

Strategic Analysis Paper

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The State of Indonesian Food Security and Nutrition

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Key Points

- Despite strong economic growth and poverty reduction, levels of food insecurity and poor nutrition are high in Indonesia
- Agriculture is an important pillar of the Indonesian economy and employs nearly a third of Indonesians, but farmers struggle with poor infrastructure and low incomes. Climate change is projected to lower agricultural productivity.
- While poverty levels have decreased, many Indonesians remain at risk of falling into poverty. A preoccupation with food sovereignty has made nutritious diets unaffordable for many poorer Indonesians.
- Diets centred on rice and low in fruits and vegetables have led to high levels of malnutrition, stunting and wasting. The number of obese and overweight Indonesians is also rising, leading to high rates of non-communicable disease.

Summary

Indonesia faces a number of challenges to its food security over the coming decades. Agriculture is a major, but diminishing, pillar of the Indonesian economy and Indonesia spends more public finances than most other middle-income countries to support it. Despite this, farm infrastructure is ageing and degraded, and many farmers struggle to afford inputs due to low agricultural incomes. Indonesia is also prone to natural hazards, some of which are projected to increase as climate change takes effect. Climate change is also predicted to reduce agricultural productivity through increased temperatures, sea level rise and delays to the onset of the wet season.

Poverty levels have fallen over the last 20 years, but many Indonesians remain at risk of falling into poverty. Indonesian food prices are significantly higher than in much of the rest of Asia, due to restrictions on imports, which effectively creates a tax on food products. Consequently, many Indonesians are unable to afford a nutritious diet. There is a programme designed to provide subsidised rice to the poor, but many eligible recipients only receive a fraction of the subsidy. Partly as a consequence of this, consumption of fruits, vegetables and many other nutritious foods is low. Indonesian diets have more in common with a low-income country than other middle-income countries, with an extreme dependence on a single staple (rice) and low consumption of meat and fats. As a result, micronutrient deficiencies, stunting and wasting are high. The number of obese and overweight Indonesians has increased over the last 20 years and continues to rise, leading to a double burden of malnutrition and increasingly high rates of non-communicable disease.

Analysis

Indonesia is the most populous country in South-East Asia and the fourth-most populous in the world. It is the world's largest archipelago, consisting of more than 17,500 islands and is strategically located between Asia and Oceania. Indonesia is also located at an intersection of tectonic plates, which is part of the "ring of fire," and is highly vulnerable to natural disasters. Indonesia is a [middle-income country](#) and trends in economic growth, life expectancy and food security are generally positive, having improved between 2009 and 2016. While progress has been good, challenges remain. Indonesia ranked [70th out of 117](#) countries in the 2019 Global Hunger Index, with a level of hunger that is ranked as serious. Similarly, the World Food Programme has found that [58 out of 398](#) rural districts are highly vulnerable to food insecurity and malnutrition is widespread. Stunting was also found to be prevalent across children in all income groups, as was the prevalence of overweight and obesity among adults in all income groups.

Agriculture and Food Production

Although its share of gross domestic product has fallen as the economy has grown, agriculture remains an important part of the Indonesian economy. Around [31 per cent](#) of working Indonesians are employed in agriculture and the total area used to cultivate crops has grown to 32 per cent of total land area over the last few decades. Main [crops include](#) palm oil, rubber, cocoa, coffee, tea, tobacco, rice, sugarcane, maize and cassava. Poultry and seafood are also produced domestically. Indonesia is the third-largest rice producer in the world and rice is the country's main staple crop. Indonesia is also the third-largest importer of rice and is a net importer of grains and other horticultural products, although production has gradually increased over several years. Indonesia's total support to agriculture is [proportionally the highest](#) and fastest growing among middle-income countries. Much of this spending goes towards subsidising fertiliser and other inputs.

There are a number of challenges facing Indonesian agriculture. The sector is [dominated by](#) smallholder farmers, who use traditional farming methods to produce food. These small-scale farmers generally lack access to finance and technology, which limits their ability to produce food. Most small plots are less than 0.6 hectares and are farmed by several family members. Access to credit has been simplified and technical assistance improved, but

smallholders who are able to access improved credit (approximately [17 per cent](#)) still struggle to re-invest, due to the high price of food and basic agricultural inputs. Consequently, on-farm activities only contribute to 49 per cent of the average smallholder's household income, one of the lowest rates in Asia. Often, smallholders must supplement their farm income with non-agricultural earnings, such as through self-employment or rent. Income poverty is high and almost one-fifth of family farms operate below the poverty line. Agricultural productivity has also been limited by degraded irrigation infrastructure, [30 per cent](#) of which has needed rehabilitation twice in the last 25 years.

Indonesia is also highly vulnerable to natural hazards and is [one of the most](#) disaster-prone countries in the world. Between 2000 and 2014, 15,430 natural disasters occurred in Indonesia, the most frequent of which were floods, typhoons and landslides. Natural disasters are also the main cause of temporary food insecurity in Indonesia. In addition to the sudden food shocks caused by disasters, climate change is predicted to bring about further problems for food production. Indonesia is [highly vulnerable](#) to the impacts of climate change due to its high population density and reliance on natural resources for income and food consumption. Agricultural productivity is projected to [decrease by 17.9% by the 2080s](#), mainly as a consequence of the negative effects of climate change.

Rice is predicted to suffer from major yield decreases of between four and 16.5% by 2080. There are several reasons for this projected decrease. Every degree of temperature change causes rice yield losses of up to 25 per cent of total production. Sea level rise is also projected to lead to reduced rice production in coastal areas. Furthermore, climate change is predicted to delay the onset of the wet season, increasing the length of the lean season and possibly preventing rice farmers from planting additional crops. Sea level rise is also predicted to disrupt coastal fish and seafood catches. Indonesia is expected to see some of the largest decreases in marine fish stocks in the world, which is unlikely to be offset by its growing aquaculture industry. Rising temperatures will also [increase the incidence](#) and range of pests, which will also create challenges for farmers.

Poverty and Food Policy

Indonesian poverty levels have fallen significantly since 1999, when poverty levels stood at [24 per cent](#). By 2018, the figure stood at 9.8%, a reduction of more than half (although a further [20 per cent](#) of the population is at risk of falling into poverty). Despite this, poverty is still high compared to most of the countries in the Association of South-East Asian Nations and [8.3% of Indonesians](#) are at risk of hunger (20.7 million people). Rural poverty is also high, at 13.2%. Poverty and food insecurity are closely linked - low income is one of the [main factors](#) that drive households into food insecurity, especially in rural areas.

Food insecurity among the poor has been exacerbated by Indonesian food policy which, paradoxically, creates higher levels of food insecurity. Indonesia's food security policy is set out in [the Food Law 2012](#), which aims to ensure access to safe, diverse and nutritious food, improve the welfare of farmers and, crucially, reduce imports of staple foods in order to achieve overall "food sovereignty". The Indonesian Government's preoccupation with food sovereignty has led to much higher food prices than in neighbouring countries.

Over the last decade, retail prices for rice have been between 50-70 per cent higher in Indonesia than in other South-East Asian countries and Indonesian consumers pay much higher prices for protein and nutrient-rich foods such as fruits, vegetables and poultry. The gap between the price of rice in Indonesia and the rest of the world has [increased dramatically](#) since the 1990s. In 2017, the average world price of rice was US\$0.45 (\$0.67) per kilogram. In Indonesia, the price was US\$0.75 (\$1.12) and remained high until the middle of 2018.

High food prices stem, in part, from Indonesia's [unwillingness to import](#) staple and higher value foods, a policy that is designed [to protect consumers](#) from international food price shocks but instead creates an effective ["tax" on consumers](#). Indonesian rice prices remained stable in 2007-08, when rice prices rose by 100 per cent internationally, but the success was short-lived. When world rice prices returned to normal in 2009, domestic prices increased dramatically and by 2012 were 65 per cent higher than international prices. This has particular significance for those in poverty, who allocate a greater share of their incomes towards food. On average, Indonesians spend around [eight per cent](#) of their total budgets and 18 per cent of their food budgets on rice. For the poorest ten per cent, this increases to 22 and 35 per cent respectively. This also prevents poorer Indonesians from spending money on more nutritious foods.

For the poor, [76 per cent](#) of whom are net buyers of rice, high food prices can have other repercussions. The World Bank estimated that for the poorest tenth of Indonesians, every ten per cent increase in rice prices would reduce the real value of their expenditure by two per cent. In order to protect the poorest from high prices, Indonesia has the ["Raskin"](#) (rice for the poor) programme, which aims to provide 15 kilograms of subsidised rice to eligible households each month. It is Indonesia's largest targeted transfer programme and provides rice to 17.5 million households. While the programme provides some relief, it is plagued by problems, such as leakages and disappearing rice, or the high degree of control given to local officials when distributing the rice. As a result, only around one-third of recipients receive the intended subsidy.

Nutrition

Indonesia's dietary patterns have more in common with low-income countries than with other middle-income countries. Diets are characterised by an extreme dependence on a [single staple](#) food (rice) and low consumption of meat and fats. It has one of the highest energy intake shares from grains in the world, exceeding India's dependence on rice. Fish and high-protein sources of soy account for much of Indonesia's protein consumption, while meat and dairy consumption is generally low (but growing along with incomes). Fruit and vegetable consumption is half of the recommended intake and is declining. Between 2012 and 2016, vegetable intake decreased by five per cent, while fruit consumption declined by just over three per cent. Consumption of processed food is increasing and 21 per cent of calories now come from 'prepared food and beverages'. Overall, Indonesians [consume 2,639 kilocalories](#) (kcal) per capita per day, slightly below the average of 2,750 kcal average daily consumption across the rest of Asia.

[Stunting](#) is a health issue in children that stems from poor nutrition and leads to low height for age and a number of mental and physical health issues, while [wasting](#) refers to low weight for height and is a strong indicator of child mortality. Both are found in Indonesia at alarmingly high rates. Rates of stunting are particularly high, at [37.2%](#) of under-fives, while wasting is present in 11.8% of children under five. While poorer children are more likely to be stunted (48.4%), it is common even among wealthier children (29 per cent). Similarly, around one in ten children from the poorest quintiles are overweight or obese, although it is more common among their better-off peers. As such, various forms of malnutrition are common across Indonesia's socio-economic groups. As a result, Indonesia struggles with the [double burden of malnutrition](#), the simultaneous presence of under- and over-nutrition, leading to an increase in non-communicable disease (NCD), reduced mental and physical development and a reduction in overall quality of life.

Rates of NCDs [are increasing](#) in Indonesia. While rates of communicable diseases, such as malaria, are falling, cancer, diabetes, heart disease, hypertension and lung disease are all increasingly common. The burden of NCDs is predicted to cost Indonesia [US\\$2.8 trillion](#) (\$4.1 trillion) between 2012-2030, from healthcare costs and lost workforce participation.

Micro-nutrient deficiencies are common enough to constitute a significant public health challenge in Indonesia, particularly [iron and zinc](#) deficiencies. Iron deficiency anaemia is [the most common](#) micronutrient disorder in both children and adults. While the Indonesian Government has attempted to address this by providing iron and folic acid supplements to pregnant women, in 2012 only 33 per cent of pregnant women took the supplements for the recommended duration of 90 days or more. Similarly, a successful project to reduce anaemia in children has only been implemented in certain districts (though more areas are beginning to gain access). Vitamin A deficiency also represents a moderate public health issue among young children.

Despite impressive economic growth and poverty reduction, Indonesia's food security still faces significant difficulties. To overcome these difficulties, policies that support rural development, improve agricultural incomes, lower food prices, increase nutritional diversity and encourage healthier eating patterns will be required.

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