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WEST AFRICA AGRICULTURAL PRODUCTIVITY PROGRAMME
PROGRAMME DE PRODUCTIVITE AGRICOLE EN AFRIQUE DE L'OUEST

Key Results in Senegal



December 2018

Senegal



The Government of Senegal invested, during the period 2008-2018, a total of **\$US 75 Million** to increase the productivity of Dry cereals and associated crops, Livestock (Dairy & Meat) horticulture (Tomatoes & Mangoes) and rice value chains. The main activities supported were:

- Research and development infrastructural construction and rehabilitation and equipment procurement;
- Training of young scientists and extension agents;
- Technologies and innovation (T&I) generation;
- T&I dissemination for broad adoption.

Major Research & Development; Infrastructural construction & equipment, operational cost (2008 - 2016)

\$US 7.18 Million



Major Renewal of research-development personnel (2008 - 2016)

\$US 3.76 Million

219 Young Scientists Trained

Technologies dissemination between 2008 - 2016

\$US 18.37 Million

629 266 farmers adopted T&I on **526 043 ha**



Major Research & Development activities between 2008 - 2016

41 Technologies and Innovations Released

\$US 11.81 Million

Success Stories



WAAPP Sows Seeds of Resilience in Senegal

The geographical location of Senegal along the Sahelian belt of Africa means its agriculture is already facing the brunt of climate change. Experts argue that if urgent measures are not taken, small-scale farmers are likely to suffer the most.

Peanut ranks among Senegal's top five largest export commodities with millions of small-scale farmers involved.

Once the engine of the Senegalese economy, the peanut sector has suffered a major crisis, according to the Research Program on Climate Change, Food Security, and Agriculture.

But the trends are starting to change with the substantial investment of the West Africa Agriculture Productivity Program (WAAPP) in this critical sector.

In the past few years, WAAPP Senegal has been at the forefront funding research and development efforts to revitalize the sector and get it to boost economic growth, stimulate employment, and achieve the food and nutrition security of the people in Senegal and across West Africa.

Not only did WAAPP support the generation of new seeds, but they also tackled related challenges such as seed storage magazines, aflatoxin (a common disease affecting groundnut), organizing farmers into cooperatives, and improving marketing opportunities.

Through the regional center of excellence on dry cereal research, WAAPP funded adaptive research in critical cereals such as millet, maize, sorghum and fonio and associated crops such as groundnuts, cowpea.

Breakthrough Results

Thanks to the support from WAAPP, the National Agricultural Research Center (CNRA) located in Bambey went to work generating resilient groundnut varieties that can adapt to the current climate. So far, ten climate-smart groundnut varieties have been validated, approved, and on their way to being shared with producers.

Some of the new varieties include: Yaakaar, Rafet, Taaru, Es-samay, Amoul Morom, Tossette, and Sunugal.

“The current groundnut varieties are about 20 to 50 years old. They cannot produce the expected yields under the current climatic conditions. The new varieties are high-yielding, disease-resistant, and pest-free,” says Dr. Issa Faye, Peanut Breeder at the CNRA in Bambey.

“Compared to the old varieties, you can see a significant difference in the maturity of the pods per plant, the weight of the seed and the grain size.”

High Expectations

In the center and south of Senegal specifically in the Fatick, Kafrine, Kaolack, Tambacounda and Thiès regions, most of the population are involved in groundnut farming.

Experts project that these new varieties will considerably improve production.

“The dissemination of these new multipurpose groundnut varieties with both a high seed yield potential 2.5 to 3 tons per hectare and a medium-to-long-cycle of 80 to 120 days are more resistant to diseases. They contain between 40-50 percent oil value and the large seeds weigh about 15 grams. These are well suited to producers,” says WAAPP Senegal.

Though the validation and approval processes are already over, the seeds are not yet in the hands of farmers.

“What we project is that by 2020, the new varieties will be in the hands of all farmers,” added Dr. Faye.

A Benefit for West Africa

Four countries with similar climatic conditions as Senegal have already received the new seeds. This includes Mali, Niger, Burkina Faso, and Benin.

Under arrangements put in place by WAAPP, specific national research centers generate technologies and innovations and ensure that they are available regionally.





While the varieties imported from Ghana yield 25-30 tons per hectare under rainfed conditions and 40-50 tons per hectare under irrigation. Some of the priced varieties from Ghana include Ampong, Broni, Sika, Bankyehemaa, and Otuhia.

Regional Cooperation Strengthens Senegal Cassava Sector

Cassava may not be the number one crop in Senegal. Compared to maize, millet, sorghum, peanut, or mangoes, it is right down the pecking order. The country's annual cassava production has tended to fluctuate between 600.000-650.000 thousand metric tons in recent years.

But as a new form of regional collaboration on technologies and innovations brought about by the West Africa Agriculture Productivity Program (WAAPP) takes hold, Senegal is now looking to step up its annual production.

"Our ambition is to get to one million metric tons of cassava per year in Senegal," says Assane Ndiaye, the man who manages the Interprofession manioc au Sénégal, a group of leading actors in the cassava sector.

Senegal has long considered the cassava sector as one which can contribute to boosting its economy, increase the incomes of actors, and strengthen the food and nutrition security of its people. But with the "Soya," and "Combo," two of the local varieties, not much progress was achieved.

"The local varieties yields barely 11 tons per hectare," says Assane Ndiaye.

“Not only are these new varieties high yielding, disease-resistant, and pest-free varieties, they are extraordinary in terms of performance,” says Maguette Diop, who earned about 700.000 FCFA (USD1400) at the end of the last cultivation season.

Going Beyond Yields – To Transformation

Tivaouane, located about 70 kilometers from the Senegalese capital, Dakar, is the leading cassava production region of Senegal. Here, actors have set their sight to higher goals – the transformation of cassava.

The import bills of wheat and other flour in Senegal are on the increase, experts argue. Adequately transformed, cassava can produce flour, gari, fufu, and starch.

“The cassava sector can produce 235,000 tons of flour per year. If 10% of this cassava flour is incorporated in the flour for bread, it will reduce the bill of 120 billion FCFA spent by Senegal importing of 2.500 tons of flour a day to make bread,” argued Ibrahima Wade, one of the leading proponents of the country’s drive to accelerated Growth.

“If we get only a ten percent addition to the flour sector, the government will benefit,” says the President of group of cassava actors in Senegal.

“Cassava is the crop of the future. With transformation, it will boost production, create jobs for women, and reduce imports,” says Assane Ndiaye.

As in other value chains, the lack of capital and equipment can significantly stall progress. While WAAPP Senegal has invested considerable sums in empowering actors and strengthening the cassava sector, the women group of Tivaouane are looking to increase the production.

Asked what is their number one priority right now? The leading woman transformer in Tivaouane picked equipment.

“We need a production unit that can help us save energy, money and time and produce in large quantities. There are business opportunities with bread bakers,” says Maguette Sy.

WAAPP Senegal donated a grant of four million FCFA (USD8000) to the women transforming cassava in Tivaouane. The money helped them kick-start activities.

WAAPP was designed to make agriculture more productive, sustainable and profitable for smallholder farmers, to improve the conditions of life of consumers through the provision of agricultural products at competitive prices, build a critical mass of researchers for sound, efficient and collaborative research programs and finally to ensure that technologies generated nationally are available regionally.

Earlier individual countries worked within their boundaries with limited cross-border interactions. But with the WAAPP, Senegal and Ghana have collaborated leading to the uptake of critical technologies and innovations by farmers in both countries.



The Paradox of Senegalese Women Agro-Processors

The uplifting stories of brave women agro-processors of Senegal. Undaunted by the challenges, they have taken their destinies in their own hands and now contribute a modest monthly sum to purchase raw materials to keep pace with growing demand.

«For years, they have turned maize, millet, sorghum, and wheat into the local delicacies including “Sankhal,” “Thiéré,” and “Thiakry” etc. As the quality of their products has improved, demand has also risen from both the local market and wholesalers.

But as the demand rises including from Auchan, one of Senegal's largest grocery food store, the women find themselves unable to meet expectations in part of because of the lack of a revolving fund.

“We are having orders from Auchan and other major wholesalers,” says Awa Diop, the group's President.

“Presently, the demand is higher than the supply.”

“The women want to work. They have been trained. They have capacities and the know-how. What is setting us back is a rolling capital.”

Called the Network of Women Micro-entrepreneurs of Pout, this group has rented a processing unit costing about 30000 FCFA (USD 60) per month. Most of the transformation done here is artisanal. The women explain that the rising fixed cost of doing business means they end up with less profit.

“If we owned our own plant and transformation equipment, we will increase our operations and gain more money,” says Ms. Diop.

Agro-processors are expected to comply with stringent hygienic and quality assurance regulations in Senegal. For now, the Senegalese government has apparently not yet authorized these women to commercialize their products at large-scale.

“What this means is that most of what our women produce is consumed mostly in their households,” says Diop.

To a certain extent, this limits their customer base, she argues.

While looking for other avenues to raise additional capital, the women group of Pout are assembling a monthly contribution.

“We simply cannot wait on others. We have to take our destinies in our hands. This is why we have tasked ourselves every month to donate an 8000 FCFA (16 USD) contribution to purchase the relevant raw material that allows us to continue work and to meet the demand of our customers.”

The Network of Women Micro-entrepreneurs is made up of women involved in several activities. Some are involved in tailoring, livestock rearing, and the production of onions and tomatoes. By diversifying, the women are able to expand spread the risks and make more profit.

WAAPP Senegal has paid for training and capacity development of the women of Pout as well as others around the country in several domains. Some of these include good practices in the transformation of mango, maintaining proper hygiene in the processing of fruits, financial management, finding market opportunities, the nutrition of some key commodities, and packaging.

The WAAPP invested 3 million FCFA (USD 6000) into this women group in 2014. Since then, WAAPP experts argue, significant change has been observed in the activities and lives of those involved. Some of the real benefits are in the area of capacity development and not necessarily monetary, WAAPP argues.

In Thier Own Words



Aminata Marega, 30

Before joining the women group, I was a stay-home mom doing nothing. But since I joined, I have not only increased my knowledge and ability to transform and package cereals, I also know how to make bleach.



Aminata Ciss, married with two kids

I have been actively involved in the transformation of dry cereals for a year and a half. The income earned here has enabled me to participate more in running the affairs of my household. I am really busy and happy to be able to support my family.



khady Diop

The most important benefit has not been the money. It is the knowledge I have acquired while working here that I loved the most.



Aissatou Diallo, a woman with reduced mobility saved from poverty

The to her reputation as a brave woman, Aissatou Diallo, Chairwoman of the Economic Interest Group (EIG) named SHIVET FRUIT counts 28 years of experience in this business. With reduced mobility, Aissatou Diallo neither begs nor believes in mendicancy. Her credo is “work”. This business woman aged about fifty years does not miss the major commercial events such as fairs and other trade shows. On the occasion of each International Fair of Agriculture and Animal Resources, she is invited to settle in the village of the West Africa Agricultural Productivity Programme to sell the products from their fruit processing unit and make contacts.

She started her activity in 1988. “I could not stay idle at home. That’s how I started making local juice in an artisanal way”, she explained. Finally, Aissatou Diallo and other women established an EIG of ten members. 2005 is the starting point. She is part of a group of women targeted by the Fonds national de recherche agricole et agro-alimentaire (FNRAA) [National Fund for Agricultural and agri-food research], an implementing agency of WAAPP,

to receive training in the field of processing and food preservation. A long journey led them to Canada. “We have gained valuable knowledge and received diplomas”, she said. On her return from Canada, the EIG named Shivet Fruit of which she is Chairwoman received equipment from FNRAA estimated at one million CFA francs. As a result of the training, the organization now has the technical capacity required to process almost all local products, while maintaining their taste and nutritional qualities. For Shivet as an EIG, this experience was a true consecration.

Their production unit processes local cereals into syrups, preserves and jams. These are products with extreme delicate taste. “We carefully comply with manufacturing standards”, said Mrs. Samb surrounded by her collaborators.

In Mbour on the small coastline [Petite Côte] where the EIG operates, the brand called ‘Tropic’ gains the trust of the hotels and restaurants that are highly demanding in terms of hygiene and quality.



Regular checks of the National Hygiene Service are used as quality evidence at the processing unit. “The products of Aissatou Diallo do not show any lack of hygiene and quality, and our customers really appreciate her syrups, jams and processed cereals. I strongly encourage her to maintain this momentum” a hotelkeeper in the seaside resort of Saly said.

Another step was taken with the opening of a shop. Tropic as a brand acquires a reputation that now goes beyond the Petite Côte (Small Coast). The success of Shivet was immediate thanks to highly tasty products. This EIG then demonstrated its ability to meet the most demanding orders, especially those of Westerners spending their holidays in Mbour. As an outstanding saleswoman in the Petite Côte, Aissatou Diallo aims to expand her business internationally.

Mrs. Samb is the national preference spokesperson. She advocates the consumption of local food.



About WAAPP

The West Africa Agriculture Productivity Program (WAAPP) involves 13 countries. The 10-years program was designed to make agriculture more productive, sustainable and profitable for smallholder farmers in West Africa. Started in 2007, WAAPP also aims to improve the conditions of life of consumers through the provision of agricultural products at competitive prices, build a critical mass of researchers for sound, efficient and collaborative research programs and finally to ensure that technologies generated nationally are available regionally. The WAAPP was established at the initiative of the Economic Community of West African States (ECOWAS) as a response to the renewed commitment by African countries to implement the Comprehensive African Agricultural Development Program (CAADP). Participating countries fund the USD 500 million program through a loan system obtained from the World Bank. At the regional level, the program is coordinated by CORAF. More than two hundred technologies were released and adopted by almost 4,5 million producers and processors on about 4.8 million hectares. These technologies are available on www.mita.coraf.org. WAAPP financed master degree and Ph.D. studies for 1021 youths. This represents 72% of men and 28% women. These young researchers are expected to replace most the agriculture researchers going on retirement. The nine national centers of specializations of countries participating in the program benefitted from the renovation of their infrastructure and new research laboratories were constructed. Two of the centers have been upgraded in regional centers of specialization. This includes the Dry Cereals Center based in Senegal and The Roots and Tuber center based in Ghana. By increasing the primary crops yields between 30% for dry cereals and 150% for rice, fruit, and tubers, the program has had a considerable impact on food security and caloric intake. Caloric consumption rose from 2,777 kcals to 2,964 kcals and the "hunger period" reduced by 28 to 55% according to the commodity. WAAPP has also increased by 34% the economic situation of farmers as well as transformed communities.

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