sharply. The effect can be nothing but harmful to agricultural producers, most of whom are the poor.

Biotechnology can potentially address these problems. As history demonstrates, science and technology, when applied wisely and well, can be a very effective tool for eradicating the worst forms of poverty.

In the environmental sector, biotechnology may arrest the depletion of resources by introducing varieties that make efficient use of the resource (e.g., rice varieties that are not too "water loving"). Another possibility is to extend the use of the resource, say water, through recycling as is being practiced now in California. David (2004) also recommends the use of mechanical methods to fast-track reforestation, and agro-forestation to maintain the watersheds and recharge the aquifers.

Similarly, in the agriculture sector, biotechnology can be used to improve crop-animal resistance to diseases. For example, World Bank (2000) makes special mention of a vaccine that eliminated rinderpest, one of the deadliest animal diseases. In the crop sciences, the trend now is developing varieties that are resistant to pests and diseases.

The challenge for science and technology, however, is double-edged: how to increase food production and thus ensure food security, and increase farm income, while at the same time conserving the natural resources. The other big issues concern the acceptability to consumers, and the effects on food safety. There have been some attempts to present biotech products as though developed from alien materials that have unknown properties. Clearly, there is an imperative need for serious, open-minded, and scientific discussions of facts, as well as further research, testing and validation procedures. This can only be done after contending parties agree that biotechnology, indeed, offers a solution to the problems of the poor.

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[4] There were reported outbreaks in Thailand, Vietnam, Indonesia, and Cambodia during the first quarter of 2005.

IMPLICATIONS AND CHALLENGES FOR GOVERNMENTS AND DEVELOPMENT AGENCIES

In the past, according to economist John Stuart Mill (1848), the government's principal functions were to raise revenues to provide public goods, set the legal framework to govern property and contracts, and enforce the laws (judicature and police systems). While the goals of public policy largely remain the same (growth and stabilization, efficiency, and equity), the instruments have evolved. The changes emanated from the increasingly complex and sophisticated transactions, and the widening influence of consumption and production processes. The complicated conditions are bound to multiply as globalization proceeds.

Rural Development Deserves Government Priority

We began this paper by emphasizing the importance of rural development in meeting the MDGs[5]. More than the goal to fulfill international commitments, one of the primary functions of government is to promote equity. In addition, as Ravallion (2002) indicated, there are externalities to rural development. If we leave this to the private sector, it is likely that there will be under-investment, thereby giving the government with all the more reason to step in.

Lessons in Development From the 1990s

The East Asian financial crisis revealed that while rapid and sustained growth is possible and can even lead to significant reduction in poverty, these are by no means ensured. And mistakes can be costly, as was the case in Indonesia.

Thomas et al. (2000) contends that the 1990s provided the following lessons regarding development, namely: (1) investments in people need to be concerned with the quality and distribution of those investments; (2) rapid growth, while it supports social development when broad-based, can hurt environmental sustainability in the absence of appropriate actions; (3) while market openness and competition continue to provide benefits, the financial risks must be managed with attention to country-specific factors; and (4) good governance and institutional factors should be given priority and not postponed for later stages of reform.

The recommendation, therefore, is for planners to adopt a multi-dimensional approach to development and national welfare. For rural development to proceed, it is essential to keep in mind that income growth is not all that matters to national welfare.

Empower the rural poor. Being empowered refers to the capability to be of use to society. It means having not only the potential and the willingness to harness these capabilities, but also the opportunity and the means to put these capabilities in action.

The first thing that we need to do is to improve the quality of human capital in the rural areas. We should give to adult education and skills training the same degree of importance and resources that we invest on basic education. Functional literacy is no longer adequate to be able to compete in the modern-day labor markets.

We also need to increase the coverage and provision of public health service in the rural areas. We need to universally promote immunization of children to ensure a healthier generation, and thereby reduce (if not eliminate) the potential sources of vulnerability of poor families, particularly of children getting ill.

We must aim at educating rural families about family planning methods and reproductive health. Rural families tend to be larger than urban families. While they may regard additional children as additional labor supply, they fail to factor in the time lag between the birth of a child and the time when he can be useful as a farmhand. This time lag is rather long and requires a large amount of resources. Oftentimes, these resources come at the expense of other crucial factors like the education of the older child or the time spent by the mother in childrearing.

As we improve the human capital of the rural poor, we likewise need to improve the efficiency

[5] Although the targets will mostprobably be met, these will most likely be far from the goals. Note that while most of the goals are stated in absolute forms—like eradicate, achieve universal, empower, combat, ensure— the targets are expressed in relative terms, like reduce by half, reduce by two-thirds, reduce by three-quarters, based on a benchmark figure, usually the level in the early1990s.

of the other factors of production. We need to introduce, for example, new technologies, whether in the form of hybrid seeds, better farm techniques, etc. to the poor, in order to increase land and water productivity. We should teach them to diversify into other crops or to even spread their wings and explore non-farm activities. These will serve to increase their labor productivity.

Next, we address the social dimension of poverty. We need to improve the sense of self-worth of the poor. One way is to break the dependence relations that exist, whether landlord-tenant, lender-borrower, patron-client, and the like. Das Gupta et al. (2003) pointed to the potential of such government policies as land reform, tenancy reform, and income diversification to reduce serious power imbalances within communities, and hopefully, in the long run, dismantle dependence relationships.

For instance, income diversification reduces vulnerabilities and minimizes the need to call on the landlord and usurers for help. In the Philippines, capability-building programs designed to transform farmers from a farmer-tenant into being a farmer-manager accompany the land reform program.

We also must explore other pathways. Community-driven development (CDD) is one such alternative pathway. This consists of related projects which train communities to analyze their situation, propose solutions, prioritize project-given resources, implement, maintain, and operate these projects. The thrust of such projects is not so much on the output accomplishment, with respect to projects undertaken, but on the processes being used.

CDD projects typically begin with the organizer organizing the community apart from the existing political structure. Again, this design breaks down traditions of leader-follower relations and produces alternative leaders. CDD, subsequently, puts in place an accountability mechanism. Das Gupta et al. (2003) further writes that even if the poorest do not benefit directly from the new opportunities, they can enormously benefit indirectly from the social churning generated in the community.

Facilitate access to markets. An empowered rural sector can now be a significant market player. We acknowledge, however, that empowerment is a process and is perfected by practice. Here, we must take extra effort to making the legal environment governing property and contracts well known among the poor. They must be aware of their rights and legal recourse, should the need arise.

Access to information is very crucial at this stage. Government can provide the service of regularly updating information on prices, supply, potential demand, etc. It is important that the rural communities know where and how to source the information, and that access is easy and inexpensive.

Access to technology is also equally important, especially on food processing, packaging, or even the knowledge of techniques that can prolong the shelf-life of their produce. This is the only way that the rural sector can serve the urban markets, let alone, the global market. Standards for safety have to be set. This will also instill discipline on the part of rural sector producers to improve the quality of their produce.

Better roads and transport system will facilitate the access; so will electrification and cyber-media projects.

Improve social security. As the rural poor participate in the market, they become exposed to the vagaries of the market. The frequency and intensity of market shocks may increase with globalization.

Earlier, we discussed the strategies being implemented by low-income and middle-income countries to solve their "agricultural problem." There may be a timeline to this when developed countries finally succumb to pressure (from WTO and other multilateral bodies) to reduce its subsidies to agriculture. This could increase world prices and seriously affect those that have depended on cheap imports. The rise of China in the world market will increase competition in goods that utilize unskilled labor.

For sure, there will be structural adjustments but these will certainly take time. What is needed is a social security system that can cushion these adjustment costs. Traditionally, social security systems have covered only those working in the formal sector. These may include a substantial portion of urban workers, but the rural sector is definitely left out. Thus, we need to include and increase the coverage of the rural sector.

We also strongly recommend that we improve the social capital of the rural sector. The family and informal networks are the sources of social security of the rural poor. We need not replace these. Instead,

we can enhance these by expanding the network to enable it to accommodate a deeper risk pool. Heterogeneity of membership is also important to minimize covariant risks. The networks can be made more formal and structured. They should be accorded with legal recognition. It would be to the greater interest if such institutional and legal frameworks were to govern the workings and dealings of these organizations.

What About the Role of Multilateral Organizations?

The main responsibility for poverty reduction rests with the poor countries themselves. There is nothing that will work to effectively win the war against poverty without the firm resolve of governments to put in place policies and institutions that will enhance the economic climate for broad-based long-term growth and human development. But even this is not enough. The investment requirements for poverty reduction in low-income countries are far beyond their resources, even under condition of good governance. According to the Millennium Project, the investment costs for achieving the MDGs in a typical low-income country is roughly $75 per capita in 2006, rising to approximately $140 in 2015 (in constant dollar terms). These sums represent almost one-third of the annual per capita incomes of the transition countries in Southeast Asia.

Multilateral organizations can promote the adoption of "best practices" in poverty reduction, although these would have to be tailored to the actual conditions and environs of the poor. For instance, given its direct and indirect benefits, CDD holds promise for replication. There should be several forums where these endeavors are tracked and evaluated. CDD, by definition, is not like a technology that can be transferred. Still, the experiences with respect to the use of certain modalities would find resonance in others similarly situated. But more than the harvest of success stories and rich lessons these would provide is the affirmation that solutions, like CDD, can be done.

Finally, we maintain that pursuing the traditional objectives of capacity-building for rural development, by way of agricultural modernization, should be maintained. However, we need to modify the techniques, keeping in mind the factors of production being employed by the rural poor. The goal is to increase the productivity of each of these factors and reduce vulnerabilities.

CONCLUSION

Southeast Asia's achievements in economic growth and poverty reduction have been quite remarkable. These achievements, however, have not been uniform among the countries in the region. For a number of the countries, particularly the transition economies, as well as East Timor, Indonesia, and the Philippines, the challenge to maintain the momentum in reducing poverty is enormous.

For these countries, both domestic policies and institutions have constrained efficiency and raised the "cost of doing business" in rural areas, thereby blunting productivity growth and eroding competitiveness in the global marketplace. Liberalizing agricultural trade enhances the welfare of the poor, especially the landless workers and urban consumers, although the short-term cost to the sector in terms of reduced incomes and labor displacement may be quite substantial.

However, when this is combined with public investment in productivity-enhancing support services (particularly R&D and irrigation), agricultural trade liberalization is likely to be a win-win proposition.

In addressing today's pressing issues vis-à-vis poverty and food insecurity, it is important not to lose sight of the key lessons on agricultural growth and development in Asia in the past half-century.

One such powerful lesson has to do with enabling the rural poor through policy, investment, and institutional reforms that enhance the efficiency of domestic markets and provide improved access to technology, infrastructure, and education. This enabling environment allows rural growth benefits to be broadly based, thereby enhancing overall nutrition, human capital development, and productivity and economic growth in the medium- to long-term.

Almost invariably, the successful cases of rural development and poverty reduction have shown a tenacity in the pursuit of efficiency-enhancing reforms. The key driver to these reforms has been neither globalization nor agricultural policy in developed countries. Rather, it is, by and large, the

internal realization that reforms are for the benefit of the country and its citizens.

Globalization has its downside risks, but it also offers potentially enormous benefits. Many developing-country-globalizers have shown that the benefits more than outweigh the costs; for example, the speed of poverty reduction is unprecedented in China, Vietnam, and India. The challenge for most countries in the region is to find the appropriate mix of policies and institutions needed to exploit the benefits, while being on guard for the downside risks.

Fortuitously for agriculture and the rural sector, the key policy and governance reforms — enhancing economic competition, investing in efficiency-enhancing infrastructure and support services, and enabling institutions to efficiently respond to changes in economic landscape — required for improved efficiency (increased productivity and income) are largely compatible with globalization as well.

Finally, it should be noted that while the main responsibility for poverty reduction rests with the low-income countries themselves, the investment requirements for poverty reduction are far beyond their resources, even under condition of good governance. According to the Millennium Project, the investment costs for achieving the MDGs in a typical low-income country is roughly $75 per capita in 2006, rising to approximately $140 in 2015 (in constant dollar terms). It is clear that the development assistance community has a crucial role to play in the war against poverty.

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Annex Table 1
Annual Average Growth Rates

	Population	GDP		Agriculture		Average share of Agriculture to GDP	
	1980-2002	1980-1990	1990-2002	1980-1990	1990-2002	1980-1982	2000-2002
World	1.5	2.9	2.4	3.2	1.1	5.9	5.1
Asia	1.6	4.8	3.2	4.8	1.6	9.7	7.9
Southeast Asia	1.8	5.3	4.7	2.7	2.4	22.9	13.8
Brunei	2.7	-1.7	1.7	3.0	3.5	0.7	3.1
Myanmar	1.7	1.2	7.0	1.2	4.2	47.2	56.2
Cambodia	3.3	-0.4	5.6	0.4	3.4	39.5	36.6
Indonesia	1.7	6.1	4.0	3.4	2.1	24.2	17.2
Lao PDR	2.5	5.2	6.0	6.2	4.4	55.3	50.9
Malaysia	2.5	5.7	6.1	3.6	0.7	20.3	8.9
Philippines	2.2	1.7	3.1	1.1	2.1	24.5	15.1
Singapore	2.5	7.0	6.1	-6.5	-2.7	1.1	0.1
Vietnam	1.9	5.4	7.2	4.8	4.2	43.0	24.6
Thailand	1.3	7.6	4.2	3.6	1.5	21.0	9.9

Author's estimates.
Source: United Nations Statistical Division