

IV ALTERNATIVE FUTURES FOR ASIA

While the agriculture sector has declined relative to other sectors of the economy as the economic transformation in much of Asia has taken place, it continues to grow—and must continue to do so if countries are to meet their food needs into the 21st century. Agricultural growth also underpins much of the growth and employment in the rural nonfarm sector. If agricultural growth were to slow down, this could jeopardize national food security and increase child malnutrition in many countries, cause significant new unemployment and poverty (particularly in agriculture and the rural nonfarm economy), and slow nonagricultural growth.

ALTERNATIVE SCENARIOS TO 2010: NO ROOM FOR COMPLACENCY

Some of the future consequences of neglect of agriculture can be demonstrated with simulated results from the IMPACT (International Model for Policy Analysis of Agricultural Commodities and Trade) model of the global food sector created by the International Food Policy Research Institute. The model was used to compare projections to year 2010 if a) governments become more complacent than they are today about agriculture, cut back further on their rural and agricultural investments, and don't make needed policy reforms (a "low-investment, weak-reform" agenda), or if b) governments give greater importance to agriculture and rural areas, invest more, and accelerate the needed policy reforms

(a “high-investment, strong-reform” agenda). Results are compared to a baseline scenario that assumes that there will be no significant policy changes from the present: a “business-as-usual” agenda.

To contrast the two scenarios, model simulations were specified involving symmetric and contrasting changes in key model parameters from the baseline. These relate to assumptions about the growth rate for nonagricultural GDP (plus or minus 25 percent); public investment in agricultural research and in health, education, and sanitation (plus or minus 10 percent); population growth (high versus low United Nations estimates); rates of soil erosion (plus or minus 0.05 percent); growth in irrigated area (zero or plus 5 percent by 2010); and agricultural water use (plus or minus 10 percent by 2010). It is important to note that these changes from the baseline are really quite modest and represent relatively small changes in the amounts of public investment in agriculture and the rural sector. These parameter changes are summarized in Table 3.

Table 3. Alternative Policy Scenarios

Change, 1999–2010, vis-à-vis baseline	Low Investment Weak Reform	High Investment Strong Reform
Non-ag GDP growth	-25%	+25%
Public investment in agricultural research	-10%	+10%
Public investment in health, education, sanitation	-10%	+10%
Population growth scenario	UN 'high'	UN 'low'
Rate of soil degradation-yield effect	-0.05%	+0.05%
Irrigated area	No growth	+ 5%
Agricultural water use	-10%	+10%

Because Asia plays a major role in world food markets, neglect of the agricultural sector leads to significant increases in the world and Asian prices of basic foods (by 20–30 percent for cereals, 30–60 percent for roots and tubers, and 5–8 percent

for livestock products). This in turn leads to a decline of 3 percent in the per capita availability of food in Asia compared to the baseline results (Table 4). On the other hand, the more optimistic scenario leads to significant world and Asian price declines (16–27 percent for cereals, 25–40 percent for roots and tubers, and 4–7 percent for livestock products) and a 4-percent increase in the per capita availability of food.

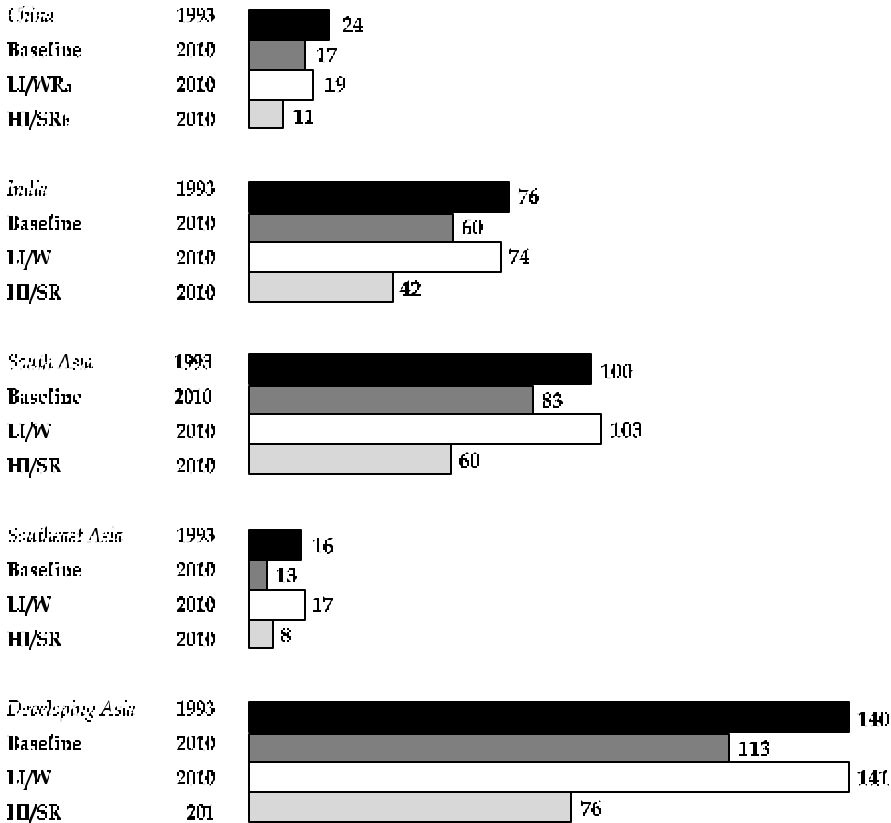
Table 4. Per Capita Food Availability Under Different Policy Scenarios (Kilocalories per day)

	1993	2010		
		Baseline	Low Investment/ Weak Reform	High Investment/ Strong Reform
Developing Asia	2,488	2,734	2,646	2,842
PRC	2,680	3,008	2,913	3,096
South Asia	2,370	2,599	2,510	2,719
India	2,397	2,644	2,559	2,764
Southeast Asia	2,525	2,707	2,626	2,838

The difference between the pessimistic and optimistic scenarios is best exemplified by the predicted number of malnourished children in 2010. This number is a good indicator of many other measures of poverty and deprivation. It is also a good lead indicator of future poverty because childhood malnutrition impairs mental and physical capacities for life. Under the baseline assumptions, there will be 113 million malnourished children in developing Asia by 2010, down from 140 million in 1993 (Figure 4). The number declines to 76 million under the more optimistic scenario, but increases to 141 million under the more pessimistic scenario—a difference of 65 million malnourished children. The differences are particularly important for India and the rest of South Asia, where complacency would leave large numbers of children malnourished.

The key point from these results is that it does not take much backsliding by governments to lead to unacceptable outcomes within a decade. There is no room for present or

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Note: a Low Investment/weak Reform; b High investment/Strong Reform

Figure 4 Alternative Scenarios: Number of Malnourished Children 0-5 years of age, millions

future complacency. Even a business-as-usual approach will still leave an intolerable number of malnourished children in 2010. On the other hand, it only takes a relatively modest increase in government commitment to agriculture and rural development to lead to a much more favorable situation by 2010.

A VISION FOR COMPLETING THE RURAL TRANSFORMATION

All the above scenarios leave very large numbers of people in poverty and between 76 and 141 million malnourished children in 2010. The levels of projected deprivation are particularly onerous in South Asia. If just a modest increase in government commitment to rural investment and policy reform could save tens of millions of children from malnutrition in the years ahead, then what would it take to eradicate poverty and child malnutrition entirely by the year 2020?

IFPRI's IMPACT model was used to obtain an approximate answer to this question. The results show that there are development pathways that could eradicate virtually all child malnutrition in Asia by 2020, with only 45 million malnourished children remaining by 2010 and 8 million by 2020 (Figure 5). However, to achieve these reductions, most Asian economies would have to grow at rates close to the peaks experienced by Asia's most dynamic economies in recent decades (8–10 percent per annum), and projected agricultural output would have to increase by 75 percent in South Asia and by 50 percent in East and Southeast Asia. Among other things, this would require that cereal yields grow at 1.45 percent per year in East Asia, at 1.90 percent per year in Southeast Asia, and at 2.44 percent per year in South Asia. Even if world markets could accommodate this level of economic expansion in Asia, it would also require that Asian governments undertake significant new investments in agriculture and rural areas and a 50-percent increase in social spending.

This analysis suggests that child malnutrition could reasonably be eradicated in the PRC and Southeast Asia within the next two decades, but for South Asia, more realistic strategies will need to take a much longer view. This has the added advantage that it would permit population policies and demographic trends to play a more effective role, as it was suggested they would in Chapter III's description of the

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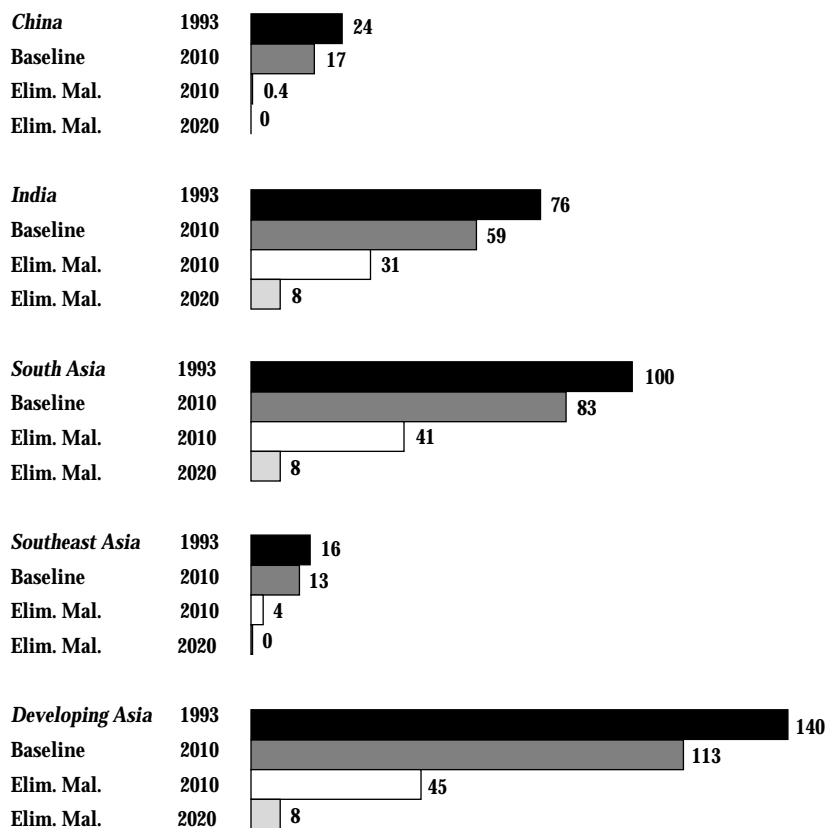


Figure 5 Eliminating Malnutrition: Number of Malnourished Children, 0–5 years of age, millions

“demographic gift” that will be presented to developing Asia in the next 20 years. Population growth had to be taken as given within the time span of the model simulations.