



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

NIGERIA INTEGRATED AGRICULTURE ACTIVITY
NEWSLETTER
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USAID
FROM THE AMERICAN PEOPLE

IITA
Transforming African Agriculture



Adaptation in Agriculture Sector: Carbon Source to a Carbon Sink

Nigeria faces various environmental challenges exacerbated by climate change, negatively affecting various sectors, particularly agriculture. The key challenges are deforestation, biodiversity loss, land degradation, erosion, drought, and desertification resulting in conflicts, pollution, rising temperature, extreme heat, and changing precipitation. Climate change in Nigeria is expected to significantly impact livelihoods and the economy (UNFCCC 2020). With climate shocks occurring more frequently, vulnerable households can cope less with and recover from crises (OCHA 2017). Prolonged droughts have affected agriculture in North-East Nigeria, while erratic and shorter periods of rainfall have substantially impacted agricultural production and increased poverty in the region.

Recent UN Food Systems Pre-Summit (Aug 2021) focused on science and innovation as a driver for transforming the food system through sustainable agriculture productivity, ensuring food security. The food security discourse focussed on two key elements of the rising levels of malnutrition and moving the food systems from a carbon source to a carbon sink. The better management of disasters and climate risks were identified as the core of achieving food systems transformation towards 2030.



Simon Issac, a smallholder farmer at his Maize farm in Purokayo, community in Guyuk, Adamawa, Nigeria

In Nigeria, the agriculture sector contributes about 20 percent of its GDP, while 95 percent of farmers have no title to agricultural land (IFAD 2020), with a 70 percent labor force working in Agriculture (IITA 2016). Smallholder farmers who produce 90 percent of Nigeria's food, on average one to five hectares of unirrigated plot, constitute the vast majority of rural dwellers (IFAD 2020). Their food value chains are largely undeveloped, with high post-harvest losses of up to 20 percent for grains (SDG-VR Nigeria 2017).

Nigerian Government's report on 'Nigeria Zero Hunger Strategic Review (2017)' contains a plan and a road map to achieve SDG 2 (achieve food security and promote sustainable agriculture) focusing on strengthening farmers' resilience by 2030. Its 'National Agricultural Resilience Framework (2014)' envisages developing resilient agricultural practices focusing on modernizing agriculture production from public and private sector investments and farmer training to improve yields.



CLIMATE-SMART

CROP VARIETIES PROMOTED IN IAA INTERVENTIONS STATES OF ADAMAWA & BORNO IN NIGERIA

RICE FARO 44 | FARO 52 | FARO 61

SOYBEAN TGX 1951-3F | TGX 1835-10E | TGX 1904-6F

COWPEA IT99K-573-1-1 (SAMPEA 14) | IT99K-573-2-1 (SAMPEA 15) | IT89KD-288 (SAMPEA 11) | UAM 1051-1 (FUAMPEA 2)

MAIZE IWD C2 SYN (SAMMAZ -15) | 99EVD STR-W (SAMMAZ-27) | DTSTR SYN /IWD C3 SYN F2 (SAMMAZ 51) | SAMMAZ-32 (99 TZEE-STR-QPM) | 2013 DTSTRW SYN

SORGHUM CSR-01 | CSR-02 | SAMSORG 17 | Samsorg-40 (ICSV-400) | Samsorg-41 (ICSV-111) | Samsorg-44 | Samsorg-45 | Samsorg-46 | Samsorg-47 | Samsorg-48 | Samsorg-49

MILLET SOSAT-C88 | SUPERSOSAT | JIRANI

GROUNDNUT Samnut-22 | Samnut-24 | Samnut-25 | Samnut-26 | Samnut-27 | Samnut-28 | Samnut-29



In the last 20 years, IITA had several field trials, experiments, and crop simulation models in the Nigeria savanna on the varieties of crops, production, performance, technologies to improve the productivity of cereal and legume crops in context to climatic variabilities and resilience-building. The key factors were soil types & fertility, rainfall pattern, temperature, solar radiation, agro-ecology, key seasons, i.e., hot, humid & rainy, economic and nutrition aspects of crops in the region.

For this purpose, the Decision Support Tools for Agriculture Technology Transfer-DSSAT with Agriculture Production Simulation Model-APSIM were used on the performance of widely grown cereal and legume crops in IAA states to work on developing technological solutions for better productivity, agronomic management practices, sowing, fertilizer use, measuring yield, crop management, and storage.





Baba Sahabo, 50, talks about his experience from IAA interventions and training in a meeting at Namtari



"..due to training provided by IAA on climate-smart agriculture, I was able to overcome the constraint, and the crop yield has increased almost 30-40 percent.."



Climate Smart Agriculture Practices Trainings: helped in High Crop Yield

Baba Sahabo, 50, has been farming for the last 30 years, in Namtari Gurel, a community of Adamawa state, whom IAA provided 12.5kg of Rice (FARO 61), from which he produced 18 bags (1800kg) of Rice, selling them for ₦15,000 each bag, and from the profit bought a rice harvesting machine for ₦120,000 during last season. He has 30 ha of the land, and the constraints he mentioned facing him were related to frequent climatic variabilities in the form of prolonged dry spells, scanty rainfall, unpredicted weather pattern, pest infestation, shrinking availability of water in the region.

Baba regularly participates in various training provided under IAA. By now, the count goes to nine on good agriculture practices GAP, herbicide use, use of fertilizer, seeding space, plot measurement, tillage, processing, and packaging climate-smart agriculture practices, among others. Baba Sahabo says, "due to training provided by IAA on climate-smart agriculture, I was able to overcome the constraint, and the crop yield has increased almost 30-40 percent, and I also learned that during the off-season I could get a better price for my produce if managed to store the produce well."



Grace Michael, her groundnut field, in Biu, Borno, Nigeria

Resilience Building by Adopting Climate Smart Crops in Borno, Nigeria

Grace Michael, 45, is a farmer in the Zarawuyaku community of Biu, Borno state in North-East Nigeria. With seven children, she is the only income earner in the family and an active member of the Diza Farmers Producer group, formed under Feed the Future Nigeria Integrated Agriculture Activity program in October 2020. Her group selected Grace as a Community Based Seed Producer (CBSP), and was provided with Foundation seeds of groundnut (SAMNUT-22 variety) to grow Certified seeds after training from Nigerian National Agricultural Seeds Council-NASC. The improved variety of groundnut seeds she grows are climate-resilient in terms of high yielding, early maturing, drought-tolerant, pest-resistant, and have high oil content compared to the traditional variety. Grace, who lost her husband ten years back, expects about 1,000kg of certified seeds that she can sell for approximately ₦471,500 (US\$1,150). With this income, she can support herself and her children to buy food, educational materials, and better care.



Esther Thomas, in Biu, Borno in Nigeria shows her dried vegetables and lentils

Adaptation to Climate Shocks: Processing and Preserving Food for the odds

Climate change-related risks in North-East Nigeria add to poor rainfall, droughts, food insecurity, and risk of famine. The crop and vegetable growing season of June-July is crucial for Esther Thomas, 54, a mother of eight children who live in the Wakama community of Biu in the Borno state of Nigeria. She is an agri-entrepreneur who understands the importance of food access during the coming dry season and increasing climate change events of low rainfall and droughts. While diversifying her livestock and chickens, she prepares herself for the next 6-8 months, when there will be poor access to vegetables & lentils in her area. She is drying the Okra-ladyfinger, Amaranthus leaves, groundnut, soybean, etc., by processing and preserving them well to extend their storage life and make them available in the off-season. Esther was trained under Feed the Future Nigeria Integrated Agriculture Activity program in August 2020 on various livestock management and nutrition-related aspects, including homestead gardens to grow different vegetables.



Halima shows her products which she sells in the local market and her neighborhood.



"..I take care of my eight children from this small business enterprise of soap, petroleum jelly, heat balm, cleaning liquid, and want to expand it in future from some loan support..."



Numerous analyses have highlighted Nigeria's potential to accelerate growth through investment in farm and non-farm businesses in conflict-affected and climate impacted areas like North-East Nigeria. Under Feed, the Future Nigeria Integrated Agriculture Activity in the North East, a series of non-farm-based skill development training supported Halima Hamidu, an Internally Displaced Person-IDP and mother of eight children. She was trained in soap, balm, toilet cleaning liquid, and hand sanitizer production.

Apart from using the products for her family, Halima sells them to other women in her community to support the school fee of her children and buy food. Inspired by her financial independence, more women in her community are interested in joining the business. The insurgency in the Borno state of North-East Nigeria forced Halima to migrate from the border town of Madagali first into an IDP camp and later into the Yolde Pate community of Yola South Local Government Area Adamawa State. Halima wants to expand her business by getting a loan from the Micro Finance Institution, for which she will be submitting a business plan sooner.



Prakash Kant Silwal
Chief of Party

MESSAGE

In this fourth edition of the Newsletter, we bring you some significant efforts of IAA in promoting climate-resilient and climate-smart agriculture practices where smallholder farmers are trained and practicing them for better yield and climate adaptation.

ABOUT -IAA

The Feed the Future Nigeria Integrated Agriculture Activity-IAA issued under the US Government's Global Food Security Act was awarded by USAID Nigeria to the International Institute of Tropical Agriculture-IITA and its partners in July 2019 towards economic recovery in North-East Nigeria. It supports vulnerable populations in 12 Local Government Areas-LGAs of Adamawa and Borno states by engaging in basic farming activities to improve food security, increase agricultural incomes and improve resilience among smallholder farmers through strengthening institutions and market networks, youth, and women in agribusiness activities.

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