

## Ugandan coffee farmers enjoy increased yields through CSA technologies despite COVID-19 pandemic

The [IITA](#) Uganda Climate-Smart Agriculture (CSA) Program supports the Ugandan Government in its commitment to increasing coffee quality, volumes, and smallholder farmer livelihoods. The Institute's activities closely align with the country's agricultural agenda, with the IITA team collaborating with the Uganda Coffee Development Authority (UCDA) to implement the Uganda Coffee Roadmap.

By developing the [Stepwise Climate Smart Investment Pathway](#) (Stepwise) approach, IITA Uganda and partners under the [CGIAR Research Program on Climate Change, Agriculture and Food Security](#) (CCAFS) are promoting increased smallholder coffee farmer adoption of CSA practices in Uganda. Stepwise is helping farmers increase their yields and income

through a practical stepped process towards applying good agricultural and CSA practices to manage their coffee farms.

Test data from private-sector impact partners, Olam and Hanns R. Neumann Stiftung Foundation, demonstrated the Stepwise approach's success showing

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*An extension agent showing a farmer how to use the Stepwise Smartphone Application.*

## Food security and economic benefits of newly released cassava varieties



*Speakers at the Cornell Alliance webinar. (L-R) Top: Drs Tessa Madu and Chiedozie Egesi; Bottom: Drs Siraj Kayondo and Ismail Rabbi.*

At the end of 2020, [IITA's](#) cassava breeders collaborated with their research partners and released five new varieties. Their names, indicating their attributes to farmers, processors, and consumers, are Game-Changer, Hope, Obasanjo-2, Baba-70, and Poundable.

In January 2021, scientists and breeders from IITA, Next Generation Cassava (NextGen), and the National Root Crops Research Institute (NRCRI) Umudike, Nigeria, came together in a Cornell Alliance for Science

webinar to discuss these new cassava varieties and their potential to improve food security and household incomes.

[Chiedozie Egesi](#), the NextGen Cassava Project Leader, said they considered the inputs and needs of stakeholders like women, processors, and consumers in developing these new varieties. Following the release of these five varieties in Nigeria, they plan to release three to four more in Uganda and Tanzania.

IITA molecular breeders [Ismail Rabbi](#) and [Siraj Kayondo](#) described these varieties as context-specific to the Nigerian market and the West-African subregion at large. These varieties are disease resistant and created to serve three specific market demands: granulated and test products, industrial products, and fresh consumption. Poundable, the fresh consumption variety, has low cyanide content and is suitable for direct consumption after light processing like roasting and cooking.

The high yielding Game-changer and Obasanjo-2 varieties are suitable for

industrial products and have a high starch and dry matter content of almost 40%. Hope and Baba-70 are the granulated and test product varieties.

The variety names convey the specific characteristics they carry. Hope promises high income for farmers in garri and fufu production. Baba-70 is adaptable to dry environments and has low cyanogenic potential. Game-changer aims to change the expectations of starch content in cassava needed for industrial purposes. Poundable can soften in 15–20 minutes of boiling and pounds well. All these are instrumental in fighting hunger and improving the livelihoods of farmers and consumers.

Dr Tessa Madu of NRCRI said NextGen had adopted a gender-responsive approach, ensuring that both men and women benefit from breeding. About 320 farmers, both men and women, across four geopolitical zones in Nigeria, grow the cassava varieties given to them by the NextGen project. The farmers evaluate the crops from planting through harvesting to processing. These

farmers were part of the research process from start to finish, ensuring breeders produce demand-driven and beneficial varieties to farmers.

Madu described cassava as a bank to women saying, “Women harvest cassava as the need arises either to pay fees or to meet other specific needs. These varieties will enable women to scale out in their area of land devoted to cassava production and increase their income. They would be able to increase supply to the market and invariably improve their health and education.”

She also noted that men and women had unique preferences influencing their choice of varieties. “Men generally want cassava that will give them higher fresh root yield and early maturing cassava because they want to sell them off quickly. The women are more interested in high-product yield—what the cassava will give them after processing to garri or fufu. The color, texture, and fermenting abilities of a cassava variety are also important to the women,” she concluded.



*Farmer excited at harvest and hope of increased income.*



*Women generally prefer high-product yield cassava for processing to garri or fufu.*



*Men mostly want cassava with higher fresh root yield for quick sale.*

## Take responsibility! Stop the spread of COVID-19!

Always clean your hands; practice physical and social distancing; wear face masks properly; avoid crowds and public places; keep a 2-meter distance from the next person; and practice general sanitation and hygiene.

### Got a story to share?

Please send your story with photos and captions every Tuesday to [iita-news@cgiar.org](mailto:iita-news@cgiar.org) or Katherine Lopez ([k.lopez@cgiar.org](mailto:k.lopez@cgiar.org)) and Uzoma Agha ([u.gha@cgiar.org](mailto:u.gha@cgiar.org)) for headquarters and Western Africa, Catherine Njuguna ([c.njuguna@cgiar.org](mailto:c.njuguna@cgiar.org)) for Eastern and Southern Africa, and David Ngome ([d.ngome@cgiar.org](mailto:d.ngome@cgiar.org)) for Central Africa.



more than 70% increase in yields and a 58% increase in adoption of good agricultural practices (GAP) among participating farmers in Mount Elgon and Luwero in central Uganda.

With the challenges caused by the COVID-19 pandemic, remote working made it possible to get more people involved in the conversation. Extension services have evolved, using ICT decision support tools and technologies to disseminate essential information to agents and farmers. This enabled the team to achieve an even greater level of efficiency.

The [Stepwise Smartphone Application](#), the Shade Tree Advice Smartphone Application, and a participatory farmer evaluation approach used in implementing Stepwise all demonstrated success in the 2019/2020 period. IITA collaborated with [World Agroforestry Center](#) (ICRAF) to ensure that the Shade Tree Advice Smartphone Application content is evidence-based. The Government of Uganda and private sector agroforestry and coffee experts in Uganda also validated the tool content.

In 2021, IITA intends to continue to promote successful CSA technologies. The Institute will move into a scaling phase of these technologies, with the Stepwise Smartphone Application already accessible from Google Play Store.

In an article for the Uganda Coffee Platform Annual Report 2019-2020, IITA Scientist Sarah Margiotta said, "Through active engagement in global consortia such as the [Living Income Community of Practice ISEAL Alliance](#), IITA will continue to bring new learning and innovations from around the world to the Uganda platform. Similarly, through shared learning and successes from the Uganda research, IITA will continue to leverage the private sector and development partner commitment and resourcing of CSA in Uganda."

Though the coronavirus pandemic has disrupted many sectors, Margiotta noted that it offers agriculture, and the coffee subsector in particular,

an opportunity to reflect on work methods and come together to harmonize the various tools and approaches already existing.

"With continuing support from USAID, GIZ, and other internal partners such as the Sustainable Food Lab, the IITA CSA Program in Uganda will continue to conduct research projects that allow for the design, testing, and scaling of innovative and sustainable approaches to improve the quality, yields, and smallholder farmer livelihoods and the transformation of Uganda's coffee sector.



The Shade Tree Advice Smartphone Application.

## Remember these COVID-19 prevention and control measures

1. Wear face masks in public spaces
2. Maintain Physical distancing of at least 2 meters
3. Wash hands and sanitize regularly
4. Practice respiratory hygiene
5. Stay at home when sick with related symptoms

Safety is everyone's responsibility.  
Let us work together to stop the pandemic.



DON'T leave your nose exposed. DON'T leave your chin uncovered. DON'T allow gaps on the sides of your mask.

DON'T cover only part of your nose. DON'T lower your mask to rest around your neck. DO wear your mask so that it completely covers your mouth, nose, and chin, and so it is tight against your face.



**BE RESPONSIBLE:**  
Keep safe. Keep COVID-19 out of IITA and your homes!



- Wash your hands regularly with soap under running water and use hand sanitizers.
- Avoid touching hands, face, or items.
- Cover your mouth and nose properly with a handkerchief when sneezing and/or coughing. Or cough into your elbow.
- Wear a face mask properly to avoid catching the virus.
- Avoid close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing.
- If you are not well, go to the nearest health facility. Avoid self-medication.

# Researchers reveal factors responsible for tilapia consumption preferences of low-income consumers in Egypt

Egypt is among the top aquaculture producers globally, and tilapia alone accounts for 47.7% of the country's per capita fish supply, 55.1% of fish production, and 68.6% of total aquaculture production. The growth of tilapia production increased rapidly in the last four years, following the release of the genetically improved Nile tilapia strain to Egyptian farmers.

Fish farms are concentrated mainly in the Lower Delta districts of Egypt's coastal lagoons, so the bulk of farmed tilapia is produced in only four northern governorates: Beheira, Kafr el Sheikh, Port Said, and Sharkhia. While there has been significant aquaculture development, the country continues to suffer from high rates of child stunting, maternal obesity, and maternal anemia owing to malnutrition. More significantly, studies have found higher rates of double-burden malnutrition occurring in areas far from fish farms, such as Upper Egypt and Metropolitan Egypt.

Globally, limited research is available regarding the links between expanding aquaculture and fish consumption patterns among low-income consumers. Fewer studies have examined socially differentiated preferences for farmed fish. Researchers carried out a [study](#) to address this research gap and explore tilapia consumption patterns and trait preferences of low-income consumers in Egypt. The study took into account significant factors not considered in the literature to date.

The research team, which included [IITA](#) Gender Specialist [Steven Cole](#), was

led by [Seamus Murphy](#), [CGIAR](#) Gender Postdoctoral Fellow at [WorldFish](#). The team surveyed 739 low-income consumers comprising 474 women and 265 men. One key respondent per household replied to a four-stage questionnaire. The first two stages—conducted weekly and monthly—inquired about their total household characteristics and food and non-food expenditure. Stages 3 and 4 asked about the personal preferences of tilapia among the key respondents.

"Although we recognized the significance of gender norms in driving food preferences and consumption patterns in Egypt, the study did not examine intra-household relations in decision-making processes. Instead, data collection and analyses were limited to consumers' individual and household characteristics, and the intersection of these variables with tilapia preferences," Cole said.

The team found a significant effect of sex on consumers' preferences for longer body length and a significant effect of location on preference for smaller tilapia size and larger head traits among low-income households. Results showed that the share of fish-consuming households in Lower Egypt far outweighed numbers in Upper Egypt by 53.9%. They found greater geographic disparity at more local governorates, both within and between administrative regions.

Younger women from larger households with children were more likely to consume smaller tilapia grades, as women considered household dietary requirements in their



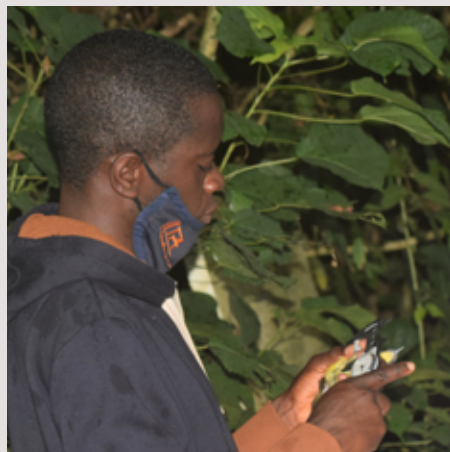
*Nile Tilapia caught in Lake Nasser, Aswan, Egypt. Photo Credit: Sara Fouad.*

tilapia preferences. Women cited smaller tilapia sizes more frequently in their top preferences and preferred head and longer body length traits. This suggests that tilapia selective breeding programs considering food and nutrition security objectives or gender-responsive breeding objectives may better reach such targets by selecting traits including size and total length.

The results offer methodological and empirical recommendations for future genetic selection programs considering gender-responsive and pro-poor breeding objectives. The results will also contribute to gender research debates regarding the need to investigate the connection between sex and other social and economic characteristics such as age, education, household size, household structure, age of children, employment, and location.

## IITA Forest Center kicks off a new project to promote bird and forest conservation

[IITA](#) has commenced a project titled "Enhancing bird and forest conservation at the interface of agriculture and urbanization in south-western Nigeria" in support of the System Level Outcome of sustainable natural resource management.



*Project Manager Adewale Awoyemi studying a bird in the IITA Forest Center.*

The 1-year project, with an option of a 2-year extension, is a continuation of the just concluded project, "Establishing ontological monitoring center in south-west Nigeria", both funded by the [AG Leventis Foundation](#). The project is designed to promote a balance between agricultural and research activities and preserve natural environments amidst the increasing population in south-western Nigeria. The project emphasizes the need to engage in farming and research processes without endangering biodiversity.

According to the project manager, Adewale Awoyemi, "Unsustainable farming and expanding urbanization are two major threats confronting biodiversity globally. The prime interests have always been to maintain the integrity of natural areas and restore degraded habitats. In addition, recent advances in conservation biology have also shown that urban areas

and farmlands can still support substantial biodiversity if well-planned", he said.

The new project focuses on bird monitoring, forest restoration, environmental education, and strengthening outreaches, research collaboration, and students. "We will promote sustainable farming, investigate the impacts of urbanization on birds, restore degraded areas of the [IITA Forest Reserve](#) with native tree species, and raise public awareness about these activities to achieve the objectives of the new project," Awoyemi added.

[Birdlife International](#) designates the IITA Forest Reserve (c. 350 ha), Ibadan as an Important Bird and Biodiversity Area due to the presence of 67 unique Guineo-Congolian bird species. The forest supports over 450 plant species, 272 birds, 236 butterflies, 48 mammals, and 28 reptiles.