Summing Up

The macroeconomic situation was favorable for the poor in August:

1. Inflation in Indonesia for August 2012 was 0.9 percent month to month and 4.58 percent year to year. The highest rates of inflation occurred in the education and transportation groups, and this was caused by seasonal factors relating to the start of a new academic year and Lebaran.
2. In August month to month food prices only rose moderately for Ramadan (1.5 percent), and this was good news for the poor because they spend such a large proportion of their income on food.
3. While Indonesia's balance of trade was still in deficit in July 2012, the size of the deficit was smaller than that in June. The balance of trade improved slightly because the value of exports rose, while the value of imports fell. The value of exports increased because of a slight improvement in commodity prices.

The review of agriculture and the poor in Indonesia has five key findings:

1. The agricultural sector is very important for the poor in Indonesia. While agriculture accounts for 40 percent of the labor force in Indonesia, it employs fully 60 percent of the poor in the country.
2. At present agriculture is not doing well in Indonesia. Since 1990 state investment in agriculture has declined and this has caused growth in agricultural productivity to fall. This situation needs to be changed because increased productivity—especially land productivity—represents the main pathway out of poverty for most poor farmers in Indonesia.
3. To boost the land productivity of the poor, the government needs to dramatically increase its public expenditures on irrigation. Investment in irrigation was a major component of the government's successful pro-poor agricultural development strategy from 1970 to 1990.
4. The government also needs to increase its public expenditures on agricultural research. More funding for agricultural research is needed to develop new "second generation" Green Revolution technologies—high-yield seeds, fertilizer and pesticide—for use by poor farmers in Indonesia.
5. Finally, there is a need to extend formal land rights in Indonesia. Farmers who have formal certificates to their land are more productive and earn more than farmers who lack such certificates.

Inflation in Indonesia

Inflation in Indonesia for August 2012 was 0.9 percent month to month and 4.58 percent year to year. The highest rate of month to month inflation occurred in the education, recreation and sport group (1.7 percent), followed by the transportation, communication and financial services group (1.5 percent) and the food group (1.48 percent). The high rate of inflation in the education group was caused by the start of the new academic year in August, while the high rate of inflation in the transportation group was due to the Lebaran travelling season.

In other words, the slight increase in inflation in August was mainly due to seasonal factors: the onset of the new school year and Lebaran. It is estimated that the rate of inflation will moderate for the rest of 2012 as uncertainties in the global economy continue to restrain the growth in commodity and energy prices.

Since the poor spend such a large proportion of their income on food, it is always important from a poverty perspective to pay special attention to food prices. In August 2012 food prices only increased moderately. As a result, the difference between headline inflation (measuring inflation for all consumer groups) and inflation for the urban and rural poor (measuring inflation for the lowest 40 percent of urban and rural consumers, respectively) was not that great. This is shown in Figures 1 and 2.

Indonesia's Trade Balance

While Indonesia's balance of trade was still in deficit in July 2012, the size of the deficit was smaller than that in June 2012. The balance of trade improved slightly in July because the value of exports rose by 4.1 percent, while the value of imports fell by 2.4 percent. The main contributors to the increased value of exports included vegetable fats and oil (59 percent), mining products (43 percent) and chemical products (33 percent). The value of these exports rose in July because of a slight increase in commodity prices, while the level of global demand remained low. When compared to July 2011, however, the value of exports actually declined by 7.2 percent in July 2012.

Imports into Indonesia fell from $17 billion in June to $16.3 billion in July. This decline was mainly caused by a fall in the value of imported oil and gas. However, the value of imported

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TNP2K Tim Nasional Percepatan Penanggulangan Kemiskinan Republik Indonesia
Jl. Kebon Sirih No. 35 | Jakarta 10110 Indonesia | Tel.: (+62) 21 3912812
http://www.tnp2k.go.id

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Figure 1: Urban Poor Inflation and Headline Inflation, January 2009—August 2012

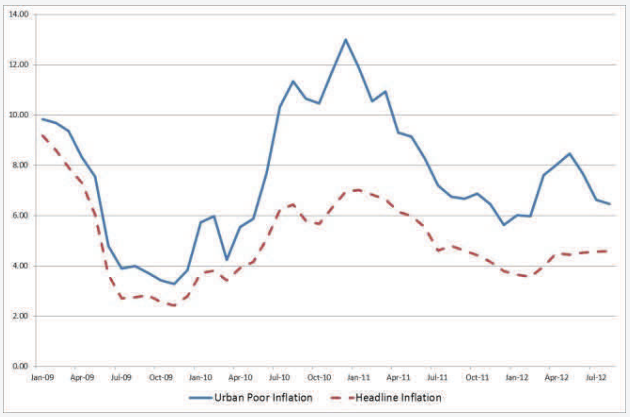

Figure 2: Rural Poor Inflation and Rural Inflation, January 2009—August 2012

consumption goods rose by 5.4 percent. It is likely that part of this increase in imported consumption goods was due to preparations for Lebaran.

Agriculture and the Poor in Indonesia

The agricultural sector is very important for the poor in Indonesia. While agriculture accounts for 40 percent of the labor force in Indonesia, it employs fully 60 percent of the poor in the country. By comparison, less than 25 percent of the poor in Indonesia work in services (including trade) and less than 10 percent in manufacturing. Because so many of the poor depend upon agriculture for their primary means of support, what happens in the agricultural sector has a direct and immediate impact on poverty in Indonesia.

Unfortunately, at present agriculture is not doing well in Indonesia and this is having a negative impact on the poor. The current state of affairs in agriculture can be seen by comparing two periods of time, 1970 to 1990 versus 1990 to 2010. During the first time period (1970 to 1990) value added in agriculture in Indonesia grew at an impressive 4.08 percent per year, making Indonesia second of 13 countries in developing country Asia for annual rate of agricultural growth.[1] During this period Indonesian agriculture benefitted greatly from a large inflow of state investment in irrigation, agricultural inputs (high-yielding seeds, fertilizer, and pesticide), agricultural research and rural roads. However, over the last 20 years (1990 to 2010) value added in agriculture has grown far more slowly: only 2.76 percent per year. During this time period Indonesia has had one of the slower growth agricultural sectors in Asia, ranking only seventh of 13 countries in developing country Asia.

The main reason for this deteriorating situation in agriculture has to do with the declining level of state investment in agriculture, especially in irrigation and agricultural research. As a result, productivity growth in Indonesian agriculture has stalled. Between 1970 and 1990 productivity growth—as measured by growth in cereal yields[2]—was very high: 3.36 percent per year. However, over the last 20 years (1990 to 2010) growth in cereal yields has fallen by almost two-thirds, to 1.24 percent per year. Over the past 20 years Indonesia ranked 12th out of 13 countries in developing country Asia for annual rate of growth in cereal yields.

Agriculture and Pathways Out of Poverty

According to the literature, there are two main pathways from agriculture out of poverty. The first pathway is to move from low to high productivity agriculture. This means that farmers should either increase their productivity by producing more traditional crops, or they should start producing higher valued crops (cash, export crops). The second pathway is that farmers should move out of agriculture altogether and into the non-farm rural or urban sector. The reasoning here is that the non-farm sector of the economy (trade, manufacturing) will provide higher wages and rates of return than agriculture.

In a 2007 paper McCulloch et al used Indonesian household data to examine which one of these pathways out of poverty was most important in Indonesia.[3] They found that moving out of agriculture and into the non-farm sector was very important for raising incomes and reducing poverty. However, they also found that most poor people in rural Indonesia were unable to move out of agriculture; fully 80 percent of the poor were still working in agriculture 7 years after the initial survey. This means that boosting the agricultural productivity of the poor represents the main pathway out of poverty for most poor people in Indonesia.

Boosting the agricultural productivity of the poor in Indonesia means focusing on increasing the land productivity of the small farmer. According to the latest agricultural census in

1 The 13 countries in developing country Asia include: Bangladesh, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand and Vietnam.

2 Growth in cereal yields includes growth in rice yields.

3 McCulloch, N., Timmer, P. and Weisbrod, J., 2007, "Pathways Out of Poverty During an Economic Crisis: An Empirical Assessment of Rural Indonesia," Working Paper 115, Center for Global Development, Washington, DC.

Indonesia, the average area of land controlled by landholding households in Indonesia is only 0.81 hectares (World Bank, 2006).[4] Because of traditional inheritance practices, over the last 20 years average land size has declined by 20 percent.

Increasing the land productivity of the small farmer will not be easy because there are few available new technologies capable of dramatically increasing crop yields. During the 1970s and 1980s Indonesia achieved impressive increases in cereal yields by adopting the new technological inputs—high-yield seeds, fertilizer, and pesticide—of the Green Revolution. However, at present, there are no new "second generation" Green Revolution technologies available for use by small farmers in Indonesia. This situation calls for increased investment in agricultural research in Indonesia, an area that has been much-neglected in recent years.

Rice and the Poor in Indonesia

Rice is by far the most important food crop grown in Indonesia.[5] About 77 percent of all farmers in the country grow rice with the majority of farmers cultivating the crop on plots between 0.1 and 0.6 hectares in size. Because rice is grown on such small plots, household production does not cover family needs and so an estimated three-quarters of the poor in Indonesia are net rice consumers. This means that, on balance, increases in rice prices hurt the poor.

Since the poor do not benefit from higher rice prices, one might expect strong public resistance toward trade protection on rice. However, the reverse is actually true; rice prices have been protected in Indonesia since the 1990s with the current domestic price for rice roughly 10 percent above the world price for medium quality rice.[6] There is a longstanding political demand for protection of rice in Indonesia that is at least partly fueled by the desire of the country to achieve rice self-sufficiency. However, given the lack of new technological inputs for rice and the declining rates of rice yield growth, it seems doubtful if Indonesia can achieve this goal in the foreseeable future.

Irrigation is the foundation for high-yielding rice systems throughout the world. In Indonesia large-scale state investment in irrigation from 1970 to 1998 helped fuel the large gains in cereal yields noted above. However, since 2000 there has been a systematic underfunding of the irrigation system in Indonesia, resulting in a situation where an estimated 40 to 50 percent of all irrigation systems are now in disrepair (USDA, 2012).[7] This is having a deleterious effect on the rural poor, since most of the rice grown in Indonesia is produced on farms of less than 1 hectare in size.

Policy Recommendations

Three policy recommendations emerge from the above. First, Indonesia needs to dramatically increase its public expenditures on irrigation. Investment in irrigation and drainage infrastructure was a major component of the government's successful pro-poor agricultural development strategy from 1970 to 1990. To recapture the momentum from that period, the Government of Indonesia needs to dramatically increase its expenditures on irrigation infrastructure development and repair. Since rice is the main irrigated crop in Indonesia, and also the main food crop grown by poor farmers, such a strategy of increased expenditures on irrigation can only help improve the productivity of small farmers and reduce rural poverty.

Second, Indonesia should increase its public expenditures on agricultural research. Real public expenditure on agriculture in Indonesia has declined considerably since the early 1990s and now ranks near the bottom compared with other developing countries in Asia. Increased expenditure on agricultural research is needed to develop new high-yield seeds, fertilizer and pest management techniques that small farmers can use to boost their productivity. The high population pressure on every hectare of agricultural land in Indonesia makes it imperative to develop a new generation of Green Revolution inputs—especially for rice—that can maximize land productivity in Indonesia.

The third and final recommendation concerns the need to extend formal property rights in Indonesia. At present, less than 25 percent of rural landholders in Indonesia hold formal land certificates, compared to almost 100 percent land certification in China and Vietnam and 90 percent in Malaysia and Thailand (World Bank, 2006).[8] This situation has a particularly deleterious impact on the rural poor, who are less likely to hold formal land certificates than rich farmers. This situation also has a negative impact on productivity, access to credit and earnings. Field work in Indonesia shows that farmers with formal land certificates are more productive, borrow more and earn more from their work on the land than farmers who lack such certificates (SMERU, 2002).[9]

4 World Bank, 2006, *Making the New Indonesia +Work for the Poor*, Washington, DC, p. 12.

5 Rice production in Indonesia is concentrated on the islands of Java and Sumatra, with nearly 60 percent of total production on the island of Java alone.

6 For more on this point, see P. Warr, 2005, "Flood Policy and Poverty in Indonesia: A General Equilibrium Analysis," *Australian Journal of Agricultural and Resource Economics*, Vol 49, pp. 429-451.

7 United States Department of Agriculture, Commodity Intelligence Report, "Indonesia: Stagnating Rice Production Ensures Continued Need for Imports," March 12, 2012.

8 World Bank, *Making the New Indonesia Work for the Poor*, p. 101.

9 SMERU Research Institute, 2002, "An Impact Evaluation of Systematic Land Titling Under the Land Administration Project," unpublished manuscript, Jakarta, Indonesia.

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