

# Seeing is believing: urban agroecological transition

Agroecology has come to stay within the northern Nigerian state capital city of Kaduna. The farmers now produce more diversified products all year round. Over the past two years, the practice of intercropping has spread from farmer to farmer. Although formal support for their practices are lacking, the farmers remain hopeful that this will change. Is the recent fall in oil prices, which has prompted the Nigerian government to rethink their reliance on oil revenues, a blessing for family farmers?

Ahmed Inusa Adamu

**T**he Kaduna River passes through the city of its namesake and empties its water into the river Niger. For more than a century urban farming has been flourishing along the river thanks to access to irrigation water and animal manure. Farmers buy manure from the many Fulani nomads camping at the periphery of the city and there are many smallholder poultry farmers scattered within the city from whom they can also buy manure. The major crops cultivated are cereals, vegetables and fruits, such as maize, tomatoes and cabbage for the city's urban markets. Until recently in Rafin Guza, a community of about 500 urban farmers, the dominant practice was monocropping. However, two years ago when a pest destroyed most of their tomato crop many concluded that there are alternatives. The pest was

identified as tomato leaf miner (*Tuta absoluta*) and is known locally as *tomato ebola*.

## Increasing incidence of pests

Tomato leaf miner has devastated most of the tomatoes grown in the state of Kaduna as well as in other states of Nigeria, amounting to US\$5.02 million worth of damage nationwide. Increased incidence of pests such as these is just one of many reasons motivating farmers the world over to shift to more diverse farming systems. In Rafin Guza, some farmers experienced minimum damage from the pest. This is because tomato was not their sole crop. They were intercropping tomato with pepper, onion, garden egg, okra etc. Although the tomatoes were destroyed by the pest, they were able to harvest their other crops. These farmers, including several community leaders, had



Besides diversifying their crops, farmers reduce the amount of herbicides they are using.

Photo: Ahmed Inusa Adamu

taken it upon themselves to diversify their cropping systems – some having started up to 30 years ago, breaking from the practice of specialising in the same crop that their fathers had.

The practice of intercropping spread amongst the majority of farmers in the community when the benefits of the practice became clearly visible. Although not formally referred to as a set of indicators, the farmer-to-farmer learning and uptake of this practice was underpinned by observing indicators of success on each others farms. Farmers took it upon themselves to assist each other and prove which practices are most successful with the help from a set of indicators that reflect their own ambitions and goals. They are rarely visited by extension workers and there are no current efforts by government or other organisations to evaluate their achievements.

**“This system of farming gives us more income and more food to feed our family”**

**Farmers’ indicators** “This system of farming gives us more income and more food to feed our family. It also saves us from the devastating effect of tomato ebola,” said Adamu Musa, one of the urban farmers practicing intercropping. According to him several indicators are useful for demonstrating the benefits from their systems.

First, intercropping helps them grow a greater variety of crops which in turn enables them to sell more food in the market. The result is not only an increase in income but also an increase in ‘income spread’ as they sell their produce at different times of the year. A very clear indicator of this is that Adamu Musa now sends his children to one of the city’s private schools. Moreover, more than 80 % of the harvesting and retailing of vegetables is carried out by women who, as a result, share in the benefits from increased income. Asma’u: “I now earn 500 *naira* (US\$1.60) each day, which I am saving for my granddaughter’s wedding.” The increase in amount and stability of income is also indicated by the larger customer base which the farmers experience as more urban retailers are attracted to their fresh fruit and vegetables and buy directly from their farms.

Second, farming families are healthier. Many farmers attest to the fact that their children and wives are healthier than before as they consume a greater



**Farm gate market where retailing is mainly done by women.** Photo: Ahmed Inusa Adamu

variety of vegetables and fruits. Third, the farmers confirm that their soil health has improved. This is because it is always covered by crops and therefore protected from erosion caused by rain splash, a particular problem during the rainy season. Fourth, the practice of intercropping also helps to control other pests. For example, farmers report that pests such as tomato fruit worm (*Helicoverpa armigera*) are less prevalent when practicing intercropping.

Enough evidence? These indicators have proven useful amongst farmers to support the spread of an agroecological practice, yet despite the evidence of success farmers still face challenges to take further steps in the agroecological transition. For instance, even though the Kaduna State Agricultural Development Project is present within their municipality, farmers in Rafin Guza have spent many years without seeing any of the project staff. They lack new information which could be useful to overcome some of their practical challenges such as the development of processing facilities that would minimise the losses of perishable products, access to pumps that would help with on-time irrigation, and strategies to mitigate flooding that has recently become problematic. Moreover, their fields are subject to land grabbing, with wealthy individuals eager to convert urban farmland into housing.

The farmers are hopeful that the past neglect by government agriculture programmes and NGOs supporting farmers will change with the present govern-

ment's resolve to revive agriculture as an alternative to oil. In 2015, the government started to support farmers to form producers' cooperatives. This may lead to several benefits such as accessing irrigation equipment and processing facilities, and the creation of new markets. Importantly, this form of organisation may enhance their ability to exchange ideas and information – particularly with farmers in other cities. Farmers in Rafin Guza have been advised to form a cooperative that deals with multiple products, not only to ensure that their diversification strategy is supported but also in response to their experience with rice farmers from other communities taking over and monopolising the cooperative's resources.

## There is little formal data on the impact of agroecology

**Support for agroecology** The farmers' experience, supported by their indicators, justifies their growing enthusiasm for agroecological practices such as diversification by intercropping. Yet there is little formal data on the impact of agroecology, nor is there a formal approach supporting the spread of these kind of practices. There is a role for researchers to work with farmers to develop and analyse innovative systems such as agroecological management of insect pests. On top of this, with additional support from well trained and dedicated extension workers, agroecology can gain ground, not only among urban farmers but amongst Nigeria's rural population as well.

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**Farmers are hopeful that neglect by government agriculture programmes is a thing of the past.**

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