

Executive summary

Many recent concerns about food security focus on unpredictable but shorter-lived threats to current food security levels such as price shocks and natural disasters. Unlike chronic food insecurity, transitory food insecurity occurs because of a temporary decline in household access to adequate food. Shocks like droughts or economic downturns can affect individuals who normally have appropriate access to food, threatening the stability of food security which implies adequate access to food at all times. It is particularly relevant for emerging economies that are rapidly reducing poverty and the prevalence of food insecurity, but are still vulnerable to shocks that could bring transitory food insecurity. Developed countries also sometimes raise these concerns when justifying their agricultural policies.

This report presents a risk-management framework for addressing transitory food insecurity. It is designed to examine the robustness of policy responses to managing the risks and uncertainty associated with various threats to food security. This framework is then applied to assess the risk of food insecurity in a large emerging economy, Indonesia, and to identify robust policy responses to food insecurity risks.

The analytical framework comprises three steps: *preparatory analysis*, *risk assessment* and *policy analysis*. The *preparatory analysis* is technical in nature and involves identifying data sources, including household expenditure surveys, indicators and models. A consultation process is proposed for the second and third steps. *Risk assessment* draws on the perceived food security threats of experts and stakeholders and on available scientific and statistical evidence. This evidence is then transformed into a set of scenarios, each one corresponding to a specific perceived food risk, thereby allowing a rigorous assessment of its likelihood and its estimated impact on food security. The participation of experts and stakeholders is a key factor in identifying plausible food insecurity scenarios. The subsequent *policy analysis* focuses on existing and potentially new policy instruments, and their impacts on each scenario. A portfolio approach is then adopted to analyse policies and scenarios jointly.

Following a consultation process among stakeholders and policy makers, five scenarios were selected as major threats to food security in Indonesia: a price hike in the world rice market, a macroeconomic crisis, an increase in the world energy price, failure of the rice crop due to a pest infestation, and an earthquake on the island of Sumatra. This list is not exhaustive, but it allows a significant number of risk situations to be represented in the subsequent assessment of risk and identification of policy options. The risk assessment shows that domestic economic and natural disaster scenarios are more important than global price hikes, both in terms of their likelihood and their potential impact on food insecurity. This fact should guide policy design; in particular, it highlights the need for early warning systems and disaster management strategies in Indonesia.

Indonesia's new Food Law No. 18/2012 endorses self-reliance (*kemandirian pangan*) as the guiding principle of food security and establishes domestic production of staples as the top priority. The 2010-14 strategic plan established production targets for 39 products. For five food commodities (rice, corn, soybean, sugar and beef) the targeted levels represent self-sufficiency. Price support policy for rice is largely implemented through a combination of direct intervention in the domestic market, including delivery of rice at subsidised prices to poor households (the Raskin programme), and trade restrictions. Due to these policies, the domestic rice price was 60% higher than the

reference international price in 2010-12 compared to 8% higher in 2000-02. Household expenditure data (SUSENAS) reveal that current rice policies increase the rate of undernourishment in Indonesia by between 2 and 22%, depending on the degree of price transmission from international markets.

The performance of existing agricultural and social policies – the rice price support measures, the Raskin programme, the social programme of unconditional cash transfers (BLT), and fertiliser subsidies – was examined in each of the five selected risk scenarios. Other potential policy options were also investigated: a stylised crop insurance programme, a food aid programme distributing vouchers for staples, and a more targeted version of BLT.

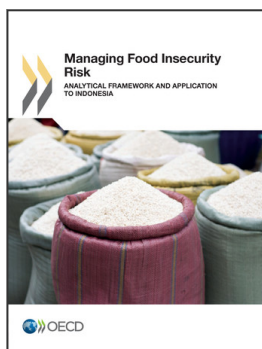
The analysis shows that some policies that are positive in one scenario may have negative food security impacts in other scenarios, stressing the need for consistency of the policy strategy as a whole. Moreover, the current rice price support measures in Indonesia do not contribute to improve any dimension of food security, including stability, but instead they worsen the situation. A policy strategy that concentrates on addressing a single source of risk, such as a price spike in international markets, may increase vulnerability to other sources of risk such as domestic crop failure. More concretely, export restrictions can help avoid a surge of undernourishment only in the case of a price spike, which is estimated to occur just once in 30 years. Import restrictions worsen the food security situation in all other scenarios, in particular in the crop failure scenario, increasing the prevalence of undernourishment in Indonesia by 12 percentage points. Furthermore, the performance of Indonesia's social assistance effort in managing food insecurity risks could be improved by targeting the Raskin programme using food vouchers or cash transfers.

The BLT programme is slightly better targeted than Raskin, but there is scope here too for improved targeting. If these transfers were aimed at the poorest 20% of the population, their impact on reducing the overall rate of undernourishment would double. Fertiliser subsidies are not effective in reducing food insecurity in any scenario due to low income transfer efficiency, poor targeting and a weak impact on food prices. Crop insurance is expensive and difficult to develop among very small producers, while its contribution to food security is only positive for crop failure scenarios. Alongside these specific policy measures, strategic investments in people (education, training, extension services) and in physical infrastructure aimed to enhance innovation for long-term growth in agriculture are fully complementary with food security objectives and deserve further study.

There are six specific policy recommendations that emerge from the analysis of the risks to Indonesia's food security. The analysis suggests that it would be beneficial for the food security situation to:

- *Dismantle the rice subsidy programme Raskin and replace it with a food voucher programme* that, for the same cost, could be better targeted to the most vulnerable segment of the population. Food vouchers would be used to buy food staples consisting not only of rice but including other basic items. The exact list of products covered by the voucher should be decided in consultation with regional groups and could be differentiated regionally to respond well to local food preferences.
- *Improve the targeting of unconditional cash transfers*, for example by including triggers based on income and possibly special provisions based on weather or production losses for farmers. The convergence of social and food aid programmes should continue, and the new food voucher programme should be jointly managed with other social programmes to improve effectiveness and enable better monitoring of results.
- *Reform BULOG, by reducing its commercial activities and re-focussing its activities on the neutral management of emergency food reserves*. The floor purchasing price of rice should be phased out over time. Further analysis should be undertaken to define a good governance structure for the emergency reserve system and the links with the sub-national reserves and ASEAN+3 emergency rice reserve system (APTERR).

- *Reform the administrative requirements for agro-food imports, including import permits for rice.* Facilitating imports and the active participation of the Indonesian and foreign traders and investors can contribute to rural growth, incomes, and food supplies.
- *Promote a coordination agreement within ASEAN to restrain the use of export restrictions and eliminate the administrative requirement of export permits.* Export restrictions are very damaging for global and regional food security and, when prices increase, they can create policy traps that can exacerbate price spikes. The ASEAN region includes large exporters and importers of rice. More open and reliable regional trade among these trading countries could conceivably do more to reduce the variability of rice prices and ensure availability in all countries.
- *Phase out fertiliser subsidies and use the released budgetary amounts for strategic public investments,* including investment in people (education, training, extension services) and in physical infrastructure. Priorities should be identified in consultation with regional groups.



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