

Transformation of Asian Rural Economy¹

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1 Definition of rural economy

The urban-rural demarcation as used in national census reports is based on the size of human settlements or localities. India, for example, defines as “rural” all settlements with less than 5,000 people. Other countries may use different yardsticks, but all of them distinguish urban from rural based on the density of human settlements.

The use of space in the definition of “rural” relates it to the economic functions of the people. Rural inhabitants use natural resources, land, and water, as the base of their livelihood. Agriculture which includes forestry, fisheries, and livestock in which land or water is the dominant factor in the organization of production, is therefore the major economic activity in rural areas. As agricultural activities are land or water based, they can support much less people in terms of space than manufacturing or service sector activities in which physical and/or human capital are the predominant factors of production. Nonagricultural activities, such as processing and manufacturing, trading and business, transport, construction, and various types personal and financial services may develop in rural areas, but those mainly support agriculture or satisfy the needs of people who depend on agriculture. In that sense “rural” is defined as any locality that exists primarily to serve an agricultural hinterland. It includes all villages, marketplaces, and small towns that are linked together through economic transactions related to the agricultural economy.

2 Structural transformations of the rural economy: stylized facts

At the dawn of human civilization the entire economy was rural. The present structure of the rural economy of a particular country is the result of economic transformation at varying speeds over centuries of evolution of human civilization and reflects stages of economic “development.” The process began with villages dominated by self-sufficient agricultural households, producing for themselves most of their basic needs and supplying their own labor or raw materials. Households then were truly *multifunctional*, with an individual

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conducting many economic activities, and the household engaged in both subsistence-oriented farm and non-farm activities. There was little trade and commerce, and prevailing agricultural technologies required little, if any, agricultural inputs. With the invention of improved technologies for a better-organized production, production surpluses over the amount needed to meet household needs began to appear, creating opportunities for trade and commerce, and manufacturing of modern agricultural inputs. Increasing agricultural productivity raised household incomes, which in turn generated demand for a multitude of consumer goods and services that rural households wished to purchase. Households began to specialize, taking greater advantage of their particular skills, resource endowments, and market opportunities. Some non-farm opportunities that were initially undertaken by farm households for family consumption expanded and turned into full-fledged commercial activities. The latter began to grow more rapidly because of higher income elasticity of demand that generated stronger markets for their products. The differential income elasticity for various agricultural and non-farm goods and services determined the size of their markets and ultimately shaped the composition of employment and incomes (Mellor 1966).

Table 1 shows the pattern of consumer demand and income elasticity based on household expenditure surveys in Bangladesh. The pattern is the same for other countries of Asia although the numbers are different. These numbers indicate that as income grows, the demand for crop sector output will grow slower than the demand for fisheries, forestry, and livestock products. The stronger market for the later products provide incentives on the part of the producers to move resources from the former to the latter agricultural activities. Within the crop sector, demand for cereals grows at a slower rate than that for vegetables and fruits. Vegetables and fruits are more labor-intensive and high-value crops which need support for processing, storage, transport, and marketing to reduce the risk of income loss emanating from gluts, spoilage, and dampening prices. With the growing share of high-value of perishable crops and fisheries and livestock products, agro-processing and support services for rural infrastructure such as power, transport, and telecommunications assume greater importance. Hence, additional and more productive employment opportunities are generated in rural non-farm sectors. Therefore, agriculture's importance in the national economy, and the crop sector's importance in agriculture decline with economic progress. The faster the economic growth, the more dramatic is this transformation.

With increasing specialization evolves spatial concentrations of people in small towns and market centers, because they offer economies of scale in conducting business, in acquiring inputs, organizing production, and disposal of products that help reduce unit costs of production and improve the competitiveness of the enterprise. Some manufacturing and service activities prosper in rural areas, particularly in larger villages with strategic locations and with facilities for trading and transport (such as near a port or a railway station) that help them grow in importance. Thus, rural regions become organized through the rapid growth of centrally placed villages and small towns. Many areas that were previously classified as rural in national census reports achieve sufficient population size and are reclassified as urban habitats.

As the rural economy continues to grow, trade with larger urban centers also expands and more urban goods become available. Modern agricultural inputs such as chemical fertilizers

and agricultural machinery are produced in urban centers because of economies of scale in production, and are traded with rural areas. Consumer goods and agricultural inputs produced in urban areas often displace many traditional processing, manufacturing, and transport activities in rural areas, forcing structural changes in the composition of the rural economy. This process receives further impetus from the differential in labor productivity and wages between agricultural and non-farm activities, and between rural and urban enterprises that provides the push for (a) moving labor and capital between farm and non-farm enterprises within rural areas, and (b) rural-urban migration of population. As towns grow they attract more workers and enterprises, particularly with higher human capital content from the rural hinterland. The agricultural work force and rural population begin to decline in importance; and after a certain stage of development, in absolute terms. Urban areas grow as the major source of demand for non-farm goods and services in their own right, both for production and consumption purposes, and non-farm activities expand to serve these needs and exports to other urban and rural areas both within and outside the borders of the domestic economy. Agriculture becomes increasingly less important as the economic motor for the regional economy, eventually becoming a minor economic activity in the expanded national and rural economy.

The transformation process described above is not identical in all countries, and is shaped partly by such factors as a country's comparative advantage in the production of commodities, population density, development of infrastructure facilities, strategic locations, and government policies that influence incentives for the adoption of different types of technologies and methods of production. In South Korea, for example, the transformation was very rapid (Lee 1993). Korea's per capita income at 1985 constant prices increased from US\$521 in 1960 to US\$3759 in 1991. During the process of fast economic growth the share of the agricultural sector in employment shrank from more than 65 % in the early 1960s to 16% in 1991. At the same time agriculture's share of gross domestic production declined from 45% in the early 1960s to a meager 7% in 1991. Agriculture failed to diversify production into new income-elastic or exportable commodities. As a result, the agricultural growth rate dropped to 0.78% per annum in the 1980s from more than 4% in previous decades.

Rural-urban migration of people and labor force was actively promoted by government policies, as it was seen as a mechanism of supplying cheap labor for industrial development, while improving the labor productivity of agriculture by consolidation of farm holdings and mechanization of agriculture. In contrast, Taiwan China attempted to keep the growing population and labor force within rural areas through policies of developing rural infrastructures (electricity, roads, financial institutions, etc.) that supported family-based small-scale rural nonfarm enterprises (Saith 1986). Thus, although the agricultural sector declined in importance in the Taiwan economy almost as fast as in South Korea, a thriving rural nonfarm economy of part-time family-based enterprises, checked rural-urban migration and the decay of the rural economy.

Table 2 shows the importance of agriculture in the national economy for countries at various stages of economic development. Agricultural growth is faster in lower-income countries, but as the economy grows over time, agricultural growth slackens.

Table 3 shows the status of land use and agricultural productivity in selected Asian countries. Although the importance of agriculture declines with economic growth, land and labor productivity continues to increase due to technological progress and withdrawal of labor from agriculture to support expansion of manufacturing and service sector activities.

Figure 1 shows how rural-urban migration trends and the stage of transformation in Asia contrast with those of developed regions. By 1950, the present-day developed countries transformed themselves into mainly an urban economy with 55% of the people living in urban areas. Urbanization proceeded further over the last 50 years, when the population growth rate declined to less than 0.8% per year. The population living in rural areas is estimated to have declined to only 24% by 2000. In contrast, as most of the Asian countries remained underdeveloped, only 17% of the population lived in urban areas in 1950. Urbanization proceeded rapidly along with economic progress, but because of rapid population growth (2% per year over 1950-2000 period), it failed to reduce rural population in absolute terms. It is estimated that the population in urban areas has now reached 37%.

The effect of rate of economic growth on the transformation of the rural economy is shown in the contrast of urbanization trends in South Korea and the Philippines (Fig. 2). These two countries were almost at the same level of development and had similar population size at the end of World War II, but the Korean economy grew much faster since then. Rural population in Korea started declining in absolute terms since the early 1970s, and by 2000 it is estimated that only 14% of the population live in rural areas. In 1950, the Philippines was more urbanized than South Korea (27% compared with 22%), and although urbanization proceeded rapidly, rural population continued to grow till today.

The demographers' projection of population growth and urbanization indicates that in spite of rapid economic growth, Asia will remain substantially rural even by 2030 (Table 4). While only 10 to 20% of the population will live in rural areas in developed parts of the world (as well as in Latin America and the Caribbean), nearly 46% of the people in Asia will still depend on rural areas for their livelihood. Within Asia, rural settlements may still dominate the national economy in all South Asian countries, as well as in Myanmar, Thailand and Vietnam, Laos, and Cambodia in Southeast Asia (Fig. 3).

3 Growth and structural change of asian rural economy

Asian agriculture grew rapidly since the 1960s, benefiting from rapid technological progress and increase in productivity of land and labor. The average growth was 3.8% per year over the 1967-95 period, substantially higher than the world average of 2.2% (Table 5). The growth rate was highest in China, at 4.4% per year over three decades since the mid-1960. An impressive achievement considering the size of the economy, its limited natural resources, and the extreme pressure of population on arable land. In most Asian countries, agricultural growth was more than 3% per year, which is much higher than population growth. Thus, per capita agricultural output registered a significant increase in most parts of Asia. The exceptions were Bangladesh and Sri Lanka, which achieved only 1.5% growth per year over the 1967-95 period.

The performance of agriculture also improved over time. Its growth rate accelerated to 4.4% during 1982-95 compared with 3.3% during the 1967-82 period. The acceleration of growth was mainly due to the giant economies of China, India, and Indonesia. The middle-income countries of Asia, such as South Korea, Malaysia, Thailand, and the Philippines, which experienced robust agricultural growth of more than 4% per year during the early phase of economic development, in fact experienced a fast deceleration in agricultural growth in the later period, demonstrating the inherent weakness of agriculture in pushing overall economic growth at the later stage of development.

The contribution of different crops and other agricultural activities to the overall agricultural growth in Asia can be noted from Table 6. The strong performance of cereal crops contributed to the growth. The last three decades witnessed a phenomenal growth in land productivity resulting from technological progress in crops such as rice and wheat supported by investment for the development of irrigation facilities. High levels of investment in research and infrastructure development combined with policy support regarding subsidies on agricultural credit and provision of modern inputs, resulted in rapid intensification of lowlands. This became the primary source of food supply for the escalating world population, without having to extend cultivation to marginal lands. The Green Revolution in cereals has pushed aside minor crops such as pulses, oilseeds and other cereals, the production of which grew at a much slower rate. Lack of similar technological progress and competition from synthetic substitutes led to the demise of a major industrial crop, jute. Recent signs, however, indicate a slowdown in the productivity growth of primary cereals, rice and wheat, with the diffusion of new technologies being complete for the favorable irrigated ecosystem, and farmers reaching the yield plateau for existing high-yielding varieties and lack of suitable varieties for marginal lands (Pingali et al.1997, Mingsarn et al 2000). Slackening of investment for infrastructure development and agricultural research, and reduced policy support for agriculture, may also explain the sluggish growth of the crop sector since the mid-1980s. Fisheries and livestock products grew at a respectable rate and growth has accelerated over time due to the initial low production base and very high income elasticity of demand for these products. The demand growth for livestock products has been faster in high-income economies, such as in East Asia, than in low-income economies, such as in India and Bangladesh (Table 7).

The robust agricultural growth contributed to the development of the rural non-farm sector in the following ways. First, modernization of agriculture and the improved living standard of the rural population increased the demand for non-farm goods and services. The additional demand included services for education and health, materials for housing construction, modern agricultural inputs such as chemical fertilizer and agricultural machinery and equipment, processing of the inflated marketed surplus of agricultural produce, and the trade and transport services for rural consumer goods and agricultural inputs and products. Second, a growing agricultural sector was able to generate capital to finance the development of rural nonfarm activities. Third, agricultural growth transformed rural regions, providing households with more diversified sources of employment and incomes and increased livelihood opportunities without people migrating to cities.

Studies of links between agricultural growth and the rural nonfarm economy in Asia, conducted by researchers at the International Food Policy Research Institute (IFPRI) have estimated regional income multipliers at between 1.5 and 2.0, and employment elasticities at about 1.0 (Mellor 1976, Hazell and Ramasamy 1991, Hazell and Haggblade 1990). The magnitude of the stimulus to rural non-farm economy from the growth in agricultural productivity and incomes depends on several factors (Mellor 1976). First, agricultural growth must be equitable so that it puts increased purchasing power into the mass of the farming population. Small-and medium-sized farm households spend a much larger share of incremental incomes on labor-intensive goods and services thereby contributing to larger growth multipliers than if the additional income is concentrated in the hands of the rural elite. A prerequisite for equitable growth is fair distribution of landholdings with secure ownership and tenancy rights on land. Second, a well-developed rural infrastructure is required to connect villages to rural markets and urban centers. The development of infrastructure facilities (particularly roads, electrification, and communication facilities) contributes to efficient operation of the agricultural input and product markets, and increased access to non-farm goods and services. Third, expansion of educational facilities and provision of credit at reasonable terms, particularly to resource-poor households. Functional literacy and post-primary education are required so landless and marginal landowners can take advantage of employment opportunities in the rural non-farm sector. Access to credit helps low-income households to organize micro enterprises based on self-employment and mobilization of small savings when the capitalist organization is not economically viable due to the small size of the market for their products and diseconomies of scale (Hossain 1988).

Japan, South Korea, and Taiwan embarked on major land reforms and invested heavily in rural infrastructure to create conditions for equitable agricultural growth at the early stage of economic development when agriculture grew rapidly. China was able to take of advantage of its successful agricultural revolution after 1978 with the institutional reform of introducing the household responsibility system that helped release labor for the growing nonagricultural sector, and effectively put additional purchasing power in the hands of the rural masses (Huang and Rozelle 1998). Expansion of credit facilities for the poor by the Grameen Bank and several other large NGOs in Bangladesh helped them organize micro enterprises and generate massive employment in the rural non-farm sector since the mid-1980s. On the other hand, in the Philippines and Pakistan agricultural growth was respectable but was highly inequitable due to the skewed distribution of landholdings, with most of the gains siphoned off by the rich and spent on conspicuous consumption leading to low growth multipliers.

Due to lack of information on the breakdown of employment and incomes generated in the nonagricultural sectors of the economy in national statistical documents, forming a reliable and comprehensive picture of the growth of rural non-farm sector in Asia is not possible. Limited information available from village studies conducted through sample surveys, and the labor force and household expenditure surveys provides the following insights:

The rural non-farm economy accounts for a third or more of rural employment in many Asian countries. Its importance depends on the stage of economic development. Services (personal, public, and financial) account for the largest share of rural non-farm economy,

followed by trade and business, construction activities, and transport operations (Table 8). Processing and manufacturing activities, which account for a substantial part of the rural non-farm economy at low-income levels, however, shrink with growth in agricultural productivity and incomes, as many rural industries producing low-cost inferior products can no longer compete with products from urban areas. These industries die as they are exposed to competition with the development of rural infrastructure (Hossain et al. 1994, Ahmed and Hossain 1990).

Non-farm activities account for 30-70% of rural incomes; its importance grows with the development level of the economy (Tables 9 and 10). The higher share of incomes of the rural non-farm sector compared with the share of employment suggests higher productivity of labor in the rural non-farm sector compared with agriculture. The share of non-farm activities in rural incomes increased from 18 to 46% in South Korea within 1971-91, and in India from one-quarter to one-third between 1967 and 1982. The increase in share of both employment and incomes over time also indicates faster growth of the rural non-farm sector than agriculture.

Information available from repeat household surveys done at IRRI in collaboration with national agricultural research systems (NARS) in Bangladesh and the Philippines (see David and Otsuka 1994 for benchmark studies) indicate that incomes from services grew fastest, followed by trading and business, and transport and construction activities. But income from processing and manufacturing activities has remained stagnant, or even declined in importance over time (Table 11).

4 Concluding remarks

The principal factor that shapes the transformation of the rural economy is the migration of labor from agriculture to non-farm activities within rural areas, and the migration of population from rural to urban areas. The rural-urban migration is often portrayed negatively in the development literature; a result of the stagnation of rural economy and contributing to the development of slums in urban areas and deterioration of urban services. The continuation of the rural-urban migration even in the face of deteriorating economic conditions of the migrants in the cities is explained in terms of existence of a dualistic labor market (Harris and Todaro, 1970).

An analysis of the transformation of the rural economy however reveals that rural-urban migration is a positive contributor to overall socioeconomic development. Not only the migrants improve their economic conditions over time due to better opportunities for utilizing their skills and resources, they indirectly contribute to improving the economic conditions of the rural residents they leave behind. An educated worker gets almost the same return from his labor compared to an illiterate worker if employed in agriculture, but can earn much more if employed in manufacturing and service sector jobs that are available much more in urban areas than in rural areas. Migration contributes to increasing the size of land holding, and provides incentives to adopt labor-saving technologies, thereby increasing both land and labor productivity. The dominant determinants of income in rural areas are the availability of natural resources- land and water- and the state of development of the technology for their

exploitation. There is a natural limit on the expansion of these factors of production. The size of landholding can only be increased only if some people migrate to urban areas leaving their land behind. The dominant determinants on the urban household incomes on the other hand are investment for accumulation of property, physical and financial capital, and the accumulation of human capital. There is no limit to the expansion of these factors of production.

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Table 1. Expenditure pattern of rural households in infrastructurally underdeveloped and developed villages, Bangladesh, 1982.

| Commodity/ service | Underdeveloped village | | | Developed village | | |
|-----------------------|----------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|---------------------------|
| | Average budget share | Marginal budget share | Expenditure elasticity | Average budget share | Marginal budget share | Expenditure elasticity |
| Food items | 81.0 | 72.8 | 0.90 | 74.6 | 65.1 | 0.87 |
| Cereals | 59.6 | 47.6 | 0.80 | 47.5 | 30.9 | 0.65 |
| Vegetables & pulses | 6.2 | 6.1 | 0.98 | 5.6 | 4.1 | 0.73 |
| Fish | 2.9 | 3.3 | 1.14 | 4.8 | 6.2 | 1.29 |
| Livestock products | 1.5 | 4.6 | 3.07 | 2.3 | 5.9 | 2.56 |
| Others | 10.8 | 11.2 | 1.03 | 14.4 | 18.0 | 1.25 |
| Fuel & energy | 8.7 | 5.5 | 0.63 | 8.3 | 7.2 | 0.87 |
| Clothing | 5.2 | 9.2 | 1.77 | 5.6 | 9.7 | 1.73 |
| Services | 3.3 | 9.9 | 3.00 | 9.3 | 15.7 | 1.70 |
| Education | 0.6 | 2.0 | 3.33 | 0.5 | 1.7 | 3.40 |
| Health | 1.5 | 3.1 | 2.07 | 2.7 | 3.5 | 1.29 |
| Transport | 0.4 | 0.8 | 2.00 | 1.2 | 2.2 | 1.83 |
| Other services | 0.8 | 4.0 | 5.00 | 4.9 | 8.5 | 1.73 |

Source: Compiled from R. Ahmed and M. Hossain (1990), Development Impact of Rural Infrastructure in Bangladesh, Research Report No. 83. IFPRI, Washington, D.C.

Table 2. Agricultural growth and its importance in national economies in Asia, selected countries.

| Country | Agriculture's share of gross domestic product | | Growth of agricultural value added | |
|----------------|--|------|---------------------------------------|---------|
| | (Percent) | | (% yr ⁻¹) | |
| | 1980 | 1997 | 1980-90 | 1990-97 |
| Japan | 4 | 2 | 1.3 | -2.0 |
| Korea, Rep. of | 15 | 6 | 2.8 | 2.1 |
| Malaysia | 22 | 13 | 3.8 | 1.9 |
| Thailand | 23 | 11 | 4.0 | 3.6 |
| Philippines | 25 | 20 | 1.0 | 1.9 |
| Indonesia | 24 | 16 | 3.4 | 2.8 |
| China | 30 | 20 | 5.9 | 4.4 |
| Sri Lanka | 28 | 22 | 2.2 | 1.5 |
| Pakistan | 30 | 26 | 4.3 | 3.8 |
| India | 38 | 27 | 3.1 | 3.0 |
| Vietnam | n.a. | 27 | 4.3 | 5.2 |
| Bangladesh | 50 | 30 | 2.7 | 1.7 |
| Nepal | 62 | 43 | 4.0 | 2.2 |

Source: World Bank (1999): World Development Report 1999. Oxford University Press.

Table 3. Land use and agricultural productivity, selected Asian countries.

| Country | Arable land (ha/person) 1996 | Irrigation coverage (% of crop land) 1993 | Agric. productivity (1987 US dollars) | | Increase in productivity (% per year) | |
|-------------|------------------------------------|---|--|--------------------------|--|------------------|
| | | | Per ha of land 1992-94 | Per worker 1994-96 | Land 1980-94 | Labor 1980-96 |
| | | | Japan | 0.03 | 61.8 | 12,445 |
| Korea, Rep | 0.05 | 66.5 | 6,961 | 5,302 | 2.3 | 6.9 |
| Malaysia | 0.09 | 4.5 | 942 | 4,052 | 0.0 | 4.0 |
| Thailand | 0.29 | 23.5 | 488 | 554 | 2.8 | 3.0 |
| Philippines | 0.08 | 16.7 | 835 | 780 | 0.5 | 0.0 |
| Indonesia | 0.09 | 15.2 | 519 | 481 | 3.9 | 0.9 |
| China | 0.10 | 51.8 | 184 | 193 | 4.4 | 3.6 |
| Sri Lanka | 0.05 | 29.2 | 801 | 561 | 2.4 | 1.0 |
| Pakistan | 0.16 | 79.8 | 382 | 466 | 4.1 | 2.5 |
| India | 0.18 | 29.5 | 520 | 404 | 3.4 | 1.9 |
| Vietnam | 0.08 | 29.6 | 2,640 | 801 | na | na |
| Bangladesh | 0.10 | 17.1 | 863 | 226 | 3.0 | 1.3 |

na = not applicable.

Source: World Bank 1999. World Development Report 1999.

International Rice Research Institute, 1995. World Rice Statistics 1993-94.

TABLE 4. PERCENT OF RURAL POPULATION IN ASIA COMPARED WITH OTHER REGIONS.

| | 2000 | 2030 |
|-------------------------------|------|------|
| Asia | 62.5 | 45.5 |
| Africa | 65.1 | 51.6 |
| Latin America & the Caribbean | 24.5 | 16.7 |
| Europe | 25.1 | 17.0 |
| North America | 22.7 | 15.8 |
| Australia/New Zealand | 14.9 | 11.2 |

Source: United Nations (1998). World Urbanization Prospects.

United Nations (1999). World Population Prospects: 1998 Revision.

TABLE 5. GROWTH IN NET AGRICULTURAL PRODUCTION, SELECTED ASIAN COUNTRIES (AT 1989-91 CONSTANT US DOLLARS)(PERCENT PER YEAR)

| Country | 1967-82 | 1982-95 | 1967-95 |
|----------------|------------|------------|------------|
| Korea, Rep. of | 4.2 | 2.6 | 3.5 |
| Malaysia | 4.6 | 4.0 | 4.3 |
| Thailand | 4.1 | 2.2 | 3.2 |
| Philippines | 3.8 | 2.2 | 3.1 |
| Indonesia | 4.0 | 4.2 | 4.1 |
| China | 3.4 | 5.5 | 4.4 |
| Sri Lanka | 2.1 | 0.9 | 1.5 |
| Pakistan | 3.3 | 4.6 | 3.9 |
| India | 3.0 | 3.4 | 3.2 |
| Vietnam | 3.3 | 4.6 | 3.9 |
| Bangladesh | 1.4 | 1.8 | 1.6 |
| Nepal | 2.4 | 3.4 | 2.8 |
| Myanmar | 4.3 | 2.0 | 3.2 |
| Asia | 3.3 | 4.4 | 3.8 |
| World | 2.3 | 2.2 | 2.2 |

Source: Rosegrant, M.W. and Hazell, P.B.R. (1999).

TABLE 6. COMPOSITION OF EMPLOYMENT IN RURAL AREAS: SELECTED ASIAN COUNTRIES (PERCENT OF TOTAL EMPLOYED PERSONS)

| Country/ (Reference year) | Agri- culture | Manu- facturing | Trade | Transport | Construc- tion | Services & others |
|------------------------------|------------------|--------------------|-------|-----------|-------------------|----------------------|
| Thailand (1996) | 49.9 | 15.3 | 11.1 | 2.6 | 10.8 | 10.3 |
| Indonesia (1995) | 63.1 | 8.8 | 11.7 | 3.0 | 3.5 | 9.9 |
| Philippines (1980) | 74.0 | 5.4 | 3.4 | 3.1 | 3.0 | 11.1 |
| Sri Lanka (1981) | 55.7 | 8.8 | 7.3 | 3.7 | 2.9 | 21.6 |
| Pakistan (1992/93) | 63.8 | 6.9 | 7.9 | 3.8 | 7.0 | 10.6 |
| India (1993/94) | 76.9 | 7.1 | 4.5 | 1.6 | 2.7 | 7.2 |
| Bangladesh (1991) | 60.1 | 2.7 | 14.1 | 1.6 | 1.5 | 20.0 |

Source: Rosegrant, M.W. and Hazell, P.B.R. (1999).

TABLE 9. CONTRIBUTION OF AGRICULTURAL AND NONAGRICULTURAL ACTIVITIES TO RURAL INCOMES, SELECTED ASIAN COUNTRIES (IN PERCENT OF TOTAL)

| Country/period | Agriculture | Nonagriculture |
|----------------|-------------|----------------|
| India | | |
| 1967/68 | 74.5 | 25.5 |
| 1975/76 | 69.5 | 30.5 |
| 1981/82 | 65.2 | 34.8 |
| Korea | | |
| 1971 | 81.9 | 18.1 |
| 1981 | 67.2 | 32.8 |
| 1991 | 53.7 | 46.3 |
| Thailand | | |
| 1978/79 | 67.3 | 34.7 |

Source: Rosegrant, M.W. and Hazell, P.B.R. (1999).

Table 10. Growth of economic activities in rural vs urban areas: selected Asian countries (Percent per year)

| Economic activity | Indonesia (1990-95) | | Philippines (1970-80) | | India (1977-94) | |
|-------------------|---------------------|-------|-----------------------|-------|-----------------|----------|
| | Rural | Urban | Rural | Urban | Rural | National |
| Agriculture | -0.4 | 5.6 | 2.1 | 7.3 | 1.3 | 1.3 |
| Non-agriculture | 3.9 | 7.0 | 0.4 | 4.6 | 3.5 | 3.5 |
| Manufacturing | 3.3 | 7.8 | -3.3 | 3.5 | 2.5 | 2.4 |
| Trade | 3.9 | 8.0 | 0.1 | 4.8 | 3.5 | 3.5 |
| Services | 3.9 | 6.3 | 1.8 | 3.3 | 3.3 | 3.7 |
| Transport | 6.2 | 6.1 | 2.8 | 5.9 | 5.2 | 4.1 |
| Construction | 5.7 | 6.5 | 1.5 | 5.7 | 6.0 | 6.3 |

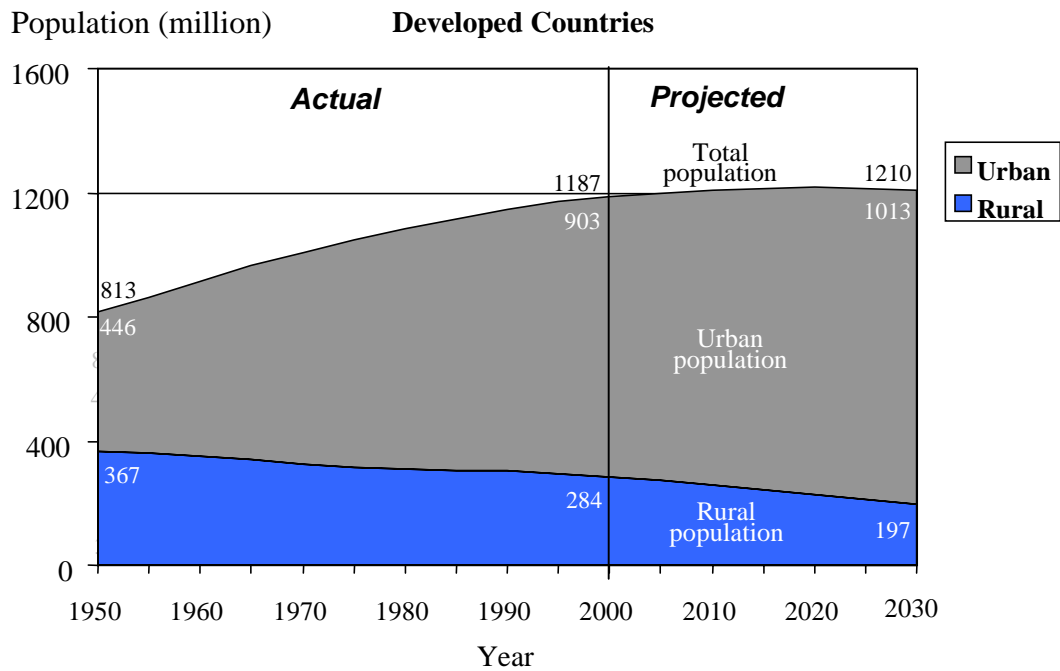
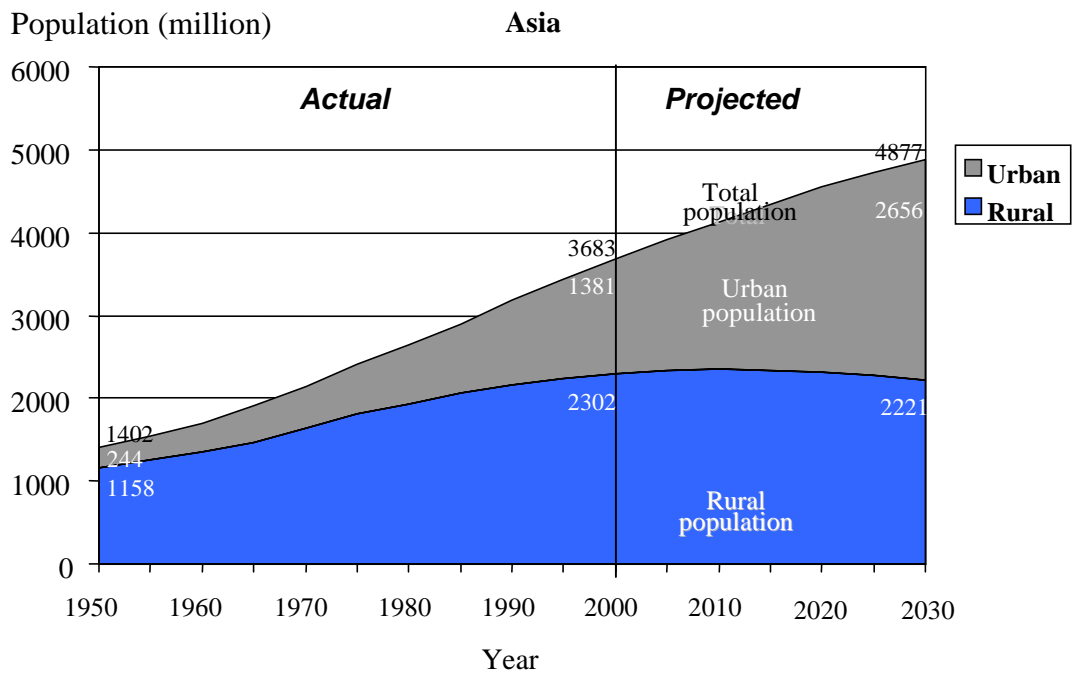
Source: Rosegrant, M.W. and Hazell, P.B.R. (1999).

TABLE 11. CHANGES IN THE COMPOSITION OF RURAL HOUSEHOLD INCOME IN BANGLADESH AND THE PHILIPPINES, 1985-97.

| Sources of income | Bangladesh | | Philippines | |
|---------------------|------------|------|-------------|------|
| | 1987 | 1995 | 1985 | 1997 |
| Agriculture: | 62.9 | 54.3 | 64.3 | 39.9 |
| Crop production | 36.5 | 34.3 | 37.5 | 20.8 |
| Other agriculture | 14.3 | 14.4 | 9.0 | 4.9 |
| Agricultural labor | 12.1 | 5.5 | 17.8 | 14.8 |
| Nonagriculture: | 37.1 | 45.7 | 35.7 | 60.1 |
| Trade | 17.1 | 16.1 | 7.1 | 7.8 |
| Services | 14.1 | 22.3 | 21.7 | 36.7 |
| Others ^a | 5.9 | 7.4 | 6.9 | 15.5 |

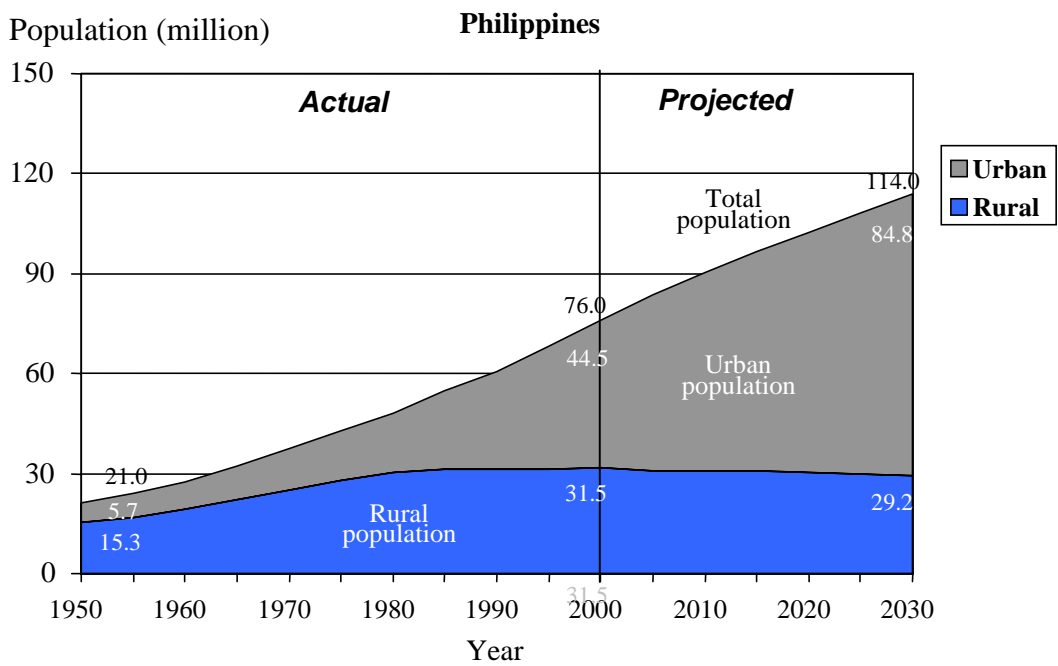
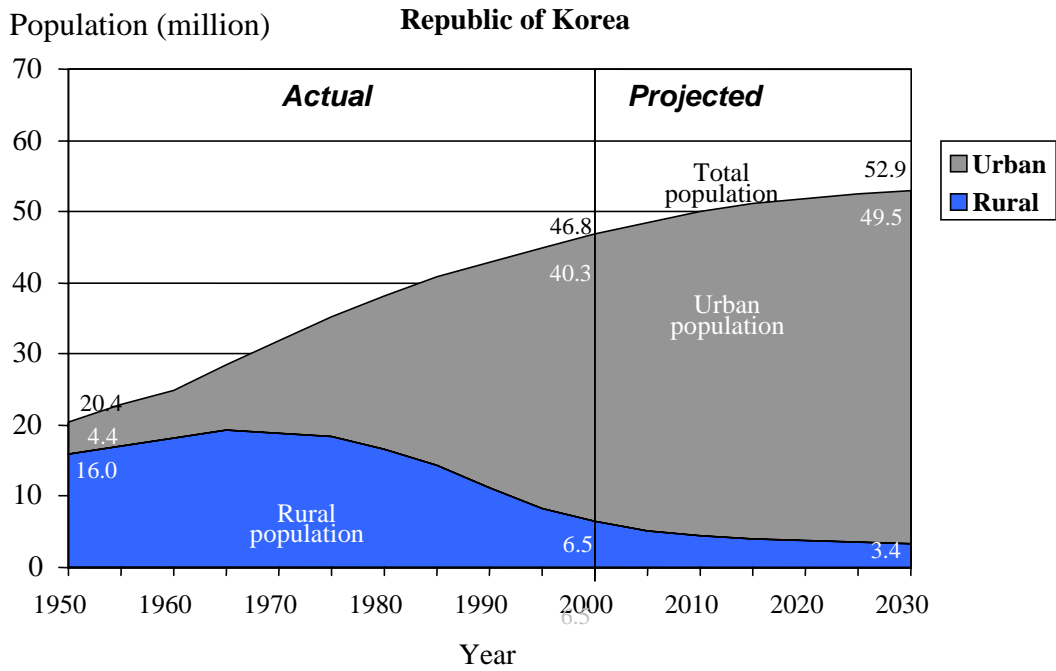
^a Includes processing, cottage industries, construction activities, and transport operation.

Source: Village studies conducted by IRRI Social Sciences Division.



Source: United Nations (1998). World Urbanization
 - United Nations (1999). World Population Prospects: 1998 Revision

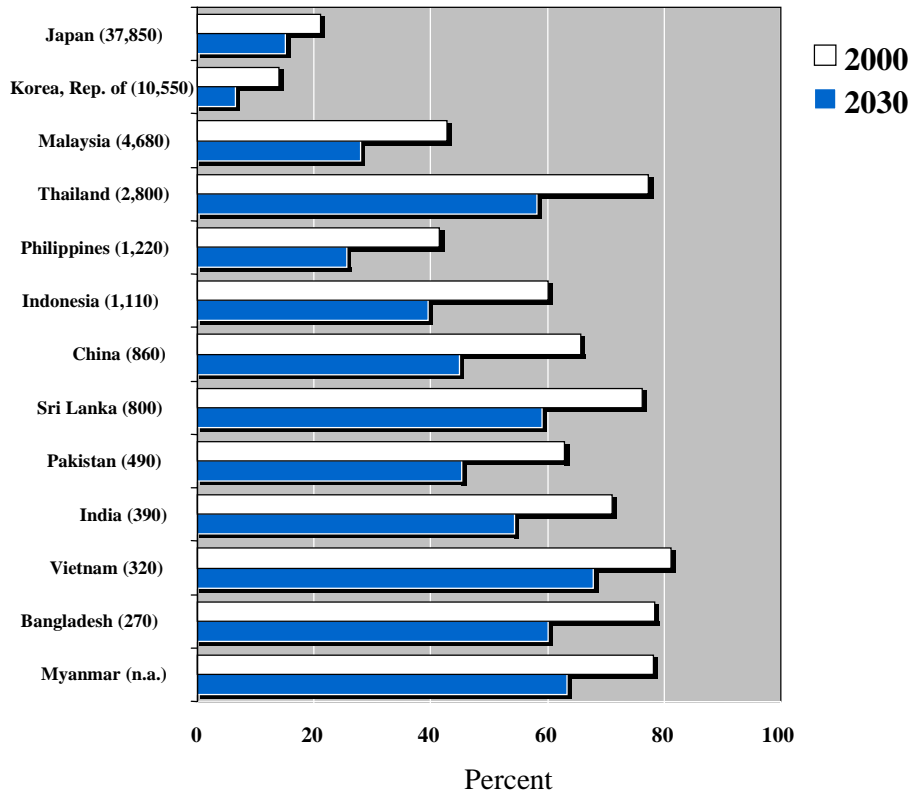
Fig. 1. Trend in urbanization in Asia compared with the developed world, 1950- 2030



Source: United Nations (1998). World Urbanization Prospects.
 United Nations (1999). World Population Prospects: 1998 Revision

Fig. 2. Trend in urbanization in the Republic of Korea and the Philippines, 1950-2030

Country/(Per capita GNP (US\$))



Source: United Nations (1998). World Urbanization Prospects.
 United Nations (1999). World Population Prospects: 1998 Revision.

Fig. 3. Percent of rural population in selected Asian countries