

# PREPARING FOR EL NIÑO: POLICY OPTIONS

*Steven Tabor, Edimon Ginting, Priasto Aji*

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6 ADB Avenue, Mandaluyong City, 1550 Metro Manila, Philippines  
Tel +63 2 632 4444; Fax +63 2 636 2444  
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## Summary

Scientists are forecasting that there may be a severe El Niño weather event lasting through mid-2016. For Indonesia, El Niño events are associated with prolonged drought, with adverse effects on food and cash crop production. Drought-affected declines in agricultural production can contribute to higher inflation, increases in poverty, weak exports, and unless El Niño risks are appropriately mitigated, can have adverse effects on political stability. Agriculture no longer plays a major role in the Indonesian economy. Nonetheless, a prolonged El Niño event could weaken growth, adversely affect external balance and trigger higher price inflation.

The government could reduce the potential large impacts of the El Niño by developing timely and appropriate precautionary measures. In the short-term, the government should consider easing restrictions on foodstuff imports. Global commodity prices, including those for milled rice, are at cyclic lows. Easing restrictions on trade to allow both government and the private sector to build up precautionary stocks would help to assure consumers and the markets that El Niño will not trigger domestic food shortages. Second, consideration should be given to expanding social protection programs to assist those households whose livelihoods are adversely affected by El Niño. And third, in the medium-term, El Niño is a good reminder that more attention should be devoted to food security, by supporting measures that help boost opportunities and productivity of the poor and vulnerable to ensure that all people have sufficient food for a healthy life.

## The Challenge

El Niño refers to a periodic warming of the central and eastern equatorial Pacific Ocean. The movement of warm ocean water to the eastern Pacific Ocean affects temperatures and rainfall patterns. For Indonesia, the main consequence of El Niño is extended drought conditions.

The National Oceanic Atmospheric Administration (NOAA) reports that sea-surface temperature anomalies increased in June 2015 in the equatorial Pacific Ocean. In addition, NOAA predicts that sea-surface temperature anomalies will continue to increase and that there is a 80% chance that El Nino will last until spring 2016. There is also an increasing chance that El Niño will be the strongest since the 1998-1998 event. The Indonesian Meteorology, Climatology and Geophysics Agency (BMKG) has already warned that the dry season could last longer this year than in previous years as a result of El Niño.

There are already signs that El Niño is adversely affecting the food situation. It is estimated that some 18 Provinces will be adversely affected by El Niño, including some of the major food producers---West Java, Central Java, East Java, North Sumatera, and NTT. Planting has already been delayed for the second paddy crop in much of Java, and farmers nationwide are experiencing water shortages.

The extended dry season is already contributing to forest fires in many parts of the country. Some 308 hotspots have been detected in Sumatra, with Riau being the most affected province, having some 122 hotspots. As of July 27, hot spots have also been detected in South Sumatra (59), Jambi (58), North Sumatra (25), West Sumatra (19), Bangka Belitung (9) and Lampung (5).

## Possible consequences

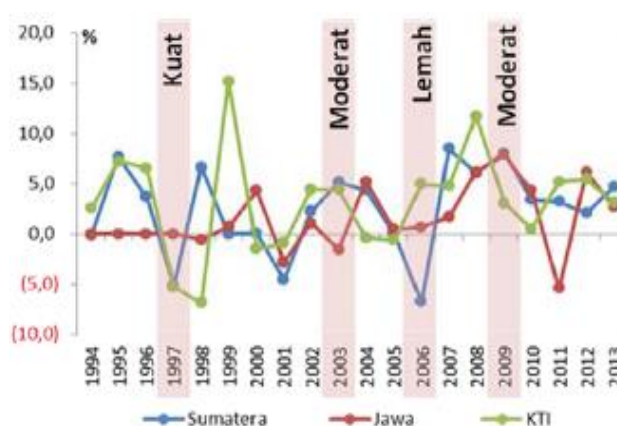
In previous years, El Niño has caused considerable damage to land and paddy production. In 2006, there was a relatively weak El Niño. This damages to 73,045 hectares of land and triggered a loss of 337,468 tons of paddy production. In 1997/1998, there was a strong El Niño, which caused a loss of 714,512 tons of paddy production (Table 1) and led to 161,000 ha of damaged land. Table 1 and Charts 1 and 2 below illustrate the magnitude of the damages to land and paddy production from El Niño in previous years.

**Table 1. Land and production damage caused by El Niño**

	Intensity of El Nino	Draught (ha)	Land damages (ha)	Loss of paddy production (ha)
1994	Moderate	544,442	161,000	700,028
1997	Strong	504,024	161,144	714,512
2003	Moderate	568,000	114,038	517,504
2006	Weak	338,261	73,045	337,468
2009	Moderate	150,000	35,000	174,965

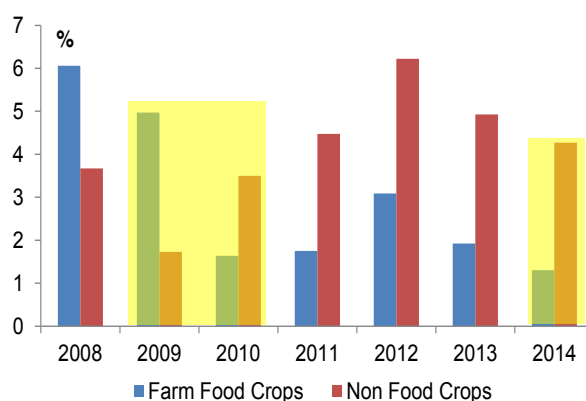
**Note:** ha: hectares. Source: Bank Indonesia's Laporan Nusantara, May 2014

**Chart 1. El Niño and growth of paddy production in 1997, 2003, 2006, and 2009**



**Note:** Intensity of El Nino: Kuat: strong, Moderat: moderate, Lemah: Weak. KTI: Eastern Indonesia.  
**Source:** Bank Indonesia's Laporan Nusantara, May 2014 and CEIC Data Company

**Chart 2. El Niño and the Growth of Food and Non-Food Crops Sectors in 2009-10, and 2014**



*Source: Bank Indonesia's Laporan Nusantara, May 2014 and CEIC Data Company*

Production of other agricultural commodities is also vulnerable to the effects of El Niño. The Ministry of Agriculture estimated that CPO production fell by 10% due to El Nino in 2014. UNDP reported that El Nino in Indonesia has pushed the poor farmers to become poorer as it increased their production cost and debt, and at the same time, contributed to a rising severity of health problems in some regions in Indonesia.

Just how severe El Niño will remain to be seen. El Niño events have been predicted in previous years but have not materialized. On the other hand, the risks from El Niño should not be under-estimated since the world's leading meteorological agencies have predicted that there is a high probability that El Niño conditions will intensify and could last through mid-2016.

Extended drought conditions resulting from El Niño could have the following implications:

- **Output:** Production would fall of the main foodstuffs and cash crops;
- **Inflation:** A shortfall in domestic food production could cause prices to spike, given that demand for basic foodstuffs is price inelastic. This could have adverse effects on inflation because food accounts for an estimated 38% of the CPI consumer basket;
- **Poverty:** Failing crop production could cast large numbers of farm families into extreme poverty. Average annual incomes from rice production were reported at Rp6 to Rp10 million per family in Java in ADB-assisted irrigation project areas in 2014. Average daily incomes, on a per capita basis, from rice production, during relatively good production conditions in 2014, were between \$.4 and \$.6 per day, which implies that returns to paddy production are already very low. While Indonesia's poverty levels have declined

to 11% in 2014 from 16.8% in 2004, some 27% of the population have incomes that are marginally higher than the poverty line. These 65 million people could slide back into poverty if food prices surge or if farm incomes suddenly decline.

- **Exports:** Exports of oil palm, coffee, cocoa, tea, rubber and coconut may be adversely affected by extreme drought conditions. In some cases, the effects may be felt with a lag, and hence result in export declines in 2016 and 2017 rather than in the current year.
- **Political reluctance versus political stability.** The Government is aiming for Indonesia to be food resilient, and that Indonesia will be rice self-sufficient within three years. With strong political pressure to be self-reliant in the production of basic foodstuffs, there may be reluctance on the part of the authorities to acknowledge the growing seriousness of the food situation. The Central Statistics Bureau, for example, has forecast in July 2015 that paddy production will increase by 6.6% in 2015 and will increase from 70.9 MMTs in 2014 to 75.5 MMTs in 2015. But on the other hand, shortages of basic foodstuffs and sudden surges in food prices can damage political stability, especially if low income, urban households can no longer afford to buy essential foodstuffs

The macroeconomic impacts of an extended El Niño would be felt primarily in the form of higher inflation, increased pressure on the balance of payments, and lower agricultural growth. In the near-term, scope for monetary and fiscal tightening to reign-in inflationary pressures is limited. Higher domestic inflation could, in turn, contribute to further weakening of the Rupiah and could trigger catch-up wage accords. Therefore, even from a macroeconomic point of view, a supply-side policy response would be much more effective.

## Possible Responses

In the near-term, the most appropriate response would be to reduce restrictions on food imports and to build stocks in anticipation of a difficult second half of 2015 and a possibly difficult first half of 2016. Easing restrictions on food trade would allow both the government and the private sector to build precautionary stocks in anticipation of a possible extended drought while the food prices in the world market are still reasonably low.

For rice, now is a relatively good time to build precautionary stocks. Global rice prices, for Thai 5% broken has fallen from \$552 per ton in May 2013 to \$370 per ton in June 2015. In US dollar terms, rice prices have fallen 16% between June 2014 and June 2015.

For rice, there have been just 95,000 tons of premium rice imported in the first half of the year, and BULOG has yet to import medium quality rice in 2015. Under Presidential Instruction (Inpres) no 5/2015 issued in March 2015, rice is to be imported only if domestic production is

not sufficient to meet domestic demand and the government's reserve, and/or to maintain the stability of domestic rice prices. Rice imports are to be conducted by BULOG, taking into consideration the views of other ministries (trade, agriculture and coordinating economic affair ministries). In this situation, consideration should be according to relaxing the provisions of Inpres 5/2015 to allow private trade, and to allow BULOG to build precautionary stocks in anticipation of adverse El Nino effects.

Consideration should be given to relaxing trade restrictions on other agricultural commodities to ease inflationary pressures should domestic supply be adversely affected by El Niño. Imports of horticulture products, live cattle and beef are restricted by licenses which are provided by the trade ministry based on technical recommendations of the agriculture ministry. Higher tariffs have been imposed in July 2015 on coffee, tea, and sausage (20%), processed meat (30%), fish products (15-20%), products from sugar without cocoa ingredient (15-20%), bread, cakes and biscuits (20%) and vegetable products (20%).

There may also be a need to strengthen social protection measures to assist families whose livelihoods have been adversely affected by El Niño. Government could consider lowering the price of subsidized rice distributed under the Raskin program to ensure that low-income families can afford a certain minimum amount of rice, and increasing cash transfers to adversely affected rural households.

El Niño is bound to serve as a reminder to the government that more attention should be accorded to food security. Food security should be understood as ensuring that all people have sufficient food for a healthy life (FAO/WHO definition). While Indonesia should use its natural resources to the fullest degree, the main focus should be on improving household food purchasing power, by boosting rural productivity, and ensuring that poor and vulnerable households have sufficient incomes to be able to afford to buy a nutritious diet. There is a need to increase incomes and nutritional awareness to buy nutritious foods. Greater home production of vegetables, livestock and fisheries could help to contribute to both higher incomes and improved nutrition.

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