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# Enhancing food availability and access in Asia-Pacific

Undernourishment in Asia-Pacific has decreased in the past decade but remains notable in several countries.[1] Based on the FAO data, around 1 in 3 people in Democratic People's Republic of Korea, Tajikistan and Timor-Leste were undernourished in 2012. In Lao People's Democratic Republic, Mongolia and Sri Lanka, this ratio stood at around 1 in 5. According to some estimates, around 305 million people in the region are likely to remain undernourished by 2030.[2] This indicates that the challenge to ensure food security in Asia-Pacific remains paramount.

Several factors would continue to put pressure on efforts to reduce malnourishment in Asia-Pacific. For instance, the region is expected to have almost one billion people more by 2050 relative to 2013, increasing the demand for food considerably.[3] At the same time, stagnant agricultural land area, water scarcity, soil degradation and increasing use of biofuels are all constraining food production. Finally, since Asia-Pacific is the world's most disaster-prone region, frequent natural disasters disrupt food production and supply.

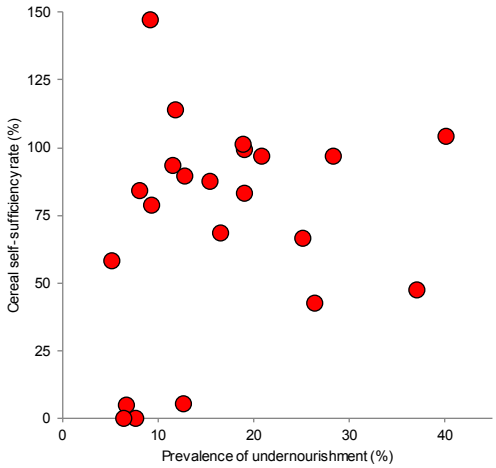
## Several countries are facing low food self-sufficiency

One important aspect of food availability is a country's ability to produce enough food to fulfill its domestic demand. Data on food self-sufficiency level during 2011-2013 shows that, out of 35 developing Asia-Pacific economies for which relevant data is available, domestic cereal production is less than half of the consumption in ten countries.[4] Cereal self-sufficiency is particularly low in Malaysia, the Republic of Korea and small countries such as Brunei Darussalam, Fiji, Maldives, Solomon Islands and Vanuatu.

Given that a large part of food production capacity is determined by geographic factors such as availability of arable land and conducive weather conditions, many countries are not expected to be self-sufficient in all major food categories. However, they should at least have reasonable production capacity for staple food items, which would help to reduce their vulnerability to global supply shocks, volatile exchange rates and trade restrictions. In addition, countries should have policy space and mechanisms to protect the poor and vulnerable groups during food price hikes and shortages, such as targeted feeding programmes. High and volatile food prices tend to disproportionally hurt the poor. In Bangladesh, Cambodia, India, Pakistan and Tajikistan, food purchase accounts for at least two-thirds of total spending by population in the lowest income quintile.

Even when countries exhibit adequate domestic food production, it does not guarantee food security. Figure 1 shows that the prevalence of undernourishment varies markedly among countries with reasonably high cereal self-sufficiency rate. The mismatch between food supply and access to foods is due to factors such as large post-harvest food wastage, excessive national food reserves, lack of transportation to rural areas, and limited market competition that drives up food prices.

Figure 1. Food production capacity is not always linked with undernourishment



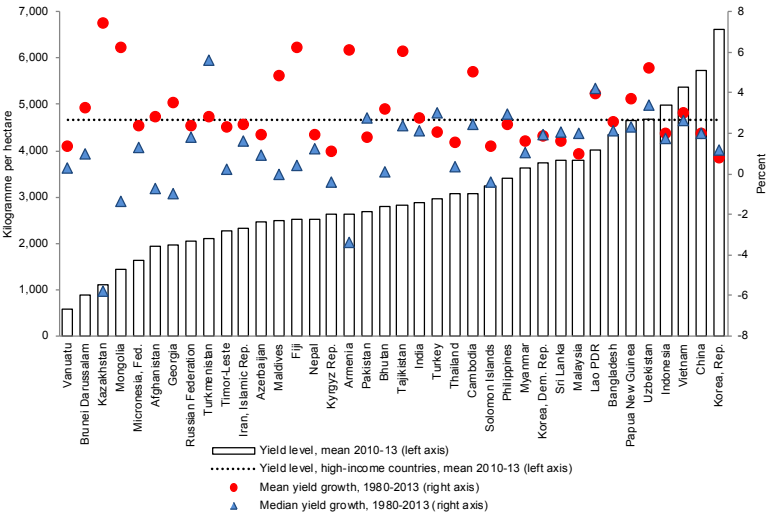

*Source:* ESCAP, based on FAO's Food Security Indicators and Food Balance Sheet Database.

## Policy options to boost food availability

### *Securing steady agricultural productivity growth*

Given limited arable land areas, agricultural productivity has to increase to raise food supply. Cereal yields in Asia-Pacific however appear relatively low. During 2010-2013, the region produced on average about 3,050 kilogrammes of cereals per hectare, which was 35% lower than the level produced in high-income countries. Yields appear to be higher in China, Indonesia, the Republic of Korea and Viet Nam (figure 2). Notably, these countries also enjoy more stable yield growth in the past three decades, as shown by narrower gaps between the mean and median values of yield growth.

Figure 2. Cereal yields varied significantly across Asia-Pacific conomies




*Source:* ESCAP, based on World Bank's World Development Indicators database.

Much of the policy discussion on enhancing agricultural productivity emphasizes the need to scale up government programmes to adapt modern agricultural techniques to local conditions and to provide further knowledge and skills to small farmers. But the success is also shaped by broad based reform efforts. For example, land reforms aimed at increasing land ownership would provide incentives for farmers to adopt better agricultural techniques.[5] Methods such as no-till farming and irrigation are shown to raise crop yields significantly.[6]

Policy efforts are needed to boost agricultural research in the private sector. In China, India and Indonesia where market size is large and potential gains to agricultural innovation high, agriculture research carried out by private firms still accounts for less than one-fifth of the country's total spending on agricultural research.[7] Market reforms to achieve more dynamic and competitive business sector, eased access to finance by young firms, and stronger protection of intellectual property rights are some examples of policies to boost private agricultural research.

There are examples that joint public-private effort helped to lift agricultural productivity. Among others, micro insurance schemes aimed at mitigating production risks, such as weather-based crop insurance, allow farmers to smoothen their incomes. This raises viability of crop lending, thus enabling farmers to invest more in techniques that help raise crop yields.

### *Reorienting public spending towards agriculture*

Public spending on agriculture as a share of total public spending has declined in nearly all Asia-Pacific economies in the past three decades. Although this seems to be in line with a declining share of agriculture in gross domestic product, it potentially dampens the prospects of poverty reduction because farm incomes remain the only source of income for many poor in the region. Moreover, decline in the agriculture spending is far more drastic than that of agricultural output in several economies, especially in South Asia.

One area where increased public spending could focus on is improving storage facilities and public distribution system in order to reduce food wastes. In developing economies, the losses typically take place during harvesting, handling and storage.[8] Another area where public spending could increase is adaptation measures that help enhance farmers' resilience to climate change. Examples include promoting crop rotation to conserve soil nutrients, encourage the development and use of heat-tolerant crop varieties, and building protection against sea-level rise.

### *Synergizing access to global markets and regional cooperation*

Agricultural import tariffs remain high at over 20% in countries such as Fiji and Sri Lanka, where food self-sufficiency is still moderate. Other countries have also introduced safeguard measures on staple food items. An effort to protect local farmers should be considered along with its possible impact on domestic food availability.

Regional cooperation on food security has increased but there is still much room for further collaboration. Initiatives like ASEAN+3 Emergency Rice Reserve and SAARC Seed Bank provide regional food reserves. ASEAN is also working on its strategic plan to achieve competitive and sustainable agricultural sectors, based on a single market and production base, by 2025. In South Asia, the cooperation can be scaled up. In particular, cutting restrictions on food trade while building stronger partnerships on agricultural research and early warning mechanisms are important.[9]

## Policy issues on enhancing food access

Like boosting food availability, ensuring food access requires policy efforts on several fronts. Schemes such as food transfers, food price subsidies and food-for-work programmes are widely used in Asia-Pacific. These initiatives can be made more effective by better targeting beneficiaries and enhancing the transparency and efficiency of administration.[10] Such implementation issues call for broader policy actions, such as strengthening the collection of household data to identify people in need and improving governance to reduce fraud and allocation biases.

More broadly, better rural transportation networks could help facilitate physical access to food, while market competition and regular price checks would keep food prices more affordable. Finally, during episodes of global food price spikes, domestic policies to prevent hoarding and regional cooperation to avoid food export bans would also help manage price expectations.

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[1] According to the FAO definition, undernourishment exists when caloric intake in below the minimum dietary energy requirement. Deficiencies in food consumption may be due to food insecurity, inadequate care for children, and lack of health services.

[2] Alexandratos, N. and J. Bruinsma (2012), "World agriculture towards 2030/2050: the 2012 revision", ESA Working paper No.12-03, FAO.

[3] UN (2012), World Population Prospects, The 2012 Revision, UNDESA.

[4] The food self-sufficiency level is defined as the share of domestic production in domestic consumption, where consumption is calculated as production plus net imports (or minus net exports) and adjusted by changes in stocks.

[5] For a review on the link between land tenure security and agricultural productivity, see, for example, Lawry, S, Samii, C, Hall, R, Leopold, A, Hornby, D, Mtero, F (2014), "The impact of land property rights interventions on investment and agricultural productivity in developing countries: a systematic review", *Campbell Systematic Reviews*, 2014:1.

[6] Rosegrant, Mark and others (2014), Food security in a world of natural resource scarcity: The role of agricultural technologies, International Food Policy Research Institute.

[7] See various country notes by Agricultural Science and Technology Indicators. Available from www.asti.cgiar.org.

[8] The FAO data shows that losses of cereals during storage and transportation were estimated at almost 16% of domestic supply of cereals in Cambodia during 2011-2013, and about 11-12% in Afghanistan, Kazakhstan, Nepal and Turkey.

[9] See presentations made at "ESCAP South Asia policy dialogue on regional cooperation for strengthening national food security strategies", 13-14 August 2013, India.

[10] Jha, Shikha, Ashok Kotwal and Bharat Ramaswami (2013), "Safety Nets and Food Programs in Asia: A Comparative Perspective", ADB Economics Working Papers No. 371, Asian Development Bank.

The MPDD Policy Briefs aim at generating a forward-looking discussion among policymakers, researchers and other stakeholders to help forge political will and build a regional consensus on needed policy actions and pressing reforms. Policy Briefs are issued without formal editing. This issue is prepared by Vatcharin Sirimaneetham. This policy brief benefits from comments and suggestions by Sumiter Broca, Anisuzzaman Chowdhury, Hamza Ali Malik, Muhammad Hussian Malik, Katinka Weinberger, and Upali Wickramasinghe. For further information on this issue, please contact Aynul Hasan, Director, Macroeconomic Policy and Development Division, ESCAP (escap-mpdd@un.org).

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