

Food Security

Agricultural growth in emerging markets is falling short of global goals – what can be done?

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OCTOBER 12, 2016 by: Margaret Zeigler, Global Harvest Initiative



The globally-adopted target to double the productivity of small-scale farmers, set by the United Nations' Sustainable Development Goals last year, remains out of reach for most emerging markets. That is according to [a new report \(http://www.globalharvestinitiative.org/index.php/gap-report-gap-index/2016-gap-report/\)](http://www.globalharvestinitiative.org/index.php/gap-report-gap-index/2016-gap-report/) by the Global Harvest Initiative (GHI) released at the Borlaug Dialogue (https://www.worldfoodprize.org/en/borlaug_dialogue/2016_borlaug_dialogue/) in Iowa this week. This raises the question: how will we feed the projected 9.7bn people that will be on our planet by 2050, when more than half of them will live in low and middle-income countries?

The GHI defines productivity as a measure of output per unit of input. Our analysis shows that global agricultural productivity must increase by 1.75 per cent annually to meet demand. While the global average rate of productivity growth is only just missing the mark at 1.73 per cent, low-income countries are lagging far behind, with an average annual rate of just 1.3 per cent.

Agriculture in low-income countries remains the most significant driver of deforestation, according to the United Nations Food and Agriculture Organization. This accelerates carbon release and land degradation. Improving agricultural productivity by increasing output while using the same or fewer inputs, including land, is critical to reversing this trend. In high-income countries agricultural productivity has resulted in a net average increase in forest area and a net average decrease in agricultural area. In other words, rising productivity is freezing the footprint of food production in high-income countries.

Why are lower-income countries, particularly in sub-Saharan Africa, so far behind in boosting their agricultural productivity?

In agriculture and food production, innovation systems typically emerge from public and private research and development (R&D) and extension investments, as well as from policies and regulatory frameworks that provide incentives and support to businesses and producers who take innovation risks. Agricultural R&D investments require long gestation periods of more than a decade to realise the full benefits that they generate. Over time, such investments pay large dividends, including greater profits for farmers and more abundant food at lower costs for consumers.

The United Nations has encouraged governments to allocate at least 1 per cent of agricultural gross domestic product (AgGDP) to be invested in public agricultural R&D. In many African countries, investment levels for agricultural R&D have been low for decades, on average just 0.51 per cent of agricultural output. Many African countries lack effective university research and extension systems that educate farmers in the newest practices and supply a steady stream of innovation suitable for the local agro-ecological conditions of their farmers.

Latin America and the Caribbean (LAC), on the other hand, has shown remarkable growth in agricultural productivity over the past decade. According to the GHI report, the region is projected to meet 115 per cent of food demand by 2030, with potential for greater exports of products to food-deficit regions through trade. On average, the LAC region has met the recommended target of allocating at least 1 per cent of AgGDP to R&D, with many countries far exceeding this target. Farmers in the region are adopting new technologies, practices and innovations that are transforming LAC into the next global breadbasket.

So how can other emerging markets reverse current trends and emulate the success of LAC?

First, they must continue to ramp up their investments in public research, development and extension. Recently countries such as Kenya, Rwanda and Tanzania have taken major steps to prioritise agriculture research and extension and to develop human resource capacity at their national universities. Second, these countries must continue to embrace, customise and disseminate science-based and information technologies and get them into the hands of women and small-scale farmers, who can most benefit from them.

Governments must develop policies that support and incentivise private-sector investment in infrastructure, building roads, railways, ports and broadband services. And these governments must leverage partnerships across local, regional and international development agencies and donors as well as with private-sector and agricultural producers to set the stage for market-based economic growth and sustainable development.

Finally, low-income countries need access to better seeds, tools and services to improve productivity. By facilitating trade and harmonising standards across African regions, many farmers will be able to acquire better productive assets while selling their agricultural products to new neighbour markets.

With a long-term commitment to the right policies, investments and science-based technologies and practices, emerging markets can unleash the power of productivity in agriculture to foster food security and conserve their natural resource base.

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