Investment priorities

Investment in potato and sweetpotato interventions that target inclusive growth should contribute to an overall integrated approach that improves the economic benefits and nutritional qualities of those crops to reduce the economic burdens of malnutrition.

Activity | Region
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- Development and dissemination of more resilient, fast-maturing and biofortified potato and sweetpotato varieties that can increase yields and improve incomes while reducing undernutrition and its corresponding economic burdens. | Latin America and the Caribbean: Bolivia, Ecuador, Peru
- Improving access to diverse, preferential markets that include formal markets and food processors that produce packaged goods. | Africa: Cameroon, Democratic Republic of Congo, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Tanzania, Uganda
- Better trainings for farmers to improve productivity and tap the full economic potential of potato and sweetpotato. | Asia: Bangladesh, China, India, Philippines, Vietnam
- Validation and dissemination of technologies for producing early generation seed and the development of seed systems for distributing quality planting materials of improved varieties to farmers. | Latin America and the Caribbean: Bolivia, Ecuador, Peru

Key facts: the cost of undernutrition

- More than 1 billion people suffer from undernutrition, which results in an array of health problems, can hinder a child’s growth and ability to learn and an adult’s ability to work or care for their family.
- The cumulative cost of lost productivity exacts a large toll in the developing world, costing African and Asian economies anywhere from 3 to 11 percent of GDP.

Overview

- Potatoes and sweetpotatoes are valuable cash crops, able to grow in an array of environments and resilient under the effects of climate change, which makes them vital for reliable incomes, especially when other crops fail;
- Improved, fast-maturing and more resilient varieties, combined with agronomic techniques, can produce earlier, higher-quality harvests, opening up new livelihood opportunities;
- The versatility of potatoes and sweetpotatoes allows for the development of inclusive value chains in rural and urban areas, providing access to high-value markets and improved incomes;
- Nutritional benefits of biofortified varieties can also reduce the burden of malnutrition to enable more inclusive growth in the long run.
- Investment priorities include:
  - Developing and promoting more resilient, fast-maturing, market-valued crop varieties,
  - Improving market access and facilitating the creation of new, inclusive value chains,
  - Providing training in production-enhancing techniques and diversification.
Introduction

Approximately 75 percent of the world’s poorest live in rural areas where agriculture is the main economic activity. In developing countries, agriculture can represent more than a third of a nation’s GDP. Globally, the sector provides incomes and livelihoods for two billion smallholders.

Potatoes and sweetpotatoes provide a reliable and crucial source of income in developing countries, particularly where climate extremes increasingly cause other crops to fail. Efforts to improve the resilience of potato and sweetpotato varieties can further contribute to productivity in a climate-changing world, and, as a result, incomes. Interventions to expand the availability of quality seed for improved varieties can increase access to more resilient sources of nourishment and income generation that support better health and broader economic activity.

The versatility of potatoes and sweetpotatoes means farmers can diversify their incomes. Given the many ways these crops can be prepared and processed, farmers who grow them have more options for selling their crops. Farmers can choose to sell their harvest directly to formal or informal markets, or to food processing companies that produce chips, crisps, breads, biscuits, or other items. Harnessing the potential of potato and sweetpotato as cash crops can help sustain rural agricultural livelihoods. There is evidence that farming families are migrating away from areas where agriculture is no longer viable to urban areas where they rely on informal labor for income.

Potatoes and sweetpotatoes can also support inclusive growth indirectly by helping to reduce undernutrition, which costs the global economy as much as USD 2 trillion annually in healthcare and lost productivity. Biofortified varieties can contribute to improved nutritional outcomes and healthier citizens, reducing losses due to health problems and resulting low productivity.

Breakthroughs

Value chain approaches

A participatory market approach (PMCA) has been used to help thousands of farmers access preferential markets. Originally used to stimulate the creation of new markets and value chains for native Andean potatoes, PMCA was subsequently adapted and used in Asia and Africa for crops such as banana, cassava and sweetpotato. In 2008-9, components of PMCA were combined with the FAO’s farmer field school approach to facilitate smallholder entrepreneurship. In the Philippines alone, 3,488 rural men and women participated in the resulting 6- to 10-month ‘farmer business school’ program between 2011 and 2019. During that time, a total of in 130 groups launched new enterprises to produce and market an agricultural or marine product, adding value to traditional goods and boosting the economies of remote communities.

Improved crop varieties

The development and dissemination of improved varieties has helped millions of farmers boost their production and incomes. An assessment in Peru found that farmers who planted CIP-bred varieties harvested 10% more potatoes per hectare than farmers who grew other improved varieties. Many CIP-bred varieties are disease resistant, so they save farmers money that would otherwise be spent on agrochemicals or certified seed potatoes. More than 4 million potato farmers have benefitted from those varieties. An economic surplus analysis of one, Cooperation 88, released in China in 2001, estimated its economic value in Yunnan province alone at between USD 2.8—3.73 billion for 2001 to 2015.

Training and technologies

Agronomic training and appropriate technologies can help farmers increase their yields and reduce postharvest losses, both of which can translate into more income. CIP has produced training manuals in several languages and organized sessions for thousands of extension agents and expert farmers to circulate best practices for growing potato and sweetpotato. These sessions include the development, validation and dissemination of appropriate technologies such as diffuse light stores for potato, triple-5 sand storage for sweetpotato, and net tunnels for the multiplication of pathogen-free sweetpotato planting material.

Seed systems

Producing quality potato or sweetpotato planting material is essential for the distribution and adoption of improved varieties and can significantly boost farmer yields and incomes. A study in Kenya found that farmers who used high-quality seed tubers doubled their incomes from the sale of potatoes in just two years. Farmers who multiply disease-free potato or sweetpotato planting material for sale to other farmers earn significantly more than those who simply grow those crops for consumption. A study of potato multipliers in Kenya found they earned an average of approximately USD 3,000 per hectare, compared to USD 1,325 per hectare earned by farmers who sold their potatoes on the local market. The use of apical rooted cuttings, an appropriate technology that CIP has promoted in Africa and Asia, significantly increases the amount of seed potatoes a farmer can produce, boosting the incomes for seed producers and the availability of quality planting material in their area, which, in turn, boosts family incomes.

SUCCESS STORY: Sweetpotato bread

CIP has helped develop and promote a shelf-stable sweetpotato puree as an ingredient for buns, breads, cookies, and other baked products. In Kenya and Rwanda alone, annual sales of sweetpotato puree-based products have surpassed USD 890,000.

This success has inspired a growing number of independent private sector investments in orange-fleshed sweetpotato processing in Kenya, Malawi, Rwanda, South Africa, Tanzania and Uganda. Work to build quality regulation standards for sweetpotato products is also in process.
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Case for investment: Inclusive growth

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