

Sustainable Urban Agriculture in Cuba



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Context

The collapse of the Soviet Union in 1989 had a profound impact on Cuba's economy. As Cuba's main trading partner and patron (providing preferential terms for aid and above-market rates for Cuban products), the Soviet Union's abrupt dissolution led to severe shortages of basic goods, monetary aid, and fossil fuels in Cuba. The agriculture sector was especially hard hit. Without access to Soviet machinery or fertilizer and unable to trade freely on the international market because of the U.S. trade embargo, Cuba entered a period of extended economic crisis that resulted in food rationing and rising rates of malnutrition. Between 1989 and 1995, the average Cuban's daily food intake fell from 2,908 calories to 1,863 (FAS USDA 2008). Production at Cuba's large-scale farms ground to a halt, and the country desperately sought ways to boost crop production to address its perilous food insecurity.

Development Challenge

The challenge for Cuba was to create a new, local agricultural system capable of providing fresh produce to ameliorate its dire food crisis.

Intervention

Faced with few viable policy options to combat the intense food shortages, the Cuban government began loosening restrictions on land ownership and promoting grassroots experiments on agricultural production. Capitalizing on the initiative of many Cuban citizens—particularly those in urban areas who had begun to plant crops in abandoned lots, on rooftops, in backyards, and in other available spaces—the government launched a series of programs to encourage urban farming as a means of self-sufficiency. The Urban Agriculture Department was created in 1994 to support the burgeoning movement. This new department provided a network of agricultural supply stores, seed farms, training centers, veterinary clinics, and legal support for citizens looking to organize into cooperatives. Also, the government restructured many state farms (most of the arable land in Cuba) into private cooperatives to decentralize production. It also opened numerous agricultural markets, where for the first time in nearly 40 years producers could sell directly to consumers. This urban agriculture movement generated valuable lessons in organic farming for Cuba. Hallmarks of Cuba's *organopónico* system have been sustainable produce production, low levels of pesticide use, and other organic farming practices, such as crop rotation and soil management. Farm output has been remarkably high. In 2013, there were 97 high-yielding cooperatives in the city of Havana alone. Available data suggest these farms now supply the city with 100,000 tons of fruits and vegetables annually (FAO 2015), approximately 50–60 percent of the city's fresh produce.

However, despite generating valuable lessons in urban agriculture, it is worth noting the urban farming movement in Cuba is still relatively small. A lack of infrastructure, market mechanisms, legal frameworks, and production quotas for certain crops have stymied expansion. At present, 80 percent of Cuba's imports are for domestic food requirements, and high prices make local produce unaffordable for many of the country's poorest residents.

PROJECT DATA

SECTOR:

Infrastructure, city/urban, energy and environment

DEVELOPMENT CHALLENGE:

Increasing agriculture yields

DELIVERY CHALLENGES:

Weak private sector, lack of skilled labor, inadequate transportation systems

COUNTRY:

Cuba

PROJECT DURATION:

1990–95

REGION:

Latin America

This note was produced by Carlos Sabatino at the World Bank, from an original case study published by the Centre for Public Impact. The original case study is available [here](#).

Delivery Challenges

This delivery note analyzes key implementation challenges and examines how they were overcome.

- **Very weak private sector.** Perhaps the biggest challenge in the implementation of Cuba's new farming paradigm was a legacy of highly restrictive state involvement in the economy. In 1989, existing laws prohibited private farm ownership, which made independent farming efforts a risky proposition for citizens. Even for those who wanted to farm, land was owned by the state and was allotted according to national priorities. Also, decades of mechanized, high-input, central production had systematically stymied independent actors capable of shifting to new farming systems. Mono-cropped sugar and tobacco products, which were traded at preferential rates with the Soviet Union, had been used to import food products at the expense of national production of legumes, fruits, and other food staples. When farming cooperatives were successfully formed, state restrictions and revenue-sharing agreements that guaranteed equal pay despite individual output levels discouraged new urban farmers from improving their efficiencies. Given these circumstances, the shift from central, state-owned produce production to relatively decentralized, self-organizing, and semiprivate farming was a difficult transition.
- **Lack of skilled labor.** Another key problem in the implementation of urban farms had been a lack of technical knowledge about urban farming techniques. Vast plantations of tobacco and sugar had been managed successfully by the state, but they were heavily dependent on fertilizer and pesticide use. As Cuba no longer had easy access to fertilizer and pesticide, state research institutions and agricultural managers were ill equipped to adapt to new agricultural realities. Heavy mechanization in the existing technical-industrial system also greatly reduced the number of agricultural workers available for a new labor-intensive reality. And existing workers usually lacked knowledge in the sustainable farming techniques necessary for smaller-scale urban farming.
- **Inadequate transportation systems.** Despite a well-connected network of roads and highways across the country, car and truck ownership in Cuba is very low. Existing cars are usually decades old and prone to idleness because of a lack of spare parts and the scarcity of fuel. This situation severely restricted the internal trade of agricultural products. Bumper crops in certain regions would often rot owing to a lack of options to transport the crops to markets or processing centers. The lack of transportation options also contributed to higher prices, owing to collusion by truck owners, who underpaid producers while passing on higher prices to vendors and consumers.

Addressing Delivery Challenges

The following steps were undertaken to mitigate the delivery challenges related to a **weak private sector**:

- Recognizing the country's dire food crisis and farming challenges, the Cuban government unveiled a sweeping reform of the agriculture sector in 1993. A majority of state-owned farms were restructured into smaller cooperatives. The new policy was intended to promote decentralized decision making while empowering citizens to grow and tend new farms around a new sustainable agriculture model, now essential given the scarcity of agricultural inputs. As part of the reform, the government retained ownership of the land but leased it to private farmers and cooperatives rent free for extended periods. The policy also sought to provide a new legal framework to shift ownership in production from the state to the citizens.
- As part of this policy, the government also allowed greater autonomy for cooperatives to set compensation schemes. That allowed many cooperatives to tie individual employees' salaries to their level of productivity in managing plots of land under their care, thereby increasing incentives to boost yields and experiment with new crops (Sinclair and Thompson 2001). The change was critical in introducing market mechanisms such as competition, individual initiative, and private profit into the inner workings of cooperatives across the country.
- To encourage greater productivity, the government began a program to strengthen the most successful cooperatives through business improvement programs. In 1998, regulations were amended to allow cooperatives to open accounts at government-run banks, hire administrators, and negotiate loans and access to farm equipment provided by the state. The intention was to unleash more entrepreneurial activity and to encourage greater productivity.
- More recently, Cuba's government has allowed cooperatives to sell their products directly to hotels, cafeterias, and resorts, thereby earning money from tourism operators. The program is intended to further unleash production and save the state expenses on foreign currency while also providing cooperatives with much-needed capital for machinery, fertilizer, and other goods.

The following steps were undertaken to mitigate the delivery challenges related to the **lack of skilled labor**:

- Given the drastic change in agricultural realities, the Cuban government shifted the focus of state institutions and agricultural centers to research and support for sustainable urban agriculture practices. The state institutions provided supply stores, municipal seed farms, biofertilizers, and natural pesticides to cooperatives and farmers across the country. They also created training programs that disseminated information on sustainable farming practices, thereby reducing the skills gap among agricultural producers and empowering new citizen farmers.
- Cuba's Ministry of Agriculture directed its extension workers to collaborate with farmers and cooperatives to identify and produce high-quality seeds specifically suited to the country's conditions. The seeds were an instrument to help improve crop yields and reduce crop failures, which freed up labor to expand farms.
- The Cuban government created formal training centers at universities to specifically focus on sustainable agriculture degrees, the purpose of which was to maintain a steady supply of agronomists, soil scientists, and plant breeders to meet the nation's farming needs. The government has also conducted more than 3,000 study circles (FAO 2015), where agricultural technicians and producers encourage youth to take up agriculture and learn more about agroecological production practices.

The following steps were undertaken to mitigate the delivery challenges related to **inadequate transportation systems**:

- To address the transportation challenges in the agriculture sector, the Cuban government increased the number of official markets where products could be traded. As part of the program, government representatives would visit outlying farms and those in distant peri-urban areas on a weekly or biweekly basis to transport the goods closer to consumers. However, a limited stock of trucks and poor roads in the more rural areas hampered the effort's effectiveness (Sinclair and Thompson 2001). As part of the program, the government also delivers produce directly to so-called priority destinations, such as public schools, maternity wards, and group homes for the elderly.
- In 2000, the Ministry of Agriculture began leasing used trucks to cooperatives to eliminate intermediaries in the agricultural supply chain. Linked to its national business development program, this initiative allows only the most successful cooperatives to participate in the program.
- In 2011, the government legalized private sales of used cars—for the first time in more than 40 years. The government has also opened car sales to the public without the previous need for permits. Despite these changes, an import tax of 100 percent for new cars and a low stock of existing vehicles continue to severely restrict car ownership in the country.

References

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