

Income Poverty and Hunger in Asia: The Role of Information¹

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Abstract

Three decades of steady economic growth has contributed to a reduction in the mass poverty and frequent bouts of starvation that plagued much of post-war developing Asia-Pacific. Agriculture production played a key role in generating a pattern of rural development and growth that improved food availability and triggered virtuous cycles of poverty reduction. But poverty has evolved in ways that leaves many vulnerable to hunger, and our understanding of what it means to be hungry in Asia-Pacific has also advanced thanks to new knowledge. In Asia-Pacific, the poor, and the far larger numbers of those who are near-poor or vulnerable to poverty, suffer transitory bouts of under-nutrition that accumulate and have serious long-term consequences. Those in rural areas, and particularly those in the remote or disaster prone regions of South Asia, remain especially vulnerable to periodic bouts of severe hunger. Female headed households, and girls in general, may go hungry even in households with sufficient food supplies. Socially excluded groups may suffer from chronic poverty and hunger even in otherwise prosperous regions. Especially in South Asia, large numbers of households regularly have insufficient access to essential micro-nutrients, with devastating effects on productivity and human development. This evolving nexus of poverty and hunger in Asia-Pacific is less related to agriculture development than it was some three decades ago. Moreover, this new nexus of poverty-hunger issues is not well captured in food production reporting systems or in household surveys. Better information is needed to track progress in combating the evolving nexus of poverty and hunger issues that confront Asia-Pacific today.

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I. Introduction

Poverty has many dimensions. The most obvious one is hunger. Having enough nutritional intake is considered a necessary condition for being free from poverty. Therefore, poverty lines are developed to ensure that incomes are sufficient to provide minimum nutritional needs – usually defined in calorific terms – and serve to define the cut off between the poor and the non-poor. Those households that exceed the basic income poverty criterion should therefore not be expected to suffer from hunger.

However, it is not correct to associate hunger with lack of calories alone. Although being hungry – a basic and apparent condition of poverty – is usually associated with lack of food, the quality of the food consumed has long-term implications for health, longevity and human productivity. Calories are perhaps the most basic of nutritional needs and absence of enough calories constitutes an essential dimension of hunger; but other nutrients are also important. If hunger is thus defined more broadly as absence of sufficient nutrient intake for long-term good health, then the nexus between income poverty, hunger and health is wider still³.

Those who are income poor are also therefore likely to be in a state of hunger as they are not expected to be having even the basic calorie intake necessary to be free from hunger. Poverty and hunger are thus inextricably inter-linked. A vicious cycle of poverty, hunger and disease traps the vulnerable in perpetual poverty. The fulfillment of basic nutritional requirements is a necessary prerequisite for individuals to break out of this strangle hold, realize their human potential and to participate fully in social and economic processes. Policy makers in Asia-Pacific are aware of the enormous private and social cost that poverty and hunger exert on both, individuals and their societies. Economic development strategies have therefore been guided by the imperative of assisting households to break out of the poverty-hunger trap.

Asia has made rapid strides in reducing income poverty. In the early 1970s, more than half the population of the Asia-Pacific region was poor, average life expectancy was 48 years, and only 40 percent of the adult population was literate. Famines occurred frequently, and large segments of the population were hungry and malnourished. Today, the percentage of poor people in Asia-Pacific has decreased to nearly one fifth of the population (Table 1), life

³ At the level of an individual, hunger refers to a lack of nutritious food needed to keep people alive and healthy. This, in turn, is related to access and consumption of both macro-nutrients and micro-nutrients. Although the words "hunger," "starvation," "undernutrition," and "malnutrition" are often used interchangeably, FAO makes some distinctions among them. Individuals experiencing "undernutrition" have an insufficient intake of energy for normal growth and physical development, body maintenance, and for pursuing ordinary human activities. "Malnutrition" is more strictly defined as a nutritional disorder resulting from faulty or inadequate nutrition. It is also used to describe dietary deficiencies (e.g., micronutrient deficiencies such as vitamin A, iodine, or iron) [FAO 2004].

expectancy has increased to 65 years, and more than 80 percent of the adults are literate [ADB 2004 and Hasan 2004].

Table 1: Poverty Headcount Ratios for \$1 a Day, Selected Asian Countries, Various Years (%)

Region/Country	Mid-1980s	Early 1990s	Mid-1990s	Late 1990s, Early 2000s
East Asia				
China, People's Rep. of–Rural	53.1 ₍₁₉₈₄₎	44.3 ₍₁₉₉₀₎	24.8 ₍₁₉₉₆₎	26.5 ₍₂₀₀₁₎
Mongolia	...	...	13.9 ₍₁₉₉₅₎	27.0 ₍₁₉₉₈₎
Southeast Asia				
Indonesia	37.8 ₍₁₉₈₄₎	20.5 ₍₁₉₉₀₎	13.9 ₍₁₉₉₆₎	7.5 ₍₂₀₀₂₎
Lao PDR	...	47.9 ₍₁₉₉₂₎	...	39.0 ₍₁₉₉₇₎
Malaysia	2.0 ₍₁₉₈₄₎	0.4 ₍₁₉₉₂₎	1.0 ₍₁₉₉₅₎	.02 ₍₁₉₉₇₎
Philippines	22.8 ₍₁₉₈₅₎	19.8 ₍₁₉₉₁₎	14.4 ₍₁₉₉₇₎	15.5 ₍₂₀₀₀₎
Thailand	17.8 ₍₁₉₈₈₎	6.0 ₍₁₉₉₂₎	2.2 ₍₁₉₉₆₎	1.9 ₍₂₀₀₀₎
Viet Nam	...	39.4 ₍₁₉₉₃₎	18.3 ₍₁₉₉₈₎	13.1 ₍₂₀₀₂₎
South Asia				
Bangladesh	22.0 ₍₁₉₈₅₎	35.9 ₍₁₉₉₁₎	28.6 ₍₁₉₉₅₎	36.0 ₍₂₀₀₀₎
India	46.3 ₍₁₉₈₇₎	42.3 ₍₁₉₉₃₎	...	36.0 ₍₁₉₉₉₎
India-Rural	51.8 ₍₁₉₈₇₎	49.1 ₍₁₉₉₃₎	...	41.8 ₍₁₉₉₉₎
India-Urban	28.1 ₍₁₉₈₇₎	22.4 ₍₁₉₉₃₎	...	19.3 ₍₁₉₉₉₎
Nepal	40.3 ₍₁₉₈₄₎	...	39.1 ₍₁₉₉₅₎	...
Pakistan	49.6 ₍₁₉₈₇₎	33.9 ₍₁₉₉₃₎	...	25.3 ₍₁₉₉₉₎
Sri Lanka	9.4 ₍₁₉₈₅₎	3.8 ₍₁₉₉₀₎	6.6 ₍₁₉₉₅₎	...

... = data not available

Note: Reference years are enclosed in parentheses.

Source: ADB staff estimates for Lao PDR, Viet Nam, and Pakistan (1999); World Bank, PovcalNet Database for the rest.

The reduction in poverty was primarily the result of increases in economic growth in which agricultural growth played an important part, generating incomes in rural areas where Asia's poor predominantly reside. Improvements in food security made an important contribution to fall in poverty and to the progress made in combating hunger. Higher agricultural output and rural incomes resulted from the green revolution, the first widespread application of modern science to Asia's agriculture. Between 1970 and 1995, cereal production doubled, with almost all of the increase stemming from higher productivity on practically the same amount of agricultural land [ADB 2000]. In those parts of rural Asia where the new technology was widely adopted, incomes and employment increased and the perennial food shortage problem was largely solved. The Asian nations that grew earliest and fastest, such as the People's Republic of China (PRC), Republic of Korea, Taipei, China, Indonesia, Malaysia, and Thailand, witnessed rapid progress in agriculture and the highest reduction in rural poverty [Yee 2004].

Agricultural growth has a powerful impact on poverty reduction as it tends to be more broad based in nature and raises employment and incomes of the poor. Agricultural growth also spurs economic growth in general, and rural economic growth in particular.

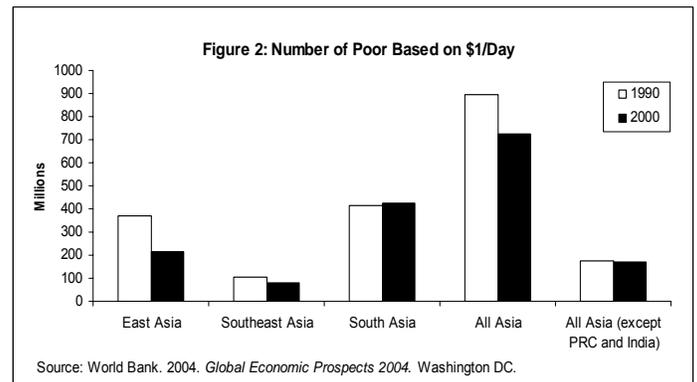
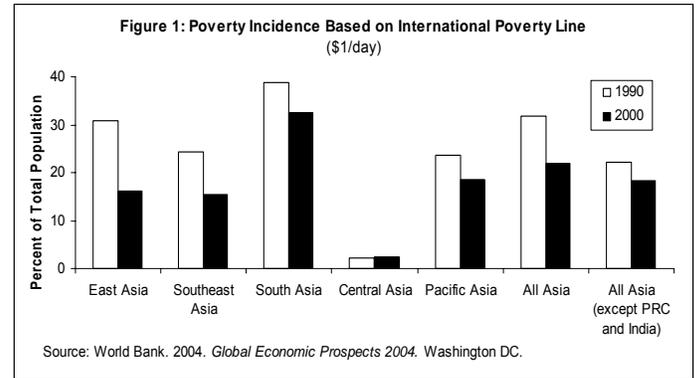
Rural growth results in rising output, employment and incomes which, in turn, has unleashed a virtuous cycle of rising productivity, consumption, savings and investment. Technological progress in agriculture, which has been scale neutral in agricultural production, benefiting even small farmers, has acted powerfully as an anti-poverty force in rural areas where most of Asia's poor reside (Chatterjee 1995). Indirectly, agriculture and rural development has impacted on economic growth and poverty reduction in several ways. First, increases in agricultural value-added earn foreign exchange that permit imports of foreign technology, where new technology is embodied in physical capital. Agricultural exports have a very high ratio of value added, unlike many manufactured exports that rely heavily on imported materials and components. Second, savings from the agricultural sector are a function of agricultural value added, and higher savings translate into faster physical capital deepening. Since agriculture is more easily taxed than non-agriculture in the early stages of development, the agricultural sector tended to provide revenue for public services required by the economy as a whole. Third, rural education levels are influenced by growth in agricultural productivity and rural incomes. Such education can raise farm productivity directly and make the migration process more economically rewarding for children who leave the farm. Fourth, increases in staple food production tend to increase rural food consumption. Better nutritional intake can raise labor productivity and contribute to improved child development. Fifth, political commitments to rural growth imply a more balanced political economy, with lesser urban bias than has been seen in most developed countries. Fostering social cohesion makes an economy more attractive to investors and less susceptible to labor market dispute (Chatterjee 1995 and Timmer 2002).

Reduced income poverty levels have thus given a large boost to reducing hunger in Asia. However, the battle against hunger in the overall sense is still far from being won. First, the reduction of income poverty has not been uniform in the Asia –Pacific region, and hence hunger continues to be a basic issue where poverty remains concentrated. There is also a non-uniform distribution of apparent or revealed hunger in terms of calorie and protein intake. This is discussed in the second section which focuses on the broad trends in income poverty reduction and hunger in the region. Section three discusses aspects of the poverty-hunger nexus that are hidden in aggregate poverty and hunger data. The importance of information about the distribution of food, in view of its importance for eradication of hunger is discussed in section four. Section five discusses issues relating to the institutional dimensions of gender, caste and ethnicity and their role in poverty reduction and eradication of hunger. The important issue of hidden hunger is discussed next in Section six. A series of policy recommendations, pertaining to the role public policy and particularly of

information in illuminating poverty and hunger reduction initiatives in the region, is presented in section seven.

II. Poverty and Food Availability in Asia-Pacific: Grounds for Optimism

Poverty incidence in Asia and the Pacific, using a \$1 a day standard (estimated at purchasing power parity) declined by about 30% over the 1990s. As incomes increased, food consumption levels rose, which resulted in lower levels of (macro-nutrient) hunger [ADB 1999]. In 1990, about 32% of people in the region lived below the poverty line. By 2000, this proportion had come down to 22% (Figure 1). Starting from a higher base, rural poverty in the Asian and Pacific region declined from 39% to 28%, while urban poverty declined at a more modest pace from 24% to 20%. The total number of the poor also declined by around 180 million, from 900 million in 1990 to 720 million by the end of the decade (Figure 2). This was achieved in spite of a major financial crisis in 1997 that disrupted regional growth and increased poverty incidence [ADB 2004].



The region's performance was driven largely by the People's Republic of China (PRC) and India. The total number of the poor fell from 372 million to 216 million in the PRC and 352 million to 335 million in India. Outside of these two countries, the number of the poor remained at about 172 million in the 1990s, although poverty incidence fell from 22% to 18%⁴ [ADB 2004 and Hasan 2004].

In the 1990s, poverty reduction in the region contrasts with that in other developing regions where the number of poor people increased. An important reason is that the region experienced faster economic growth than the others. The same is true within the region. East and Southeast Asia, which experienced the fastest increase in annual per capita income of 6.4%, registered largest decrease in poverty. [ADB 2004].

⁴ In the transitional economies of Central Asia, poverty incidence was also higher at the end of the 1990s than at the beginning, but there are signs that poverty incidence has started to fall from the peaks of the mid-1990s.

Trends in average levels of food availability and macro-nutrient consumption have mirrored growth in incomes and the reduction in absolute poverty. On a per capita basis, food production in developing Asia increased by 77% between 1970 and 2003. Especially strong production growth was recorded over those three decades in three of the largest Asian nations: China, India and Indonesia (Table 2). However, as the case of Bangladesh shows, not all countries in Asia enjoyed such increases on a per capita basis.

	1970	1980	1990	2000	2003
Developing Asia	58.8	63.4	79.6	100.3	104.1
People's Republic of China	40.9	45.7	66.0	100.3	109.0
India	74.5	74.5	90.1	99.2	98.5
Indonesia	61.8	71.6	93.2	101.4	104.4
Bangladesh	110.6	96.8	92.8	102.9	97.9
Source: FAOSTAT at http://www.fao.org .					

An increase in production and trade of basic foodstuffs in Asia-Pacific contributed to a dramatic increase in apparent calorie and protein consumption. Improvements in calorie and protein consumption are widely used as an indicator in progress, at the national level, in combating hunger. Between 1970 and 2000, average per capita calorie and protein consumption in developing Asia rose by 29% and 36% respectively, according to United Nations Food and Agriculture Organization (FAO) estimates (Table 3). Increased calorie and protein consumption was especially pronounced in countries that rapidly reduced poverty, such as China and Indonesia, and less so in Asian countries which experienced a more moderate rate of poverty reduction⁵.

⁵ The food production situation is far from favorable in all countries in the region. In Bangladesh, calorie and protein intake has declined; in India there is virtual stagnation. In India, food surpluses have increased while insufficient growth in calorie intake has occurred, evidence of a skewed pattern of production, sub-optimal distribution of foodstuffs and a public distribution system that has failed to deliver to the poor.

Table 3: Trends in Calorie and Protein Consumption in Selected Asian Nations, 1970-2000

	1970		1980		1990		2000	
	Calorie (No.)	Protein per day (Gr.)	Calorie (No.)	Protein per day (Gr.)	Calorie (No.)	Protein per day (Gr.)	Calorie (No.)	Protein per day (Gr.)
Developing Asia	2086	50.7	2229	53.3	2539	61.8	2689	68.9
Bangladesh	2200	46.9	1970	43.9	2071	44.8	2175	46.7
People's Republic of China	2026	47.9	2327	54.3	2709	65.3	2969	82.7
India	2086	52.4	1964	47.9	2318	56.2	2415	56.1
Indonesia	1861	38.6	2199	46.3	2628	58.6	2920	65.9
Pakistan	2271	57.9	2185	53.8	2341	59.4	2447	62.4

Source: FAOSTAT at <http://www.fao.org>

III. What the Averages Conceal: Spatial Disparities and Near Poor in Asia-Pacific

While trends are general positive, the national estimates of poverty and hunger may conceal as much as they reveal. While food consumption does rise as incomes increase, a more robust and disaggregated set of poverty and hunger indicators is needed to monitor progress and assess effectiveness in breaking the poverty-hunger trap in the region.

1. The Countryside Lags Behind

Poverty is predominately a **rural problem** in Asia and the Pacific. In almost all countries, the vast majority of the poor live in rural areas, but trends vary from country to country. The poverty incidence using the \$1/day poverty line, is estimated to be more than 50% higher in rural than in urban areas in countries such as Cambodia, Indonesia, Pakistan, Lao, Malaysia, Philippines, Thailand, Viet Nam, Bangladesh, Nepal, Sri Lanka, Papua New Guinea (PNG), Kazakhstan, Uzbekistan and Turkmenistan (Table 4).

The most common feature of Asia's rural poor is landlessness or limited access to productive land. The major subgroups of rural poor are the landless, marginal farmers and tenants, indigenous peoples and minority castes, and internally displaced persons. Pastoralists and coastal fishermen are also important subgroups of the rural poor in countries, such as PRC, India, Indonesia, PNG, Sri Lanka, and in Central Asia. In Asia and the Pacific, some 40% of the rural poor live in what are described as marginal areas. They are farmers dependent on rain, forest dwellers, highlanders, and indigenous peoples. Additionally, rural women and female-headed households are particularly prone to acute poverty. Rural women generally have fewer employment opportunities, less occupational mobility, fewer marketable skills, and less access to training [ADB 2000, Yee 2004].

In addition to limited access to productive lands, poor rural households also tend to have larger families, with higher dependency ratios, lower educational attainment, and higher underemployment. Most of the poor are cut-off from thriving urban and global markets because of inadequate transport and communication links. The poor also tend to lack basic amenities such as piped water supply, sanitation and electricity. Their access to credit, inputs and technology is severely limited. They have little power to influence politics or local-government decision-making. Low levels of social and physical infrastructure increase their vulnerability to malnutrition and disease, especially in mountainous and remote areas [FAO 2004].

2. Regional Pockets of Acute Hunger

There are agro-ecological zones within Asia-Pacific that are chronically deficit in food, and/or suffer periodic seasonal shortages or shortages associated with climatic shocks, and civil disturbances. This includes, for example, a large segment of the Himalayan mountain range, isolated parts of Afghanistan, Irian Jaya and PNG, drought prone regions of Western China and Mongolia, sections of the Bangladesh flood plain, and many of the more remote islands of the South Pacific nations. Irrespective of trends in national income and poverty incidence, the population in these regions regularly suffer from food insecurity, periodic outbreaks of severe hunger, and chronic poverty [Scherr 2003, FAO 2004]. The chronically food insecure in Asia-Pacific tend to reside in areas where there is sporadic exposure to shocks. The effects of shocks accumulate over time and are disproportionately harsh on the weaker groups, particularly in the remote and disaster prone parts of the region (Millennium Project 2004).

Tracking the poverty and hunger status of those who live in remote and disaster-prone regions is complicated by the fact that these are regions that have little regular contact with government statistical reporting services, where administrative boundaries (for statistical reporting purposes) tend to differ from geographic boundaries, and where heads of households tend to (temporarily) migrate when chances of subsistence deteriorate in the region. In addition, the highly sporadic nature of hunger and hardship in such regions is difficult to capture in data collection systems that provide a snapshot of poverty or hunger for the mainstream at one or a few points in time in the calendar year.

3. Asia-Pacific's Near-Poor

A large segment of Asia's population is near-poor—i.e. have incomes marginally above the poverty line. These households sometimes fall back below the poverty line and are especially vulnerable to bouts of hunger and food insecurity [Bloom 2001, Millennium Project Task Force 2004]. An approximate estimate of the share of the Asia-Pacific population who subsist at the margins of poverty and hunger are those who have incomes (in purchasing power parity terms) equivalent to between \$1 and \$2 per day. This includes 30.1% of the population

of China, 44.9% for Indonesia, 32% for the Philippines, 45.4% for Viet Nam, 46.8% for Bangladesh, and 45.2 % for India (Table 4).

Table 4: Poverty Estimates Based on National and International Poverty Lines, Urban-Rural, Selected Developing Member Countries, Various Years

Region/Country	National Poverty Rates				International Poverty Measures				
	Year	National		Rural	Year	\$1 a Day		\$2 a Day	
		Urban	Rural			HCR	Magnitude ('000)	HCR	Magnitude ('000)
East Asia									
China, People's Rep. of	2003			3.1	2001	16.6	211,865.8	46.7	596,032.1
Mongolia	1998	35.6	39.4	32.6	1998	27.0	648.5	74.9	1,797.8
Southeast Asia									
Cambodia	1999	35.9	18.2	40.1	1997	34.1	3,966.9	77.7	9,045.4
Indonesia	2002	18.2	14.5	21.1	2002	7.5	15,902.0	52.4	110,985.4
Lao PDR	1997	38.6	26.9	41.0	1997	39.0	1,882.7	81.7	3,945.6
Malaysia	1999	7.5	3.4	12.4	1997	0.2	36.8	9.3	2,004.5
Myanmar	1997	22.9	23.9	22.4		...	...	...	...
Philippines	2000	34.0	20.4	47.4	2000	15.5	12,136.3	47.5	37,224.3
Thailand	2002	9.8	4.0	12.6	2000	1.9	1,204.5	32.5	20,264.5
Viet Nam	2002	28.9	6.6	35.6	2002	13.1	10,509.4	58.5	47,058.1
South Asia									
Bangladesh	2000	49.8	36.6	53.0	2000	36.0	46,756.1	82.8	107,475.5
India	1999	26.1	23.6	27.1	1999	35.6	354,762.0	80.8	804,808.9
Nepal	1996	42.0	23.0	44.0	1995	39.1	8,150.8	80.9	16,859.8
Pakistan	1999	32.6	25.9	34.8	1999	25.3	34,031.0	77.2	103,841.7
Sri Lanka	1995	25.2	14.7	27.0	1995	6.6	1,144.9	45.4	7,914.9
Maldives	1998	43.0	20.0	50.0	1998	0.1	0.3	2.9	7.5
Central Asia									
Azerbaijan	2001	49.6	...	...	2001	3.7	297.7	33.4	2,709.9
Kazakhstan	2002	27.9	20.3	36.9	2001	0.1	16.3	8.5	1,255.2
Kyrgyz Republic	2000	52.0	43.9	56.4	2001	0.9	42.6	27.2	1,344.9
Tajikistan	2003	56.6	47.7	59.9	1999	13.9	840.5	58.7	3,555.4
Turkmenistan	1998	29.9	20.1	31.1	1998	12.1	593.8	44.0	2,164.3
Uzbekistan	2000	27.5	22.5	30.5	2000	17.3	4,260.7	71.7	17,640.7
Pacific									
Fiji Islands ^a	1990	25.5	27.6	22.4	1990	25.0	184.3	...	...
FS Micronesia	1998	27.9	...	...	1998	5.2	5.5	19.7	21.0
Kiribati		...	...	...	1996	38.0	30.0	...	...
Marshall Islands		...	...	...	1999	20.0	10.2	...	...
Papua New Guinea	1996	37.5	16.1	41.3	1996	24.6	1,023.4	54.4	2,263.0
Samoa	2002	20.3	...	...	2002	5.5	9.8	...	...
Tonga ^a	2001	22.7	...	...	2001	4.0	4.0	12.6	12.7
Tuvalu ^a	1994	29.3	...	...	1994	17.2	1.6	...	...
Vanuatu ^a		...	...	...	1998	40.0	72.8	...	...

... = no data available, HCR = headcount ratio.

^a Per household (the rest are per capita).

Sources: Hasan, Rana and Manoj Panda. 2004. *Poverty in Asia*. ADB: Manila.

National Poverty Rates:

ADB, RETA 5917: Building a Poverty Database and RETA 6047: National Poverty Reduction Strategies for PDMCs.

\$1- and \$2-a-day Headcount Ratios:

ADB staff estimates for Lao PDR, Viet Nam, Pakistan, Maldives;

World Bank, East Asia Update: Regional Overview, October 2003 for Papua New Guinea;

RETA 6047 for other Pacific DMCs;

World Bank, PovcalNet Database for the rest.

IV. The Distribution of Food

The nature of food markets has a powerful influence on the ability of the poor to meet minimum food requirements. Seasonal and cyclic changes in food prices can make basic foods unaffordable during the lean periods of the crop cycle in parts of Asia-Pacific. Government's intervene, through a combination of public procurement, price stabilization and public rationing programs to help stabilize the availability and price of basic foodstuffs in the market. The effectiveness of such policies, however, has been questioned in many countries in the region, and there is an increasing trend towards the use of international trade to meet deficits and dispose off surpluses in national food markets.

The greater reliance on global agricultural markets has had both advantages and disadvantages for poverty and hunger in the region. Thanks to abundant global resources, national food availability is less vulnerable to the vagaries of climate, disease or natural disasters that may exert a strong influence on domestic production. Moreover, improved access to global commodity markets has provided a powerful boost to commercial agriculture development in many of the Asia-Pacific states. But the integration of global and national agriculture markets has not had as much positive effect on poverty and hunger as it could have. First, depressed global prices that arise as a result of the subsidies and distortions in agricultural markets in the wealthier countries depress farm prices and incentives for innovation in agriculture in the Asia-Pacific states. This contributes to widening rural-urban inequality and a situation in which many small staple-producing farmers find themselves poor or vulnerable to poverty. Second, many of the major mega-cities in Asia have come to rely heavily on imports of staple foodstuffs, out-competing the rural areas of these countries for an important market for domestic produce. Third, farmers in the hinterlands of Asia-Pacific find it difficult to compete on global markets, largely because of high farm-to-market transport costs.

- Aggregate availability of foods tend to be less of a problem in Asia-Pacific thanks largely to the integration of national and global commodity markets. However, the availability and access to food by vulnerable groups, including food deficit farmers in rural areas, small and marginal farmers, and poor urban households, remains problematic because these groups may be chronically, seasonally or periodically unable to afford adequate diet. Government's in Asia-Pacific have developed a variety of food-based assistance programs, including public works schemes, food price subsidy schemes, food-stamp programs, and food ration shop schemes to assist those in need. But the targeting, management and triggers for the operation of such schemes merits improvement. Where such schemes operate well, the potential for protecting basic food security is great. But even in countries in which national food

supplies are adequate, there is the risk that localized shortages or access problems may trigger severe hunger if the quality of the food-based public assistance programs are not well managed, funded, targeted or operated.

V. Institutions and their Impact on Hunger

i. Gender

Two-thirds of Asia-Pacific's poor are women, and poverty is particularly acute for women living in rural areas. In poor families, the gender division of labor means that the burden of poverty falls most heavily on women. Given disparities in education, health care, economic and political participation, and incomes, women and girls are most vulnerable to poverty. The proportion of female-headed households ranges from 20 to 40 percent in Asia-Pacific. Change in the household structure, with women increasingly responsible for the double-burden of earning and family-care, has made women's situation worse, especially for women with several dependants. It has contributed to an increasing trend in feminization of poverty in the region. This poses serious constraints to poverty reduction because the children of poor women are more likely to repeat cycles of poverty and social disadvantage.

The manner in which food is distributed within the household may subject girls and women to a greater risk of hunger, regardless of the level of family income or food access [Hunt 1999, ADB 2001]. In many parts of Asia-Pacific, and in particular in the poorer regions of South Asia, men and boys are accorded priority in the household distribution of food. This is one of the reasons why girls and women have inferior nutrition and health outcomes, even in families that have sufficient income and food access to afford an adequate diet [UNICEF 2003]. An extensive survey of dietary discrimination by Haddad finds that women in Bangladesh, Pakistan and India have a lower status in terms of dietary discrimination than women in other parts of Asia, and also compared to most other countries of the world (Hunt and Quibria 1999). This contributes to the perpetuation of low status of women from one generation to the next via preferences for boys, less food for girls and lower investment in female human capital. Low birth weights result, causing under-nutrition to be passed from generation to generation. Conversely, increases in female status are strongly associated with reductions in child malnutrition rates throughout Asia-Pacific.

ii. Caste and Ethnicity

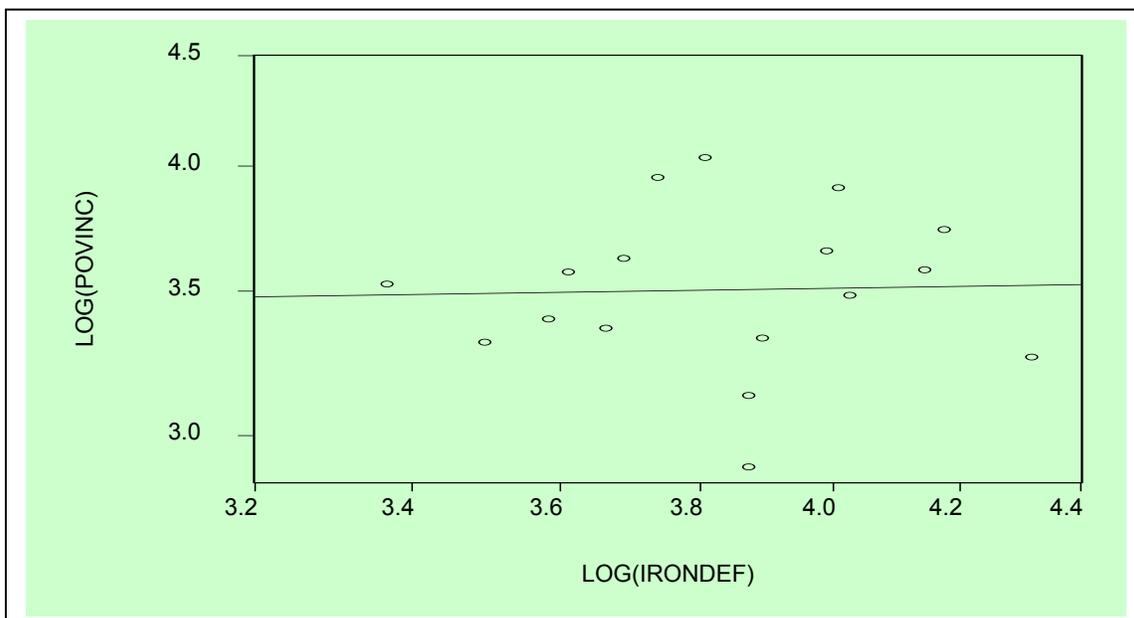
Complex variations in ethnicity, caste, language and religion influence access to schooling, employment, healthcare and natural resources in several countries. In some countries, the dominant ethnic, caste, religious or social groups are in positions of power, have administrative and political connections, educational

and cultural advantages, and unscrupulously capture public resources. Those who are socially excluded from progress tend to suffer multiple disadvantages, including a higher poverty incidence and greater malnutrition. For example, UNDP [2003] reported that in Nepal, the lowest caste group (Dalits) earn less than half of what the upper caste groups earn and that their life expectancy is 13 years less. Rarely are the differences in poverty and hunger conditions amongst different social groups reflected in national statistics, although reducing differences in living standards amongst social groups may be central to interventions aimed at tackling poverty and hunger.

V. Hidden Hunger - Diet Quality Dimensions

The persistence and high prevalence of micronutrient deficiencies among women and children in Asia endangers health, shortens life expectancy, retards the cognitive potential of children, and directly reduces productivity [UNICEF and MI 2004]. Only recently have the links between the quality of the diet, access to essential vitamins and minerals (i.e. micronutrients), health outcomes, educational achievement and productivity been better understood. What is now referred to as “hidden hunger”, or insufficient consumption of micro-nutrients, affects nearly 1.5 billion persons in Asia. On a global scale, three-quarters of all those suffering from micro-nutrient deficiency are to be found in Asia. While the poor are most likely to suffer from micro-nutrient deficiency, a large number of families with incomes above the poverty line also suffer from it. The weak relationship between poverty and hidden hunger may be seen from the scatter diagram in Figure 3 which plots poverty incidence against iron deficiency in children in 17 Asian countries. This illustrates the complexity of the interaction between poverty and hunger, when the latter is thought of in terms of a diet that is adequate in nutritional quality [Millennium Project Task Force on Hunger 2004, UNDP and UN ESCAP 2003].

Fig 3: National Poverty Incidence and Estimated Prevalence of Iron Deficiency Anemia in Children Under 5 Years



The most serious micronutrient problem is iron deficiency anemia (IDA). In Asia, 60 percent of all pregnant women, half the women of reproductive age, and 40 percent of preschool children suffer from IDA. Consequently, there is high maternal mortality (an estimated 65,000 women in Asia die in pregnancy due to anemia each year), impaired intellectual development and learning capacity, decreased physical activity and productivity of women, and reduced immunity. Children suffering from IDA often never enter school, or drop-out in the early years. A recent ADB study estimated that the national income loss in Bangladesh from IDA alone was nearly 2 percent of GDP [Hunt 2001, ADB 2004b].

Iodine deficiency remains the single greatest cause of preventable mental retardation in the world today. Every year, 40 million children in Asia are being born with out the protection that iodine offers to the brain and body---just over a third of these children will suffer a significant degree of mental impairment. The total population goiter rate is especially high (above 25%) in India, Afghanistan, Pakistan and Tajikistan. In India and Pakistan alone, more than 8.7 million children are estimated to be born each year mentally impaired due to iodine deficiency. In countries with a total goiter rate above 10%---which is most of Asia---the intellectual capacity of the population is lowered by between 10 to 15%, adversely affecting school performance, labor force productivity and household incomes. Iodine deficiency rates are now in decline as almost all nations iodize salt. While more than 80% of the salt is iodized in countries such as China, Bhutan, and Viet Nam, the share of household salt that is iodized is very low in many other Asian countries. For example, just 14% of the salt in Cambodia is iodized; 17% in Pakistan, 50% in India, 24% in Philippines, and from 50-75 percent in other parts of South and East Asia. It is the poor who are most likely to consume salt that is not iodized in countries with low salt iodization coverage [UNICEF and MI, 2004].

For many years, it has been known that lack of vitamin was a cause of impaired vision and blindness. Research in the 1980s has shown that children with even mild vitamin A deficiency were found to have 25-30% higher death rates when the overall nutrition situation was controlled for [Allen and Gillespie 2001]. The WHO has found that the weakened immunity due to vitamin A deficiency is a major contributor to malaria, diarrheal disease, and acute respiratory infections and measles. Within Asia, a quarter of the child population suffers from sub-clinical Vitamin A deficiency. Reported prevalence ranges from a low of 12 percent in China to a high of 53 percent in Afghanistan. India has the largest absolute number of vitamin A deficient children in the world, and has yet to reach even a third of its under-fives with supplementary vitamin A. Efforts to control vitamin A deficiency, through supplementation and food fortification, have largely paralleled the progress of salt iodization, and most countries in Asia, children receive one high-dose vitamin A supplement each year. This, however, is

insufficient to overcome the deficiency and explains why many countries are providing two high-dose supplements per year [UNICEF and MI 2004].

Table 5: Vitamin and Mineral Deficiency in Selected Asian Nations

	IRON DEFICIENCY		IODINE DEFICIENCY		VITAMIN A DEFICIENCY
	Estimated prevalence of iron deficiency anemia in children under 5 years (%)	Estimated prevalence of iron deficiency anemia in women age 15-49 (%)	Estimated annual number of children born mentally impaired	Total Goiter Rate (%)	Estimated % of children under 6 with sub-clinical vitamin A deficiency
Afghanistan	65	61	535,000	48	53
Bangladesh	55	36	750,000	18	28
Bhutan	81	55	-	-	32
Cambodia	63	58	85,000	18	42
China	8	21	940,000	5	12
India	75	51	6,600,000	26	57
Indonesia	48	26	445,000	10	26
Kazakhstan	49	36	54,000	21	19
Kyrgyzstan	42	31	23,500	21	18
Lao PDR	54	48	27,000	14	42
Mongolia	37	18	8,500	15	29
Myanmar	48	45	205,000	17	35
Nepal	65	62	200,000	24	33
Pakistan	56	59	2,100,000	38	35
Papua New Guinea	40	43	-	-	37
Philippines	29	35	300,000	15	23
Tajikistan	45	42	43,000	28	18
Thailand	22	27	140,000	13	22
Turkmenistan	36	46	11,000	11	18
Uzbekistan	33	63	136,000	24	40
Viet Nam	39	33	180,000	11	12

Source: UNICEF and MI. 2004. *Vitamin and Mineral Deficiency: A Global Progress Report*, Geneva and New York.

6. Slow Progress in Nutrition

During the 1990s, nutrition status of vulnerable groups has been slow to improve, despite steady declines in income poverty incidence and improvements in staple food availability. Three quarters of the world's under-nourished children are

living in Asia, specifically 112 million under-weight and 132 million stunted children [Hunt 2001, ADB 2001].

Table 6: Child Nutrition Outcomes in Selected Asian Nations, 1990-2001

	Children under 5 years of age who are moderately and severely underweight (%)	
	1990-1996	1995-2001
East and North East Asia		
China [3]	16	10
Mongolia [5]		13
Southeast Asia		
Cambodia [5]	40	45
Indonesia [3]	35	26
Lao People's Democratic Republic [4]	44	40
Malaysia [1]	23	18
Myanmar [3]	43	36
Philippines [4]	30	28
Thailand [3]	26 ^a	19 ^a
Viet Nam [3]	45	33
South and Southwest Asia		
Afghanistan [5]		48
Bangladesh [4]	67	48
Bhutan	38 ^a	19
India [4]	53	47
Maldives		30
Nepal [3]	49	48
Pakistan [3]	38	38
Sri Lanka [4]	38	29
North and Central Asia		
Armenia [5]		3
Azerbaijan [4]		17
Kazakhstan [4]		4
Kyrgyzstan [3]		11
Tajikistan [5]		
Turkmenistan [3]		12
Uzbekistan [4]		19
Pacific		
Fiji		8 ^a
Kiribati		13 ^a
Papua New Guinea [4]	35 ^a	35 ^a
Solomon Islands		21 ^a
Vanuatu		20 ^a

Sources: United Nations, *Promoting the Millennium Development Goals in Asia and the Pacific*, 2003 Food and Agriculture Organization of the UN, *The State of Food Insecurity in the World*, 2003

^a Indicates data that refer to years or periods other than those specified in the column heading, differ from the standard definition or refer to only part of a country

– proportion is less than 2.5% undernourished

* includes Taiwan Province of China

** estimates of the proportion of undernourished for 1999-2001 are not available; estimates for 1998-2000 published in SOFI were used instead

Figures following country name refer to the prevalence categories (proportion of the population undernourished in 1999-2001):

[1] < 2.5% undernourished

[2] 2.5-4% undernourished

[3] 5-19% undernourished

[4] 20-34% undernourished

[5] ≥35% undernourished

In South Asia, where the problem is most severe, the proportion of children under 5 years of age who are moderately or severely under-weight has shown very little improvement in the 1990s while it has tended to increase in parts of Central Asia and the South Pacific. The proportion of the under-5 child population who are under-nourished is substantially higher than the proportion of the population living in poverty in countries that have recently reported high rates of growth, such as Indonesia, Malaysia and Thailand (Table 6). Numerous factors combine to contribute to poor nutrition outcomes including gender-bias in household food distribution and human capital investment, micro-nutrient deficiencies, deficiencies in maternal education, inadequate clean drinking water and sanitation facilities, and weaknesses in the access and quality of maternal and child health services [Allen and Gillespie 2001].

VII. Policy Implications

In the relationship between income, poverty and hunger, information has an important role to play. It is well known that those aspects of poverty and hunger that are measured and reported-on are relatively promptly acted upon. The role of timely and accurate information increases in importance as standards of education, awareness and good governance improve. The nature of the relationship between poverty and hunger in the region has changed in ways that force a rethinking of poverty reduction strategies, including approaches designed to combat hunger. Three decades ago, agriculture statistics and food balances sheets were reasonably good proxies for tracking poverty and hunger in the region. It was then understood largely to be a problem of macro-nutrients and producing sufficient staple foods. Thanks to new knowledge, our understanding of poverty and hunger issues has advanced.

Today, nutrition issues are not as much linked with structural issues like agricultural productivity or food availability as before. In most of the countries in the region, agricultural produce constitutes less than one-third (if not lower) a proportion of GDP, and countries have more money (domestic as well as foreign exchange) to procure and sustain food supplies. Issues such as urban-rural differences in living standards, gender and excluded-group entitlements to income and food, food status in remote/isolated regions, and micro-nutrient availability are at the heart of the Asia-Pacific poverty-hunger nexus. However, many of the region's most serious hunger problems---involving food access within the household and social groups, in remote regions, and at the level of micro-nutrients---aren't well tracked by existing statistical reporting systems that are commonly used to track poverty and household food consumption.

The public food distribution system continues to be an important instrument for reducing hunger in many countries of Asia-Pacific. But its efficiency has to be

improved through better targeting towards the poor. This implies a need to develop better indicators for identifying those who are likely to be both poor and hungry, a task made more difficult by the large numbers of near-poor and vulnerable in the region. Short-term indicators, such as trends in real wages, may need to be monitored as proxy indicators for seasonal and regional spurts in income poverty. Regular monitoring of food price disparities across regions may be important, especially to spot area-specific shortfalls in essential foodstuffs. Finally, the efficiency and effectiveness of public distribution programs for basic foodstuffs requires continuous monitoring and assessment, to ensure that these systems are sufficiently robust and effective to withstand the stresses to food availability and access that can arise from various shocks.

Better information on the links between income, poverty and hunger is also required if households in Asia and the Pacific are to make food consumption choices that result in better nutrition outcomes. Use of the processed foods, supermarkets and reliance on meals consumed outside the home is a relatively recent development in Asia and the Pacific, and has been associated with a rising incidence of obesity, diabetes and other lifestyle-related diseases. A large share of the consumer budget continues to be allocated to meet food requirements, but eradication of hunger (and especially hidden hunger) remains complicated by literacy levels that even today are quite modest, cultural habits that favor feeding men/boys over girls, and a dearth of fortified foods in the marketplace. Regular statistical reporting systems have yet to adjust to regularly collect and report on these issues, despite widespread awareness that these are at the heart of today's poverty-hunger nexus in the region.

A new toolkit is emerging to tackle the poverty-hunger nexus. This combines initiatives aimed at boosting the incomes of the poor with interventions to improve the quality of the food supply (fortified foods, pure food regulation), provide clean drinking water, enhance maternal education, and improve access to maternal and child health care services. Compared to the situation a few decades ago when Agriculture Ministries bore the main burden for enhancing agricultural production to reduce poverty and tackle hunger, many different agencies and stakeholders are involved today. Ensuring that information is available to tracking progress made in addressing poverty and nutrition using this new toolkit is essential to help coordinate and harmonize the contributions of so many different, and largely independent stakeholders.

More creative use must be made of agricultural production statistics and household surveys to capture the poverty-cum-hunger status of vulnerable groups, backward regions, and to carefully track progress made in meeting micro-nutrient consumption goals. It may also be necessary for national governments to rethink the indicators used to track MDG-1, particularly with respect to the eradication of hunger. Regular tracking of micro-nutrient deficiencies, gender-specific feeding practices, rural-urban nutrition disparities, and food status of isolated/remote regions may help to provide a more complete

understanding of the extent and intensity of hunger amongst the poor in Asia-Pacific.

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