

DG's update: IITA strategically positioned to contribute to the One-CGIAR agenda in sub-Saharan Africa

IITA embraced the One-CGIAR initiative in the past year because a unified **CGIAR** will be a more effective and impactful organization. The Institute has also participated in the unfolding plans and is strategically positioned to contribute to the One-CGIAR agenda in sub-Saharan Africa, reported DG Nteranya Sanginga in a recent report to the IITA Board.

Significant developments have been taking place at IITA and CGIAR, with bigger plans for 2021, Sanginga added.

Following discussions with the Directors General, the CGIAR Executive Management Team (EMT) formed Design Working Groups in December 2020 to provide input and advice on designing the new CGIAR operational model. The groups consist of a cross-section of Directors General and staff, covering the three functional areas of the new operational structure: Research and Delivery, Institutional Strategy and Systems, and Global Engagement and Innovation.

On 31 March 2021, the appointment of Global Directors under the three functional areas, Regional Directors, and country-level leads, will be made from among existing center

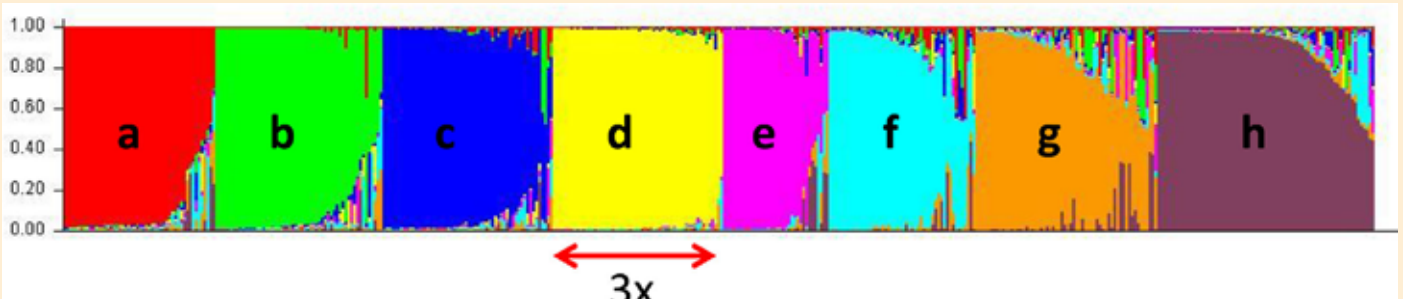
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IITA Director General, Dr Nteranya Sanginga.

Scientists develop mini-core collection for guinea yam germplasm

With West Africa accounting for 92% of the world's annual yam production (67 million tons; FAO, 2018), yam plays a significant role in the region's food security and income generation. While yam is a common name for the multiple crop species belonging to the genus *Dioscorea*, widely cultivated as a staple crop in tropical and subtropical regions, *Dioscorea rotundata* is the most cultivated species in this region, representing most yam production.



Genetic structure of *Dioscorea rotundata* base collection.

However, long growth cycles, inconsistent or no flowering, and dioecy—the possession of both male and female characteristics—continued to limit genetic research and breeding of *D. rotundata*. Other major limiting factors were nonsynchronous flowering of parental genotypes, the presence of multiple chromosomes (polyploidy), and persisting high levels of different forms of a particular gene (heterozygosity)..

Increasing yam productivity in West Africa through breeding requires efficient phenotyping and genotyping techniques. These techniques enable identifying materials with diverse target traits, such as high yield, early maturity, and optimal tuber size and shape. Even then, analysis and utilization of genetic resources with a wide variation range play a vital role in the genetic improvement of crop plants.

A group of researchers from seven international institutes, including [IITA](#), carried out a study to develop a mini-core collection—which reduces the size of the core collection without losing the spectrum of diversity—from a core collection of 447 *D. rotundata* accessions maintained at the [IITA Genetic Resources Center](#). The study evaluated the mini-core collection together with the existing yam reference materials—breeding lines and landraces.

According to [the study](#), 90 SSR markers previously developed for yam diversity analysis from a microsatellite-enriched genomic library of yellow Guinea yam (*D. cayenensis* Lam.) were prescreened on 16 randomly selected *D. rotundata* core collection accessions to identify a set of polymorphic—several variants of DNA sequence—markers for further genotyping.

The researchers selected the base collection accessions based on the cluster's diversity while ensuring that each cluster's accessions were represented in the mini-core collection. They further validated the selected mini-core collection for its representation of the base collection based on the accessions' geographical origins.

Although the selected mini-core collection does not cover the entire genetic diversity of *D. rotundata* in West Africa, it contains considerable diversity that can be studied further to dissect the genetic basis of key traits and the genetic improvement of yams. This is particularly the case for regionally important but under-researched local crops, such as yam in West and Central Africa.

The mini-core collection developed for *D. rotundata* in the study represents a small, easy-to-use resource that is invaluable to accelerate genetic and genomic studies, including improving this important crop for food security on the Continent.

This study was conducted under the project, “*Use of genomic information and molecular tools for yam germplasm utilization and improvement for West Africa (EDITS-Yam; 2011–2015)*” of the [Japan International Research Center for Agricultural Sciences \(JIRCAS\)](#), in collaboration with the [Iwate Biotechnology Research Center](#), IITA, [Tokyo University of Agriculture](#), [Purdue University](#), [La Trobe University](#), and the [Kyoto University](#), with partial support from the [Japan Society for the Promotion of Science](#).



Display of some white yam varieties with yam seed.

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 or Katherine Lopez (k.lopez@cgiar.org) and Uzoma Agha (u.gha@cgiar.org) for headquarters and Western Africa, Catherine Njuguna (c.njuguna@cgiar.org) for Eastern and Southern Africa, and David Ngome (d.ngome@cgiar.org) for Central Africa.



Human Resources. The CGIAR EMT is considering leveraging on IITA's facilities, HR, and partnerships in certain areas, to build on existing achievements toward a strong and respected One CGIAR for Africa and beyond.

Sanginga believes that "building on IITA's current standing with governments and investment banks, IITA can grow support for the One CGIAR operating in sub-Saharan Africa through its Regional and Country Alignment dimension." Also, IITA's work cuts across the three science groups of the One CGIAR structure, including Genetic Innovation, Resilient Agri-food System, and Systems Transformation. Given IITA's current staff numbers and available expertise, the many results obtained in agronomy, plant health, value addition, and its excellent relationships with the donor community investing in these research areas, the One CGIAR would benefit

from IITA facilitating the Resilient Agri-food Systems Science Group. This is because the Science Group is strong at IITA and these capabilities can be deployed for integrated initiatives and bilateral projects to transform smallholder farming systems.

In his brief, the DG also mentioned that since the advent of the COVID-19 pandemic, IITA has recorded 53 cases at its Nigeria station with no recorded deaths. Some cases have also been identified in Zambia and DRC and without fatalities. IITA continues to practice all the health measures recommended by the respective governments and the [World Health Organization](#). The pandemic affected the financial health of IITA, which led the Institute to adopt a 2-pronged approach to manage the situation—an aggressive resource mobilization drive, and a cost reduction exercise involving the reduction of staff salaries for seven months. The situation was judiciously

managed within four months and the Institute resumed paying full salaries to its staff.

Furthermore, resource mobilization with development banks and country loans was actively pursued, and positive results were achieved with the [World Bank](#) (WB), [Africa Development Bank](#) (AfDB), and [International Fund for Agricultural Development](#) (IFAD). Due to this achievement, IITA has a gross revenue projected at \$139 million for 2021. This is the largest budget in IITA history, with a surplus of \$0.5 million.

Another major development is that IITA just signed a significant project on Zero Hunger with IFAD for Nigeria and Togo. A major project is expected from the World Bank for the Democratic Republic of Congo. Also, AfDB, IFAD, and IITA are working together on the African Heads of State summit on food security that will take place in the second quarter of 2021.

Access to infrastructure can increase youth engagement in agriculture

Youth unemployment remains a critical challenge in developing countries, especially in sub-Saharan Africa, where the youth unemployment rate is among the world's highest. While graduate unemployment is a major concern for the Republic of Benin's government, a study carried out under the [IITA-CARE](#) project—sponsored by the [International Fund for Agricultural Development](#) (IFAD) across 10 African countries—explored factors that can influence the country's youth to venture into agribusiness.



Rodrigue Kaki, IITA-CARE Youth Researcher.

Despite the opportunities for self-employment in agribusiness, most young graduates in the Republic of Benin still seek scarce blue and white-collar jobs. According to the research, even agriculture graduates seek off-farm employment rather than pursuing agribusiness as a career.

Rodrigue Kaki, one of the project's young researchers who carried out the research, stated that understanding why youth, especially students of agriculture, rarely venture into

agribusiness might help policymakers plan strategically to attract more youth into agribusiness in the Republic of Benin.

Over 200,000 or 17% of young citizens between the ages of 15 and 24 in 2011 were neither employed nor in education or training. According to the research, a mindset change is one factor that can increase youth engagement in agriculture, as students who had a positive perception of the agribusiness environment were

the most amenable to joining the sector.

Calling on policymakers in the Republic of Benin to incorporate entrepreneurship into the curriculum of agricultural faculties and universities, Kaki also recommended improving the overall agribusiness environment. He added that the government could invest in infrastructure that improves the economy's competitiveness in general and is essential for its agriculture sector.

With funding from IFAD, the Enhancing Capacity to Apply Research Evidence (CARE) in policy for youth engagement in agribusiness and rural economic activities in Africa project, being implemented by IITA, aims to strengthen the capacity of young African scholars in generating and disseminating evidence-

based research results to inform future action plans for governments, policymakers, and rural communities. The project presently has 80 awardees across Africa from countries including Benin, Cameroon, DR Congo, Malawi, Morocco, Nigeria, Rwanda, Senegal, Tanzania, and Zambia.



Agriculture has huge potential to create employment through business opportunities.

Female scientists seek enabling environment in CGIAR

Female scientists play an essential role at the forefront of CGIAR's mission to deliver science and innovation that advance the transformation of food, land, and water systems in a climate crisis. Female scientists, representing 29% of the [CGIAR](#) workforce, power its innovation but still require more support to thrive. This led to the creation of Women in Research and Science (WIRES), a new employee-led resource group (ERG) that aims to build an enabling environment to empower women scientists across CGIAR.

On 21 January, the WIRES platform was launched in a virtual seminar themed "Powering One CGIAR's innovation through diversity." The discussion featured five expert speakers focused on empowering women in research and science at CGIAR workplaces worldwide.

WIRES is one of three new ERGs established under CGIAR's gender, diversity, and inclusion (GDI) Framework. The ERG was founded by women scientists from across CGIAR centers, including [IITA](#) scientists [Elizabeth Parkes](#), HarvestPlus Cassava Breeder, and [Gundula Fischer](#), Social Scientist and Gender Expert.

The group is dedicated to championing and supporting women. The group is open to any employee who is ready to support an increase in visibility for women research and science professionals by ensuring that their voices are heard, and contributions are recognized. WIRES aims to connect and inspire its members by providing tools and shared knowledge that supports professional development. This will be done by organizing and sponsoring events and activities that build workplace relationships and strengthening networks and alliances across CGIAR.

[Agathe Diama](#), Head of Regional Information and Smart Food Coordinator at ICRISAT, facilitated the session. Excited about the launch and plans for the network, she stated that men are also encouraged to be part of the group, as it is not open to women alone.

Fiona Bourdin, CGIAR Senior Adviser on Gender, Diversity, and Inclusion, gave an overview of ERGs. Bourdin stated that their

role is to promote a diverse and inclusive workplace, one of WIRES's goals. "ERGS encourage great staff engagement, which leads to improved motivation, morale, and innovation in the workplace," she said.

Technical Program Manager of the Global Maize Program at CYMMYT and one of the founding members of this ERG, [Aparna Das](#), highlighted the mission and goal of WIRES. Das said that WIRES promotes women's interests and enhances communication, research collaboration, and career mentoring among all members. "Our members will be expected to promote inclusiveness in the workplace, motivate colleagues through wider information about women in research and science, contribute to the mission of WIRES, and help people access ideas that inspire change and benefit individuals, families, and communities."

In a panel discussion anchored by South Africa Country Representative of IWMI and WIRES member [Inga Jacobs-Mata](#), she asked speakers to share their journey and lessons learned as women scientists. [Alice Ruhweza](#), Africa Region Director for the World Wide Fund for Nature (WWF), stated that over the years, she has learned to put her values first in everything and

then explore how to bring those values to the workplace. "Be visible, accept the vulnerability that comes with being visible, and be optimistic," she added. Another speaker, Chin Yee Chan, Research Fellow at WorldFish, stated that she learned never to give up but to keep learning to extend the research horizon by exploring research options. "There are always challenges, but if we take it step by step and never give up, it will be a rewarding journey," she added.

The speakers also highlighted the challenges facing women in R4D and their hope for CGIAR in the future. [Claudia Sadoff](#), Convener, and Managing Director of Research Delivery and Impact, for the One CGIAR Executive Management Team, mentioned her hope for CGIAR to become a space where women gain recognition, not only in research and science but generally. In the same light, [Safaa Kumari](#), Head of Seed Health Lab/Plant Virologist at ICARDA, advised the CGIAR leadership to create a comprehensive workplace for women scientists and researchers.

Concluding the seminar, Das encouraged both men and women to be part of the group. "We welcome and encourage all of you to join WIRES; let's build this team together," she said.



The Women in Research and Science (WIRES) platform was launched recently.