ADB

Soaring Food Prices

Response to the Crisis

Asian Development Bank

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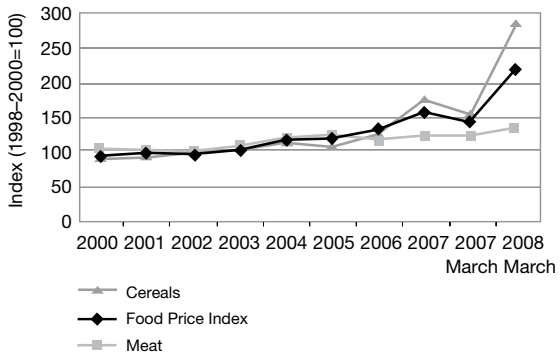
THE SPIKE IN GLOBAL FOOD PRICES

Soaring food grain prices in recent months have caused serious concern around the world. In Asia the estimated 1.2 billion poor people who spend on average 60% of their income on food have been hit hard. ***Food price inflation severely stresses the most vulnerable groups***. High and rising food prices are threatening to reverse the gains in poverty reduction in the Asia and Pacific region, undermining the global fight against poverty. If high food prices persist, the Millennium Development Goal of halving poverty by 2015 could be jeopardized.

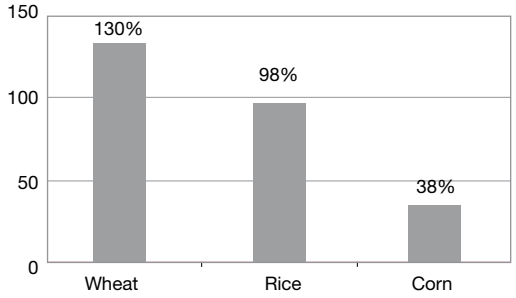
Although world food grain prices declined during the 1990s, a reversal occurred in 2000; since then the prices have been rising with a sharp upturn since mid-2007 (Figure 1). During the 1 year period ending in March 2008, wheat export prices increased by 130%, rice by 98%, and maize by 38% (Figure 2). In the last month, rice prices have doubled. Therefore, the price impacts have been most pronounced in import-dependent countries. During the past year, domestic rice prices doubled in Bangladesh and Cambodia and increased by 70% in Afghanistan, 55% in Sri Lanka, and 40% in the Philippines. Domestic wheat prices increased by 36–100% in Bangladesh, Mongolia, Pakistan, Kyrgyz Republic,

Figure 1. FAO Food Price Index



Source: FAO. April 2008. *Crop Prospects and Food Situation*. Rome.

Figure 2. Food Grain Prices Have Surged (March 2007–March 2008)



Source: FAO. April 2008. *Crop Prospects and Food Situation*. Rome.

Table 1. Increase in Domestic Food Prices: March 2007–March 2008

	Rice	Wheat	Meat
Afghanistan	70	16	30
Bangladesh	100	74	60
Cambodia	100		45
China, People's Republic of	6	7.2	
India	9.3	(2.5)	
Indonesia	8.7		
Kyrgyz Republic		100	
Mongolia		40	
Nepal	20		
Pakistan	60	38	
Philippines	40		30
Sri Lanka	55	36	
Tajikistan		100	50
Viet Nam	17		

Sources: Country data; ADB's resident mission submissions.

Tajikistan, and Sri Lanka (Table 1). Strong political and economic factors are at play in the food policy of most developing Asian countries, so that the effect of sharply higher international prices has not been fully transmitted to domestic prices. Despite this, food price inflation throughout developing Asia and the Pacific has ratcheted

up the consumer price index in 2007.[1] In the current year, food price inflation has continued to accelerate in developing Asia.[2]

The spike in world prices of cereals, particularly for rice and wheat is eliciting policy responses that exacerbate rather than cushion price volatility as governments rush to restrict exports, control domestic prices, and attempt to rebuild stocks in the face of the price increases.

This report provides in part II a brief discussion of the underlying causes of the dramatic increase in the world prices of staple foods—such as rice and wheat, edible oils and meat—and the attendant rise in overall food prices in developing Asia. Part III then evaluates the potential impact on developing Asia by examining the consequences for poverty and inequality and for macroeconomic stability. In part IV the strategic framework for inclusive growth of the Asian Development Bank (ADB) provides the context for the operational response to the food price crisis. It outlines ADB's short-term and medium-to-long-term operational responses to the problem.

[1] ADB. 2008. *Asian Development Outlook 2008*. Manila.

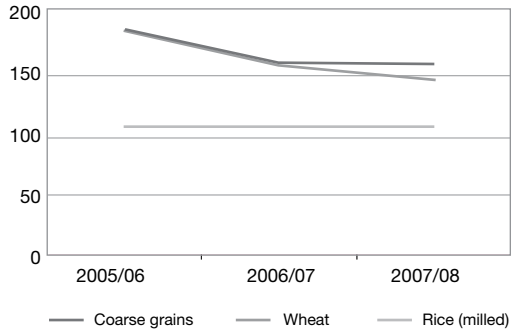
[2] ADB. 2008. *Food Prices and Inflation in Developing Asia: Is Poverty Reduction Coming to an End?* Manila.

THE UNDERLYING CAUSES OF HIGH FOOD PRICES

A number of underlying causes of the recent surge in global food prices—some cyclical and some structural—can be seen most prominently in the international prices of cereals, particularly for the two most important staple food grains produced and consumed in Asia—rice and wheat. The cyclical factors are short-term phenomena that will ease over the year but the structural factors are medium to long term and indicate that the problem of high cereal and food prices will continue into the foreseeable future. Cyclical and structural factors may impact the price by raising demand or by reducing supply.

World cereal stocks have been falling over the past few years, indicating that growth in consumption of grains for all purposes has been in excess of growth of production. The current stocks of rice, wheat, and corn are estimated to have fallen by over 40% between 2002 and 2007 (Figure 3). This decline in stocks is a result of both cyclical and structural factors and has been an acute source of volatility in world market prices of rice and wheat.

Figure 3. World Stock of Cereals (end season) 2005/06–2007/08 (million tons)



Source: FAO. April 2008. *Crop Prospects and Food Situation*. Rome.

CYCLICAL FACTORS

Among the cyclical factors that have been at work are random adverse weather conditions that have reduced harvests in key producing countries. World wheat production declined in 2006 because of a 60% reduction of output in drought-hit Australia. Flooding in parts of South Asia and pest infestation and cold weather in Viet Nam reduced harvests as well in 2007, particularly for rice.

Declining stocks are likely to have triggered the initial spur of speculative demand in recent years along with the turmoil in global financial markets that has reduced expected returns on bonds, equities, and other financial assets relative to commodities. The flow of funds into commodities has also been exacerbated by the weakness in property and housing markets in several industrial economies.

Depreciation of the United States (US) dollar against currencies of major Asian rice exporters has had the effect of raising dollar prices. The steep decline of the US dollar against all major currencies in the past year and its declining to record lows in recent months have contributed to increase in the prices of "soft" commodities including wheat, whose prices are denominated in US dollars.

Precautionary demand for food stocks in many countries is contributing to food grain price increases. Public food grain agencies and private traders in many countries are replenishing their depleted stocks in the wake of the surge in international prices of rice and wheat. There have been many instances of raids on private traders who are accused of hoarding food grains to push up prices and create opportunities for making windfall profits in the domestic markets. Such options to contain price hikes are difficult to implement and have increased prices in the domestic market of many countries including that of Bangladesh and the Philippines. Sustained

procurement by these countries in international markets is also contributing to upward price pressures in the global markets.

Policy responses (export bans, price floors) of key rice-exporting countries including the People's Republic of China (PRC), Pakistan, Viet Nam, and India have increased price volatility and uncertainty in the international rice market. Export bans and price controls imposed by some countries (PRC, India, Viet Nam, and Pakistan) have reduced supplies in the world rice markets and increased uncertainty about future rice supplies, contributing significantly to the surge in rice price especially since the end of 2007. Although Kazakhstan, Ukraine, and Uzbekistan also imposed bans on wheat exports, the latter two have withdrawn the bans recently. Nonetheless, this contributed to wheat price volatility. Lack of efficient logistics systems and infrastructure for food grain marketing and distribution in several countries tightened the market further as experienced by Afghanistan, Bangladesh, Nepal, Philippines, and Tajikistan. Policy options—such as export restrictions and minimum export prices—intended to protect domestic consumers reduce incentives to producers and increase uncertainty thereby weakening the supply response. Lower-than-expected production during a food crisis like the present one could keep supplies tight and prolong the crisis. Farmers need to produce more, not less, in the short run and short-term government policies should target this objective.

STRUCTURAL FACTORS

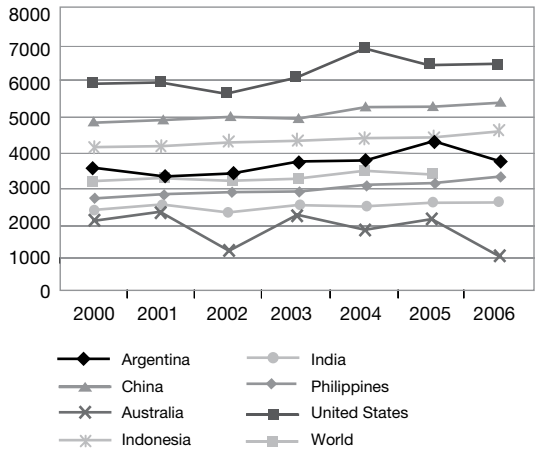
Rising energy prices and energy intensity of the agricultural sector have increased the cost of critical inputs like fertilizer, fuel, and power. World energy prices have increased rapidly in recent years, with per barrel oil prices rising by an average of about $10 per year between 2002 and 2007 in nominal terms and by slightly less in real terms (ADO 2008). Agriculture has become more energy intensive in the past decade. Both irrigation and fertilizers are critical inputs to the production of high-yielding varieties of food grains, and these are energy intensive. Energy prices rising sharply over the past year and to all-time highs in the past 6 months have fed into production cost and, hence, food grain prices. Increase in energy costs have translated into high input and labor costs. Despite large subsidies in Asian countries, domestic energy prices have increased 20–50% while fertilizer, irrigation, and transport costs have increased 30–50%. The hikes in fuel and energy prices are structural in nature because they reflect a long-term imbalance between rising incremental oil demand (estimated at 1.7 million barrels of oil equivalent a day in 2008 over 2007) and stagnating production and supply (with non-OPEC [Organization of Petroleum Exporting Countries] production having peaked and OPEC unwilling for political reasons to expand output).

The diversion of cereal use from food to produce alternative fuel (biofuel) is increasing as oil prices become higher. Biofuel demand has contributed to the food crisis in several ways. Since 2000, cereal use for food and feed increased by 4% and 7%, respectively, while cereal demand for industrial purposes like biofuels jumped by more than 25% (FAO 2007). Annually 100 million tons of food grains (corn) are being converted into biofuel. In the US, ethanol subsidies have increased the use of corn for biofuel production from 6% of total crop production to 23% in the past 3 years. Production of biofuel feedstock may also result in substitution of sugar, palm oil, and soybeans for wheat and rice crops. Thus, while part of the total food grain supply is being diverted away from use for human consumption, part of the incremental land used for biofuels and feedstocks production is also being diverted from production of food grain for human consumption. This has tightened wheat, corn, and other grain supplies and contributed to the soaring food prices.

Land is also being diverted to urban/industrial uses and competition for scarce freshwater resources between agriculture and industry and residential uses also has adversely impacted the supply growth that is structural as societies undergo urbanization and industrialization. An ADB study[3] shows that the water available for agriculture has already declined sharply over the past several decades, particularly in Asia. Water scarcity will be increasingly challenging for the PRC and India, where irrigation water consumption as a share of total consumption is projected to decrease by 5–10% by 2050 compared with 2000.

Productivity levels are low and food grain yields have stagnated. Yield growth has slowed down since the 1990s (Figure 4). In the three decades ending in 1989, rising yields accounted for about 70% of the increase in crop production in the developing countries. However, since the 1990s the growth of yields has slowed significantly.

Figure 4. Cereal Yields in Selected Countries (kg/hectare)



Source: World Development Indicators. 2008.

[3] ADB and IFPRI. 2008. *Reducing Poverty and Hunger in Asia: The Role of Agricultural and Rural Development*.

Wheat yields, for example, grew at an average of 3.8% a year between 1961 and 1989 but slowed to 2% a year. In rice, the yield growth fell by more than half, from 2.3% to 1.1%. In most countries the yield gap between actual and potential is high and cropping intensity is low. A major cause of low food grains productivity is the low rate of capital accumulation in agriculture.

Productivity growth in agriculture has been constrained by the pace of development of high-yielding and pest-resistant varieties. National, regional, and international agricultural research institutions have lacked the resources needed to carry out basic research for varietal development and follow-up adaptive research and technology dissemination under diverse agroecological conditions. At the same time, the capacity of institutions has remained weak. Enhanced support for agricultural research, technology development, and dissemination is needed to unleash a "second" Green Revolution. The research and extension systems in most countries cannot cope with the emerging challenges including that of ensuring adequate food supply for the growing population without significant external assistance.

Policy inadequacies and weak institutions undermine incentives for agricultural production. Policy interventions such as food grain support prices, input subsidies, involvement of public agencies in food grain imports, marketing, and distribution tend be ineffective over the medium term and inhibit supply increases. Examples of such policies, which also constrain private investment in agriculture, abound in the agriculture sector of many countries. Food subsidies currently amount to $1 billion in Bangladesh and $16 billion in India. Such subsidies have also contributed to wasteful use of water resources, degradation of land, and imbalances in fertilizer use. In fact, the Indian states of Punjab, Haryana, and Western Uttar Pradesh, the main success "stories" of the Green

Revolution era in India, are now suffering from severe soil degradation, groundwater depletion and contamination, and declining yields.

Weather events are likely to increase in intensity and frequency because of global warming and climate change. Storms and floods, changes in rainfall patterns, and rises in sea level are likely to increase risks to rice culture and production in many parts of Asia. Although a long-term, structural concern, global climate change is likely to adversely impact agricultural output, and cause supply disruptions both in the short and longer term.

Rising incomes in Asia have driven up food consumption significantly over the past decade. Asia's rising prosperity has steadily increased demand for food grains for consumption, animal feeds, and industrial use. The demand for food grain consumption of poor and low-income quintiles of the population increases more than the growth of incomes. This trend is projected to continue in the foreseeable future.

Food grain demand has increased because of greater meat-based consumption in Asia. As incomes and urbanization increase in Asia, the demand for meat, milk, eggs, and other livestock products has increased dramatically. This translates into indirect food grain (mainly wheat and corn) consumption through animal feed in the livestock industry that is more grain intensive than is obtaining the same amount of human caloric consumption directly. Meat prices have doubled since 2000 and butter and milk prices have tripled. The PRC consumed about 250% more meat in 2007 than in 1990. India consumed 20% more meat, fish, and eggs than in 1990.

Rice prices are expected to moderate somewhat later in the year due to the supply response. However, overall we regard structural factors to be dominant over those that are cyclical. Hence the trend in high food prices will likely persist over the next few years, if not longer. The era of cheap food prices and sanguinity about food security may thus be over. In the following section, we turn to the impacts of high food prices on poverty and living standards and on the macroeconomic stability in developing Asia.

IMPACTS

POVERTY IMPACT

High food prices are undermining the gains of poverty reduction efforts in Asia in the past decade and will make the achievement of the Millennium Development Goals difficult. Food expenditures comprise a large share of the poor's total expenditures (60%) in Asia. Their expenditures on food and energy comprise over 75% of total consumption expenditures. Millions of people in Asia—perhaps as many as 1.2 billion—are vulnerable to soaring food grain prices. Food price inflation may have seriously eroded their purchasing power, increasing the severity of food deprivation and malnutrition. These effects will worsen if the food price surge persists. An important dimension of the present food crisis is that a large segment of Asia's population not only in urban areas but also in rural areas comprises net buyers, a majority of whom are poor or near-poor. Soaring prices therefore hit them the hardest. Higher expenditures on food caused by higher prices also reduce expenditures on health and education and "squeezes" expenditures that are critically needed in agricultural inputs—such as fertilizers, fuels, and power—to expand food production in response to higher prices.

Using household expenditure survey data, the impacts of food price inflation on poverty and inequality have been analyzed in the cases of the Philippines and Pakistan (ERD 2008). Three different scenarios are evaluated where alternative increases in domestic food prices of 10%, 20%, and 30% are assumed to occur. The effects estimated are purely price effects that take place under the assumption of constant per capita expenditure. The results indicate that poverty will be worsened in terms of the number of absolutely poor as measured by the national poverty line. In the Philippines, a middle-income country, the head count rises by 2.72 million, 5.65 million, and 8.85 million under the three scenarios of 10%, 20% and 30% increases in food prices. In Pakistan, a low-income country, the head count rises by 7.05 million, 14.67 million, and 21.96 million, respectively.

MACROECONOMIC IMPACT

As governments move to cushion the impact of higher food prices, direct and indirect subsidies are likely to increase recurrent public expenditures, thus worsening fiscal deficits. Other social safety net measures will require effective targeting of assistance; otherwise, these may add to further fiscal pressure. The problem would be more severe in countries with large fiscal deficits like Sri Lanka, Pakistan, India, and Bangladesh. Food subsidies in Bangladesh are estimated to double in the current fiscal year and reach well above $1.5 billion. Many Asian countries will experience tightening of fiscal space because of larger food subsidies in addition to energy subsidies.

Higher food prices will mean higher inflation. Given the large weight of food prices in the consumer price index basket, inflation rates will rise as a result of a persistent food price increase. If wages also rise as a consequence, inflation could spiral, causing inflationary expectations to become embedded in economies, with the general level of prices rising further. The prospects of this happening will be proportionately greater in those countries facing high inflation such as Viet Nam, Kazakhstan, Tajikistan, and Sri Lanka.

Higher food prices may dampen economic activity. Inflation will reduce real income consumption, saving, and investment, all of which may combine to slow down aggregate demand. Should interest rates rise in order to contain inflationary pressures, aggregate demand may be further constrained. With a strong uptrend in inflation in India, the Reserve Bank of India tightened monetary policy, resulting in higher interest rates. If interest rates are raised as standard policy response to control inflation, the eventual effect would result

in reduced aggregate demand and may lead to further economic slowdown.

The Oxford Economics Global Model is applied to simulate the macroeconomic effects of a food price shock and then a combined food and oil price shock in several Asian countries (ERD 2008). The results are not to be taken as projections but simply as experiments using a rigorous economic model. The first scenario of a food price shock of over 50% leads to a decline in real GDP growth in 2008 of 1.05% in the region. The second scenario, a combined food and oil price shock of over 60%, results in a GDP growth decline of 1.41% in 2008. The experiment with the model indicates that GDP growth will continue to abate in 2009 under both scenarios. These results are amplified when monetary policies are tightened to avoid an inflation spiral—a necessary cost to these economies if they wish to return to long-term trend growth.

ADB'S RESPONSE

The strategic framework for ADB response to the food crisis is based on Strategy 2020: *The Long-Term Strategic Framework of the Asian Development Bank* (ADB 2008). The development agenda calls for ADB to support the alleviation of poverty through a strategy of inclusive growth that places emphasis on (i) improvement in social protection and social safety nets, (ii) improvement in access to opportunities, and (iii) more equal access to improved opportunities. With this framework in mind, this section explores short- or near-term responses and medium-to-long-term responses.

ADB's short-term response will include targeted interventions to protect the food entitlements of the most vulnerable groups and income and livelihood programs for the poor to mitigate the immediate impacts of the crisis. ADB will also consider budget support to hardest-hit countries to alleviate the fiscal pressures and assist imports of food grains and agricultural inputs.

In the medium to long term, ADB's assistance to the agriculture and natural resources sector would seek to (i) enhance productivity growth; (ii) promote bio-security; (iii) improve access to information and communication technology; (iv) improve market access and income diversification; (v) encourage better risk management; (vi) continue the dialogue to deepen and widen policy reform; and (vii) strengthen institutions, enhance capacity and skills, and promote good governance. Such assistance would be considered in the broader framework of agriculture's linkages to the rural and wider national economy.

SHORT-TERM ASSISTANCE

(a) Strengthening safety net programs for food-stressed populations including targeted food subsidies and emergency food security reserves system. The targeted assistance would include support for food for work and food stamp programs.

(b) *Policy Advice*. Policies such as export restrictions, price controls, price supports, optional food grain reserves, and input subsidies need to be revisited in light of the higher food prices which could persist. Hence, policy dialogue with member countries is critical to consider effective options to address the immediate impacts of the crisis and to restore food price stability. Prudent macroeconomic management to contain inflation is also critical in the mix of available policy options.

(c) *Input Availability*. Although the availability of inputs has improved in most Asian countries, further improvements are needed to ensure that farmers have easy, reliable, and affordable access to seed, fertilizers, pesticides, and credit. Moreover, the rapid hikes in the prices of key inputs such as fertilizers, pesticides, and fuel have created additional hurdles for farmers, which could limit their supply response.

MEDIUM-TO-LONGER-TERM ASSISTANCE

(a) *Incentives*. Investments in agriculture may still not generate the envisaged returns unless these are accompanied by reforms, pricing, trade, and other policies. Since the mid- to the late 1990s, most Asian countries have initiated reforms aimed to remove distortions arising from interventionist price and trade policies; however, progress has been mixed and most countries have faltered on the reforms. As a result, farmers in most Asian countries still make their

production decisions based on distorted prices and are unable to benefit from the higher prices in international markets. The distortions need to be corrected and divergence between economic and financial returns narrowed. Otherwise farmers will continue to operate suboptimally and return on investment will continue to be low in the sector.

(b) *Infrastructure*. Low levels of investments in the sector have led to poor upkeep and maintenance of existing agricultural structures and facilities, and insufficient development of new structures and facilities. In particular, investments are needed to ensure efficient and reliable irrigation water supplies and connectivity to markets.

- Investments in irrigation systems will improve efficiencies and reliability of irrigation water supplies, which will in turn raise crop productivities, expand irrigated areas, and reduce the incidence of crop failures. The priority should be to improve the efficiency and reliability of existing irrigation systems rather than to develop new systems. Most countries in Asia are either already water-stressed or are nearing such a point, and there may not be much scope for development of new irrigation systems. Irrigation system development needs to be combined with investments in flood control and drainage structures. In this context, additional investments will be required for soil and water conservation.

- Improvements in connectivity to the markets will help in lowering production and marketing costs, reducing wastage of inputs and produce, and improving returns to agriculture. Therefore, investments in rehabilitation, maintenance, and development of existing and new farm-to-market roads need to be a priority area for public sector intervention.

- *Rehabilitation and upgrade of postharvest processing facilities*. In most Asian countries, postharvest losses are high—up to 30%—because of poor handling and processing facilities. Some countries such as Cambodia export unprocessed commodities thus losing the value added and employment in processing. Improvement in postharvest handling and processing capacity would enhance food security by limiting wastage, and increase income, supply, and employment.

(c) *Rural Finance*. In the context of financial sector reform, financial institutions including microfinance institutions need to expand operations rapidly to improve access of farmers and rural poor to credit.

(d) *Institutions*. Productivity growth in agriculture will require significant increase in investment in adaptive research and technology dissemination. New high-yielding and pest-resistant varieties are needed to reverse the stagnation in yields. Institutions engaged in agriculture research and technology dissemination in most Asian countries have weakened. Their capacity building will require sustained investment. Policies to attract private investment and participation of civil society institutions will also be important.

(e) Bio-security to protect biodiversity, to promote environmental sustainability, and enhance food safety and biosafety.

(f) *Information*. Although information technology has seen great progress, farmers have largely been left out. The timely flow of market information is still lacking, which makes it difficult for farmers to adjust their production decisions to respond to changing market conditions;

(g) Regional and international cooperation to facilitate the elimination of barriers to agricultural trade has become an urgent imperative in the wake of the food crisis. Measures such as the establishment of regional and subregional commodity exchanges, and clearinghouses need to be considered.

CONCLUSION

Soaring food prices have hit the poor hard. Along with record-high energy prices, these have seriously eroded the purchasing power of over-a-billion poor in Asia, increasing their food deprivation. These are threatening to undermine the global fight against poverty. These have also stoked inflation and squeezed the fiscal space in many countries, increasing the risks of higher interest rates and a slowdown in economic growth across the Asia and Pacific region. The downside risks to macroeconomic stability have increased in a region otherwise characterized by prudent macroeconomic management for nearly a decade. The food crisis calls for immediate response of governments and the international community. ADB is closely monitoring the situation. It is working closely with its development partners to do what it can to respond to the crisis.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor. Nearly 1.7 billion people in the region live on $2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved $10.1 billion of loans, $673 million of grant projects, and technical assistance amounting to $243 million.

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