Office of Inspector General

August 8, 2014

MEMORANDUM

TO: USAID/Senegal Director, Susan Fine

FROM: Regional Inspector General/Dakar, Abdoulaye Gueye /s/

SUBJECT: Audit of USAID/Senegal’s Yaajeende Agricultural Development Program (Report No. 7-685-14-004-P)

This memorandum transmits our final report on the subject audit. This report contains no recommendations because the audit determined the program was on track to achieve its goals. We have considered your comments on the draft report and included them in Appendix II.

Thank you for the cooperation and courtesy extended to the team during this audit.
SUMMARY OF RESULTS

About 47 percent of Senegal’s 13 million people live below the poverty line,\(^1\) rendering 14 percent of children less than 5 years old underweight.\(^2\) According to USAID/Senegal’s analysis in 2010, about 68 percent of Senegal’s labor force works in the agriculture sector, yet it generates only around 14 percent of gross domestic product. The Government of Senegal, which according to USAID increased its investment in agriculture by more than 10 percent per year from 2005 to 2010, is working to make the agriculture sector a source of food security\(^3\) and a primary driver for economic growth.

To help Senegal achieve food security, on November 1, 2010, USAID/Senegal awarded the Cooperative League of the USA, doing business as the National Cooperative Business Association (referred to hereafter as CLUSA or the implementer) a 5-year, $40 million cooperative agreement to implement the Yaajeende\(^4\) Agricultural Development Program. As of September 30, 2013, the mission had obligated $18.8 million and disbursed $18.6 million for the program, which intervened in the areas shown with shaded circles in the map below.

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\(^2\) 2010-11 Senegal Demographic and Health and Multiple Indicators Survey, Senegal National Agency for Statistics and Demography.

\(^3\) According to The State of Food Insecurity in the World, 2012, food security refers to people’s ability to get enough safe, nutritious food to live active and healthy lives; food insecurity is the inability to do so.

\(^4\) In Pulaar, the language in the targeted areas, yaajeende means abundance or prosperity of something as a result of the concerted efforts of people.
The objectives of the program are to (1) integrate the very poor into agricultural markets and the rural economy, (2) improve the nutritional status of women and children, and (3) increase household assets and income among those not able to participate in rural economic activities. In essence, the program goals are to improve food security and reduce undernutrition in targeted areas within Senegal.

CLUA is working to meet these objectives by implementing activities designed to promote the following:

1. **Availability.** Increase the availability of food through greater agricultural productivity.
2. **Access.** Increase access to quality products and services.
3. **Better Use.** Promote better use of available food and potable water to improve nutrition.
4. **Sustainable governance.** Ensure sustainable local governance of food and water.

These four areas encompass work on crosscutting objectives: building local capacity and integrating and empowering women.

The Regional Inspector General/Dakar (RIG/Dakar) conducted this audit as part of its fiscal year 2014 audit plan to determine whether USAID/Senegal’s Yaajeende Agricultural Development Program was achieving its goals. The audit found the program was on track to achieve them.

**Availability.** As of September 2013, farmers had produced 5,031 metric tons of grain, 1,946 metric tons of sorghum (400 percent above the average production), 2,052 metric tons of commercial vegetables, and 181 metric tons of vegetables from family gardens. Further, the program had more than 45,000 beneficiaries applying new farming technologies or management practices. Several farmers we interviewed said the technologies have significantly increased their production. The manager of a commercial garden in Matam said an irrigation technique from the program has increased his production, helped diversify his crops, and reduced his labor costs.

**Access.** Program staff have developed a local network of about 250 entrepreneurs who act as sales agents or agriculture extension agents (hereafter called agents), linking agricultural products and services of urban agribusinesses with consumers in rural areas. The agents let rural growers and producers know what buyers of their goods are looking for, in addition to linking rural producers to quality inputs. We interviewed 20 agents who all said the program significantly increased their incomes as well as those of members of their communities.

**Better Use.** As of September 2013, mother-to-mother groups, developed as an integral part of the program, had conducted more than 14,662 meetings reaching 147,751 participants—among them 79,397 breastfeeding women, 24,371 pregnant women, and 22,205 adolescents. These meetings are for women to discuss and promote better nutrition practices, health, and good hygiene. In addition, the program helped create 6,000 family gardens in 132 villages that are growing nutrient-rich vegetables. We visited three family gardens where women were growing carrots, sorghum, eggplants, peppers, and onions. The women said they were able to feed their families and sell excess produce in the local market.

**Sustainable Governance.** The program provided in-depth trainings on food security to the 25 local governments in its intervention zones. Furthermore, the program helped 19 of these 25 communities develop and implement strategic frameworks for food security. In these strategies, local government officials and citizens laid out their communities’ needs for food security, how they planned to meet those needs and by when, and how they would monitor...
progress. In addition, the program helped all 25 communities form citizen working groups to carry out the activities listed in the frameworks and advocate for women’s access to land.

Our detailed finding follows. The audit scope and methodology are described in Appendix I. Our evaluation of management comments is on page 12, and the full text of management comments is included in Appendix II.
AUDIT FINDING

Program Was on Track to Achieve Its Goals

Program staff were working to meet the goals by implementing activities that promote the following:

1. **Availability.** Increase the availability of food through greater agricultural productivity.
2. **Access.** Increase access to quality products and services.
3. **Better Use.** Promote better use of available food and potable water to improve nutrition.
4. **Sustainable governance.** Ensure sustainable local governance of food and water.

These four areas encompass work on crosscutting objectives: building local capacity and integrating and empowering women.

The audit found that the program was on track to achieve its goals, with the following accomplishments.

**Availability**

The program has made food more available by boosting production and increasing the capacity of organizations and government agencies.

**Boosting Production.** According to program records as of September 30, 2013, farmers had produced 5,031 metric tons of grain, 1,946 metric tons of sorghum (400 percent above the average production), and 2,052 metric tons of commercial vegetables—beans, carrots, cabbage, eggplants, okra, onions, orange sweet potatoes, and tomatoes. Further, the program implemented 6,000 family gardens in 132 villages, producing 181 metric tons of vegetables.

The program taught farmers new technologies. More than 45,000 program beneficiaries were applying new farming technologies or management practices. Farmers were trying conservation agriculture, which consists of deep soil ripping, using decomposed compost or manure, small doses of chemical fertilizer, and improved short-cycle seeds. According to program officials, crops cultivated with this technology are able to grow and produce without rainfall for up to a month. Program staff saw positive results in Kédougou, Bakel, and the southern parts of Matam. Several farmers who applied multiple techniques said their production had increased, as shown on the following page.
Traditional farming methods yielded the results at left; a conservation agriculture technique, deep soil ripping, was applied to the field that thrives at right. Both views show maize after a 1 month pause in rainfall in Kédougou. (Photos by CLUSA, September 2013)

Another irrigation technique the program introduced is ségué bana. Farmers were shown how to install and use a water pump, dig irrigation canals, and divide farm land into certain number of tracts to make full use of the pumped water. This technique transports water throughout the gardens using underground pipes, reducing manual labor and water loss from evaporation. The manager of a commercial garden in Matam (shown below) said this technology had increased his production, helped diversify his crops, and reduced his labor costs. Through the program, the owner obtained a loan from a microfinance institution and bought a motorized water pump. He is now growing onions, peppers, cabbages, eggplants, and tomatoes. According to program officials, the new method decreases the labor required for manually watering crops by up to 40 percent, whereas surface irrigation systems reduce labor by just 25.

Onions, peppers, cabbages, eggplants, and tomatoes grow in this commercial garden in the Matam Village of Ndouloumadji Dembé, where the farmer applied ségué bana. (Photo by RIG/Dakar, April 2014)

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5 Ségué bana is a Pulaar phrase that means “the work is finished.”
Furthermore, the program has helped growers increase production of rain-fed crops such as millet, maize, sorghum, and rice through new farming practices, improved seeds, and regular monitoring of crops. After program intervention, crop production improved between 30 percent and 54 percent for maize, depending on the zone; 66 percent for rice; and 30 percent for sorghum.

**Building Local Capacity.** Program staff were working with local organizations and associations, private companies, local government, and entrepreneurial agents to build their capacity to develop and carry out food security activities. Of the 750 organizations targeted to apply improved technologies and practices, the program had reached 585 or 78 percent as of Year 3. Program officials signed contracts totaling about $1 million with local partners for technical trainings, product research and development, evaluation of project interventions, and coaching of farmers.

- **Organizations.** Program officials trained representatives of organizations on various agriculture techniques and practices so that these people could in turn train their members. One representative of a local partner told us 67 members of his organization were trained to use new techniques. These members in turn trained 3,328 farmers in flood recession farming and 2,500 farmers in rain-fed farming techniques.

  In addition, the program trained local organizations to streamline their administration and governance structure and gave them equipment such as computers, photocopiers, global positioning systems, cameras, and trainings on how to monitor and evaluate program activities.

- **Government agencies.** The program was building the institutional and technical capacity of local government agencies. These agencies were providing farmers with biofortified seeds, short-cycle seeds, plant grafting, in vitro plants, and other high-nutrient vegetables and fruits that are resilient to climatic changes. For example, during Year 2, staff helped one government agency by equipping two of its research locations with new state-of-the-art drip irrigation systems to help increase their plant production. In the same year, one location provided at least 14,000 graft plants for program production. In the same year, one location provided at least 14,000 graft plants for program activities.

  With program help another division of this government agency did plant multiplication through in vitro technology. Plants provided through this technology include orange sweet potato rich in vitamin A (pictured on the next page) and banana plants rich in potassium and vitamin C. The program introduced seven varieties of sweet potatoes through this agency, which produced 1,328 plant cuttings that were multiplied to produce 8,800 plants. In addition, according to program officials, in Year 2, a banana producer purchased 1,000 in vitro banana plants for his commercial garden, and in Year 3, this agency delivered 1,875 plants to program sites in Matam and Kédougou.

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6 The World Health Organization explains that biofortification is increasing the vitamin and mineral content of food—e.g., the iron and zinc content of sweet potato—through plant breeding or biotechnology. It differs from fortification in that it is part of the growing process rather than part of processing.
At left, sweet potato plants grow in a women-owned commercial garden in the Matam Village of Doumnga Ouro Alpha; at right, a grower shows off the orange flesh of the sweet potato. (Photos by RIG/Dakar and CLUSA, April 2014)

Further, one of the government research location equipped with a state-of-the-art drip irrigation system is, for the first time, supplying plants to private sector companies. This location produced 15 varieties of mangos; 16 citrus fruits; 4 apple varieties grown in the Sahel region, the desert area stretching from Senegal to Sudan; and 3 varieties of sweet tamarind. The program did face some challenges in grafting apples from the Sahel region because pests and wild animals damaged the grafts. In fact, only one variety of apples adapted to the local conditions resulting in a success rate of 15 percent, compared with the normal success rate of 60 percent. In Year 3, the program changed its strategy and achieved a 98 percent success rate in Kédougou and 69 percent in Bakel.

The program partnered with another local government agency to transfer improved research and development and agricultural techniques. The director of this agency said the program showed his staff how to manufacture a better fertilizer, which the agency now produces and sells. Also, he said his agency is researching a type of onion that can be grown year-round in Matam, where rainfall levels are insufficient.

**Access**

**Establishing Entrepreneurial Agents.** The program has developed a community-based network of entrepreneurs into sales agents linking private sector product and service providers to consumers in rural areas. In Year 2, program staff identified and trained more than 650 agents in irrigation and maintenance services, the making of specialized agricultural tools, crop and livestock maintenance, seed and nursery plant production, grafting services, and the nutrition benefits of various products. These agents also received training in basic business skills—bookkeeping and financial management, negotiating techniques, and networking. The program linked the agents with private firms for technical trainings about the firms’ specific products. Agents now know all about the products they sell and can explain the benefits to consumers.
During Year 3, the program ceased working with agents who were not successful because of graft or other issues and concentrated on working with about 250 agents to improve their quality of service and professionalism. This smaller group has taken advantage of the training and shown impressive initiative. In fact, program officials said agents were proactively identifying niche markets they could work in, like managing the leasing of water pumps.

We interviewed 20 agents who all said the program had significantly increased their incomes and those of members of their communities. For example:

- A successful entrepreneur in Kédougou had previously been a temporary worker earning about $275 a month. However, over the past 2 years he made sales of about $92,000 and said he built his own house with the profit.

- A female entrepreneur said that through the program she has learned about new types of seeds, mastered producing enriched flour, and developed business skills. She now sells seeds and produces and sells enriched flour, creating job opportunities for five members of her community with whom she has shared what she learned. She recorded sales of about $58,000 over the past 2 years.

**Making Loans Available.** In addition to creating networks and partnerships with suppliers, the program negotiated and formalized partnerships with three microfinance institutions to improve beneficiaries' access to credit. During Year 2, microfinance institutions provided loans totaling about $215,000 to 178 applicants. In Year 3, 225 applicants received loans totaling about $600,000. The program was significantly behind in reaching its end-of-program goal of $5 million. Program officials said helping beneficiaries gain access to credit was difficult because banks are few, and beneficiaries have no credit history and often lack collateral. In addition, the representative of a microfinance institution said sometimes borrowers do not repay loans because they did not fully understand the terms of loans when they applied for them or did not generate enough money from their harvest.

Program staff were working to find solutions to address these problems. For example, during Year 3, staff linked beneficiaries with a government organization providing crop and livestock insurance at a reasonable cost. According to program officials, they were working with the microfinance institution to revise loan applications to state that the insurance provider will repay the loan if the farmer has a bad harvest.

**Integrating and Empowering Women.** Program officials said that from the start of the program, they hired women to implement it. Women held 40 percent of the program’s leadership positions and 25 percent of program positions. Also, 25 percent of the agents were women, and 25 percent of the community working groups’ members were women.

The program has integrated and empowered women by building their knowledge of nutrition and agriculture, making them gatekeepers of key technologies such as biofortified millet and orange sweet potatoes, helping them gain access to land for gardens, ensuring they have an equal voice during governance activities, and training them in agribusiness functions such as food processing and storage.

One woman representing a commercial garden owned by 65 women said before the program’s intervention the garden produced very little. Through the program, these women received training, gardening tools, and biofortified seeds and plants (such as two variations of sweet
potatoes and beans). Agents also provided the women with crop maintenance and other services that they did not have access to before. Moreover, the program showed them how to dry onion, mill and enrich flour, and make jams, allowing them to preserve and sell a percentage of their harvest while still providing for their families. In addition, this garden (shown below) is providing jobs for some women who said they had never worked outside their homes.

![Image of women in garden](image)

**Women show RIG/DAKAR the various crops growing in their commercial garden in the Matam Village of Doumnga Ouro Alpha, where the program provided them with several types of trainings, tools, seeds, plants, and fencing. (Photo by RIG/Dakar, April 2014)**

Another intervention to empower women under the program is reclaiming degraded land. With the assistance of the program, 52 sites covering 80 hectares of land were reclaimed with about 3,954 women benefiting from this intervention.

**Better Use**

As of September 2013, mother-to-mother groups, developed as an integral part of the program, had conducted more than 14,662 meetings. The groups had 147,751 participants, including 79,397 breast-feeding women, 24,371 pregnant women, and 22,205 adolescents. Further, over the past 3 years, community nutrition volunteers prepared 6,888 community meals for 77,100 women and 3,697 men. The program is using community meals to show beneficiaries how to combine various biofortified vegetables with traditional foods to improve the nutrition of children and women of childbearing age. Moreover, to provide families with access to nutrient-rich vegetables, the program has helped create 6,000 family gardens across 132 villages.

We visited three family gardens where women were growing carrots, sorghum, eggplants, peppers, and onions. Women were trained to produce enriched flour and fruit preserves from their crops. Pictures on the next page show a family garden and a display of enriched flour and fruit preserves that women made as part of the program.
This family garden in the Matam Village of Ndouloumadji Dembé is growing peppers, onions, and eggplants. (Photo by RIG/Dakar, April 2014)

Women in the Matam Village of Ndouloumadji Dembé display enriched flour and fruit preserves they made with the support of the program. (Photo by RIG/Dakar, April 2014)
Furthermore, the program placed 4,548 goats (some of which appear in the photo below) and chickens with 1,555 women involved in the program. The women are expected to give the offspring of the animals to other women in the same community. This program has provided not only milk, eggs, and meat for their families but also revenue from the sale of excess production. During our visit, all the women expressed their appreciation for the program.

Mother-to-mother groups in the Matam Village of Loumbal Baladji gathered together goats provided to them through the program to show RIG/Dakar. (Photo by RIG/Dakar, April 2014)

Moreover, the program seeks to change the behaviors of its beneficiaries and strengthen their adoption of better practices in nutrition and health, such as breast-feeding their babies exclusively for the first 6 months. During interviews with RIG/DAKAR, several mothers were breast-feeding, and they credited the nutrition workshops with teaching them the importance of doing so and of selecting nutrient-rich vegetables for their children.

**Sustainable Governance**

The program has provided in-depth training on food security to the 25 assisted local governments. Further, the program helped 19 of its 25 targeted communities develop and implement strategic frameworks for food security. In these strategies, local government officials and citizens laid out what their community needs for food security, how they will meet the needs and by when, and how they will monitor progress.

In addition, the program helped the 25 communities form working groups. These groups, made up of local government officials and citizens, are involved in many functions—planning, advocating, and helping do the framework activities and advocating for women’s access to land. For example, a woman we met said that through the program she learned how to communicate with local government officials and other parties, speak publicly, and take on leadership roles. In fact, through the work of the citizen working groups, 61 mother-to-mother groups gained formal access to a total of 107 hectares of land (approximately 264 acres) and were planting and harvesting crops for their families. Also, to help build public trust, the program taught some working groups and local government officials how to develop transparent processes and
procedures for public meetings and budget planning.

A member of a group we met said he was trying to find ways to generate revenues to continue trainings provided by the program. According to program officials, the working groups suggested collecting fees from members. Before they do, they need to prove they can deliver results for their members, officials noted. Nevertheless, officials said they would continue to support these groups’ efforts to become more professional and self-sustaining.

The program was on track to achieve its goals because of the mission and CLUSA’s approach to developing sustainable activities in the program, collecting baseline data and conducting gender integration studies, and mission officials’ active management of the program.

First, mission officials required the implementer to include sustainable activities as part of the program design. According to the agreement officer’s representative (AOR), the program is using three methods to ensure activities are sustainable: (1) building the local private sector through trainings for entrepreneurs and links to resources and markets, (2) working with mother-to-mother groups to communicate the importance of the health benefits of exclusive breastfeeding for babies less than 6 months old and preparing nutrient-rich foods for their families, and (3) developing community members’ skills to manage and monitor their local government’s approach to food security and nutrition issues. Moreover, the AOR added that the program activities are jointly implemented with community organizations, local governments, and producer organizations to help build their capacity.

Second, CLUSA collected and studied detailed baseline data. CLUSA and the mission have used the data to measure the impact of the program. Furthermore, the CLUSA conducted gender integration studies within the targeted zones to ensure activities are inclusive.

Third, mission officials are actively involved in managing the program. They meet in person with CLUSA officials to discuss the annual work plans as well as the quarterly and annual results. The AOR performs regular site visits to program sites and gives CLUSA feedback on activities that are going well and those that need to be improved. Moreover, CLUSA is proactive in changing activities that are not helping the beneficiaries. For example, during our visit to the northern parts of Matam, many farmers said they couldn’t apply conservation agriculture in their areas or that it was too costly. CLUSA has since stopped conservation agriculture training in this area of Matam because the technique needs more rainfall than this part of Matam gets.

Addressing local demand, building the capacity of beneficiaries and organizations, and ensuring local governments support the program are key elements to ensuring sustainability. Moreover, this program is aligned with the mission’s country development cooperation strategy, which focuses on activities that provide the greatest impact and help the country address its development objectives. Because the program is on track, we do not have recommendations.
EVALUATION OF MANAGEMENT COMMENTS

USAID/Senegal officials reviewed the draft report and did not have any questions or clarifications. Mission officials did ask that we revise a sentence on page 11 regarding the program’s activity about breastfeeding. We revised the final report to include the mission’s comment.
SCOPE AND METHODOLOGY

Scope

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions, in accordance with our audit objective. We believe that the evidence obtained provides that reasonable basis.

The purpose of this audit was to determine whether the program was achieving its goals to improve food security and reduce undernutrition in the program’s targeted areas. The mission awarded CLUSA a 5-year cooperative agreement for $40 million on November 1, 2010. As of September 30, 2013, the mission had obligated $18.8 million and disbursed $18.6 million.

The audit team tested activities in four areas designed to achieve the goal. Because CLUSA does not track program expenditures by these four areas, the amount tested for this audit cannot be determined.

The audit tested program activities implemented between October 1, 2011, and September 30, 2013. In planning and performing this audit, we obtained an understanding of the program design, objectives, activities, and management oversight controls at the mission and CLUSA. We tested the operating effectiveness of the following significant internal controls: mission’s review and approval of annual work plans and program performance reports; documentation of site visits the mission conducted; CLUSA’s review, approval, and awarding of subcontracts; and documentation and data verification of reported program results.

We conducted audit fieldwork from April 7 to 30, 2014, at USAID/Senegal and CLUSA’s office in Dakar. In addition, we conducted site visits to the project’s regional office in Matam, a local partner’s office, a local government agriculture agency, a microfinance office, and project sites in the Matam villages of Doumnga Ouro Alpha, Doumnga Ouro Thierno, Dabia, Ndouloumadji Dembé, and Loumbal Baladji.

Methodology

To answer the audit objective, we obtained an understanding of the AOR’s and CLUSA’s oversight functions; program activities and expected results; and benefits provided to various organizations, government agencies, and beneficiaries. We reviewed and assessed documentation provided by USAID/Senegal and CLUSA that included the mission’s internal control assessment, program design documents, agreements and subsequent modifications, annual work and performance management plans, site visit documents, subgrants, and subcontracts.

To assess whether the program was achieving its goal, we validated reported results, corroborated the results with beneficiaries through interviews and observations, and assessed the program’s progress toward achieving its targeted results as of September 30, 2013.
First, we coordinated with the AOR to identify indicators the mission considered key measures
to achieving the program goal. We judgmentally selected eight indicators to test, taking into
consideration the input of the AOR, the type of indicator (i.e., impact, outcome, output, or input),
and whether the indicator is part of the mission’s country development cooperation strategy and
Feed the Future initiative standard indicators.

For the eight indicators selected, we selected samples or did testing as follows:

- For four indicators with populations that included more than 25 items, statistical samples.
- For one indicator with a population of less than 25 items, the full population.
- For three indicators on which data came from a survey, we assessed the reasonableness of
  the methodology and approach used for conducting the surveys.

The statistical samples were selected using a 95 percent confidence interval with a 5 percent
error rate and 4 percent variation. Therefore, results for each indicator can be generalized to the
full population of that indicator.

Second, we conducted interviews with employees of CLUSA, local organizations, and more
than 100 beneficiaries to validate program results reported—trainings conducted, techniques
applied, goods or services provided to beneficiaries, products produced and sold by
beneficiaries, and beneficiaries’ ability to sustain the activities provided. We also conducted
interviews with direct beneficiaries—women, farmers, and local organizations—to verify that the
activities were satisfying their needs.

Furthermore, we interviewed mission officials and CLUSA employees to ensure that the
program met gender equality, counter-trafficking-in-persons, and sustainability requirements. In
addition, we reviewed applicable laws and regulations; USAID policies and procedures
regarding the program, including Automated Directives System Chapters 200 through 203 and
205; and the agreement and modifications.
MEMORANDUM

DATE: July 16, 2014

TO: Abdoulaye Gueye, Regional Inspector General/Dakar

FROM: Susan Fine /s/, Mission Director, USAID/Senegal

REF: RIG/Dakar Draft Audit Report No. 7-685-14-0XX-P

This memorandum transmits USAID/Senegal’s management comments to the subject RIG/Dakar Draft Audit Report. Thank you for sharing the draft report and providing us the opportunity to offer comments. We view audits as an opportunity to improve USAID programming and accountability.

We have reviewed the draft audit report and have no comments or requests for clarifications. We do have one suggested edit (on page 11), we recommend changing, "The program is also encouraging mothers to breast-feed their babies exclusively for the first 6 months," to "The Program seeks to change behaviors and strengthen adoption of better practices in nutrition and health, such as encouraging mothers to breast-feed their babies exclusively for the first 6 months."