USAID | SENEGAL
FROM THE AMERICAN PEOPLE

USAID-Wula Nafaa Program

FINAL REPORT

AUGUST 2008 – AUGUST 2013

August 2013

This publication was produced by the United States Agency for International Development by International Resources Group (IRG).

AGRICULTURE - NATURAL RESOURCE MANAGEMENT PROGRAM

WULA NAFAA

FINAL REPORT

AUGUST 2008 – AUGUST 2013

CONTRACT NO. 685-C-00-03-00008-00

International Resources Group
1211 Connecticut Avenue, NW, Suite 700
Washington, DC 20036
202-289-0100 Fax 202-289-7601
www.irgltd.com

TABLE OF CONTENTS

ACRONYMS

ACEP	*Alliance de Crédit et d'Epargne pour la Production*
ACF	Assistant facilitator coordinator *(Assistant Coordonnateur des Facilitateurs)*
ADRAO	*Association pour le Développement de la Riziculture en Afrique de l'Ouest*
AG/NRM *(AG/GRN)*	Agriculture/Natural Resource Management *(Agriculture/Gestion des Ressources Naturelles)*
AKAD	*Association Kédougou, Action, Développement*
ANCAR	*Agence Nationale de Conseil Agricole et Rural*
ANT	*Agriculture Non Traditionnelle*
ARD	*Agence Régionale de Développement*
BAD	*Banque Africaine de Développement*
BDS	Business Development Services
BIC	Regional mapping and inventory office *(Bureau Inventaire et Cartographie)*
CADL	Centre d'Appui au Développement Local
CBAO	*Compagnie Bancaire Ouest Africaine*
CBO *(OBC)*	Community-based organization *(Organisation Communautaire de Base)*
CCGF	Community forest management committee *(Comité Communautaire de Gestion de la Forêt)*
CEE	*Commission Economique Européenne*
CG	*Comité de Gestion*
CGB	*Comité de Gestion de Bloc*
CGF	*Comité de Gestion de Forêt*
CIVGF	Inter-village forest management committee *(Comité Inter Villageois de Gestion de la Forêt)*
CLFB	Bush fire fighting committee *(Comité de Lutte contre les Feux de Brousse)*
CLPA	Local Artisanal Fisheries Councils
CLUSA	Cooperative League of United States of America
CMS	Crédit Mutuel du Sénégal
CNCAS	*Caisse nationale de crédit agricultural du Sénégal*
COGIRBAF	*Convention de Gestion Intégrée des Ressources du Bas Fond*
CR	Rural Community *(Communauté Rurale)*
CRD	*Comité Régional de Développement*
CSE	Ecological Monitoring Center *(Centre de Suivi Ecologique)*
CVGD	Village Management and Development Committee *(Comité Villageois de Gestion et de Développement)*
CVGF	Village Forest Management Committee *(Comité Villageois de Gestion de la Forêt)*
CZG	*Comité Zonal de Gestion*
D&R	Rights and Responsibilities *(Droits et Responsabilités)*
DCA	*Development Credit Authority*
DEFCCS	Government Forest Service Division *(Direction des Eaux et Forêts, Chasse et Conservation des Sols)*
DRDR	*Direction Régionale du Développement Rural*
EMMP	Environmental Mitigation and Monitoring Plan
EPC	Savings for Change (*Epargne Pour le Crédit)*
FAO	*Food and Agriculture Organisation*
FCFA	West African Franc (*Communauté Financière de l'Afrique)*
FFN	National Forestry Fund *(Fonds Forestier National)*
FIARA	Foire Internationale de l'Agriculture et des Ressources Animales
GAF	*Gestion Administrative et Financière* (Administrative and financial management document)

GDT	Sustainable land management *(Gestion Durable des Terres)*
GEF *(FME)*	Global Environmental Facility *(Fonds Mondial pour l'Environnement)*
GIC	Community interest Group *(Groupement d'Intérêt Communautaire)*
GIE	Economic interest group *(Groupement d'Intérêt Economique)*
GIRE	Integrated water resources management *(Gestion Intégrée des Ressources en Eau)*
GIS *(SIG)*	Geographic Information System (*Système d'Information Géographique)*
GP	Producers' group *(Groupement de producteurs)*
GPC	Charcoal producers' group *(Groupement de producteurs de Charbon)*
GPF	Women's promotion group *(Groupement de Promotion Féminine)*
GTZ	*Gesellschaft für Internationale Zusammenarbeit*
GWI	Global Water Initiative
HACCP	Hazard Analysis Critical Control Points *(Analyse/Contrôle des points critiques)*
IMF	Micro-Finance Institute *(Institution de Micro-Finance)*
IRG	International Resources Group
JGI	Jane Goodall Institute
JICA	Japan International Cooperation Agency
LASF	Local Agriculture Support Fund
M-E *(S-E)*	Monitoring and Evaluation *(Suivi-Evaluation)*
MEPNBRLA	Ministry of Environment and Protection of Nature, Reservoirs, and Artificial Lakes *(Ministère de l'Environnement et de la Protection de la Nature, des Bassins de Rétention et des Lacs Artificiels)*
MERA *SERA*	Monitoring, Evaluation, Reporting, and Analysis *(Suivi, Evaluation, Restitution et Analyse)*
MIS *(SIM)*	Market Information System *(Système d'Information sur le Marché)*
NDI	*(Note d'Informations)*
NR *(RN)*	Natural Resources *(Ressources Naturelles)*
NRM	Natural resource management
NTA *ANT*	Non-traditional agriculture *(Agriculture Non Traditionnelle)*
NWP	Nature, Wealth, and Power *(Nature, Richesse, Pouvoir)*
PADEC	*Programme d'Appui au Développement Economique de la Casamance*
PAF	Forest Management Plan *(Plan d'Aménagement de la Forêt)*
PAGERNA	*Projet Autopromotion et Gestion des Ressources Naturelles au Sine Saloum*
PAMECAS	*Partenariat pour la Mobilisation de l'Epargne et du Crédit Au Sénégal*
PAPIL	Projet d'Appui à la Petite Irrigation Locale
PCE	Economic Growth Program of USAID
PCR	President of the Rural Community
PDA	Personal Digital Assistants
PEAT	*Projet Eau Potable et Assainissement à Tambacounda*

ACRONYMS -- CONTINUED

PEPAM	*Programme d'Eau et d'Assainissement du Millénaire*
PERACOD	*Programme pour la Promotion des Energies Renouvelables, de l'Electrification Rurale et de l'Approvisionnement Durable en Combustibles Domestiques*
PGF	Fire Management Plan *(Plan de Gestion des Feux)*
PGIES	*Projet de Gestion Intégrée des Ecosystèmes du Sénégal*
PHAST	Participatory Hygiene and sanitation transformation
POAS	Land Use Plan *(Plan d'Occupation et d'Affectation des Sols)*
PROGEDE	Sustainable and Participatory Management of Traditional and Alternative Energies Project *(Projet de Gestion Durable et Participative des Energies Traditionnelles et de Substitution)*
PTA	Annual workplan *(Plan de Travail Annuel)*
RE	Economic Benefits *(Retombées Economiques)*
IREF	Regional Forest Service Office *(Inspection Régionale des Eaux et Forêts)*
RN	Ressources naturelles
RNA	Assisted Natural Regeneration *(Régénération Naturelle Assistée)*
RNCD	Community Natural Reserve in Dindéfélo *(Réserve Naturelle Communautaire de Dindéfélo)*
RTS	Radio Télévision du Sénégal
RV	Village representation
SAGIC	Support for Accelerated Growth and Increased Competitiveness for Trade
SARAR	Self-esteem, Associative strengths, Resourcefulness, Action-planning and Responsibility
SG	*Management body (Structure de Gestion)*
SIEF	Forest Ecosystem Information System *(Système d'Information des Ecosystèmes Forestiers)*
SO	Stragtegic Objective
TOR *(TDR)*	Terms of reference *(Termes de Référence)*
UCIVGF	Intervillage Forest Management Committees Union *(Union des comités Inter Villageois de Gestion de la Forêt)*
IUCN *(UICN)*	International Union for Conservation of Nature *(Union Internationale pour la Conservation de la Nature)*
U-IMCEC	*Union des Institutions Mutualistes Communautaires d'Épargne et de Crédit*
USAID	United States Agency for International Development
USD	U.S. Dollar
USDA	United States Department of Agriculture
USFS	United States Forest Service
VCA	Value Chain Analysis
WADA	Water and Development Alliance
WARDA	West Africa Rice Development Association
WN	Wula Nafaa (AG/NRM Program)
ZIC	Hunting zone *(Zone d'Intérêt Cynégétique)*

1 $US = 500 FCFA

1. EXECUTIVE SUMMARY

This final report presents activities carried out between August 2008 and August 2013 to achieve the performance targets established for the Agriculture and Natural Resource Management Project (AG/NRM) or Wula Nafaa II in Senegal.

Wula Nafaa (WN) is a USAID program financed under the Strategic Objective agreement (SO11) signed between USAID and the Government of Senegal.

The general objective of the Program is to contribute to poverty reduction and sustainable local development by increasing revenues to rural producers and local communities. This is made possible through greater autonomy of local authorities and through integrated, decentralized management of natural resources. This overall objective is reflected in the development paradigm promoted by USAID, which links success to addressing three elements that are common to each country: Nature, Wealth, and Power (NWP). Activities carried out under this approach achieve success by integrating all three elements.

NATURE:

Under biodiversity management, interventions were oriented towards four main themes: innovation in forest management, biodiversity and natural resource management, institutional support for government technical services, and technical assistance for the maize, millet/sorghum, and rice value chains.

To accomplish all this, it was necessary for the Program to build capacity and provide technical assistance to clients through relevant tools adapted to their needs. Target sites for biodiversity conservation, including natural forests and coastal zones that were placed under management, were selected through a participatory process of technical analysis with partners.

In forest management, technical and organizational support provided by the Program led to lasting achievements in three managed forests (Koulor, Saré Bidji, and Sita Niaoulé) that had been established during the first phase, and to an extension of this approach with improvements to three other large community forests (Sakar, Koussanar, and Mangagoulack). In total, more than 130,000 hectares were placed under management with partner collectivities involving 250 villages and approximately 70,000 people.

In order to better preserve the biodiversity represented by critical habitat for the last remaining chimpanzee groups in Senegal, efforts were concentrated on the Rural Community of Dindéfélo, which is recognized as one of the most favorable sites for survival of the species. The chimpanzee has become the symbol of biodiversity in Senegal. Appropriately, an operational management plan for the Community Natural Reserve of Dindéfélo was approved and is one of the great successes of the Program in terms of biodiversity.

The addition of mangroves to the Program's intervention zones has led to broader and more diversified tools for consensual natural resource management. The tools include the Local Artisanal Fisheries Councils and management committees that were set up; assistance for writing fisheries management plans; and assistance with elaborating and implementing local conventions.

Lastly, in the second year, USAID-Wula Nafaa 2 integrated the Feed the Future program into its overall Nature-Wealth-Power strategy. The biodiversity management approach was modified to adapt to this new strategy by orienting interventions to contribute to better food security through activities such as land management and conflict resolution.

POWER:

To assist with the management of lowland areas and strengthen the rice value chain, several supporting technical activities were carried out. These include the evaluation of areas currently under rice cultivation and those with potential for rice farming; monitoring the impact of management on vegetation resources; mapping the extent of lowlands; and documenting the biophysical characteristics of the sites. Horticultural activities sponsored by the Program also contribute to improved nutrition, and these were intensified in order to make the five managed garden sites more profitable. In addition, the Program concentrated on post-harvest activities by facilitating access to and financing of equipment, while building capacity of producer organizations, mobilizing savings for loans, and formalizing the process of writing and presenting business plans for post-harvest machinery. Acquisition of such equipment will help agricultural producers to develop tractor disking, hulling, and processing services.

To go along with the implementation of the various value chains and to consolidate achievements, good governance played a weighty role in the organization of populations, building capacity, and providing technical assistance. For the rice market chain, the Program oversaw the proper implementation of the COGIRBAFs and supported the Management Committees as they raised funds and managed them. In the garden perimeters, management principles were applied and the timing for producing different crops was taught through extension techniques.

In the domain of forest resource management, the Program emphasized organizing populations and building their capacity to make project achievements sustainable. In this context, management committees were set up at each community forest being managed. The Program paved the way for Rural Councils in these sites to fully play their roles in the tasks for which they were trained.

Along the same lines, local conventions that integrate land use plans were drawn up and implemented in selected rural communities, which allowed local governments to use a consensus-based tool to manage their resources. As a prime example, the local convention in Bassoul was used to resolve a 30-year conflict over resource use between two villages in the same Rural Community, a conflict which had previously led to bloodshed, civil suits, and legal sanctions.

In fisheries, Program-supported Local Artisanal Fisheries Councils (CLPA) demonstrated the possibilities for adapting the Nature-Wealth-Power approach to all domains of natural resource management. Some of the CLPA that were created by the Fisheries Service in Program intervention zones simply lacked leadership. Training in administrative and financial management provided by the Program made them functional, and now this approach is being replicated by another project.

Increasing the powers held by the population also led to setting up wells management committees for the Water and Sanitation component. These committees are assuring the correct use of the sponsored water works (29 wells with manual and solar pumps and one borehole).

All of the activities that were carried out empowered local organizations, gave them control over resources, and set up the framework to manage their local natural resources to create wealth.

WEALTH:

Wealth was increased in several ways:

- Greater revenues generated by products in value chains supported by the Program;
- Improved productivity of soils that resulted in increased yields;
- Better quality of marketed products;
- Greatly improved food security as yields increased, especially in the rice, millet, and maize market chains;
- Increased garden production that resulted in greater revenues for women and better nutrition;
- Job creation in various product markets, especially where processing units were set up.

In the first phase, the Program tried to create synergies by bringing all stakeholders together to agree on marketing strategies through roundtable discussion groups. In its second phase, the Program took the value chain approach to increasing wealth. For roundtable groups from the first phase, the Program performed value chain analyses for selected products. This approach led to developing and implementing action plans based on the analyses. For all market chains, the Program concentrated on identifying and organizing new groups, enterprise management, and developing business development services (BDS) to be provided by and delivered to enterprises. Thus 2,942 enterprises were assisted, and 15,365 new jobs were created, including 5,306 for women. In addition, 1,725 enterprises improved their business practices and generated revenues totaling $41,076,660 USD. The number of people who increased their revenues thanks to Program intervention is 35,463, of whom 19,867 are women.

Capacity building for producers was a major and long-lasting activity, and contributed strongly to an increase in revenues and benefits generated by enterprises and producers' groups. Capacity was built in hygienic food handling, quality control, improved processing techniques, business administration, improved presentation of products, and products promotion through participation in FIARA and other international fairs. Wula Nafaa's sponsored participation in fairs and organization of a business forum were major events that contributed much to the visibility of enterprises, products, and results of the Program.

Savings mobilization increased and access to credit was facilitated during the Program's last three years. These were the major steps taken to assist producers in their preparation for wide-scale conservation farming. In terms of credit, implementation of the strategy to make producers responsible for their loans led to dynamic networks taking over the process of obtaining credit, including preparing themselves to sign agreements with financial institutions such as U-IMCEC, PAMECAS, CNCAS, and CMS. An approach based on marketing was designed and implemented by the networks to assure that credit was reimbursed as excess crop was sold.

Synergies were developed with partners in order to share costs for certain activities, particularly in the fonio, baobab, cashew, and traditionally-mined gold market chains. The partnership with VECO in the fonio market is a good example of this synergy: it led to setting up a federation composed of more than 800 producers (URPROFOS) and financing the construction of a processing unit. The development of a system of contractors to make and sell Casamance chimneys and rippers is another example: it led to the emergence of model artisans who profited from the Program's promotion of enterprises. The proximity of these craftsmen to producers facilitates and encourages producer use of the equipment and reduces the cost of acquiring it.

The Program assisted private promoters, conservation farming producers, and lowland area management committees to acquire agricultural equipment in the form of tractors, rice hullers, rice threshers, maize shellers, and rippers.

During the entire period of activity, a fund was available to partners to finance equipment, infrastructure, and small projects. This agriculture assistance fund (LASF) helped with building large projects like anti-salinization dikes, water retention barriers, and garden perimeters.

With the objective of implementing the entire approach in a coherent way, the Program set up a mechanism to monitor and evaluate activities that led to data collection in real time thanks to facilitators stationed in the field. Evaluation was done regularly and internally by the individual Program component heads, and also by a person outside the Program who the donor placed in charge of monitoring.

The coordination of all facets of the work was done by using tools, management systems, and joint planning of activities.

2. INTRODUCTION

USAID-Wula Nafaa's approach was built on sustainability and based on management and/or development of resources (nature's lowland areas, forests, farmland, tree populations); on increasing the responsibility taken on by local actors (power); and on promotion of increased revenues (wealth). The interrelationship of these three concepts is shown in the graphic below.

All activities of the Program are built on an approach that assures long-term adoption of major achievements with collaboration from government technical services, local authorities, and community-based organizations. It is also an approach that requires developing a capacity-building program with technical assistance, completed by good documentation and archiving of methods and achievements so that they can be disseminated to all stakeholders. In summary, the strategy has led to increased awareness and use of principles and practices developed by the Program, which are indispensable factors in the sustainable aspect of the work that was achieved, particularly for food security. Communications and policy analyses were also part of the sustainability strategy. Capitalizing on achievements and adding value to them play essential roles in this approach.

The development approach used by IRG, which addresses nature, wealth and power simultaneously, is based on experiences and lessons learned after 30 years of working in the natural resources sector in the Sahel and distilling the requirements for alleviating challenges to NRM. As a principal architect of the NWP concept with USAID, IRG was qualified to expand the lessons from natural resources to other sectors and to help catalyze positive change in governance and NRM in Senegal.

In light of this, one could consider that **nature is the substrate** of the approach, which could not be developed without **the cornerstone of giving more power to the population,** which in turn leads to **creating wealth.** For these reasons, the Program was set up with a Good Governance component in its second phase.

The governance aspect was not specifically developed during the first phase. It is during the implementation of activities that a gap in the formal approach was noticed. A governance pilot program was set up in three Rural Communities, and its evaluation brought out the need to base activities on good governance principles, even though the Program was already at its mid-term.

During the second phase, the goal that was assigned to the Governance component was to increase capacity of local government to manage local resources in a transparent, sustainable manner. Thus an extensive program for building capacity was developed through training local trainers, organizing structures to motivate local development by committees, networks, and individuals working in various market chains. This training program led to the formation of a shared awareness, collective ambition, and common action by all stakeholders in the various market chains.

Thus, the good governance component played a role of linking "Nature and Wealth" together, within the Nature-Wealth-Power triad; actors could more fully play their roles and assume their responsibilities, particularly in the context of powers given to local government. This role was more pronounced when the Agriculture component was integrated into the Program. By putting an accent on the Feed the Future initiative, the Program actually transformed the NWP approach, particularly in terms of planning and implementation of activities. The initiative helped to prevent Program components falling into isolated work activities.

3. GOOD GOVERNANCE: KEY TO SUCCESS OF PROGRAM ACTIVITIES

3.1. General considerations and strategy for Good Governance

The assistance that USAID is giving to Senegal for decentralization is based on the belief that if local actors are given more authority, skills, and means to take over the most urgent development problems by making local democratic institutions work, the local actors will be able to increase their revenues and the services they offer to constituent populations. By supporting the coalitions made up of Rural Council members, citizens (individuals, groups, networks, and others), and government technical services, USAID-Wula Nafaa clearly demonstrated how good governance practices (including transparency, participatory activities, and communications) can lead to tangible benefits for the community.

A major push of the governance component was initiated to build capacity in three areas: increasing knowledge and skills, increasing practical know-how, and changing behaviors and attitudes.

Building capacity can be considered a process of participatory apprenticeship under which the target groups gain the knowledge, tools, and supports they need to exert their roles and responsibilities in the context of decentralization and local development. This capacity building goes beyond simply passing on facts; it targets behavior change on the part of elected leaders, local authorities, and the constituent populations. In order to accomplish this, tools and mechanisms that are used vary according to the target population, the resources being considered, and the objectives being targeted, as well as whether it concerns the public sector (local government) or community-based organizations (management committees, groups, and networks).

3.2. Summary of results

3.2.1. Local collectivities

The Program developed an approach that led to increased capacity of local collectivities for managing local resources in a transparent and sustainable manner. The goal is to contribute to making rural communities into entities that are no longer passive, but active bodies that work for a society that is more democratic and decentralized, in order to assure that decisions are made transparently and resources are distributed equitably. Several initiatives were taken by the Program with selected local collectivities to build capacity so that they can better manage public affairs. These initiatives were planned on the basis of signed protocols and action plans. They unfolded through the training of elected officials, assistance with the elaboration and implementation of management plans and local conventions, and locally-raised financial resources.

In terms of training, the Program tried two experiments. The first consisted of testing the use of village relays recruited locally and paid a monthly stipend of 25,000 FCFA under an agreement between the Program and the Rural Council. These relays had the mission of facilitating the implementation and follow-up of local conventions. The principle was that the local collectivity could continue the stipend after six months; but it was never appropriated and in the end the relays ceased to work. This is a problem because of the poor capacity of CRs to hire personnel, even when the Forestry Code authorizes them to recruit technical agents from the Forest Service. In other words, the

test program failed because the hypothesis upon which the Program based its plan was not properly funded.

The second trial, which gave better results, was the training of trainers in decentralization and good governance. For this approach, it was clearly stated to those concerned that the position is voluntary. The benefit that these people got out of the experience is gaining a skill that will put them in a position to provide marketable services at the local level. After training, they were able to play their roles as trainers, and some of them became effective leaders in their territories.

In terms of financial resources, three specific objectives were targeted for assisting the CR: to hold budget assessment and planning meetings, to write and execute a participatory budget, and to increase fundraising for budget resources.

The Rural Communities of Dindéfélo, Sabodala (Kédougou), Bambali (Sédhiou), Sinthiou Malème (Tambacounda), Bassoul, and Djirnda (Fatick) received technical assistance specifically to increase financial resources through fundraising. To deliver this technical assistance, the Program used the services of a consultancy who led the entire process at these sites.

The Program organized a community forum in the selected rural communities. After the forum, the presidents of the implicated rural councils and other collaborators were grouped at the department headquarters to receive assistance in drawing up their budgets.

The forums made it clear that there is a strong demand for technical assistance in the field to address priorities for increasing funds raised through various means, as in these examples:

- Payment of rural taxes in Dindéfélo;
- The right to park cattle and slaughter animals in Sabodala;
- Bambali's civil status documentation;
- Organization of a weekly market with payment for market stalls;
- Management of embarkation areas for pirogues in Bassoul and Djirnda.

In response to these requests for technical assistance, the Program financed the implementation of the program to assist Rural Communities through its grant mechanism.

In order to successfully achieve technical assistance to the target Rural Communities, the need for a good understanding of the baseline situation of these CRs for each specific intervention was noted. This baseline study was realized in all the CRs through participatory diagnostics that involved all the stakeholders (CR, decentralized technical services, administrative authorities, populations, development partners, and others) to assess the status of target sectors for fund raising. This diagnostic work made it possible to have all the information needed to find the best remedies and strategies for increasing financial resources in the CRs.

In light of the results from these assessments in target CRs, a strategy was developed to address the three types of assistance: (1) the establishment of a Team for Planning and Initiatives (EPI) in each CR, with a roadmap for action; (2) elaboration and implementation of an action plan to take on priorities identified in each CR; and (3) establishment of a grant mechanism to finance the implementation of activities that were identified and selected for the action plan.

During the implementation of this activity in the selected rural communities, difficulties included the lack of organization in the CR, the lack of leadership by the president of the CR (PCR), the low level of development in the CR, a lack of commitment by the populations, and the lack of political stability in the CR.

These difficulties explain the different results experienced. The analysis brought out the fact that the CRs of Dindéfélo and Bambali had promising results that were in line with expectations: the PCR in Dindéfélo is focused on development, while in Bambali, the populations are co committed to

community causes and thus strongly motivated. Sinthiou Malème CR had modest results, since there were certain measures that have taken time to be applied, even though the leadership of its PCR is there.

In Bassoul and Djirnda CRs, the conflict between the villages of Bassoul and Bassar greatly delayed activities because the Program was first required to resolve the conflict over ditax fruit harvesting before development activities could continue. The delay explains the why it took so long to implement the grant that was awarded, and why the Program could not document lessons learned, even though assistance was always available in spite of the conflict.

In Sabodala, the grant awarded could not be spent, because the PCR never replied to Program requests to deliberate on payment for rights to park and slaughter animals; thus the CR never benefited as Program assistance of at least 14 million FCFA was frozen.

In summary, this exercise led to the identification of numerous gaps in the functionality of the rural councils, and on the basis of this analysis, it is imperative to remember certain conditions before planning capacity-building actions. Among others, these are some recommendations:

- Offer the local development actors a tool and informational sources for assistance, best practices, and references to improve local good governance.
- For local stakeholders, make them aware of the importance of good governance, especially at the rural council level, as they take on their roles and responsibilities in governance and decentralization.
- Build capacity of local stakeholders in good governance, in order to improve the quality of management of the collectivity's resources and assets.
- Create the opportunity for local stakeholders to create a shared vision of local governance in the current context of their community.

For the regional councils, only two major activities were developed: the financing of activities that generate revenues in the Boundou Reserve with the Regional Council of Tambacounda; and the training of counselors in annual planning (2011) in Kolda.

3.2.2. Community-based organizations

Improved governance in partner rural communities is an obligatory path for the Program if it is to attain its results and assure their sustainability. Improved governance implies improved relationships between parties in charge in the community, especially community-based organizations (CBO). In order for these CBO to be capable of playing the role of interface between the Rural Council and the populations, it is important that the CBO have the necessary capacity and that they develop their own culture and practices around good governance.

The contribution of CBO to improving governance has been envisioned under two scenarios: (1) their strong implication in community activities, and (2) the internal development of their own tools, procedures, and governance practices. It is in this context that the Program has assisted with setting up management committees for the various activities undertaken: forest management, lowland management, garden perimeters, and water points. The final objective is that these committees will become the vehicle for long-term adoption of Program-developed activities, through animation of the population, mobilizing people, and inciting participation in community activities.

With the approach developed by the Program, which revolves around sustainable use of resources and strengthening the power of beneficiaries so that they can achieve sustainable revenues, it has become clear that the groundwork has been laid for making Program activities into a legacy. Currently, for all the management committees put into place, the mechanisms are defined in a procedural manual, and the conditions for assuring access to funding to pursue management activities have already been put in

place. However, decentralization was designed for local governments will work in harmony with government technical services; and that is where the problems lie, as government service agents do not have human and material means to play their roles, and, often, agents are not committed to the activities.

3.2.3. Forest management committees

During the first phase, forest management committees were functioning for two to three years when shortcomings in the elaboration and implementation of their annual workplans (PTA) were noted. Problems pertained to the functionality, content, and execution of the PTA, to the lack of involvement of stakeholders, and a lack of respect for rules and management procedures. These shortcomings became major hurdles to achieving the full benefit of forest management plans and prevented their sustainable implementation, particularly since it is the committees themselves who benefit from concessions that are based on the PAF and produce venues shared by the rural councils. The situation has evolved for the better since the beginning of the Program.

The functionality of the committees was compromised by stakeholders' reticence in the first three forests managed. This translated into a failure to hold the required meetings, with the exception of Touba block (Community Forest of Sita Niaoulé) and the zonal management committee of Missirah, who met every Sunday. Few of the officers of the other committees had the skills or literacy required; others were negligent in their duties. Only a few technical heads (RT) and their assistants (ART) tried their best to execute their missions. Some key posts, such as the treasurers, were never filled, and the presidents of these committees did double duty to make up for it.

Committee member terms never expired officially, even in cases where the length of the mandate was clearly defined. Not one auditor completed his task; the post did not even exist in some of the committees. Structures that were set up, such as village and community committees, did not function, except in the case of Missirah.

Committee heads lacked training, particularly in technical themes that could have helped with elaborating, understanding, implementing, and monitoring the PTA. The population in general was not informed about PAF implementation, much less the PTA content. This is true for most members of the CVGF, the CCGF, and the rural councils.

Participation by the populations remained weak as the PAFs were implemented. They were not sufficiently involved in the steps of the process, particularly in the implementation of field activities that relied on input from members of the management committees. The same went for the rural counselors, who believed that the PAFs were the domain of committees, and did not know that these committees are there only to assist the rural council in the exercise of management duties during implementation of the PAF.

Participation by the technical services was limited to writing up PTAs and then only for certain cases, which shows inadequate involvement, especially to inform and mobilize populations to work with the rural counselors. A result of this was that no one took ownership of the PTA, and thus it was barely implemented.

In terms of financial management, most committees were noted to be dysfunctional because they were confused about their roles; also, officers did not respect rules and management procedures, especially as concerns money, in spite of training held in the GAF. Reasons for this include insufficient motivation on the part of the officers, and a failure of the oversight system.

Administrative tools provided by the Program were not maintained, with the exception of receipt books, certifications of final approval, and records of production and offtake; the fate of these records was different from one committee to the other. The large number of documents and forms to be maintained and their complexity, especially for illiterate people, made it harder to keep up. Budget

entries were sometimes modified unilaterally by the presidents, for example the number of bicycles to be purchased or the amount of money to be distributed to villages and CVG.

Some of the committees had granted loans to officers or to producers without authorization, in complete contradiction with the rules made for this purpose. This means that many expenses were not justified with sufficient paperwork.

There was not one committee with a petty cash system, which means that expenses were paid directly from revenues before they were deposited into committee bank accounts. Auditors were not used, and financial reports were not produced.

Technical work depended mainly on technical officers (RT) and their assistants (ART), and was supported by the resource guards. The main issue was their level of education and literacy, which was quite low with few exceptions. This constraint led to inadequate understanding and mastery of the technical content of the PAF and the PTA.

Insufficient involvement by the Forest Service had a negative impact at all levels. The only times when the service was continually available was to issue forest exploitation documents (cutting permits, landing permits, product circulation permits). Forest Service support was also noted in collecting local fees as part of the process for submitting production records, truckload verification, cutting permits, or circulation permits. These well-tested methods for collecting fees justify the fact that they are about to be formalized within the forestry code revisions.

Monitoring and evaluation were like the neglected child of the system that was set up for implementing the PTA and the PAF. This is explained in part by the absence or insufficient involvement by the technical services that were excluded from implementation of activities. Technical correctness was not assured, since it did not follow the Forestry Code. This translated into a lack of corrective measures when technical prescriptions were not followed, and when technical difficulties were observed in PAF implementation.

During the current contact, many corrections were made. A diagnosis was made of committee functioning, following a workshop that had brought all the stakeholders together. Measures were taken to reorganize committee functions:

- Only one bank account per management committee was set up, with line items divided by block (like the Missirah model);
- A manual on administrative management procedures was written up;
- Maintaining technical officers' paperwork at the block level
- A form for production verification was designed as a receipt book with numbered stubs to be recorded on receipts issued, following presentation of the fee deposit slip;
- Collection of fees is done by no one except the head administrator;
- Payment of fees at CMS and receipts for deposits are brought to the head administrator at the CGF office;
- A receipt is issued by the head Administrator for fees paid by the forest operator;
- Budget balancing meetings are held every month with the administrator and the CGB;
- A financial report by the head Administrator to the CGF is submitted every three months, and every year during the PTA evaluation;
- Local versus external forest operators are recognized and licensed by the CGB;
- A petty cash or advance fund was set up.

Good progress was noted after the application of these measures. The organizational diagram was reviewed, and a manual for administrative and financial procedures (GAF) made it possible for management stakeholders to have a brief reference whenever they need it. Now, in all the forests, the committees are writing annual workplans with budgets, which allows revenue sharing according to a model shown in writing.

The decentralization of management bodies (which operated at the block and village levels) led to better information sharing with populations on all sides of the forest, thus improving participation by all actors. Happily, in the PTA nomenclature, there is an expense line item for meetings and sensitization. In some of the forests, a part of the recurrent costs are being taken on by the Forest Service Brigade to monitor activities on the ground; for example, a community nursery was installed by the Brigade using funds from the zonal committee. Currently, parcel delimitation for the annual forest exploitation campaign is the total responsibility of the committees. For the 2012-13 campaign, it is remarkable that the costs of missions to root out fraud in Tambacounda Department (Koussanar and Sita Niaoulé) are being taken on by the Forest Service.

So, the overall management picture today is better than at the beginning of the Program; but there are still adjustments to be made that can only happen with close monitoring. That is the responsibility of the Forest Service with assistance by local governments, which also have devolved rights and responsibilities.

3.2.4. Wells management committees

The Water and Sanitation component of the Program ended in 2012. In two years, 30 projects were built, including wells and boreholes with hand-operated (20 units) or solar (10 units) pumps as well as 258 family latrines and 10 public ones. To establish good management of these projects, management committees were set up.

30 management committees were started from scratch andmaintenance contracts were signed with local operators to keep manual pumps running. For the solar pumps, a system modeled after the Regional Solar Program (PRS) was set up using a Service After Sales (SAV) contract with the selected operator.

The new management committees were actively engaged in training and orginzation by the Program. Financial and in-kind contributions by benefiting villages were also undertaken.

The process of building wells equipped with manual or solar pumps was an opportunity for the Program to set up management committees. The wells management committee has two components: the general assembly, which consists of all village users of the well, and a set of officers that is in charge of carrying out daily duties concerning well management. The officers include a president, a vice president, a secretary, a treasurer, a general monitor in charge of health, and two account auditors. One person in charge of the pump and one assistant were also recruited, and they receive compensation so that potable water of high quality from the well will be maintained.

Committee resources come from selling water or from seasonal contributions, according to each well's situation (solar powered well with a fountain fixture, or well with a manual pump). Payments are collected by the treasurer. To secure funds, the Program assisted the committees to open an account in local banks. Revenues are managed using a sharing percentage set as follows:

- 60% of revenues reserved for maintenance of the well
- 20% for committee functioning (meetings, office materials)
- 10% for pump or fountain facility workers

In support for the organization of committees, the presidents, secretaries, and treasurers of the committees were trained in administrative and financial management (GAF) and also in Senegal Water

Law. This training was a way to build capacity for managing meetings, to clarify roles and responsibilities of management bodies and their individual members, and to set up tools and procedures for managing revenues. Administrative documents were given to the committees and were translated into pulaar, the dominant language of the intervention area.

The Program also assisted the committees to get linked up with service providers who could maintain the wells. These include craftsmen who are qualified to work in the intervention zones and companies specializing in solar power, as described in section 3.2.4. on the management committees.

3.2.5. Lowland area management committees

As the creed of producers should be 'transparency and responsibility in managing resources', mechanisms were set up by beneficiaries to ensure equity and transparency in the distribution of resources so that community activities could become sustainable. The management committees (CG) who are made up of producers from different village groups surrounding the common lowland area or garden perimeter maintained the process of seeking consensus and inclusion of all stakeholders. Seeking 'win-win' solutions is necessary in order to harmonize objectives and procedures and make them complementary.

A President of one of the Rural Councils said: "Before you build a house, you must have a plan, bricks, roofing material, and a mason. Otherwise, you risk wasting much time and money for nothing."

The Rural Council monitors development and promotion of activities that contribute to satisfying the needs of the collectivity. Thus, it may publish regulatory norms that it thinks are useful for natural resource exploitation and for protecting property; it can delegate the management to an individual or an association (CG) to assure the completion of an activity. This is the reason that the CG are in existence: to allow greater decentralization of public actions. The CG is the technical arm of the Rural Council; it works closely with producers in the good governance domain by defining consensus-based rules and standards that can boost production activities. The CG is periodically evaluated and its members renewed or replaced.

Meeting to prepare for the 2012 rice season in Wassadou

The main proof of adoption of Program activities and sustainability in rice farming areas has been the systematic granting of loans to fee-paying producers for tractor labor and seeds based on reimbursement of loans made available to them the previous season. Funds received by producers, through the work of the CG that were set up by the producers themselves, serve to finance activities in a sustainable way. The goal is to have a self-financing mechanism for producers that follows a funding plan which integrates savings that are set aside from profits earned. Thus, the capital that becomes available continues to finance activities as new lands are worked and the necessary seed is supplied.

According to Birane Cissé, a member of the Ndinderling Valley Development Commission, "With the system of raising the fees needed for making loans, we have the means to capitalize funds used for tractor work, seed, and other agricultural work."

The Management Committee: a means to achieve social cohesion

Social cohesion cannot exist unless there is a feeling of participation on the part of all stakeholders in a social cause. The CG brings confidence to the group because producers feel that they own it and it appears to respond to their priority needs. With difficulty accessing resources from more conventional financial institutions, the CG was created to bring economic and social responses to their problems. Projects and programs that rely on the community having power to make decisions and distribute resources will easily identify priority needs and build local capacity. Producers have discovered that common heritage becomes their capital, and thus a solution to their difficulties.

Note that a Technical Committee was set up; it groups together all stakeholders in the CR base, the Management Committee, decentralized government technical services, and projects and programs that work in the pertinent lowland area, thus advancing synergy and truly complementary activities for rural community development.

The most immediate economic impacts concern improvement of productivity and building autonomy. The Program is thus contributing to increasing individual and collective revenues from producers and to diversification of revenue sources. A few examples will illustrate this.

In Kédougou, in the villages of Bembou, Santanko, and Dar Salam, producers have said that yields were doubled because of disking services and credit that was made available to buy agricultural inputs. The same performance was noted at Ferme 2 by the women's federation (Koba), which claims self-sufficiency in rice through at least eight months of the year, and in Samécouta, which is a model for organization and community governance.

For the head of the marketing commission of the CG in Dar Salam Sérère's garden perimeter, the diversification of garden crops made possible by newly introduced varieties that are more profitable contributes to fight food security, and also increases financial resources for the producers.

According to Abdoulaye Ndiaye, the PCR in Keur Samba Guèye, building technical and organizational capacity of the Management Committee (CG) is a key factor in sustainability, since skills acquired can be reinvested in other activities and broaden the possibilities for intermediation and lobbying with other donors. In addition, the Rural Community is known to have the potential for orienting development to its local development plan, with supporting information from diagnostics from socio-economic and synergistic studies that were carried out. The Program's activities were appropriated by the populations, the Rural Council, and the GOS technical services (Consultative Technical Committee), which is a way to leave a legacy after the Program ends.

In the various lowlands being managed, producers have set up a long-term participatory planning process for beneficiaries: the Convention for Integrated Management of Lowland Area Resources or COGIRBAF. This is a formalized, consolidated commitment by current and future users of the lowland area that applies to them working their land for various uses. It allows users of the lowlands to codify their own behaviors with respect to use and exploitation of its resources. It defines standards to be respected, and sanctions that will be imposed for prohibited uses.

Rice producers have truly appropriated the COGIRBAF; they respect every rule of conduct to the letter. Rice farming CGs have access to agricultural equipment (huller and thresher) and private promoters have tractors that further reduce the workload and allow rapid and efficient expansion of farmland.

A process has been established to facilitate fee collection to reimburse land preparation costs and seed loans that were made from the bank account set up to get through next season without Program support.

Annual dues: a way to pool funds and lighten the work

Annual dues are a way to raise funds for credit as well as a way to share work. The scheme involves all producers in the same lowland, where the CG guarantees a parcel of disked land and enough quality seed to cover the whole plot. Members who participate reimburse credit after the harvest, without interest, and they can benefit from the same service the next year. This is a guarantee that, at a minimum, the same amount of land will be available to the producer for the following season.

For the great majority of poor farmers, paying dues regularly to the CG is the only way to be sure to have access to money and logistics for farming activities.

Other than the function of redistribution of money, dues are a form of insurance against other shortfalls, since they guarantee that the growing season will produce something.

For producer organizations, social well-being requires developing consensus-based approaches, planning tools, and joint management. It requires implementation of good governance principles: inclusion and social equity, accepting responsibility, paying back debt, autonomy, collaboration, and commitment.

Re-election of CG members, one of the principles contained in the COGIRBAF

The women of Samécouta in the Rural Community of Bandafassi do farming as a profession. They have established an agricultural calendar for a period of nine months.

After preparing the soil and cultivating rice from June to November, the women farm dry-season maize and do gardening with the progressively receding water line in rice parcels from December to March the next year. Thus, they obtain rice, maize (in two crops), and vegetables from gardening.

"In past years, they made fun of women who farmed rice in the lowlands; today, with this abundance, women are the social regulators for food and income security," says Madeleine Séne from NdourNdour.

According to the PCR in Keur Samba Guèye, "Currently, because of the availability of land and water, we only have to develop our skills, attitudes, and knowledge in order to completely take care of ourselves. We are sure that, in order to guarantee food security, we have to further develop staple crops and especially rice, and complement these with cash crops. For these last two years, we have seen a real change in social habits, and women are taking more and more responsibility for paying school fees from revenues from rice and garden farming."

3.2.6. Management committees in the garden perimeters

In the five garden areas of Fatick Region, beneficiaries were trained to better manage their activities and develop a market chain approach. The management committees (CG) that were set up play the roles of facilitating and coordinating diverse farming and marketing activities. A secure perimeter, water source, and resupply of inputs is assured at this point; however, the supply of small material like watering cans, wheelbarrows, shovels, and rakes is still problematic. Efforts have been made to seek internal funding, especially in Dassilamé Sérère, where there are reference groups (GR) who show true willingness to pool benefits from the previous season to buy this equipment.

Garden producers have begun reflecting on how to set up an umbrella organization that will join all producers from the five perimeters in Fatick region with common, well-defined goals and activities, such as:

- Set up a framework that will lead to long-term adoption of garden activities by organizing and handing responsibility to the stakeholders.
- Harmonize best practices in the gardening domain and make it possible to create a market to facilitate moving produce.
- Identify constraints and opportunities in the value chains.
- Strengthen the gardening sector at the local level so that the market chain is impacted.
- Build technical, financial, and organizational skills of producers and other actors in the value chain.

Note that there is good potential for yields that will be high enough to supply the vegetable market in the immediate area and to feed other markets; this will fight against poverty and malnutrition, while bringing profit to actors in the value chain.

Garden producers planted trees and live fencing around the perimeter and addressed the environmental aspect of development, thus contributing to a better level of well-being that will be felt throughout the watershed and not just the lowlands.

As a woman of Dar Salam Sérère attests, "Before, when the garden plots were not fenced, women hesitated to leave the fields at 1 PM to go home and prepare meals; they preferred to stay in the garden to keep out all sorts of stray animals. Today, since the perimeter is secure, women go home at noon to cook and to rest, without fearing damage to their crop. The only constraint is our lack of small equipment to reduce the work time."

3.2.7. Forest management plans and financial and administrative management

Elaboration and implementation of the PAF

Achievements from Wula Nafaa's first phase forest management plans (PAF) were consolidated: Sita Niaoulé, Koulor, and Saré Bidji. The action plan for the second phase was implemented with the Regional Forest Service (IREF) from Sédhiou, Tambacounda, and Ziguinchor; it resulted in the elaboration, technical and community validation, and starting implementation of three PAFs for Sakar, Koussanar, and Mangagoulack.. PAF implementation is now in an active phase and has had remarkable success. The PAF for Mangagoulack is the last one written with WN support, and good progress was made after its technical validation and approval by the administrative authorities.

Implementation of Administrative and Financial Management (GAF) for the PAFs

After two to three years of implementation at each pilot site, an evaluation of the GAF system was carried out at the end of 2009. The system was redirected based on lessons learned; the organizational chart and the management system were both changed. Key elements of this process are listed below.

- The organizational chart and the management system were made more uniform for the three managed sites that are assisted by USAID-Wula Nafaa program.
- At the village level, Village Representatives (RV) were installed instead of forest management committees. The RVs are representative of all socio-professional groups from the village: women, youth, farmers, herders, forest operators, elders, rural counselors, and others.
- Involvement of the Rural Council with local management structures was increased, with one representative at the level of the Forest Management Council (umbrella structure) for three counselors, namely the presidents of the Environmental, Territorial, and Financial Commissions. The presidency of the Forest Management Council falls on the Environmental Commission President.
- Financial management was centralized by giving the CGF all the powers for financial management, and setting up a bank account for the whole forest instead of for each block.
- Assistance and advice from the technical services (the Forest Service and the CADL) was improved by giving the role of advisor to the CBF and the head of CADL within the forest management council.

These changes were made after consensus was reached by all stakeholders and then applied to each managed site.

In the end, **98 RV**, **21 CGB**, and **8 CGF** were established. The status of representation in these management structures is as follows:

- *RV* - The total is 784 people of whom 85 are women (12.14 %).
- *CGB* - The total is 126 members, of whom 17 are women (12.28 %).
- *CGF* – These include a total of 40 representatives, but not one woman.

To assist the CR and the management structures in implementing the PAFs, the Program sponsored workshops to evaluate the PTAs and to make budgets for them. This activity is all the more important because it is one of the principles of good governance: delegates in power, in this case within the management structures, owe it to their constituents who are the rural council and populations to meet and do this work. The annual evaluation and PTA report presented by the management committees describe the level of completion of planned activities before making new plans. That is how all 28

management structures implementing the PAFs for the eight rural communities of Saré Bidji, Thiéty, Koulor, Sinthiou Bocar Aly, Missirah, Sakar, Oudoucar, and Koussanar were assisted by the Program.

Support for implementing forest management plans: A model for synergy between partner local governments, technical services, and USAID-Wula Nafaa Program

Forest Service agents from Sédhiou, rural counselors from Sakar and Oudoucar, and USAID-WN staff prepare the process of setting up management structures for the Sakar/Oudoucar PAF

This year, there was more synergy than ever between partner rural communities and the decentralized government Forest Service during the implementation of forest management plans. At each of Wula Nafaa's managed sites, the process was a true testimony to decentralization. These events highlighted roles played by local elected officials and local people as they made decisions, got technical advice and help from technical services, and received USAID-Wula Nafaa's support.

The progress observed when it comes to PAFs inspires confidence that Program achievements will continue to live on. Known achievements include (i) greater capacity of local authorities to take on their powers; (ii) a greater awareness of citizens concerning their rights and duties with respect to natural resource management; and (iii) greater realization by the technical services, and especially the Forest Service, that their role is more in the domain of providing service and advice than in repression.

View of the general assembly for electing village representatives (RV) in Sakar CR

As the Program is based on an approach that fosters sustainability and consolidation of achievements, the strategy for implementing PAFs was redefined to make allow stakeholders to carry it out. The focus was shifted to monitoring, providing technical assistance for the GAF, facilitating communication, and facilitating agreements between stakeholders to resolve implementation problems. The Program became a collaborative partner and facilitator with the task of supporting the true actors, assisting them to fully carry out their roles and responsibilities.

During the last two years of intervention, the Program's main role was to monitor and provide technical assistance to management structures and the CRs. For example, the CRs were assisted with the evaluation of previous workplans (PTA) and elaboration of new PTA and budgets for the PAFs. The execution of PTAs led to the collection of more than 80 million FCFA in fees between 2010 and 2012, which was paid by local and external forest operators. Out of this amount, 10% (more than 8 million FCFA) came back to the rural councils.

Forest management activities were carried out by established committees, as planned in the PTAs. Along with the PTAs, regular community discussion forums were held on issues and problems inherent to PAF implementation. These monthly meetings were held systematically in some CRs (Saré Bidji, Thièty), and on an as-needed basis in others (Sakar, Oudoucar, Koussanar, Missirah, Koulor). Since the decision was made on the opening date of the annual forest exploitation season, the government technical services have been playing their decentralized roles within the local collectivities and as members of their respective management bodies.

In the charcoal market chain, implementation of the 2012 PTA and budgets by PAF management bodies led to financing Casamance chimneys for producers out of fees paid by operators. The chimneys have been made available to the charcoal producers. This act shows the willingness of producers to do whatever it takes to respect the technical prescriptions of the PAF, which requires that all charcoal production be done using the Casamance kiln and chimney. It also shows that the management funds are being used rationally and efficiently. Note that orders have been placed with local metalworkers trained by the Program to produce the chimneys.

Following recommendations from the evaluation of the PAF/GAF in December 2009, the Program launched a process of recruiting service providers to monitor the implementation of the GAF for the management plans. During the first quarter of the following fiscal year (October-December 2010), this was finally put into action. Two NGOs were recruited: one for the PAFs in Tambacounda Region (Koulor/Sinthiou Bocar Aly and Sita Niaoulé), and the other for forests in the regions of Kolda and Sédhiou (Saré Bidji/Thiéty and Sakar/Oudoucar). The NGOs were recruited using a bid solicitation. They began their work starting in October 2010. The mission given to the NGOs can be summed up in five major themes:

- Financial audit of administrative activities of the management bodies;
- Training for Rural Council members and management bodies in GAF procedures for the PAF;
- Production of a manual of administrative and financial procedures;
- Setting up a documentation template for natural resource management topics;
- Periodic monitoring and technical assistance for the PAF.

The Program's approach for monitoring the PAF aims to ensure sustainable and continuous implementation of the plans by setting up relationships between local collectivities and local service providers.

The Program's strategy integrates gender considerations into the implementation of its activities. Beyond the stimulation of economic activities that create wealth for women, gender is considered at the planning stage and is a key component of the process for handing responsibilities for managing local affairs over to local populations. It is only physically handicapped persons who have not actively participated in activities developed by local partners.

In the implementation of the PAFs, as in all other tools developed by the Program, the level of involvement by all social categories is the barometer for measuring the quality and quantity of participation by the populations. Within the various activities carried out under the PAF, women have been included ever since the initial discussions were held and decisions made about management of forest and financial resources. 70 of the representatives who took part in these activities were women.

The Program has been implementing its disengagement strategy, and PAF implementation has been impacted positively. The costs of implementing the PAF were entirely taken on by the Program during the first year of its operation; today, as the financial capacity of local governments improves from year to year because of revenues from forest exploitation, Program support is very much reduced. For example, out of 2,650,000 FCFA needed to mark the work parcels for 2012 forest

operations, more than two thirds were covered by the local authorities; at some sites, 100% of the costs were covered.

Also in 2012, GAF tools were distributed and charcoal producers were supplied with chimneys, thanks to profits from fees collected by management structures. Regular meetings were held in all the CRs where there is a forest with a PAF on the initiative of the technical services, management structures, and the rural councils. Problems noted in the field during implementation were discussed at the meetings. This testifies to the willingness of these entities to find solutions and to get involved, and to appropriate the process of PAF implementation.

In order to build capacity of management structure members, several training and technical assistance sessions were held. Management forms were designed and integrated into the program to assure transparency and tracking of financial and administrative operations. The training sessions covered these themes:

- Strengthening organizations and mastering roles and responsibilities;
- Multiple refresher courses for the structures to better perform administrative and financial procedures and maintain management forms;
- Establishment of mechanisms to strengthen communications between stakeholders, and especially between management structures, the Rural Council, and technical services such as the Forest Service: one such mechanism is the monthly meetings on PAF progress updates;
- Meetings on the content of and process for producing PTAs and budgets.

In the interest of improving management under the PAFs, and to complement the administrative and financial management system already in place, the Program sponsored the production of a manual on administrative and financial procedures through the services of contractors. For local collectivities, the question is how to plan for good governance at all levels of PAF management. Five PAFs are operational in eight rural communities where the GAF manual was distributed; workshops to present the GAF content and validate the first version were held for local government officers and their management structures.

After the Senegalese government redrew administrative boundaries in 2008, the managed forests in Koulor, Saré Bidji, and Sakar each came under the jurisdiction of two different rural communities. This situation made a problem in that one forest resource base is being shared by two distinct local governments that may have differing laws on resource management, even if they share other common features. It became necessary to reach agreement on how to manage the forest as a homogenous entity while under two governing bodies.

To assist with the resolution of this issue, the rural communities asked USAID-Wula Nafaa and appropriate stakeholders to help them with experienced consultants so that they could set up Community Interest Groups (GIC) that function properly and that will stand the test of time with regard to national laws.

The progress that has been made includes several achievements. For one, widespread forums were held with all stakeholders in attendance (rural counselors, administrative authorities, regional governors, technical services, citizens). For another, Rural Councils of the new administrative units deliberated to confirm their agreement to create a GIC and to set up GIC councils. All Rural Council documents were considered and deliberated by the Regional Councils in Tambacounda (GIC Koulor/Sinthiou Bocar Aly), Kolda (GIC Saré Bidji/Thiéty), and Sédhiou (GIC Sakar/Oudoucar).

The process of creating GICs advanced with the deliberations by the Regional Councils, all of whom gave a favorable opinion on the creation of GICs that bring multiple CRs together around the community forests that they share. All the applications are now ready to be submitted to the appropriate ministry so that a decree of existence can be prepared. At that level, the process will be

facilitated by resource persons, such as a former Director of Local Collectivities who is the principal facilitator of all GIC creation processes.

In the context of its disengagement strategy, one of the major objectives of the Program is to set up mechanisms for consolidating and capitalizing on its achievements, especially in terms of PAF implementation. Consolidation and capitalization of these experiences is founded on two principles: the capacity of local actors for effectively taking over PAF implementation, and production of a rich and diverse documentation of the PAF implementation process.

The first significant step was the participation in, involvement in, and appropriation of PAF implementation by local actors; the second step, which is still going on, is the compilation of a library of documents that will be available to local collectivities. This part of Program support is important not only for the local governments currently engaged in the process, but also for future sites and stakeholders to capitalize on lessons learned, as they will be able to consult the steps and processes necessary to bring the PAF to fruition. It is a question of providing technical support to the local collectivities, and to build their capacity for documentation and archiving all information relative to the PAF.

USAID-Wula Nafaa Program helped the CRs with PAFs to put a documentation system in place in November, 2012. The steps are to:

- enumerate and organize all documents linked to the PAF and GAF;
- print and bind all documents in multiple copies;
- place a complete set of documents in each CR;
- set up a method for regularly updating and managing the documentation system; and
- identify and train resource persons capable of assuring management of the document base.

In some of the partner rural communities, including Koulor and Missirah, implementation of Program activities suffered much and is still suffering from poor leadership by the Rural Council President (PCR). In the beginning, the Program suspected that their reticence was due only to a fear of the governance activities being promoted and the resulting popular participation; but in the end, it could only be concluded that these leaders have only a political view of everything that takes place in their CRs. In the CR of Koulor, particularly, a PCR who refused to take on his responsibilities under the pretext that it would not be well received by his constituents became a roadblock that prevented implementation of the management plan; this happened after a rash of embezzlement cases in the PAF administration and financial management process.

The technical services have performed extremely well in terms of good governance and making Program activities sustainable. They have assured that Program activities continue in the field and have provided the support needed to complete them. In the context of decentralization, they have indeed played their respective roles in community development. However, most of them paid more attention to their own personal gain than to carrying out the mission that was assigned to them by government.

Another drawback was the weak effort made by some technical agents to adopt the spirit of decentralization; this limited their ability to respect the concept of local governance.

In the context of implementing NRM activities through the PAF and local conventions, the technical services (Forest Service, CADL, Regional Development Agencies) in Fatick, Kolda, and Sédhiou areas can be cited as good examples of collaborators; however, this was less so in Tambacounda. Where more visibility was given to Program experiences, the good examples are there for others to follow.

The management committee for the Community Natural Reserve

Preserving nature requires community collaboration. The Program worked to set up a Community Natural Reserve of Dindéfélo (RNCD) management committee to formalize collaboration. The role of the committee is to apply and improve upon the management plan, to plan yearly management activities, to organize annual monitoring and supervision of management activities, to detail a communications and sensitization campaign for the reserve, to manage funds coming from management and implementation of the local convention, and to prevent and manage conflicts arising from access and utilization of resources within the reserve.

To carry out the daily administrative tasks for RNCD management, officers were appointed. It is composed of the Director, a head of the tourism center, an accountant-treasurer, and ten eco-guards.

Committee resources come from visitor permits, wildlife observation visits, and fees collected for any forest product that is sold. Fees have been published for each product. Money is collected by zone by one of the ecoguards, and administration of the funds is taken on by the accountant-treasurer and the Director.

Revenues are managed according to an annual budget. They are used to pay recurrent costs of maintaining the RNCD and to contribute to rural community projects.

The Program trained management committee officers in administrative and financial management (GAF). The GAF is a system for staying organized and managing finances; it allows a group to clarify the roles and responsibilities of subcommittees and their members; it teaches them to identify tools and mechanisms to use for financial management duties. After the GAF training, a set of forms used for administrative functions and management was given to the committee Director.

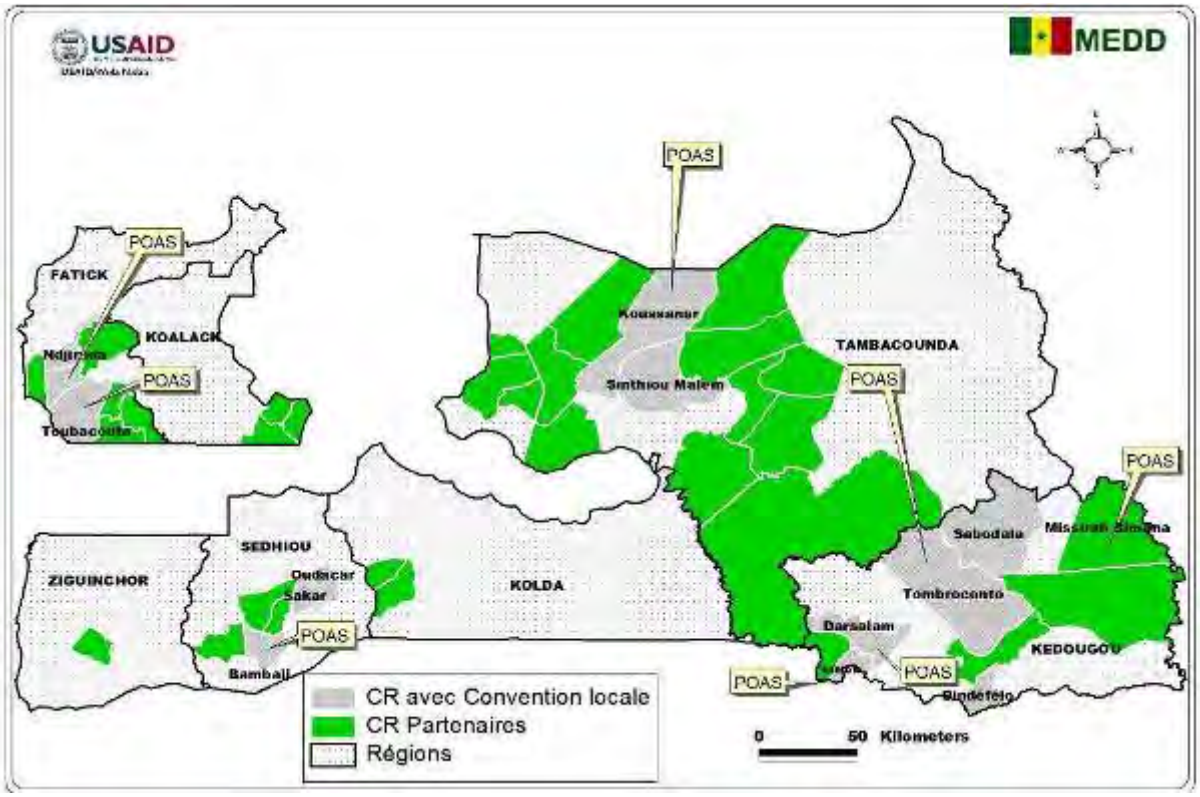
3.2.8. Local conventions and land use plans (POAS) in the CRs

As part of its first phase of operation, USAID-Wula Nafaa Program assisted with the elaboration and implementation of local conventions with the goal of collectivities managing their natural resources in a sustainable and visible way. In the second phase, this work continued with an extension of the local convention approach to include land use plans (POAS in French).

In all, seven rural communities were assisted with developing their POAS. The total area covered by the land use plans is 620,729 ha. The population of the rural communities covered is 85,695 people. Details are presented in the following table.

Rural Community	Area (ha)	Number of villages	Number of settlements	Population
Bambali	43,700	36		18,898
Bassoul	24,700	5	6	8,895
Toubacouta	113,600	51	26	31,574
Missirah Sirimana	164,850	21	3	7,603
Tomboroncoto	226,700	25	10	9,235
Ethiolo	13,600	12	4	5,182
Darsalam	33,579	15	5	4,307
Totals	620,729	165	54	85,694

A map of CRs assisted with developing local conventions and POAS is presented below.



Map of Rural Communities in Senegal that were assisted by USAID-Wula Nafaa to

An evaluation of progress made in the implementation of existing local conventions was done in the second phase. This evaluation brought out the need to update the conventions by correcting non-functioning aspects. The Program gave assistance to several Rural Communities as they updated their local conventions: Koussanar, Missirah Sirimana, Tomboronkoto, Bambali, and Sinthiou Malème. At the same time, the Program emphasized the use of community relays to strengthen communications with grass-roots stakeholders and to facilitate implementation of rules that follow natural resource management concepts not covered in the Program's first phase.

The mission of community relays was to act as an interface between different stakeholders so that sustainable natural resource management could be attained, and to make sure that information and sensitization on local conventions occurred in the appropriate sites. An evaluation of the relays' mission was carried out by the Program, and it found that it was going well. However, there was a problem finding the funds to compensate them because Rural Council budgets are limited and there was no guarantee that they could be paid once Program ended its planned subsidy after one year.

It should also be noted that the local collectivities lack funding to assure monitoring and enforcement of management rules; the populations lack training in sustainable methods of exploitation of resources and they do not have economic alternatives to resource exploitation. The local conventions can help to improve management of natural resources, but it will be necessary to improve the financial status of the CR, to support the technical services, and to build capacity of local actors to maximize their participation.

Producing the administrative and financial management plan (GAF) for the local convention

The Program tested a pilot GAF writing program in Bambali Rural Community to address a shortage of funds that would have prevented implementing the local convention. With a GAF, the populations would be organized into management committees that generate funds so that activities in the local convention can be carried out.

In the pilot program, committee funds come from fees collected for any forest product that is sold commercially. The money is collected by village committee treasurers for the committee's treasury, and then it is deposited into a bank account opened in the name of the committee.

Revenues are generated from a benefit sharing mechanism that gives the Rural Council 10%; the management committee 10% for its operation; the natural resource management fund 40%; and 40% to pay stipends for community relays and resource guards. In the month of June 2012, after less than one year of operation, **29,520 FCFA** was collected.

During the second phase, the Program went on to produce new local conventions with the same objective: to support consensual and peaceful management of natural resources in the rural communities in which it works. New conventions were elaborated with the rural communities of Sabodala, Dindéfélo, Bassoul, Djirnda, Dionewar, Toubacouta, Ethiolo, and Dar Salam.

Resolution of the conflict between Bassar and Bassoul village using a local convention elaborated for Bassoul CR

The drafting of new local conventions was an activity highlighted by the resolution of a conflict that developed between Bassar and Bassoul village because of ditax fruit (*Detarium senegalensis)* harvesting. According to residents of the area, the conflict flares up each year when the fruits mature. In 2011, the two villages confronted each other after a decision by the Rural Council to compose village committees in charge of collecting and marketing ditax fruit. The conflict arose when the village committee of Bassar prohibited all exploitation of the fruit by individuals and designated people to take over enforcement of this rule in the part of the forest that they believed belonged to them. Bassoul village borders on this part of the forest; residents go there every day to harvest ditax fruit. The confrontation that ensued wounded many people and brought many to jail.

An intervention by the Program led to a resolution of this conflict. The first consensus-building forums were organized after the confrontation occurred so that the two villages could reconcile their differences. These meetings were organized in the villages of Thialane, Bassoul, Bassar, and Niodior, the seat of the arrondissement where the two villages sealed the deal and decided to draft a local convention to agree on how to manage natural resources in the Rural Community.

Joint meetings were continued in close collaboration with the Fatick Regional Forest Service, which was represented at all the meetings. A local convention was drawn up as part of the resolution. The success was saluted by the administrative authorities of the zone, who awarded the Program a **peace prize** during the celebration of national independence day.

To consolidate the newfound collaboration between villages, the Program assisted with setting up management committees. An intervillage committee was established to bring together all villagers. Its role is to assure the organization of the ditax fruit harvest in all villages. This committee is linked to its village members by a committee in the village that assures fruit collection takes place on the dates authorized by the local convention.

Other Program activities include the organization of training workshops for members with the end result of setting up a GAF for Bassoul's local convention. After the training, the intervillage committee opened a bank account and deposited fees collected by the treasurers of village committees. The deposits are managed according to the following benefit-sharing formula:

- 20 % for the Rural Council
- 15 % for intervillage committee functioning
- 65% for village committees

In August 2012, an evaluation of the ditax fruit harvest presented satisfactory results; not a single incident was noted and the share of revenues for the intervillage committee rose to **865,000 FCFA**. The evaluation took place with all village chiefs, village committee members, the Rural Council, and a representative from Fatick Regional Forest Service in attendance.

Assistance to the Local Artisanal Fishing Councils (CLPA in Toubacouta and Missirah)

In support for fisheries governance, the Program assisted with the elaboration of management plans for bolongs in the rural community of Toubacouta. It contributed to capacity building for the Local Fisheries Councils (CLPA) which are the legal entities poised to take over implementation of management measures, given that fisheries management has not been decentralized like forest management has been.

The CLPA were created by Law 98/32 of 14 April 1998 in the maritime fisheries code. The roles designated for the CLPA consist of keeping close surveillance over fisheries areas, organizing fishermen in their respective sites, informing fishermen about the laws in force, intervening in cases of conflict to resolve them, and taking management measures as needed. However, considering their glaring lack of means and their low level of technical training, the CLPA councils created by law are not dynamic. Meetings of their members are never held, in spite of their role which should be to motivate and organize members so that fisheries function properly at each site.

Program intervention led to the CLPAs in Toubacouta and Missirah being restructured for the sake of controlling and monitoring the management plan. Technical commissions and coordination committees were set up to improve the way they function.

The commissions that were established are responsible for surveillance and security on the high seas, and are involved with sensitization of stakeholders, regulation and prevention of conflicts, seeking funds, exterior relations, social actions, participatory research, and fisheries resource management.

Training workshops were organized to reinforce capacity of management structures that were set up under the GAF and for participatory surveillance. Training in the GAF was geared toward clarifying the roles and responsibilities of the management structures and to set up an internal mechanism for raising funds to take over surveillance activities and for providing assistance in case of an accident at sea. After the training, village cash boxes were set up that are fed by dues paid by people working in the trades related to fisheries (fishing, processing, and fish mongering).

The total of the dues required is collected in each village by the financial commission, and the management of money is carried out by the village chief as representative. Money taken in is used to pay first the costs linked to surveillance and assistance in case of accidents at sea. This model for implementing the CLPA was copied by other projects such as USAID-COMFISH, which is working specifically with the CLPA as a way to sustainably manage fisheries resources.

The lack of means (boats and fuel) for the CLPA to assure surveillance over management plan activities and the current structure of the CLPA with its administrative authority as president do not assure proper functioning of the CLPA, which otherwise has good potential to produce results. Organization of meetings has been difficult because the authorities were often not available to convene the meetings due to other engagements. Note also that stakeholders were insufficiently trained and have a low level of knowledge about CLPA as a new way to manage fisheries resources locally.

The extent of the management plan, which covers all the villages in the two CLPAs being targeted, was a major advantage in implementing the initiative, for a village alone cannot make a biological resting period work unless it works with all the villages in the CLPA. Also, the factor of cost of the approach was subsidized by the Program, which paid for the organization of the meetings; this facilitated the implementation as well.

Fisheries governance

In terms of fisheries, a sector which has not been decentralized, the approach used by the Program has been to establish a link between the CLPA and the local convention that is the model used in the management of the rural community.

After putting a local convention in place for Toubacouta, the Local Artisanal Fisheries Councils in Toubacouta and Missirah benefited from technical assistance from the Program. After several meetings to find consensus among stakeholders, it was decided to implement 'mollusk management plans'.

In the approach that was developed in Toubacouta and Missirah, a system for administrative and financial management was set up in order to increase functionality of the CLPA.

The main constraints with the CLPA are the diversity of resources to be managed; the fact that responsibility for managing fisheries has not been transferred to local governments, which are the entry point that the Program uses to start work in an area; and the withdrawal of the Program from fisheries programs so that COMFISH can take over. These have resulted in the Program not being able to bring to play all the technical and organizational assistance necessary for CLPA functionality.

As the Program has assisted fisheries stakeholders, it has developed an approach for elaborating the CLPA that is inclusive and participatory, which has been cited as an example by sector heads at the highest level of government. This approach is also being adopted by COMFISH Program in its intervention zone, as it puts fisheries management plans in place using local conventions to start.

Gender aspects

In the context of Rural Community land management, there is little attention paid to women and disabled persons for social reasons. However, there are leaders among these groups who are emerging, especially in the context of community organizations.

3.2.9. Lessons learned

Through the Governance Improvement Component, USAID-Wula Nafaa contributed to turning rural communities from passive entities into action-based structures that work for a more democratic and decentralized society, making decisions in a transparent way and distributing resources in an equitable way. However, it must be recognized that the process for getting here has been very long.

1. Select CR partners based on potential for success. In contrast with the first phase, CR partners in the second phase were selected according to performance criteria. This led to a swifter realization of activities, thanks to leadership by some of the PCR who believe in development of their territories and set themselves to the task.

2. Revisit ways to get government services to play the role they are expected to play in decentralization with the support they need from upper levels of government. Reflection on the topic of the roles of decentralized government agents should go further, reaching the training school curriculums.

3. Capacity building for rural counselors and populations is a fundamental component of any process meant to help develop the rural community.

In summary, to help CR development activities to succeed, the cornerstones are developing good governance and good organization of stakeholders so as to assure sustainability; good communications that lead all stakeholders to participate; and capacity building in appropriate skills.

4. Use local conventions and land use plans as the basis for sustainable NRM. The approach developed by the Program in terms of participatory and inclusive management of natural resources through drafting and implementing local conventions and land use plans has led to these conclusions:

- The local convention and land use plan (POAS) elaboration guide is an outline for planning steps for NRM in the CR, and identifying which actors are concerned by each step.
- The local convention and POAS helped some of the local collectivities to identify and manage community forests and to benefit from substantial financial resources through the revenue-sharing mechanism based on forestry fees.

- The participatory drafting of management rules for specific resources (such as ditax during the process of setting up a local convention in Bassoul) helped resolve an intracommunity conflict that had lasted 30 years.
- The process of creating and managing the Community Natural Reserve in Dindéfélo was facilitated by writing the local convention.
- The local convention for Bambali was a framework for controlling the budget crisis and a way to raise collective awareness about the extension of cashew plantations into rural areas.

5. The implication of the Rural Council in collecting fees in the lowland areas will give more benefits to the Management Committee as plots and agricultural inputs are distributed by the valuation commission.

6. The technical services (ANCAR and DRDR) must further develop synergies with producers in order to increase productivity, **assure seed certification** to serve all producers, and palpably increase the revenues earned by seed producers.

7. The experiences of the Governance Component show that producers are able to take over and manage their own development as long as the technical support and enabling environment are there.

8. The relevance of USAID-Wula Nafaa's developed approach should be disseminated everywhere donors work, as it favors dynamic collaboration between stakeholders in management of local affairs.

9. The participatory approach led producers to be more involved in public actions thanks to better understanding of development problems they face. As a result, stronger citizens' awareness turned into initiatives and action as carried out through the Management Committees.

3.2.10. Strategy for sustainability

1. The foundation for sustainability of Program activities has already been laid with its approach that incorporates sustainable resource use and strengthening governance skills of beneficiaries so that they will have continuous benefits. For management committees that have been set up, a procedural manual defines mechanisms and conditions for obtaining funds to pursue activities. However, decentralization was conceived for collectivities to work in harmony with the technical services, and that is where difficulties start: the technical services do not have human or material means to play their roles and often there are agents that are not interested in doing so.

2. To further facilitate the development of local capacity, every Program must focus on wider social communication using channels that integrate the most vulnerable groups and favor inclusion, an important dimension to fighting poverty.

3. Another requirement is to make the documentation needed for broad dissemination of Program results available to management committees. This can facilitate interventions by new donors. Capacity building sessions must be held using known local resource persons who understand the approach developed by the Program. A plan for transferring skills to management committees should be well-developed with participation from all stakeholders.

4. Local conventions complete with land use plans must be drawn up to allow local consensus-based rules on NRM to be decided, and to better manage community space and resources. The approach initiated by USAID-Wula Nafaa Program must be understood because it avoids conflicting attributions of land use by rural councils and better management of resources contained in the community boundaries.

5. The process could also be improved by the involvement of more local actors in training on design, implementation, and monitoring tools that help with decision making, such as the local convention and the CLPA.

4. AGRICULTURE: MEASURE OF FOOD SECURITY

4.1. General considerations and approach taken by the Agriculture Component

The Program's strategy for agriculture development is based on these principles:

- Affordable mechanization, controlled water sources, varieties that produce higher yields, quality seeds, diversified crops, and better revenues earned by producers.
- Farming that is open to research and based on markets, will need less and less assistance, views agricultural producers as entrepreneurs, is secure in the export market (thanks to government policy), and carried out by legitimate, legal, effective, and proactive farmer organizations that use business models.

In sum, the approach seeks to establish profitable, affordable, secure, revenue-producing, research-based and market-based farming, where the farmer is a practical business person.

The implementation of this vision was realized using the objectives and standards below.

Objective 1: Increase productivity and agricultural production, as detailed in four standards

Standard 1: Improvement or creation of water management systems

This standard means that water supply is secured for irrigated production of both domestic (rice) consumption and market gardens (horticulture).

Two places were targeted for rice farming in rainy season and garden activities in dry season: Kaolack and Fatick. For activities in Tambacounda and Kédougou Regions, some structures for controlling water were built to develop rice farming and good agricultural practices such as those used in conservation farming.

Rice cropping was dominant for Fatick Region, as the old sites built by PAGERNA/GTZ were revamped and new structures were built in synergy with PAPIL.

Horticultural activities were carried out on sites where there was traditionally rainfed rice during the rainy season. With construction of water control systems, dry season gardening was possible. These sites are in Foundiougne Department, Fatick Region. The horticultural activities carried out targeted women especially.

Proposed investment schemes take into account the experiences of past and current projects. An evaluation of current projects was carried out and recommendations were written up in the form of best practices to follow in the new investments.

Lowland area management activities included building a water control dike and carrying out a complementary set of actions that would protect the lowland, optimize its use for both animal and agriculture production, and serve all community actors, including herders. The managed areas were set up while considering the whole watershed, and the activities within it reflected that the watershed is a functional unit to be treated holistically.

The proposals for water management structures were made after feasibility, technical, environmental, and socio-economic studies were carried out, and after social negotiations were conducted in order to reduce conflicts between users. A strong involvement on the part of the populations as well as the local authorities was required.

Standard 2: Improved production of key crops or animal products

Value chain analyses were carried out in the beginning by various projects, including USAID-PCE for rice and millet/sorghum and USAID-WN for garden produce. Crops selected were chosen on the basis of their advantages in the work area and their preference in the Feed the Future Program: rice, millet, maize, sorghum, onion, tomato, okra, and others.

On the basis of value chain analyses, products and actions were proposed for best practices, seed, and soil fertility management strategies. For each product selected, an action plan was proposed after introducing good techniques and technologies. Among the techniques and technologies introduced were improved rice varieties like Nérica for lowlands and uplands, conservation farming, SRI, and assisted natural regeneration.

Extra effort was put into developing ties with AfricaRice (former ADRAO/WARDA) ANCAR, DRDR, FAO, and USAID-PCE in the form of setting up and implementing a program in USAID-WN intervention zones to promote both lowland and upland rice (Nérica), produce and promote certified seed, capitalize on achievements, contribute to reflections on successes, and orient and inform new projects that are working in the same zones as the Program.

Also note that a strong emphasis was placed on promoting conservation farming techniques to improve soil fertility and crop production.

In terms of livestock, the Program emphasized development of pastoral resources (water points, corridors, and pasturelands) as well as conflict management through elaboration and application of COGIRBAFs.

Standard 3: Better integration into the market for small producers growing selected key products

On the basis of value chain analyses (VCA) done by USAID-PCE and WN, workshops were held to animate and train producers at work sites. This led to identification of wealth-creating enterprise opportunities that the Program could support together with leaders of producers' organizations and the identification of strategies for production and services that could be developed for members. It was also a chance to identify activities to begin in these producers' organizations to advance the strategies. For example, in the rice value chain, the lack of mechanization of labor (disking fields, hulling, threshing) was identified as being a market bottleneck in the value chain.

On the basis of the VCA, the Program was able to build up the business development services (BDS) sector for producers and their organizations. This support for private BDS was a means to supply inputs and agricultural equipment. It began with disking fields and supplying certified seed to boost rice production. The BDS were paid for at the end of the farming season through the management committees, allowing costs for the following campaign to be covered.

The Program also assisted with supplying needs such as treadle pumps and manually operated water pumps, as well as access to financial services with banks and IMF.

To strengthen links with markets for their produce, intermediation services were an important form of Program assistance provided to maize market chain actors. Relationships between producers, their networks, and financial actors were developed.

Finally, the Program facilitated the purchase of agricultural equipment (shellers, threshers, outfitted tractors, hullers, and milling machines) by lowland management committees and producer networks. This mechanization reduces the labor load and encourages growers to produce more, enabling them to obtain surpluses to sell.

Standard 4: Better land utilization by CRs and community-based organizations

The management plan proposed by WN concerns the watershed of the whole lowland area (talweg plus upland) when it comes to sustainable management of all the resources of the lowlands. The

objective is to achieve peaceful, equitable, economically profitable, and ecologically rational development. This is why the management plans for lowlands in which the Program works include activities to preserve biodiversity, forest, fisheries, and pastoral resources in coordination with the Biodiversity and Sustainable Natural Resource Management Component.

Objective 2: Promote principles based on sound markets and implementation of wholesome agriculture and food policies, as detailed in two standards

Standard 1: Better application of rules on production and technology use by smallholders

Wholesome production that respects the environment and human and animal health requires the application of certain techniques and technologies that follow strict rules or require the use of precautions to be taken: applying treatments during gardening, respecting rules for conserving cereal produce, careful use of herbicides, and others. Sensitization and training were carried out so that standards and techniques were well understood and used.

Standard 2: Heightened awareness of policies at the local level

The Program made a plan to motivate the rural community (CR) to reflect on a vision for agricultural development that embraces all aspects of agriculture, including rural roads, sales outlets, and other economic elements to add to a holistic view. In collaboration with the Program, this vision led to an agricultural economic development plan for the CR that was integrated into its local development plan (PLD) to inform all existing and future partners about planning their activities in future years. The CR is thus becoming more proactive in terms of its development mindset. The Program has just begun the process of developing this vision and raising awareness, but has not been able to attain reportable results. This is explained by the fact that the time remaining is so short, and the activity takes much time.

The program provided training in agricultural economic policies and other topics to the rural community, management committees, producer organizations, and networks. By using the radio simultaneously with the training sessions, it was possible to reach a broader public with these topics.

Key partnerships were developed with USAID-PCE, AfricaRice, ANCAR, PAPIL, DRDR, and FAO as Agriculture Component activities were implemented. These partnerships contributed to very satisfactory results.

Private companies were used to carry out feasibility and design studies for lowland and horticultural sites, quality control of structural work, and mobilization of enterprises to carry out the work.

4.2. Management and development of lowland areas

Lowland farming is an important economic and social factor for the rural setting and for the national economy, in light of their enormous water potential, fertile soils, and other natural resources that are linked to them (forestry, pastoral, fisheries, and others).

For Wula Nafaa, development of lowlands for agriculture is a technological accomplishment, but it also goes beyond building anti-salinization dikes or dams. It also includes activities that raise awareness, increase skills in sustainable management and procedures for local planning, support planning and training, strengthen institutional development, and address fundamental issues of controlled access and resource use as well as conflict management.

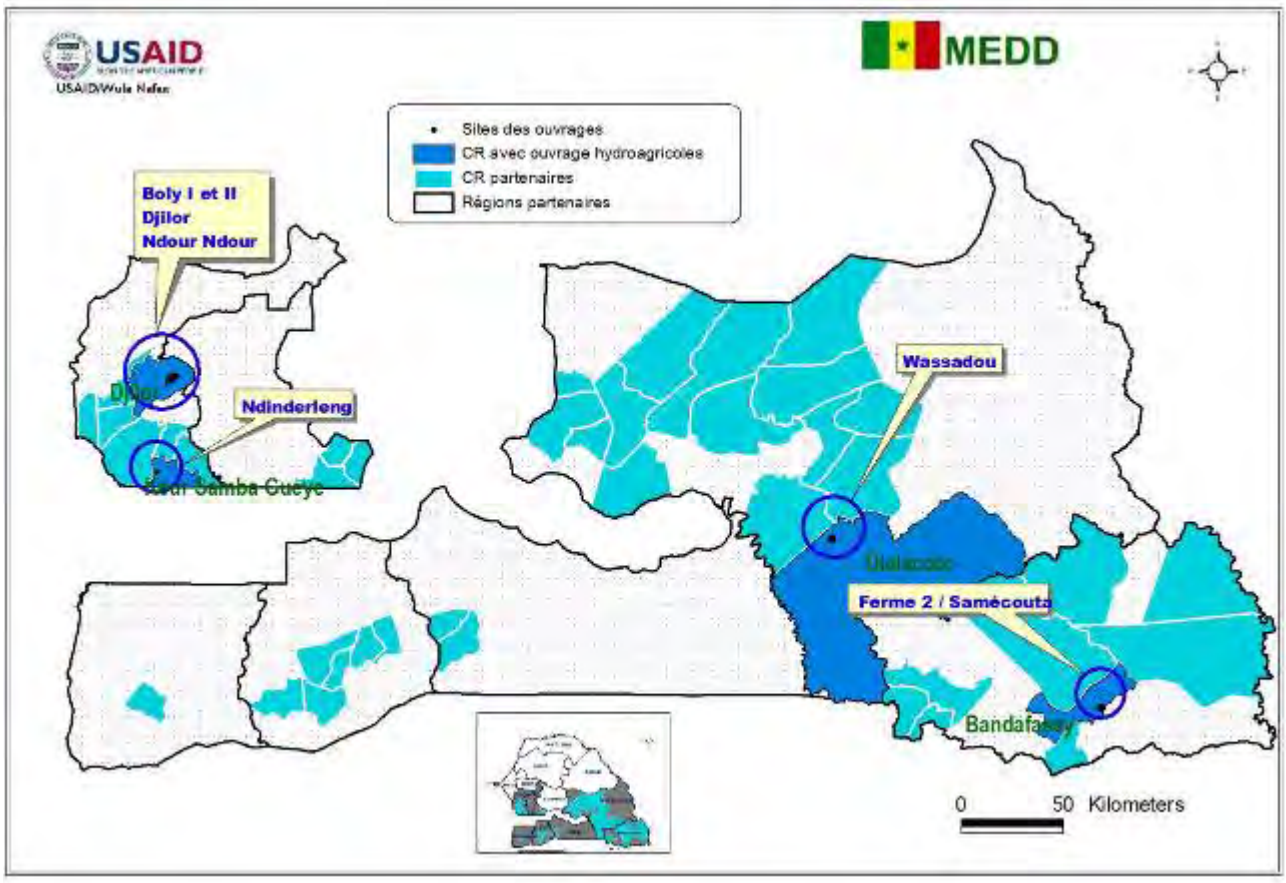
Development was therefore not only for agricultural objectives. It integrated several domains, including agriculture, pasture, forestry, fishing, biodiversity, producer organization, building capacity of stakeholders, good governance, greater social cohesiveness, and higher revenues for households farming in the lowlands.

More precisely, putting infrastructure in place in the lowlands had these objectives:

- Develop rice farming and dry season gardening;
- Secure and increase agricultural production (increased yields and arable land areas) by:
    - diversifying crops
    - restoring the ecosystem
    - stopping the advance of salt water upstream
    - recuperating soils salted by leaching
    - assuring a minimum of one rice crop each year by prolonging the length of flooding time
    - eliminating negative impacts from dry spells
    - protecting unsalted soils and surrounding vegetation
    - recharging the water table and restrict the expansion (or worsening) of salt plains by creating a freshwater reservoir
    - regenerating the vegetation cover, thus re-establishing the hydro-regulatory function of vegetation and the equilibrium of soils
    - improving water supplies and pasture for livestock
    - increasing revenues and fighting poverty
    - improving the quality of the water table
    - securing and improving animal production
    - lengthening the production seasons
    - reducing rain water erosion and enabling dry season farming
    - creating fish farming and rural enterprise opportunities
    - reducing mechanical erosion; plug existing ravines and protect lowlands from siltation
    - improving soil fertility
- Improve animal and vegetation biodiversity;
- Contribute to a strategy for adapting to climate change;
- Promote women's participation in rice farming, gardening, and community resources management;

- Promote social cohesion;
- Enhance technical and organizational skills of stakeholders.

In order to accomplish all this, the Program intervened in eleven lowland areas and put up five anti-salinization dikes, 12 dikes for distributing water in two lowlands, and rice paddies in two lowland sites in Kédougou. These installations are depicted on the map and in photographs below.



Dam built with duckbill concept in Wassadou **Water distribution dike in Ndour-Ndour**

Boli water gate in managed dam

Anti-salinization dike in Kaymor

Rice paddy quads in Kédougou

These structures helped place 1,668 ha under controlled water distribution. The areas are detailed in the following table.

List of lowlands with dike structures built by the Program

Lowland site	CR	Region	Type of structure	Hectares impacted	Cost (FCFA)*
Ndinderling	KSG	Toubacouta/Fatick	Retention dam	974	114,735,000
Kaymor	Kaymor	Kaolack	Anti-salinization	100	202,489,000
Néma Bah (reconstruction)	Toubacouta	Fatick	Anti-salinization	20	4,000,000
Néma Bah	Toubacouta	Fatick	Water-spreading dike	10	16,101,000
Boli	Djilor	Fatick	Anti-salinization	150	23,379,236
Boli 2	Djilor	Fatick	Anti-salinization	10	12,725,200
NdourNdour	Toubacouta	Fatick	Water-spreading dike	70	13,913,000
Djilor	Djilor	Fatick	Anti-salinization	150	15,514,000
Wassadou	Dialacoto	Tambacounda	Retention dam	100	105,532,500
Ferme 2	Kédougou	Kédougou	Basin	52	56,685,000
Samécouta	Kédougou	Kédougou	Basin	32	32,080,000
Total				1,668	597,153,936

*Costs include preliminary studies, payment to the contracting enterprise, and quality control

Other than these dike construction projects, the Program assisted with rice production in eight other lowlands that also have good hydrological conditions by supplying seed and disking soil. The Program supported production in 19 total lowland areas as described in Table 2; they went from 192.5 tons to 2,845.8 tons of paddy rice production.

Assuring and increasing yields required populations to subscribe to the idea, and this made the number of rice producing men and women go from 562 to 2,163 (see Table 3). Almost all the yields exceeded four tons per hectare in 2012, as in the table below. This good yield can be attributed to good agricultural practices, good management of the water control structures, and good rains this year.

Lowland area yields in Wula Nafaa sites

Evolution of rice production between 2009 and 2012 (areas in hectares, yields in metric tons)

	2009		2010		2011		2012		
Site	Area (ha)	Production (T)	Area (ha)	Production (T)	Area (ha)	Production (T)	Area (ha)	Avg. Yield per ha	Total Production
Ndinderling	18	54	84	252	179	304	303.7	3.84	1166.2
NdourNdour	25	25	35	70	45	68	50	5.87	293.5
Boli 1	35	35	45	90	72	72	90	4.6	414
Boli 2	2	2	5	7,5	5	7,5	6	4.6	27.6
Djilor	6	6	54	81	70	70	20	3	60
Némabah	2	3	10	30	15	30	15	4	60
Kaymor	5	10	5	10	24	48	41.5	4	166
Samécouta	8.5	13	8.5	25.5	22	66	32	5	160
Ferme 2	8	8	8	12	52	104	52	1	52
Wassadou	5	2.5	5	5	20	20	45	4	180
Fadiga*	5	10	5	10	10	20	10	0	0
Santanko*	5	5	5	5	10	15	10	2	20
Dar Salam*	0	0	0	0	10	30	15	4.5	67.5
Bembou*	5	5	5	5	10	20	13	3	39
Pakala*	5	5	5	7.5	13	19.5	13	4	52
Keur Malick Fady*	1	1	1	1.5	2	2	2	4	8
Keur Mama Lamine*	5	5	5	7.5	10	5	10	4	40
Dassilamé Sérère*	3	3	5	7.5	6	6	10	4	40
Total	143.5	192.5	290.5	627	575	874.5	738.2		2845.8

*Only assisted with seed supply

In the context of the watershed approach and to exploit the whole toposequence, the Program introduced rice varieties that grow in the upland (Nérica), deep soil (WAR), and salted soil (Rock 5).

These varieties grew well on the different sites where they were tested, and producers should be encouraged to farm them.

Besides rice farming, the managed sites allowed considerable development of market gardening, especially in Ndinderling and Kaymor. At Ndinderling, the area farmed went from 2 ha to more than 40 ha, and is mainly farmed by women. Developed sites had a significant impact on biodiversity, increased revenues, and organizational development.

Evolution of the number of farmers from 2009 to 2012

Region	Rural community	Site	2009			2010			2011			2012		
			Total	Men	Wom	Total	Men	Wom	Total	Men	Wom	Total	Men	Wom
Fatick	Keur S. G /Toubacouta	Ndinderling	35	10	25	188	138	50	407	257	150	525	365	160
Fatick	Djilor	NdourNdour	50	14	36	50	14	36	54	18	36	54	18	36
Fatick	Djilor	Boli 1	130	67	63	130	67	63	150	50	100	172	72	100
Fatick	Djilor	Boli 2	10	2	8	10	2	8	40	10	30	40	10	30
Fatick	Djilor	Djilor	100	0	100	307	60	47	56	13	43	60	8	52
Fatick	Toubacouta	Néma Bah anti salt	50	0	50	50	0	50	100	0	100	196	0	196
Fatick	Toubacouta	Néma Bah dikes	20	0	20	20	0	20	60	0	60	88	4	84
Kaolack	Kaymor	Kaymor	37	9	28	63	18	45	73	23	50	160	56	104
Kédougou	Bandafassi	Samécouta	45	0	45	88	0	88	125	0	125	125	0	125
Kédougou	Bandafassi	Ferme 2	50	0	50	100	0	100	200	0	200	200	0	200
Tamba	Dialacoto	Wassadou							200	10	190	200	10	190
Kédougou	Bandafassi	Fadiga	10	0	10	10	0	10	50	0	50	50	0	50
Kédougou	Bandafassi	Santanko	5	5	0	5	5	0	24	17	7	17	15	2
Kédougou	Bandafassi	Dar Salam	0	0	0	0	0	0	26	16	10	40	24	16
Kédougou	Bembou	Bembou	20	0	20	20	0	20	48	20	28	79	38	41
Fatick	Nioro A. Tall	Pakala	0	0	0	48	48	0	49	49	0	49	49	0
Fatick	Nioro A. Tall	Keur Malick Fady	0	0	0	0	0	0	10	9	1	10	9	1
Fatick	Nioro A. Tall	Keur Mama Lamine	0	0	0	28	6	22	38	23	15	38	23	15
Fatick	Toubacouta	Dassilamé Sérère	0	0	0	16	0	16	30	4	26	30	4	26
Total			562	107	455	1133	358	575	1740	519	1221	2133	705	1428

In summary, the Program supported all the links in the rice value chain, from inputs (seed, access to credit to obtain fertilizer, and so on) to high-quality and abundant paddy production (disking, contracting with service providers, lowland management for water control, enhanced technical and organizational skills of producers, making them autonomous, setting up a rolling fund) to processing (purchase of threshers, hullers) to marketing (selling seed). Still, results for marketing

were lower than expected. Food self-sufficiency was the main result from the producers' point of view, and marketing was supposed to concern only the surplus crop. Nonetheless, the management committee for Ndinderling was able to sell 24 tons of seed in 2011 and 2012.

Ndinderling before work began (Feb. '10)

Dike with duckbill design

Ndinderling in 2012

4.2.1. Biophysical characterization

Following a meeting to find synergy between the Biodiversity and the Agriculture Components, the indicators for the two components were compared and complementary activities in their respective approaches were determined. A common action plan was developed. This synergy was a response to strong recommendations made by USAID to assure the sustainability of Program interventions, especially by respecting biodiversity conservation in the area of the hydro-agricultural management areas. As a result, built structures had to be adapted to the ecosystems in which they lie, and studies had to be carried out to determine existing documentation and known conditions of the target areas so that ecological indicators could be identified in order to follow impacts of the management activities.

Biophysical characterization of Ndinderling lowland

The indicators to monitor include the following, among others:

- The number of dead or dying trees, by species and cause;
- Vegetation and animal species that have disappeared or reappeared, and causes for the change;
- Dynamics of the phenology and health of species on the site.

Among the priority actions undertaken, biodiversity characterization studies were carried out in three management sites (Ndinderling, Kaymor, and Wassadou) with the objective of producing a report on the status of natural ecosystems. On the basis of this report, measures for mitigating impact and assistance were defined so that biodiversity preservation concerns could be taken into account as the lowlands are managed. This work was done by a forestry consultant with assistance from Program staff. For Wassadou, the work was done by the Biodiversity staff with assistance from the technical services.

Biophysical characterization involved, among other tasks, the following: descriptions of the main vegetation types identified on the two sites, a study on the perceptions that local populations have of the lowland environment and watersheds, an analysis of the flora and its vegetative structure (as a function of the site itself and as a function of the vegetative type), proposals for measures needed on each site with specific rules, and indicators to be used to monitor the ecosystems in the zone to be managed, including both the lowland and the entire watershed.

For managed lowlands, the Program's concern was to reduce negative impacts on the natural environment, especially in wooded zones. An example of how this was addressed is in the Ndinderling dike, which was oriented in a way to reduce negative impacts on 191 ha of wooded land upstream from the dike. This was the best possible compromise to preserve the maximum number of hectares of woods, both upstream and downstream from the dike. It resulted in a cost overrun on the construction, but it preserved 125 ha of woods from being flooded. For Kaymor's lowland, the major issue was not inundation of wooded zones, as these areas are located only upstream (50 ha in one block); but salinization was a problem that caused high mortality of trees and the herbaceous layer. The population affirmed that 42 species had disappeared because of this scourge. Filling the dike area with water should considerably diminish the salt concentration and a return of the vegetation is expected, especially in areas that will not be farmed.

The effects of flooding the new areas have begun to be seen in the evolution of the ecosystem where some comebacks have been noted (herbaceous and bird species).

In terms of monitoring, detailed proposals were made such as for plantations (area and number of trees) as well as for monitoring the evolution of ecosystem components (species that are lost, new species, and others).

In the followup to this biophysical characterization, which mainly concerned woody and herbaceous vegetation, a wildlife inventory was conducted by the sector chiefs of the Forest Service in Foundiougne (Ndinderling) and Nioro (Kaymor). In contrast, fauna in Wassadou lowland was inventoried at the same time as the flora, with help from an agent from the national parks.

In terms of objectives set during the wildlife inventory, they included the goals of knowing the main species present before the dam was placed into service and those whose presence (temporary or permanent) is a function of the dam being filled; determining the species most likely to appear in the area once it is in service (with its semi-permanent water surface, extension of rice fields, disappearance or appearance of plant species, and the like); and making a summary table available with all possible scenarios including the appearance or disappearance of wildlife species in the lowland.

In view of the results obtained after data analysis, avifauna is the predominant type of wildlife in the lowlands studied. The number of granivores is dominant because their food is abundant, thanks to agricultural and garden production and a grassy plain that is well-endowed. Meanwhile, the absence of a few aquatic birds, especially big waders like pelicans, storks, and marabous can be explained by the time of year during which the survey was carried out.

Impacts noted after the dike at Kaymor was made operational include the presence of five new species which reappeared after better habitat conditions ensued because of a permanent water presence in some parts of the valley. There were three 'new' types of bird and two 'new' types of

fish that had previously disappeared from the waters upstream from the dam. They are detailed in the table below.

New and reappearing species after construction of the dike in Kaymor

Species	Family	Class	Diet
Fish eagle	Accipitridea	Bird	Carnivore
Vulture	Accipitridea	Bird	Carnivore
Gambia goose	Anatidea	Bird	Herbivore/Granivore
Clarias	Clariidea	Fish	Omnivore
Heterotis	Osteoglossidea	Fish	Zooplanctophage

Constraints noted in the characterization studies cite low participation by local residents in the process (Wassadou) as the studies were being carried out in the middle of dry season or beginning of the rainy season.

Fish caught in the new water catchments

Presence of birds in wetlands

Delimitation and boundary marking of livestock corridors

In the Wassadou and Ndinderling COGIRBAF, the plan was to survey paths for local livestock to access ponds and lowlands. Two Rural Councils were sponsored to guide this activity, which included tracing the best locations of the corridors and setting boundary markers along them as they converge at the lowlands, then exit toward the pasture regions. Recall that the main water points are:

- Ndinderling: ponds or marshes named *Ndinderling, Dodj, Bann, Samba Coumba*; water points upstream from the dike, and the pond named *Dayam* (*Moussoukodala)*
- Wassadou: *Kafayan* (in the Classified Forest of *Diambour*) upstream from the marshes of the lowland

Note that the teams in charge of tracing and marking the livestock corridors were not required to create new ones; it was just a question of materializing existing paths by setting cement boundary markers every 100 meters for a swath 50 to 70 meters wide. In Ndinderling, for example, the people who live there recalled that the area had livestock corridors that were demarcated in 1973 but were little respected in places, up to Ndinderling pond. This explains why the path is easily visible on the satellite image from June 29, 2011 (in the area of Ndiob).

Map showing the location of Ndinderling livestock corridor

Corridors were identified and marked as follows:

- Eastern border of the CR, Passy Ndinderling, Ndiob, Ndinderling Forest: 7200 meters
- Along the dike towards the Classified Forest of Diambour, with pasture lands upstream from the dike towards Niériko: 2200 meters
- Between the valley bottom (towards Médina Baoussou) and the classified forest: 1900 meters
- Médina Afia path going towards the Classified Forest of Diambour: 2300 meters

During the materialization of the corridors serving the Program's managed lowland sites, some difficulties were identified, notably the reticence of populations in Dayam and Mahmouda and the occupation of part of the path by farms. Also, the fact that the livestock corridors extended through one, two, or sometimes three CRs limited the decisions that could be taken by Keur Samba Guèye CR alone. For Wassadou zone, the presence of the Classified Forest of Diambour was a limiting factor, as the Rural Council is not empowered to deliberate on this space even if he wants to extend the limits of the livestock corridor. This also made a problem for farmers, who had to occupy part of the corridor since they could not extend fields into the classified forest.

4.3. Conservation Farming and related activities

Conservation farming (CF), also called conservation agriculture, is one of the components in the value chain for millet-sorghum and maize. It can also be defined as a system of production based on soil conservation, and can even improve the natural productive potential (farmed yield) to obtain optimum and consistent yields from a plot of land. CF is one solution to increase fertility of fields and to improve potential soil productivity.

CF was introduced to Senegal during the 2009 rainy season after a recommendation by the outgoing director. Training was provided by a Malian consultant. A local pilot project was set up in the village of Bamba Thialène [1] in Tambacounda Region.

The main steps in the process of introducing CF to USAID-Wula Nafaa zones were as follows:

- A presentation on the technique was given to USAID, PCE, and WN staff, using a model from Zambia.
- A CF implementation test with twenty producer volunteers was set up during 2009 rainy season, with advice from the Malian consultant.
- An exchange visit was organized in the test area for potential CF producers in Kaolack, Fatick, Kédougou, and Tambacounda.
- More in-depth technical training was held for USAID-Wula Nafaa Program field personnel, and for associated technical services[2]. This training was carried out by a consultant from the Zambia Conservation Farming Unit.
- A strategy for supporting CF on a village basis and for individual producers was defined, villages were selected, and producers were selected on the basis of an inscription fee paid to the village CF group.
- Training by module was given to producers in different steps for CF implementation.
- A technical evaluation was made of the technique, and other steps were programmed.

In addition to these aspects, technical support in the form of brochures and films were part of the process of introducing CF in USAID-Wula Nafaa zones.

4.3.1. Strategy for implementation of different types of CF

CF was implemented on the basis of village groups composed of individual producers. These autonomous groups quickly evolved into networks of CF producers[3]. As of now, there are 19 CF producer networks of which 13 are functional. The Program strategy for implementing CF is as described in the following diagram.

[1] The village is the focal point of the peasant farmer movement in Senegal.

[2] Government technical services associated with the initial CF training are DRDR/Koussanar and ANCAR/Tamba.

[3] The network is made up of all CF groups or villages in the rural community. Each CR in the program has an autonomous network with officers and commissions.

USAID's CONSERVATION FARMING STRATEGY		
CF techniques		
Improved quality of vegetative material (use quality, high-production, healthy seeds with germination rate above 98%)	Mastery of CF principles and techniques (application of all components of the CF technical package)	
Improved soil fertility returns soil to its original germination capacity so that it can deliver high productivity – (maintain soil by adding organic matter, dosing fertilizer, and planning fallows)		
Pillars of CF		
Organization of producers ACCORDING TO VILLAGE (homogeneity)	Emergence of LEAD PRODUCERS in each village (preparation for project withdrawal)	Development of links with OTHER SERVICES (sustainability)

CF is based on three fundamental principles:

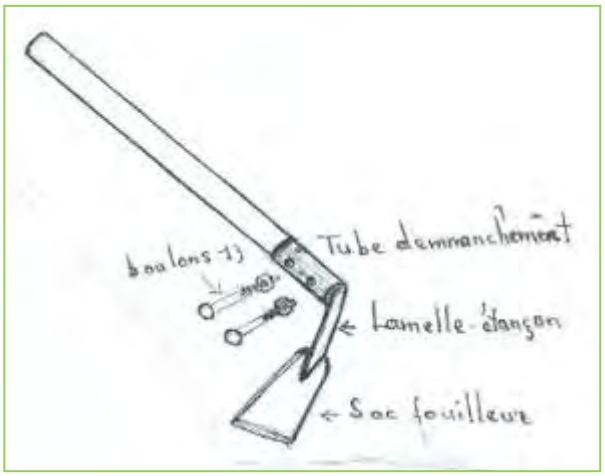
(i) start with individual producers in the village;

(ii) set up a mechanism from the outset to manage the end of the Program[4]; and

(iii) work broadly on the value chain while developing links between clients.

Different forms of CF

The conservation farming technique taught by USAID-Wula Nafaa Program is implemented in three different modes: manually, using animal traction, and with tractors.



Manual CF

In this mode, all labor is done by hand. It is similar to zaï holes and is adapted to family plots where little equipment is available. Manually-practiced CF can also be the solution for exploiting soils that are poor or degraded. The principal tool for implementing CF is the hoe.

The hoe is a tool that is easy to make in a rural setting. However, producers can use any tool that they already have to work the soil.

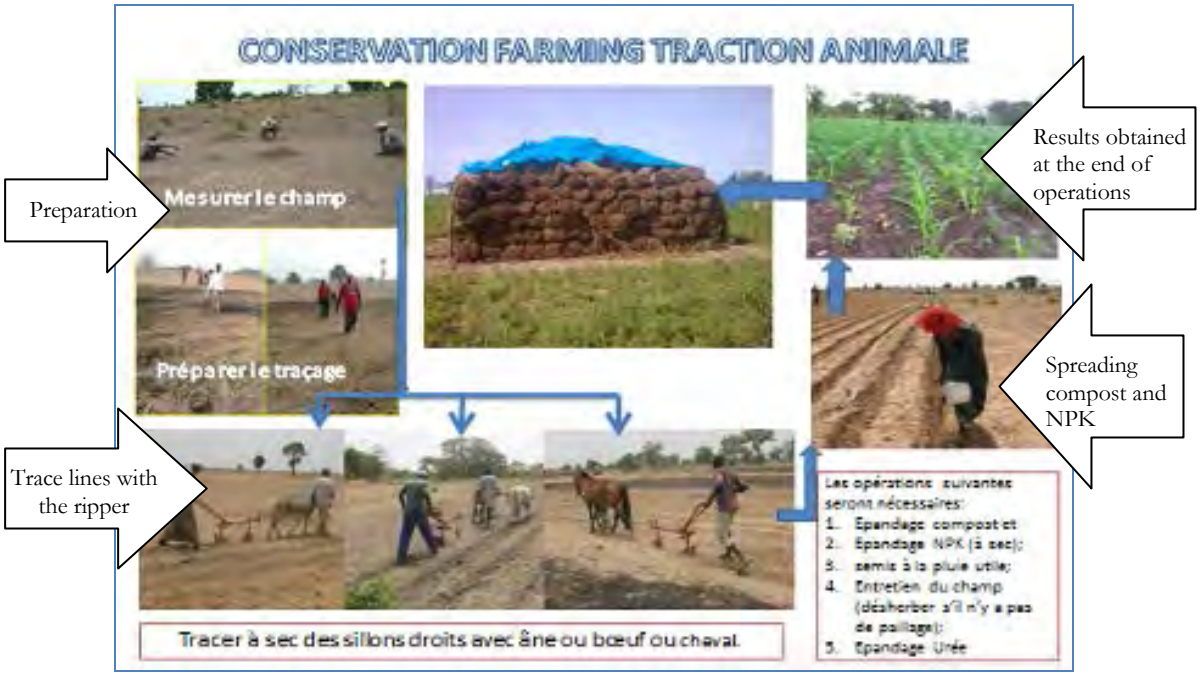
The manual for this mode of CF is outlined as in the following diagram.

[4] Lead producers or PL are the true resources for assuring continuity of CF activities in the villages. Their workload is not heavy because their scope of work is limited to the village.

In view of the ease of precision dosing of inputs and the high yields that result, manual implementation of CF can be considered to be the most complete form of the technique.

CF using an animal-drawn ripper

This form of CF uses draft animals (horse, ass, or pair of oxen) and is the most commonly used in production zones monitored by the Program.



Animal traction in CF has lived through many changes. The main tool, the ripper, a copy of which came from Zambia, has gone through four major modifications. It went from the first generation (Zambian) to the fourth generation, with spreader and wings to reclose the furrow.

Ripper versions 3 and 4 are nearly stable and can be reproduced at a large scale. As proof:

- USAID-Wula Nafaa Program is a leader in CF; it injected more than 500 rippers from different generations into Fatick, Kaolack, Tambacounda, and Kédougou Regions.
- Following practical training that lasted three days in Thiès, the Hunger Project ordered some rippers to launch its CF tests in Thiès and Matam areas.
- USAID-PCE Project ordered 200 version 3 rippers and 53 version 4 rippers for this season from artisans already trained by USAID-Wula Nafaa Program. These initiatives help to standardize the process of making the ripper and learning the CF techniques.
- ANCAR received nine version 3 rippers to launch CF tests this season in Diourbel, Thiès, and Louga Regions.
- USDA-CLUSA MIL Project in Kaolack ordered 65 version 4 rippers to intensify CF in Kaffrine, Kaolack, and Fatick Regions.
- Two private Gambian entrepreneurs ordered three version 4 rippers to try out CF in their village, after seeing the YouTube video.
- In the artisans' receipt books, cumulative sales of 63 rippers version 3 and 12 rippers version 4 were recorded outside the Program from 2011 to 2013.

The following map shows the locations of trained ripper craftsmen throughout Senegal.

Map of USAID-Wula Nafaa-trained ripper craftsmen throughout Senegal

Addresses of craftsmen trained and monitored by USAID-Wula Nafaa

REGION	Name	Family Name	ADRESS
Fatick	Ousmane	Ngom	Atelier menuiserie Métallique à Toubacouta, face du mini marché Tel 77 527 45 07
	Babacar	Ndiaye	Atelier Menuisier métallique de Djilor, Tel 70 105 77 09 /77 987 52 68
	Alioune Badara	Cissokho	Menuisier métallique à Toubacouta, Tel 221-77 -432-18-90
Kaolack	Momath	Ndiaye	Ménuiser Métallique Tel 77 240 64 13 Kaymor
Tambacounda	Nohine	Ndao	En face SECKO Kaiche, Koussanar Tel 77 537 87 60
	Elhadji	Thiam	Menuisier métallique Face Conseil Rurale de Sinthiou Malème Tel 77 645 91 27
	Diougal	Mboup	En face du marché de Koussanar, Tel 77 326 40 50
	Moustapha	Gueye	Quartier Place du Marche Face Gare Routière, Koumpentom Tel 70 105 77 09n
	Mamadou	Mankané	Face marché de Koussanar, S/C Nohine Ndao
Kédougou	Moussa	Doucouré	Lycée Technique de Kédougou (UAP) Tel 33-985-13-21 775466818

Evolution of the ripper from 2010 to 2013

Ripper - first generation	Ripper - second generation	Ripper - third generation	Ripper - fourth generation
♦ Produced for 2010 rainy season  ♦ This version is named the Magoye Ripper; it comes from Zambia. ♦ It was copied exactly and 100 units were made at a cost of 5,556,000 FCFA with no modifications. 	♦ Produced for the 2011 rainy season  ♦ This version is closer to the agricultural tools that already exist in Senegal. It is a multi-use ripper that traces furrows, weeds after it rains, and makes pockets for maize planting. More than 200 units were produced between 2010 and 2011; 189 of these were initiated by USAID-Wula Nafaa Program at a cost of 15,452,200 FCFA. 	♦ Produced for the 2012 rainy season  Only the stanchion was reviewed so that these improvements could be made: ♦ It should reach a furrow depth of 15 cm ♦ The wings should completely part the soil as it passes through ♦ There should be no separation at the place where the stanchion joins the ripper body NB: 336 stanchions were produced at a cost of 9,403,000 FCFA; the ripper frame had no issues to resolve.	♦ Produced for the 2013 rainy season  ♦ The Program ordered 200 units at a cost of 20,136,400 FCFA; more than 80 others were ordered by USDA-CLUSA and USAID-PCE. This ripper has these advantages: ♦ It traces CF furrows in compliance with CF recommendations ♦ Compost can be spread at the same time that furrowing occurs ♦ The furrow is closed back up after the compost goes in These 3 activities were previously done separately and required many more people to do the labor. NOTICE: An end-of-season evaluation should be done at the end of the 2012-2013 campaign, and any faults with it should be corrected.

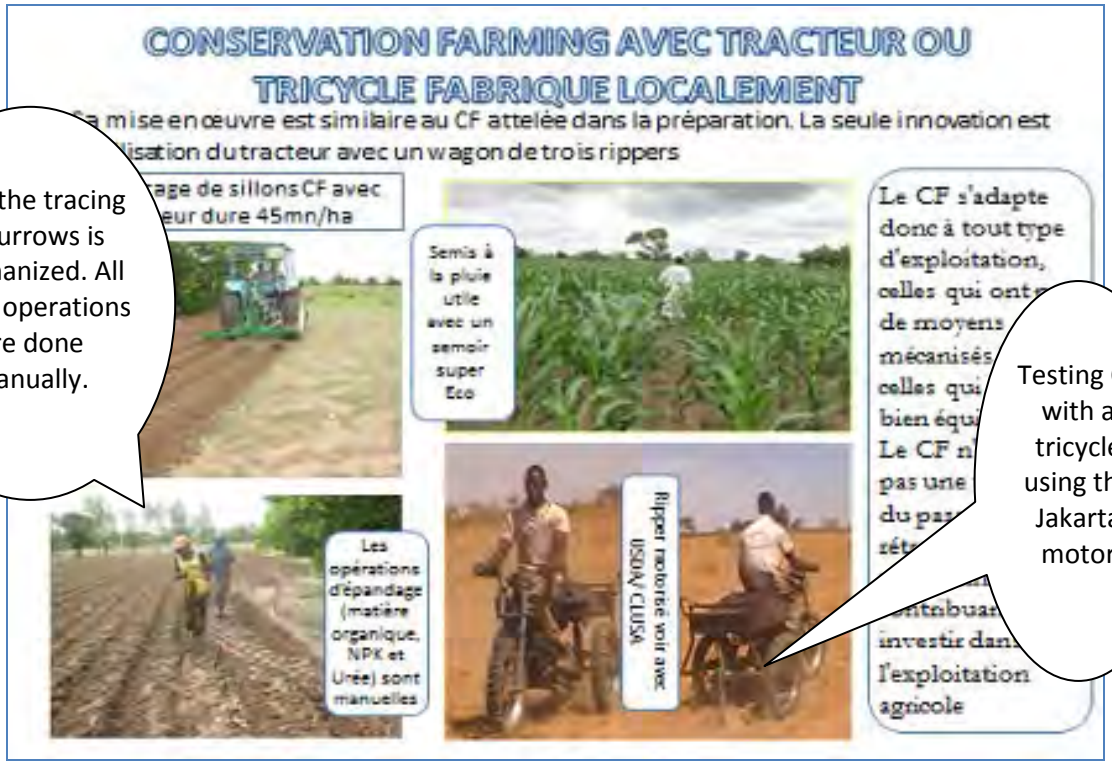
NB: USAID-PCE Project, in collaboration with artisans already trained by USAID-Wula Nafaa, sent in a large order of ripper versions 3 and 4 for CF producers in Kolda, Tambacounda, Fatick, and Kaolack. These initiatives lead to standardizing the approach for CF implementation.

The overall cost of assisting CF groups with access to rippers over the 3.5 years of CF implementation was 50,547,600 FCFA.

Conservation farming using a tractor

This form of CF uses a tractor to trace furrows. The objective is to diversify the types of CF producers in the program[5] so that the area under CF will increase.

Two types of motorized traction were studied and remain to be adapted more precisely. These are (1) a tractored trailer made up of three ripping disks, and (2) a Jakarta motorized tractor with a compost spreader.



Some of the recent experiments the Program is carrying out use the tractor or Jakarta motor while practicing CF extensively as well as on producers' farms. This mode of CF needs a technical evaluation in order to verify production and equipment effectiveness.

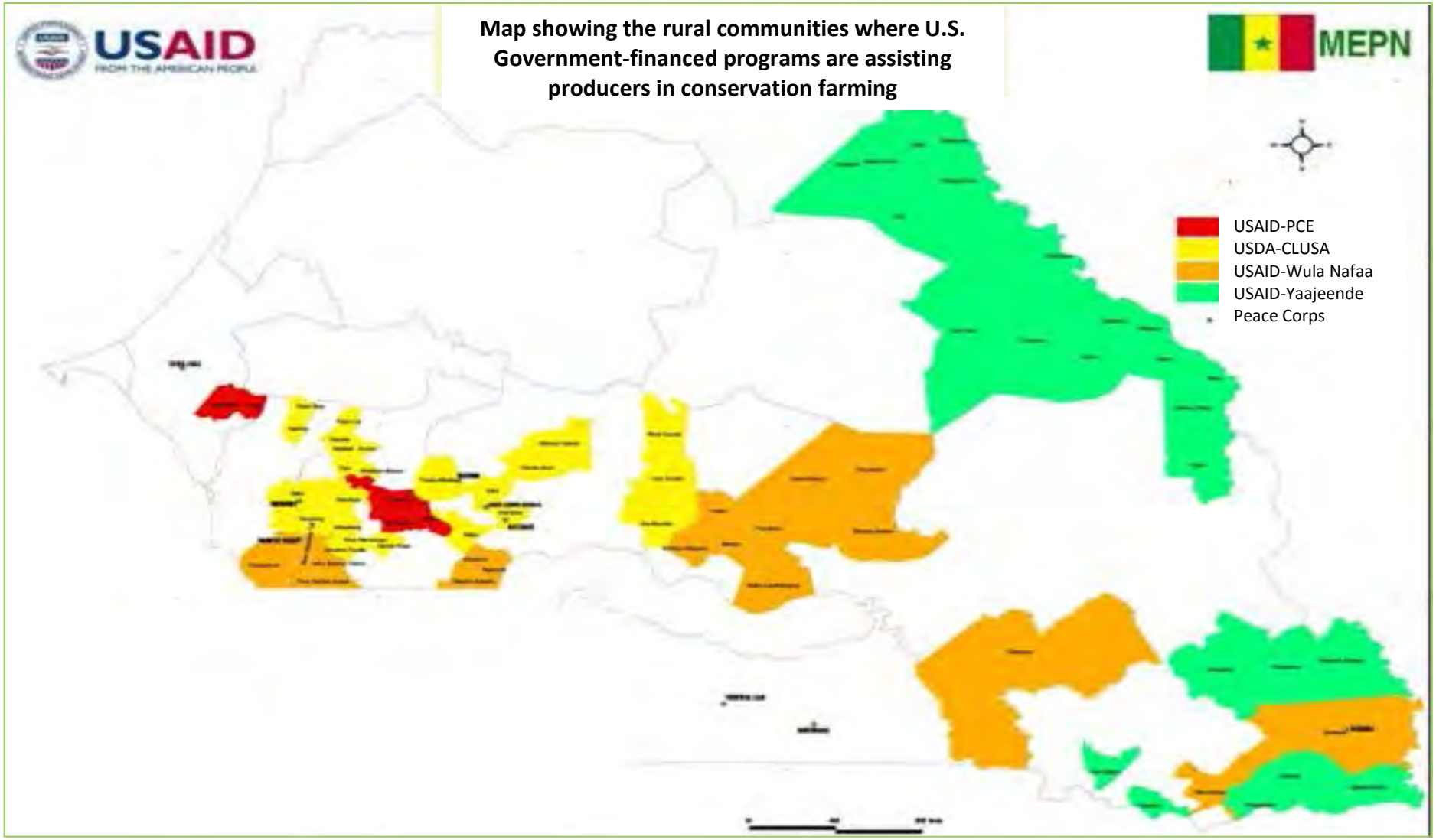
CF implementation zone

Promising results from the 2009 test led to a widespread extension of CF to four regions of Senegal (Fatick, Kaolack, Tambacounda, and Kédougou). The promotion and extension of the production system based on conservation farming has followed a bifurcate approach:

1. Promotion within a compact zone in Tambacounda Region in nine Rural Communities
2. Extensive, less-concentrated promotion in Fatick Region (five Rural Communities), Kaolack Region (three Rural Communities), and Kédougou Region (two Rural Communities).

In addition, other USAID projects including PCE, Yaajeende, and CLUSA are implementing CF in their intervention zones. The following map shows CF in Senegal, with USAID in the lead.

[5] In the farming zone, producers can be classified into three types: those who don't have equipment (less well-to-do producers), those who have means like traction animals and small tools (equipped producers), and those who own tractors (big producers).



In addition to the communities assisted by USAID, CF has been tested under four ANCAR agencies (Kaolack, Thiès, Diourbel, and Louga) and also under the Hunger Project. These sites are not recorded on the above map.

4.3.2. Activities that complement CF: compost and RNA

The implementation of CF requires certain technical, organizational, and financial skills. The USAID-Wula Nafaa Program developed the activities below to address these.

Refining the compost-making technique

Using compost is required in CF. USAID-Wula Nafaa Program worked with the Farmer to Farmer Project (CLUSA) to refine a new technique to make compost. It consists of making it out of piles and it is called above-ground composting. The process is illustrated in the following photos.

Preparing green and dry materials, and placing them on the compost heap

Raw materials for compost heaps exist in the immediate surroundings of producers. At first, producers used garbage heaps that have existed for years around their villages. With the increasing number of villages practicing CF, as well as the number of producers and the number of hectares ploughed for CF, these random garbage heaps have become scarce. That is why the process for making new compost had to be taught.

Composting practices initiated by USAID-Wula Nafaa Program are a way to make CF sustainable in the production zones. If CF is not practiced using organic matter, it will not give the expected results.

Thus, CF is more than just a land management technique. It is a combination of land management techniques that target higher productivity and agricultural yield.

The composting technique was presented to 1,932 producers in two years of implementation. In winter 2012, at least 148 CF villages used the compost from heaps produced in their fields. On average, each producer made a compost heap approximately 1 cubic meter in volume, which compacts down to 47% of this volume as it becomes usable compost. This leads to a calculation of 908.04 cubic meters of compost produced in two years.

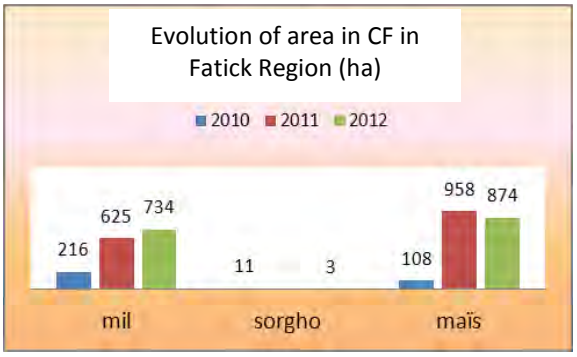
The following table gives an idea of the degree of adoption of composting techniques as described by the number of people practicing it in USAID-Wula Nafaa zones.

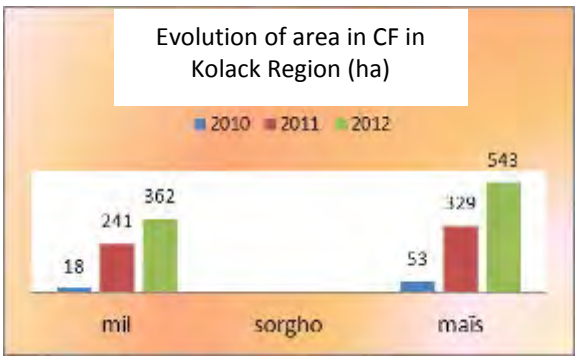
Number of people utilizing compost

Region	CR	Villages	Number of groups	Gender		
				Men	Women	Total
Fatick	4	53	101	581	82	663
Kaolack	3	9	31	143	1	144
Tambacounda	8	63	184	684	23	707
Kédougou	2	23	69	394	24	418
Total	17	148	385	1802	130	1932

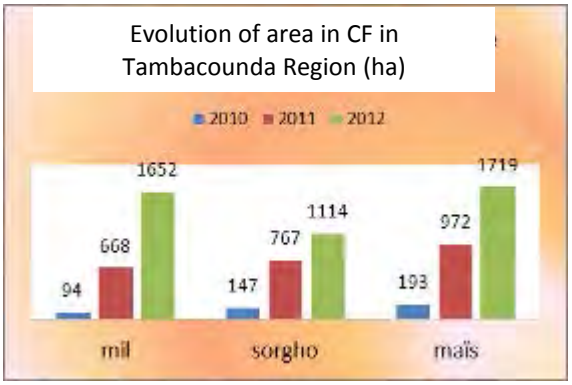
In order to standardize composting procedures, the process was summarized on a simple poster and distributed to producer groups engaged in CF.

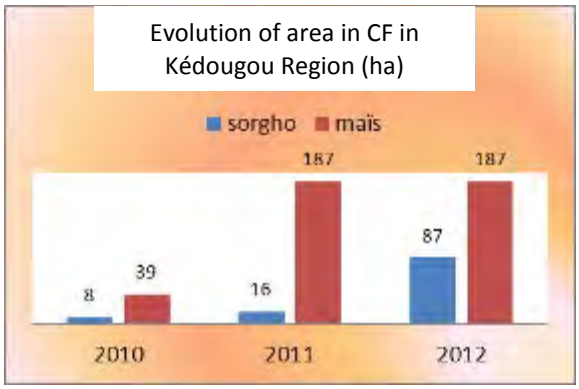
A big increase in CF areas by crop was noted in 2011. This coincided with USAID-Wula Nafaa's fully-expanding phase of vulgarizing the technique.



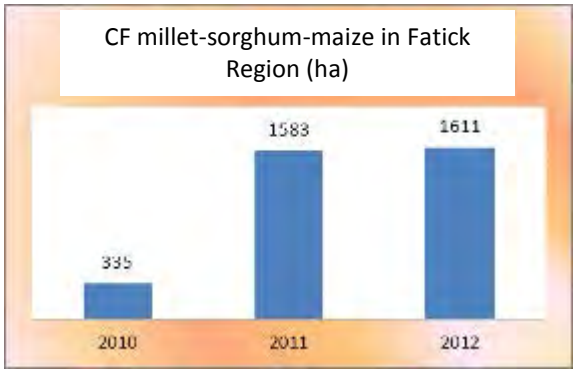


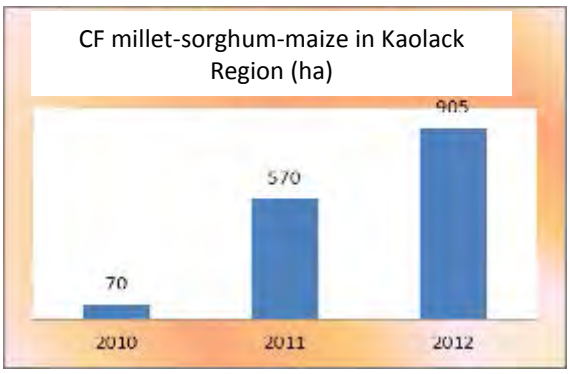
A smaller area was farmed with CF in Fatick Region in 2012, due to the absence of a credit program in some of the villages. Some farmers therefore decided to produce millet instead of maize.

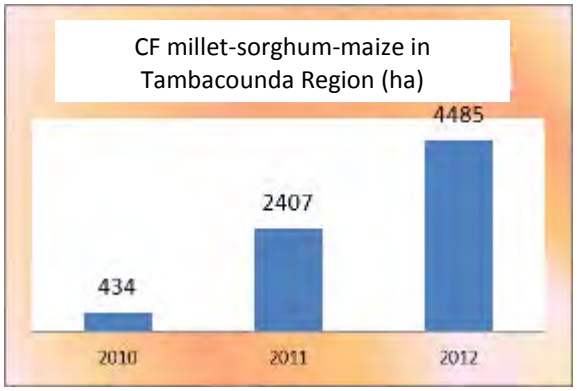


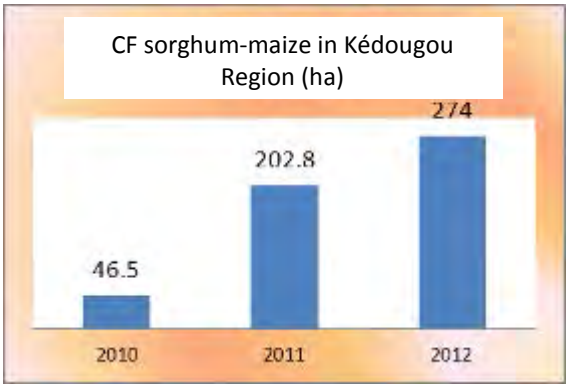


The overall distributions of areas by crop for all zones are shown in the next graphs.







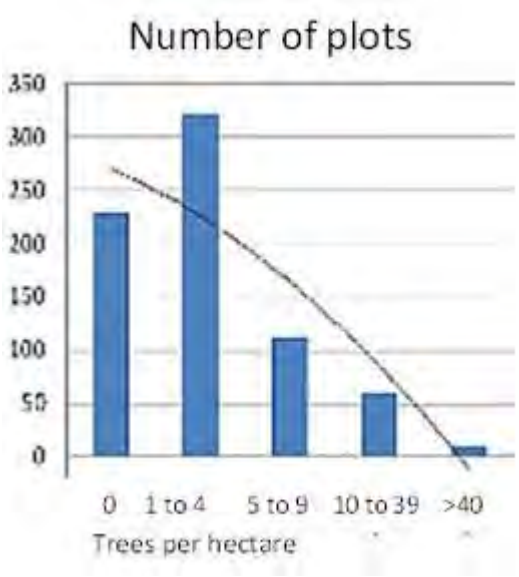


Recall that Tambacounda Region has nine rural communities practicing CF. This is reflected in the large values for hectares and producers applying CF techniques.

Introduction to farmer-assisted natural regeneration

We speak of assisted natural regeneration (RNA in French) when farmers actively protect and manage tree regeneration in their fields in order to create or restore woody vegetation. It is called assisted natural regeneration to distinguish it from 'replanting' or 'enrichment planting' within forests, windbreaks, or elsewhere and to distinguish it from managing natural woods in managed forests outside fields.

USAID-Wula Nafaa Program's intervention zone covers several eco-geographical zones, and thus it was necessary to carry out a study to identify the different practices for natural regeneration, species and their many uses, impacts on the living conditions of populations, and what motivates rural people to protect and manage trees.



For USAID-Wula Nafaa Program, RNA could be proposed as one technique for sustainable management of agricultural lands where maize and millet-sorghum (two of the four principal value chains for USAID-Senegal) are being produced, with the same status as conservation farming.

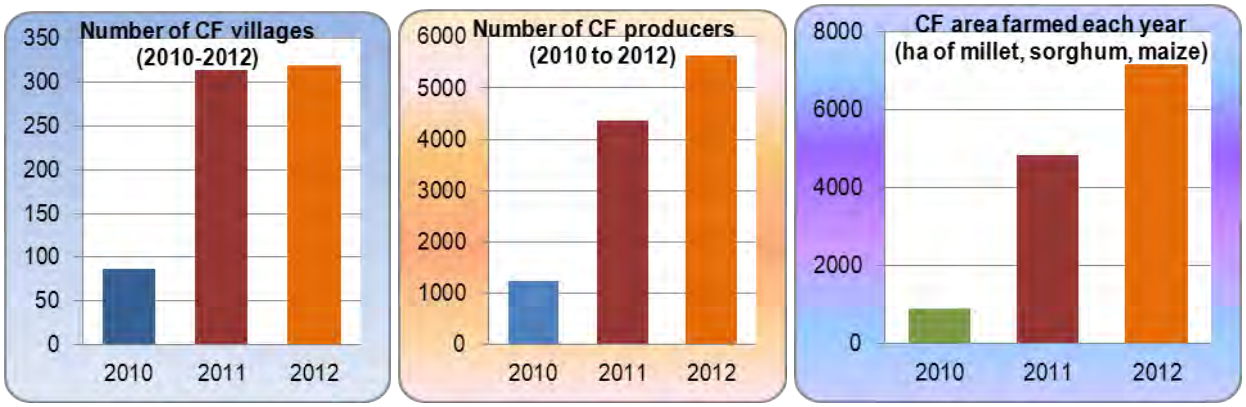
Training in RNA practices was given to facilitators, and the training was repeated in the villages for 7,437 farmers (6,518 men and 919 women). Also, a survey was carried out among the CF group members in CF networks in Fatick, Kaolack, Tambacounda, and Kédougou Regions. A database is now available and will be used by the Program to promote and implement RNA among the CF networks. Surveys concerned 735 producers in the networks of the four regions, which include 22 rural communities and 215 villages. The producers who were interviewed stated the number of large, medium, and small trees present in their fields. They also gave the main species according to a species list already made up. The "large trees" were divided into five classes to describe details about agroforestry trees in CF fields.

The first reason given for keeping or planting trees in fields is to improve yields (43% of the responses), to produce fruit (25%), for other reasons such as medicinal uses and honey production, and finally for shade, fodder, and wood.

4.3.3. CF results 2010 to 2012: growth in producers and yields; credit

More CF practitioners

A substantial increase in CF practitioners was noted during the three years in which it was implemented in the four regions. Analyses on the CF database produced the results depicted below.



The number of CF farmers increased exponentially in 2011 after a push for extension of the technique. Between 2011 and 2012, USAID-Wula Nafaa Program worked on organizing producers and getting them into networks, then getting CF groups to take ownership of the technique.

Yields in CF fields and non-CF fields

CF led to a substantial increase in millet, sorghum, and maize production outside lowlands. Comparisons to yields using traditional farming methods were measured each year by the DRDR, with the following results:

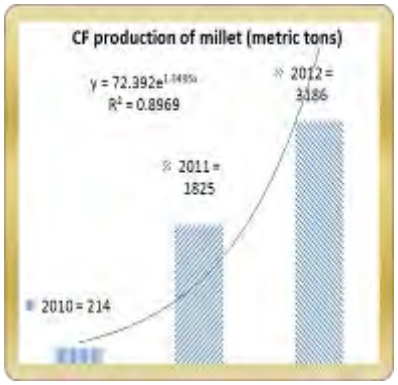
Comparative yields on CF and non-CF fields between 2010 and 2012

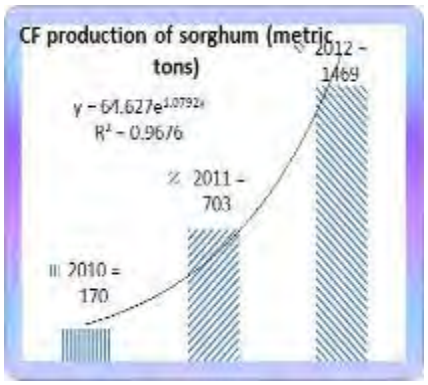
Year: 2010							
Fatick Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	216.38	990	214	548	442	81%
	sorghum	11.25	953	11	752	201	27%
	maize	107.63	2,634	283	1,550	1,084	70%
Kaolack Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	17.5	990	17	548	442	81%
	sorghum	0	953	0	752	201	27%
	maize	52.5	2 634	138	1,550	1,084	70%
Tambacounda Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	93.75	955	90	867	88	10%
	sorghum	146.75	1,027	151	947	80	8%
	maize	193	1,605	310	1,403	202	14%
Kédougou Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	0	955	0	867	88	10%
	sorghum	8	1,027	8	947	80	8%
	maize	38.5	1,605	62	1,403	202	14%

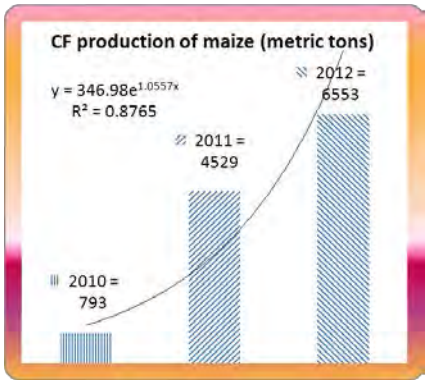
Year: 2011							
Kaolack Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	241	1,419	342	915	564	62%
	sorghum	0		0			
	maize	328.6	2,634	866	1 722	862	50%
Fatick Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	625	1,523	952	915	608	66%
	sorghum	65	1,075	70	846	229	27%
	maize	958.3	2,568	2461	1 498	1 070	71%
Tambacounda Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	668	795	531	638	157	25%
	sorghum	767	794	609	647	147	23%
	maize	972	997	969	793	204	26%
Kédougou Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	sorghum	15.8	1,522	24	882	640	73%
	maize	187	1,248	233	997	251	25%
Year: 2012							
Fatick Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	734	1,039	763	816	223	27%
	sorghum	3	1,284	4	985	299	30%
	maize	874	2,973	2,598	1,270	1,704	134%
Kaolack Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	362	1,304	472	773	531	69%
	sorghum	0		0		0	
	maize	542.75	2,742	1,488	1,650	1,092	66%
Tambacounda Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	millet	1652.25	1,181	1,951	898	283	32%
	sorghum	1113.75	1,203	1,340	1,019	184	18%
	maize	1719.08	1,249	2,147	1,031	218	21%
Kédougou Region	Crop	Area (m²)	CF yield in kg/ha	Production (tons)	Non-CF yield in kg/ha	Difference, in kg	% increase
	sorghum	87	1,437	125	1,193	243	20%
	maize	187	1,709	320	1,205	504	42%

The best CF yields were recorded in Kaolack and Fatick Regions. This is due to the fact that producers in these two regions are starting from a point of awareness of the poor quality of their land. Organic amendments using compost are more systematically applied in Kaolack and Fatick, unlike in Tambacounda and Kédougou. Thus we know and can confirm that the CF technical package is better respected in Fatick and Kaolack than the other two regions.

During all three seasons, CF yields greatly exceeded those from traditional farming. The following production volumes were recorded between 2010 and 2012.







Conservation farming has thus once again proven itself through techniques that are known to increase yields and upland production of dry grain.

Organizational support and credit

Organizational support

Organizational support led to setting up 1,153 agriculture producers' groups.

Contracting with financial institutions

- The Program signed agreements with IMF financial institutions **(CMS, ACEP, U-IMCEC)** to finance agricultural inputs. It also facilitated signing partnership agreements directly between the IMFs and producer networks. PAMECAS signed an agreement with the networks of Nioro Alassane Tall worth 23,700,000 FCFA; Saloum Diané, worth 6,840,000 FCFA; and Keur Samba Guèye, worth 6,720,000 FCFA, for a total of 37,260,000 FCFA. For U-IMCEC of Tamba, an agreement was signed with Maka, Méréto, and Ndam networks that financed 7,900,000 FCFA for CF producers. U-IMCEC/Kaolack financed a sum of 6,950,000 FCFA without a signed agreement.
- To guarantee repayment of credit, contracts were signed between producers and groups and between groups and networks to market excess crop produced. This is how Kaymor network contracted with a maize buyer, Agrosynergy, to buy the excess production collected.

Access to credit

- A total of **702,475,500 FCFA (1,404,951 USD)** was financed for **1,951** agriculture, fisheries, and agroforestry enterprises.
- The Program facilitated financing of agricultural producers who bought inputs and acquired tractors and offsetting equipment.
- For the tractors, the Program played the role of facilitator and advisor in the acquisition. Assistance at the time of elaborating business plans, NINEA, commerce registration, and APIX licensing allowed four promoters out of the six who applied to benefit from tractors and offsetting equipment.
- The final choices of equipment and mode of financing are made by private promoters. This is the context under which the users freely choose which supplier to contact for four tractors. The cost of a tractor is as follows: participation of the promoter, 10%; USAID-Wula Nafaa Program subsidy, 30%; bank or other supplier credit, 60%. CNCAS granted a total financing package of **100,576,000 FCFA** for four tractors.
- For the 2011-2012 season, many producers had no access to credit. Financing from ACEP/Kaolack and U-IMCEC/Tamba was difficult to obtain, in spite of the Program submitting introductory notes for applicants since May 2012. ACEP/Kaolack refused to finance 89 groups and five networks that had solicited **96,584,000 FCFA**. The same happened under U-IMCEC/Tamba, which only financed a handful of groups. To remedy this situation, the Program set up a

mechanism to build capacity for mobilizing producer savings and then marketing surplus crop to secure repayment of loans.

Assistance given to agricultural promoters

- The Program assisted four private promoters who are members of CF producer networks in Fatick, Kaolack, and Tambacounda zones to put together applications for CNCAS credit to acquire tractors.

4.3.4. Constraints in CF

There were a few difficulties encountered while implementing conservation farming:

- Long-term availability of compost to alleviate the systematic use of chemical fertilizers is an issue that needs to be resolved. A link must be found between CF extension and compost-making as associated processes.
- Produce from CF farms are only rarely sold on the market. The level of organization is still in its infancy and not ready to take on marketing. It will be necessary to work more with networks to reach a basic level of consolidating harvested crops. It is also necessary to work on commercial standards for selling agricultural produce.
- Providing producers with a ripper is a slow process. The policy for subsidizing rippers that was used by USAID-Wula Nafaa consists of providing one ripper per village to get the activity going, but this is now showing its limits. The number of producers per village has grown along with declared areas to be planted using CF. CF groups should continue to be organized with a goal of enabling them to purchase their own rippers. Some CF groups are already moving in this direction.

Other recommendations are made at the end of the Agriculture chapter.

4.4. Management of garden perimeters: assistance provided, technologies, and complementary activities

Gardening is not a new activity in the production zones monitored by USAID-Wula Nafaa Program. However, its implementation was often blocked by the lack of water and damage by stray animals. To improve garden production yields, the Program prioritized securing crops from two points of view: access to water and protection from animals.

To carry out its horticultural production strategy, the Program first worked on choosing sites based on these factors:

- Priority given to intervention sites that will have an immediate, significant impact on increased volumes and revenues;
- Avoiding activities getting too spread out so that efforts will stay coordinated;
- Linking with other Program component interventions, so as to capitalize on achievements in all sectors;
- Taking into account the results of field research conducted in July and August 2009, which favors locally-based action.

A list of intervention sites was made up, and the provisional targets required by Program indicators were filled in. An extract of the table is presented as follows.

Locations and investment programs for horticultural production sites with USAID-Wula Nafaa

CR	Site	Main vocation	Investment*	Activities carried out	FY 2010		FY 2011		FY 2012		FY 2013	
Djilor	Djilor	Horticulture	8,330,472	Study		X						
				Development			X					
				Exploitation			X	X	X	X	X	X
	Ndour Ndour	Horticulture	17,640,700	Study		X						
				Development			X					
				Exploitation			X	X	X	X	X	X
Toubacouta	Némabah	Horticulture	23,868,792	Study		X						
				Development		X	X					
				Exploitation			X	X	X	X	X	X
	Dassilamé Sérère	Horticulture	43,575,334	Study		X						
				Development		X	X					
				Exploitation			X	X	X	X	X	X
Keur Samba Gueye and Toubacouta	Ndinderling	Rice, Horticulture		Study		X						
				Development			X	X				
				Exploitation				X	X	X	X	X
Nioro Alassane Tall	Diabang	Horticulture	55,753,745	Study		X						
				Development		X	X					
				Exploitation			X	X	X	X	X	X

*Costs include studies, fencing, wells/channels/basins, and manual pumps for Diabang

The configuration of the perimeters and the type of organization by gardeners led USAID-Wula Nafaa Program to define two priorities for working with the horticulture value chains: (1) technical assistance for fenced perimeters for which the Program had facilitated financing for some of the basic infrastructure (water retention basins and fences), and (2) assistance for private gardeners to facilitate their access to water.

4.4.1. Assistance for fenced garden perimeters, including SIGESCO

Assistance was provided to producers in five garden perimeters in Fatick Region in Foundiougne Department. The villages involved are Dassilamé Sérère (10 ha), Némabah (5 ha), Keur Mama Lamine (10 ha), NdourNdour (2.5 ha), and Djilor (1 ha). The total cost was 149,169,043 FCFA[6].

The five perimeters are all fenced in and have a well, water retention basins, and gardening equipment for implementation of garden activities. The process of exploiting the plots began in earnest in 2011. The rate of exploitation surpassed 70% of the arable land.

The main tool used to assist gardeners in the fenced areas is SIGESCO software, which provides advice on market-oriented production standards. SIGESCO[7] is an excellent tool for:

[6] More money was invested in Diabang perimeter because of difficulties accessing water; the 20 wells in the system were deepened to remedy the problem.

- maximum involvement of professional organization members in all phases of activities (action research, training, monitoring, evaluation, etc.);
- real communication within grass-roots economic organizations (rural or others) and with their exterior partners;
- identifying advantages, disadvantages, and economic/financial/socio-cultural objectives in decision making analysis;
- working on concrete skills that are technical and practical as well as theoretical knowledge in the classroom.

Management committees in the five perimeters benefited from three training sessions on the SIGESCO garden planning method. In all, five resource persons per perimeter, for a total of 25 people, were trained and are capable of animating and advising other gardeners. Each perimeter also has a toolkit to continue with animation and garden planning in future years.

Gardeners writing their own business plan for planting in Ndour-Ndour

Assistance lent by the Program in the fenced garden perimeters led to results such as illustrated in the following table.

[7] SIGESCO: SImulation GEStion et COmptabilité (Managment and Accounting Model) is a tool created by CIEPAC to support garden producers in planning and marketing of their produce and to help them analyze the profitability of their farm. Following the termination of CIEPAC, the tool was adopted in Senegal in a different, more detailed form that is more adapted to the low literacy rates of farmers.

Statistics on fenced market garden perimeters

Perimeter	Photos /illustrations	Observations
☞ Name: Dassilamé Sérère ☞ Area: 10 ha roughly ☞ Area cropped: 80% of total ☞ Number of gardeners: 66		☞ SIGESCO tool used well to plan crops ☞ Continuous production in the non-flooding lands in rainy season ☞ Resource persons available for monitoring garden activity ☞ Poor literacy level and strong tendency to use traditional production techniques ☞ Good organizational dynamics (monitoring and maintenance of equipment on site) ☞ Savings system in place (Savings for Change)
☞ Name: Keur Mama Lamine or Diabang ☞ Area: 13 ha total ☞ Area cropped: 45% of total ☞ Number of gardeners: 117		☞ Good knowledge of SIGESCO tool ☞ Delayed implementation of activities, in spite of contracts for supplying seed ☞ Rapid reduction in well water availability in gardens, causing enthusiasm for additional planting to wane ☞ Site inundated in rainy season ☞ Management committee not yet set up ☞ Program supplied rope pumps specially for this garden site
☞ Name: Némabah ☞ Area: 5.5 ha total ☞ Area cropped: 75% of total ☞ Number of gardeners: 124		☞ Well organized management committee ☞ SIGESCO tool well used ☞ Garden production semi-continuous in some parts of the perimeter in rainy season ☞ Rainfed rice production in lowland areas ☞ Some gardeners specialized in onion and tomato crops ☞ Good organizational dynamics
☞ Name: NdourNdour ☞ Area: 2.5 ha total ☞ Area cropped: 50% of the total ☞ Number of gardeners: 38		☞ Low level of occupation because of good rice cropping (too many activities) ☞ Good use of SIGESCO tool to plan gardens and budgets ☞ Good organizational dynamics ☞ Slow implementation of activities in spite of contracts for supplying seed ☞ Rapid reduction in well water availability in the gardens, causing enthusiasm for additional planting to wane

Perimeter	Photos /illustrations	Observations
☞ Name: Djilor ☞ Area: 1 ha total ☞ Area cropped: 70% of total ☞ Number of gardeners: 34		☞ Old perimeter; live fence already in place for much of the perimeter ☞ Slow implementation of activities in spite of contracts for supplying seed ☞ Rapid reduction in well water availability in the gardens, causing enthusiasm for additional planting to wane ☞ Good organizational dynamics for the women's GIE ☞ Poor mastery of the SIGESCO tool

The following accomplishments were achieved in the five perimeters:

- SIGESCO was introduced and made it possible to produce seed continuously.
- An input supplier was introduced to the gardeners to facilitate access to quality seed, and they were able to finance them on credit for more than 1,000,000 FCFA (see contracts for seed supply).
- Negotiations were held with middlemen (bana-bana) and hotel managers in Toubacouta for selling the produce. SIGESCO was used to promote the idea to various stakeholders.

4.4.2. Assistance provided to private gardeners

Support given by the Program to individual private gardeners began in 2010. This support led to the development of services for accessing water for these gardeners, with the following results:

- Four treadle pump craftsmen were trained and are operating in Nioro du Rip, Toubacouta, Karang, and Sokone.
- Four manual tube-well diggers were set up in the villages of Keur Samba Dié (Kaymor), Némanding (Toubacouta), and Keur Ibra Mberry (Nioro Alassane Tall), Djilor, and are offering services to gardeners.
- Three teams of masons who install irrigation basins were created and are functioning in Djilor and Toubacouta.

At the end of 2011, a partial assessment of private gardens where the water management system had been improved is summarized in the table below.

Status of private gardens and implementation of water management systems with small irrigation

Region	Rural community	Site	Type of system	Area (ha)	No. of households impacted
Kaolack	Djilor	Keur Niaouth	Pump	1.0	1
Kaolack	Djilor	Guédé	Well+Pump	0.2	1
Kaolack	Djilor	Keur Farba	Well+Pump+Basin	0.5	42
Kaolack	Djilor	Péthie	Well+Pump	0.4	1
Fatick	Nioro Alassane Tall	Ndiayène Moussa	Well+Pump	1.2	1
Fatick	Nioro Alassane Tall	Keur Aliou Gueye	Well+Pump	20.0	1
Fatick	Nioro Alassane Tall	Touba Mouride	Well+Pump+Basin	3.9	1
Fatick	Keur Saloum Diane	Keur Saloum Diane	Well+Pump	5.0	1

Region	Rural community	Site	Type of system	Area (ha)	No. of households impacted
Fatick	Keur Samba Gueye	Keur Samba Gueye	Well+Pump+Basin	2.1	1
Fatick	Keur Saloum Diane	Keur Andallah Willane	Well+Pump	0.4	1
Total				34.6	51.0

4.4.3. Associated technologies: water pumps, basins, toolkits

Four different technologies helped the Program reach results in the Horticulture value chain. They are the pedal (or treadle) pumps that facilitate drawing water; linked basins that facilitate distribution of water at the plot level; mini-tube wells that assure water capture in sandy areas; and gardener toolkits that reduce the force of labor required.

Treadle pumps or "POMPE NOFLAYE"

Treadle pumps (shown at left) are meant for irrigation in private perimeters. They can also serve for development of other economic agricultural activities.

For good management of this technology, the four craftsmen who make the pumps[8] were trained in the process of making them as well as in marketing and management of orders and sales. The craftsmen have information on how the equipment works.

Manually-operated pumps

Knowing the flow rate is important for all well pumps, and the Noflaye is no exception. It is often necessary to build wells that are operated manually, since traditional wells do not have sufficient flow.

Manually-operated pumps (shown left) provide low-cost access to irrigation water. This type of well can be built with 50 mm PVC pipe (the same diameter as the vacuum pump found on the Noflaye), but in this case, measures must be taken to avoid the strainer getting clogged.

Linked basins

The linked basin technique was tested by some of the garden producers. It involves distributing water sources for irrigation throughout the plot.

It requires joining basins with one water source (manually-operated well) and a simple pumping system (like the treadle pump). To facilitate the automatic filling of the basins without backflow, the basins are placed following the slope to take advantage of gravity.

[8] Craftsmen were trained in Toubacouta (1) Karang (1), Sokone (1), and Nioro du Rip (1).

Number of water systems put in place

Rural Community	Number of villages involved	Number of gardeners involved according to type		Horticultural technologies with the objective of better access to water		
		Group	Individual	Number of wells drilled	Number of pumps installed	Number of linked basin systems set up
DJILOR	9	7	7	14	13	4
KEUR SALOUM DIANE	4	1	3	4	4	0
KEUR SAMBA GUEYE	6	1	8	7	5	2
NIORO ALASSANE TALL	8	1	10	9	9	3
TOUBACOUTA	6	7	6	13	11	3
KARANG	5	3	2	0	0	0
Totals	38	20	36	47	42	12

In light of the budget allocated for providing services, the installation of these simple technologies represented an investment of 5,080,800 FCFA, distributed as follows:

Type of water system	Investment cost (FCFA)
Manually-dug borehole	2 479 800
Treadle pump	790 000
Linked basins	1 811 000
Total	5,080,800

Source: USAID-Wula Nafaa's LASF table

Gardeners' Toolkits

USAID-Wula Nafaa Program subsidized five fenced gardening perimeters covering a total area of 35 ha in Fatick Region, Foundiougne Department. Lack of access to small equipment was the main constraint to increasing the hectares farmed. To increase the level of production and increase the rate of land occupation, the Program collaborated with CLUSA Farmer to Farmer Program and redesigned the Gardeners' Toolkit. The box contains seven gardening tools that are simple and locally made.

40 Gardeners' Toolkits were introduced in the 2011 gardening season in the form of a pilot project. Promising results convinced USAID-Wula Nafaa Program to subsidize 70 other kits that were made up. The total cost of garden toolkits was 3,850,000 FCFA, or 35,000 FCFA ($US 70) each.

In order to assure a regular supply of these kits, the Program trained two craftsmen in Toubacouta zone in the vicinity of the vegetable gardens to make up the kits.

4.4.4. Activities associated with the horticulture value chain: training, groups, contracting for credit

GAF training for management committees of the garden perimeters

The main objective of training in administrative and financial management (GAF), which includes community organization and dynamics, was to bring garden perimeter management committees to strive for sustainability and better organization so they can take over GAF for their sites. This goal is based on the principle of self-organization and requires a good community dynamic that involves all actors and grouped stakeholders.

The specific objectives of the training were to:

- Analyze potential direct or indirect impacts that a community-based organization could have on its environment, in order to consider them during the management process;
- Bring participants together to agree on why a management committee is there and to understand its missions;
- Lead participants to know the importance of the various structures and the tasks of each one;
- Help participants to have a command of the rules and procedures to make an organization function, in the same way that a garden perimeter management committee functions;
- Make procedures and tools available to participants, so they can prevent, manage, and regulate conflicts that arise during committee duties; and,
- Learn to record financial transactions using templates provided.

An initial training workshop for trainers (ToT) was organized to enable village leaders to take over GAF activities. Field facilitators and Management Committee secretaries working in the five garden perimeters around Fatick were the trainees. After the training, they transferred their skills to other committee members in their zone. This approach reflects the extreme priority given to sustainability and develops internal capacity to take over management activities.

For all activities carried out, periodic presentation workshops were held for stakeholders in the management and administration of garden perimeters, the rural councils, and village representatives. In all, more than 450 people were trained in these workshops, and no indemnities were paid to the management committee. This approach allowed for training a considerable number of producers that had not received training before.

This contributes to the Program vision of leaving a lasting legacy, which depends on handing over total responsibility to stakeholders and on their effective participation in all decision making. The Program's slogan is, "Give resources and power to producers, put them in control of production and marketing activities, and let them become the true masters of their own development."

Simplified accounting tools were given to the management committees to facilitate recording financial operations on a timely basis. Tools were also provided to account for activities for the benefit of other members of the committee who are aware of the low level of education of some treasurers and secretaries.

Contracting

In specific gardening cases, pairing input providers with control groups of gardeners led to the signature of contracts with the Niayes of Saloum for supplying garden seeds to 44 gardeners in four villages. Implementation of the savings mobilization program allowed gardener groups to pay for the inputs.

Gardening activities results: crops, production, revenues, beneficiaries

Garden activities upslope from the lowlands that were supported by the Program, including fenced perimeters, involved 379 gardeners. The main crops, in order of volumes, were onion, tomato, okra, jaxatu, and hot peppers.

4.5. Successes, lessons learned, and recommendations for sustainability from the agriculture component

4.5.1. Lowland area management

1. Management of the lowlands integrates all Program components: Agriculture, Good Governance, Biodiversity, Wealth Creation, and Communication. It requires an interdisciplinary approach using many types of skills and finding common ground among stakeholders in all the management steps. **Scientists as well as non-technical people must be involved, and so should community members and decision-makers**, so that all aspects of management are assured and any productivity that results will be a widely-shared success.

2. Given the **time required** to coordinate holistic and participatory lowland management, this activity should be carried out in projects where the length of time is at least five years in order to assure that conditions for sustainability are well established.

3. The **biophysical characterization** of the lowlands under management is an interesting and enriching experience. Involvement of members of the management committee, giving the responsibility for the study to government technical services, and sponsoring presentations to local officials (rural council and technical services) all contributed to validating tools and an approach that were well received by all stakeholders.

4. Documentation of monitoring and compensation measures defined during the studies must be applied for better preservation of lowland area managed sites. Repeating the exercise on biophysical characterization of an area will allow biological diversity managers to undertake at least some actions to improve biodiversity and science-backed data from the zone.

5. The management committee is the only entity with authority to monitor the proper application of measures that are agreed upon, validated, and based on recommendations in biodiversity reports and the COGIRBAF, which may contain provisions for:

- implementing management plans
- determining management zones for each type of activity
- monitoring the impact of poaching and human impacts on nature
- determining lands that are appropriate for different types of crops
- the issuance of CITES permits for hunted wildlife if needed

6. For better management of the **livestock corridors** that converge on the lowlands, in addition to rules set out in the COGIRBAF, it is helpful to set up local conventions and POAS at the community scale or the intercommunity scale. With an extensive system of livestock rearing in place, it would be difficult if not illusory to organize livestock management in a space reduced to one watershed; besides, even one watershed could potentially extend across several CRs.

4.5.2. Conservation farming

The successes of conservation farming or conservation agriculture

In three years, 5,629 households in 329 villages were exposed to conservation farming techniques in Fatick, Kaolack, Tambacounda, and Kédougou Regions. The number of hectares farmed using CF reached more than 7,160 in 2012. These facts belie the true successes that conservation farming brings to producers and the environment:

- **Participation in reduction of climate change impacts:** The use of sorted garbage heaps as organic matter or compost actually leads to cleaning up villages, so they are cleaner. Use of organic matter or compost to amend the soil also fights soil degradation9 and prevent worsening effects that come with irregular rainfall. Organic matter retains humidity in the soil, where it is progressively transferred to plants between rainfall events.
- **Better yields and production:** CF led to substantial increases in upland grain production that was monitored (millet, sorghum, and maize). Yields measured each year by the DRDR show evidence of a significant increase in production (more than 40%) in zones where the technique is applied. See the CF yield table.
- **Better producer organization:** CF helped emerging groups to get organized in more than 300 villages; 19 umbrella organizations were also set up, of which 13 are functioning as they should. Today, these organizations are capable of implementing CF by following the approaches developed by USAID-Wula Nafaa.
- **Enhanced farming equipment available to producers:** Part of the CF strategy was to upgrade the physical equipment available to producers' groups. Producers were given access to rippers, and networks were given access to shellers and tractors. This equipment makes it easier to extend fields using the method, and relieves some of the labor involved.
- **Modification of the farming calendar:** With weeding time and plowing efforts reduced, the frequency of required field visits has diminished under CF. Producers can thus spend time to invest in their lands by adding compost and performing maintenance and preparatory tasks.

Recommendations for sustainability

Recommendations concerning producers:

1. Use better internal communication: CF is a village-based approach. Each CF group has village land; therefore all the producers who are members of a group live in the same village. This facilitates (i) meetings between group members; (ii) transfers of knowledge and duplicated training; (iii) internal communications; and (iv) close monitoring of activities in the field.

2. Set up a local unit for internal monitoring: Each CF group has a lead producer chosen by members of the group. The lead producer is not paid by the Program. (S)he can thus function even without Wula Nafaa. Lead producers have received technical capacity building and are in charge of animating other CF groups. A process of reflection on the possibility of an **incentive arrangement** has been started; the networks will complete this process.

3. Establish an umbrella organization: In each rural community, a network of CF producers was set up. At this time, there are 19 networks, of which 13 are functioning. The networks replace Program facilitator support of the past; they facilitate credit and input supplies and can play monitoring and evaluation roles for CF activities.

4. Networks should ramp up promotion of the savings mobilization system that was introduced to some of the CF networks. This system reduced producers' dependency on the IMF for access to credit.

Recommendations concerning technical services and partners:

Government technical services were implicated in CF activities from the start in December 2009, when the first CF training was held and facilitated by a Conservation Farming Unit consultant from Zambia. These concrete actions were taken and are good examples of future directions to take:

[9] One of the impacts of climate change is the degradation of soils and frequently lower rainfall in some spots throughout the world. CF can contribute to reducing these impacts.

1. Training sessions for ANCAR agents in Kaolack-Fatick, Diourbel, Thiès, and Louga led to the agents being able to implement CF at their sites.

2. Training of agents from USAID-Yaajeende, USDA-CLUSA, and Hunger Projects and of producers and groups organized by USAID-PCE helped programs developed CF in their respective zones of intervention.

3. The involvement of DRDR in the monitoring and evaluation of CF versus non-CF yields was a way to get CF technically validated and to enable the service to discuss it and advise others about it.

4. Participation in the FIARA assisted with visibility of Program successes. Likewise, the organization of all USAID projects working in agriculture into a panel discussion entitled "Conservation farming A to Z" highlighted CF as a legacy that will be left by the Program.

5. CF needs to be certified through formal research. This will facilitate its technical acceptance by Senegal's governmental authorities and allow it to be offered as a technique for sustainable land management. This will also facilitate expansion of CF and increase the number of farmers practicing it, and thus the volumes of food produced.

6. Produce some Senegal-based guides on CF that show Senegal-specific environments and issues.

7. Standardize CF equipment in coming years so as to avoid too many implements for the same type of farm work. This should be done with local craftspeople and much input from CF producers.

8. Strengthen the link between CF groups, networks, and marketing services for surplus crop marketing. Although an important step has been taken with Wula Nafaa, there is more to be done.

9. Start working on the producer level instead of the producers' organization level. Otherwise, the PO can become a source of failure if it is not organized and functional[10]. Build up organizational capacity year by year.

10. Work with producers in the village so that they will continue there without project assistance. In the village, travel costs are eliminated and skill transfer is facilitated[11].

11. Training local village people to take over CF is vital. Lead producers have been and still are a sure way to ensure continuity of CF at the village level. Lead producers are chosen by other producers in their village during initiation to CF.

12. The involvement of CF producers should be motivated by the payment of dues after each season, as opposed to a simple selection of "interested people" who are attracted by fads or projects. All CF producers are inscribed by village group. During inscription, the dues to pay vary between 1,000 and 5,000 FCFA according to the rural community.

13. A grass-roots evaluation of CF should be done annually in the village after each farming season. This is the only level at which it is possible to plan for mutually-accepted change so as to improve the technique.

4.5.3. Horticulture

Fenced gardening activities on the uphill slopes of the lowlands mobilized 379 garden producers. Their crops, in order of importance, were onion, tomato, okra, jaxatu, and hot peppers.

---

[10] All the programs that have tried to implement CF using producers' organizations have not seen great success in numbers of producers who have applied the technique. On the other hand, there are many people trained in CF who do not apply it; this does not contribute to increased yields.

[11] All training can be done locally and does not require people to be paid for traveling or renting chairs, rooms, supplies, etc.

1. The SIGESCO software toolkit should be fully exploited. Only the crop planning tool was used with the gardeners. The sections on marketing, joint planning, and organization of reference groups for passing messages throughout the perimeter were never tried.

2. Lowland area market gardens should replace garden perimeters irrigated by wells or manually-operated pumps. The lowlands are less costly, have fewer constraints, and occupy more households.

3. The management committee is responsible for proper application of measures commonly decided and validated in the local governing documents and environmental studies.

4. Control over stray cattle should be maintained and addressed in any horticultural scheme (see lowlands management recommendation 6 above).

4.5.4. General agriculture component recommendations

1. Projects of the future should carry out conservation farming activities and lowland area management using USAID-Wula Nafaa Program's successful models.

2. Shorten construction project approval times: Problems developed at the management sites when USAID delayed approval for construction projects; this reduced the number of water improvement structures built and created issues during the process of developing the sites.

3. Allow enough project time for site development: Another constraint, and perhaps the most important one, is the very short timeframe for establishing a good process for site development, especially in terms of training and organizing producers. Training and organizing should be done gradually and should take at least five years in order to develop good policies for local development to be driven by the rural communities.

4.6. Gender aspects of agriculture

1. Lowland area managed sites enable women to access land more easily so they can do rice farming or gardening. These are the agricultural activities that are strongly dominated by women; for example, in Samécouta, there are 116 women rice farmers; in Ferme 2, there are more than 150 of them, and in all the fenced gardens there are more than 200.

2. COGIRBAF management committees are decision-making bodies that include at least four to five women representatives in each office or on the commissions.

3. Improved farming techniques that make up conservation farming have allowed women to increase their agricultural yields and to reclaim poor soils that were previously colonized by striga. An example of such a site is Darou Thiékène in the CR of Ndam, where 16 women are farming.

4. Women from Samécouta in the Rural Community of Bandafassi are committed to farming as a career. They set up a farming calendar that covers a period of nine months.

5. The availability of rice hullers contributes greatly to alleviating women's work and allows for more free time when it is integrated in other activities that generate revenues. Thus, women will be better equipped to increase their rice production as they get more involved in management of post-harvest activities.

6. After preparing soils and farming rice from June to November, women begin farming counter-season maize and vegetables as the water gradually recedes from rice fields between December and March. Thus, the women have rice, maize from two growing seasons, and vegetables from gardening. If these commitments are respected, in view of their capacity for organization, food self-sufficiency will be attained by women.

5. COLLABORATIVE MANAGEMENT OF NATURAL RESOURCES

5.1. General considerations and strategy for the Biodiversity and Sustainable Management of Natural Resources Component

Part of the Program's sustainability strategy is to increase and improve the quality of conservation and management of biodiversity and biologically significant areas.

A strategy was developed to build conservation capacity and provide technical assistance to clients through supplying appropriate and adaptive tools. Target sites for biodiversity conservation, including managed natural forests and coastal zones, were chosen through a process of technical analysis with partners. As part of this process, various documents were produced, including descriptions of the status of natural resources, knowledge about the evolution of these resources, plans and technical activities to manage the resources (including forest management plans or PAFs), administrative plans for protected areas, and local conventions.

Recall that the experiences of the first phase of the Program were documented during their implementation. This led to the realization that the causes of biodiversity loss and land degradation in Senegal include

- converted land use;
- inappropriate, unsustainable natural resource use and management practices;
- overexploitation, illegal cutting, and poaching.

These different practices are the result of a fundamental cause: lack of planning and control over access to natural resources.

Actions developed by the Program in its first phase were limited to terrestrial ecosystems with a focus on forest resource management. With the integration of fisheries management in mangrove zones in Fatick Region during the second phase, a second priority was assigned to better management of marine and coastal biodiversity in the Program's approach.

In terrestrial ecosystems of Tambacounda and Kédougou regions, special attention was paid to conserving and protecting threatened animal species. These regions contain the Niokolo-Koba National Park and its buffer zones and the Hunting Economic Zone (ZIC).

The chimpanzee, a threatened species that plays an important scientific role, became the object of various management approaches. The goal of chimpanzee preservation through conserving the critical habitat harboring the last groups of savanna chimpanzees in Senegal was set in the Rural Community of Dindéfélo. Dindéfélo contains one of the best environments for the survival of this species, which has become emblematic of biodiversity in Senegal. The Program sponsored the establishment of a Community Natural Reserve (RNCD) that also offers numerous other tourist attractions.

With the integration of the strategy for Feed the Future, Wula Nafaa's approach to biodiversity conservation was reoriented as interventions concentrated on bringing success to managed sites and field activities that lead to food security.

5.2. Summary of results

5.2.1. Innovations in forest management

In the context of decentralized management of forest resources, USAID-Wula Nafaa Program was committed to supporting partner collectivities in the production of operational forest management plans through its Biodiversity and Sustainable Management of Natural Resources Component. The objectives were to make the forests into a source of maximum profit by planning for sustainable resource exploitation in time and space, while conserving endangered species habitat or biodiversity-rich lands within them. This approach is different than plans that have been drawn up before, with their usual implementation difficulties and lack of adoption by the populations that are the supposed beneficiaries. Plans of old, which emphasized non-use rather than sustainable use, never survived past the lifetime of projects or programs upon which clients depended.

Wula Nafaa's approach consists of identifying forests for intervention by receiving specific requests from communities, or by first developing a local convention for a rural community. The local convention contains a soil and land use plan (POAS in French) that depicts forested land within an area.

This approach was summarized in a "Guide for developing a participatory management plan (PAF)", elaborated by the Program. This official booklet defines the steps, activities, sub-activities, stakeholders, and people responsible for each step along the way to writing the PAF. The guide shows where in the process a local convention and POAS are produced; where a community forest for participatory management is identified; and how the POAS is produced and used to identify such forests. The local convention, under which the POAS is produced, assures participation by local stakeholders with local interests.

It is important to highlight the contribution made by the SIEF inventory program that was developed by PROGEDE. It provides wood volume information from inventories that have been done in the same ecological type, and with accompanying software, sustainable offtake can be calculated.

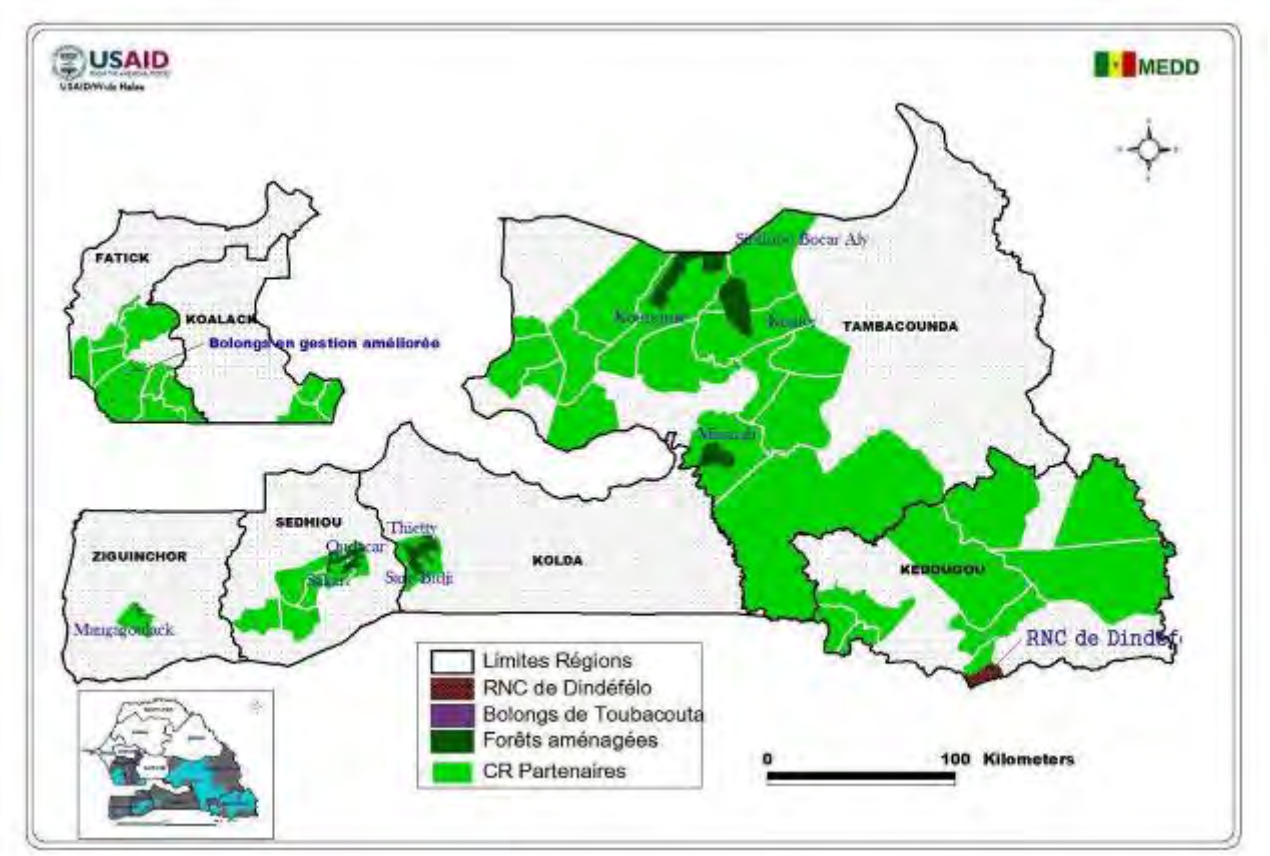
For implementing the PAF, an administrative and financial management document (GAF) was drawn up for each forest. The GAF was consolidated as a manual of procedures and a basis for training forest managers.

This approach, which resolves both technical and administrative issues for stakeholders, is one of the elements of success of the Program in participatory forest management.

Elaboration of the PAF

On the basis of this novel approach, the Program enabled the identification of three community forests (Sakar, Koussanar, and Mangagoulack) totaling 55,793 ha, through the POAS, and placed them under management. These forests, which are managed by four Rural Communities for the benefit of their populations, are in addition to the three forests covered by five CRs that began management during the first phase (Koulor, Sita Niaoulé, and Saré Bidji).

In total, the number of forests in which the Program is helping communities implement their PAF is six, contained within nine rural community administrative boundaries, as depicted on the following map.



Six community forests where USAID-Wula Nafaa is assisting nine Rural Communities with management

The following table summarizes the quantitative information about the forests supported by USAID-Wula Nafaa.

Year begun	Rural Communities	Community Forest name	Area in ha	Number of villages	Population involved
2005	Missirah	Sita Niaoulé	18,659	20	4,762
2007	Koulor/Sinthiou Bocar Aly	Koulor	38,623	22	5,022
2007	Saré Bidji / Thiéty	Saré Bidji	19,807	130	18,674
2011	Sakar/Oudoucar	Sakar	13,674	45	20,886
2011	Koussanar	Koussanar	40,005	38	8,042
2013	Mangagoulack	Mangagoulack	1,793	10	10,906
Total			**132,562**	**267**	**68,292**

In contrast to the first phase, during which managed forests were in areas covered by SIEF inventories, the three forests brought into the second phase were inventoried using the SIEF sustainable yield calculation technique.

Inventory of Koussanar classified forest by forestry agents and community

Training of forestry agents from Ziguinchor in SIEF

For all the management plans drawn up, technical studies were carried out and all the required steps to present and validate them were scrupulously followed and had strong involvement from the technical services. This iterative approach was described in the PAF manual and it led to a better adoption of the process by all stakeholders. The tasks of dividing the forest into blocks and work parcels, and organization of the populations for work, were carried out with a strong commitment from the beneficiaries and a process of transferring responsibility to local governments.

The management plan for Saré Bidji integrated sawtimber management and was finalized and validated with help from the Governance Component (in collaboration with the Forest Service). A workshop to validate the plan was presided over by the first technical consultant to the Minister of Environment; it was held in Kolda in August 2010, and the PAF was finalized.

After this, an action plan to exploit timber was launched in Saré Bidji/Thièty. Results from the exploitation inventory on the test parcel (4-6A) were presented to the lumber mills from Kolda and Sédhiou Regions. Terms of reference were finalized and proposed for validation. A request for expressions of interest to harvest the timber will be published imminently. The process has been stalled by the signature of a service memo by the Forest Service Director concerning fiscal matters for timber in managed areas.

Writing a pilot management plan to fight bush fires

In order to define a community approach to fighting bush fires, a study on bush fire management was done by the Program with assistance from an international consultant from CIRAD. Strong recommendations were made to the local authorities (technical services and local government) to involve community organizations during the planning of fire management actions, including clearing of firebreaks, using early burning, and fighting fire with fire.

In line with these recommendations, the Program worked with two CRs in Sédhiou region, Sakar and Oudoucar, to try out a Fire Management Plan (PGF in French), test its feasibility, measure its cost and efficiency, and discover problems that may come up.

The Community Forest of Sakar was selected for two reasons. There is a local convention and POAS for the forest, and there is a PAF. Rules for the local convention could help orient those in the management plan. Also, the blocks as management units could serve as a basis for implementing a plan; members of the committees (heads of the blocks and technical activities) would be the technical specialists of the implementation.

The final document was presented to the populations and validated by the Forest Service. Presentations of mapped blocks were made to the committees, and the plan was put into operation.

The general tendency that came out of a survey on protection priority zones affirms statements made during surveys of populations on their experiences with early burning. The first reflex by people is to secure their property, in order of importance household, fields, cattle park, orchard, forest, and fallow.

This typical gradient was defined by people during village surveys, and it varies depending on the block. Inside the block itself, there are differences between ethnic groups as well.

In terms of difficulties encountered in the elaboration and implementation of the PAF, we can cite reluctance on the part of some partners who play key roles in processes such as producing local conventions and management plans. Additionally, there were diverging views on recommended approaches; thus the need to hold frequent meetings for updating and harmonizing approaches. Certain activities also need more steps to be completed; this takes time and understanding, and can endure slow moments. It has been difficult or even impossible to mobilize the Forest Service to implement bush fire management plans. The fact that other rural development questions, such as agriculture and livestock, have not been the object of USAID-Wula Nafaa management plans is a common complaint of technical partners and beneficiaries.

As it is devoted to a sustainable and legacy-oriented approach, the Program followed the implementation of forest management plans closely, not as a key actor, but as a facilitator behind the scenes, in order to assist the true actors and help them to fulfill their roles and responsibilities.

A woman agent of PROGEDE 2 expressed surprised at the level of technical and organizational capacity of producers from 'Wula Nafaa forests' during training that was given to them on charcoal making techniques so that they could conform to the CEF 2013 edict. They understood the concepts of expense planning in the PTA and budget, and the logistics of training programs - for example, roll call sheets were filled out properly. In addition, she noted that during the division of the forest into work blocks, the idea of giving each block a unique name based on a local feature such as a pond or other point of interest leads to mutual comprehension of the boundaries of the blocks.

The approach developed by USAID-Wula Nafaa Program is often cited by partners as among the best being currently implemented anywhere. That was verified during the last years of assistance, during which institutional supports were gradually reduced, especially in terms of taking over block delimitation.

Meanwhile, in the overall forest management process, certain steps might be minimized for the benefit of others. Instead of a systematic ecological and forest inventory, it could be more appropriate to produce a good land use map. The volume tables that were developed for target species can be applied to measurements available from existing inventories. By default, we could limit inventory to those species targeted for exploitation.

The vocation of managed forests seems to be limited to charcoal production; it is a residual of the model that has been perpetuated for decades. But it can no longer be justified, knowing that since 2008 the production of charcoal is restricted to managed forests and that the sustainable offtake from these forests can meet the needs of the nation, at least in theory. Because of the profit generated for local collectivities, there is a tendency to automatically assume that to manage a forest means to manage for charcoal production.

5.2.2. Biodiversity and natural resource management (chimpanzees, mangroves)

The Community Natural Reserve of Dindéfélo (RNCD)

During a workshop organized in Kédougou by the Working Group on Chimpanzee Conservation, it was decided to create a community natural reserve in Dindéfélo as one of the priorities for intervention by the Program. This reserve would have the advantage of already being a frequently-visited tourist site, and would become one of the last refuges for the chimpanzee in Senegal.

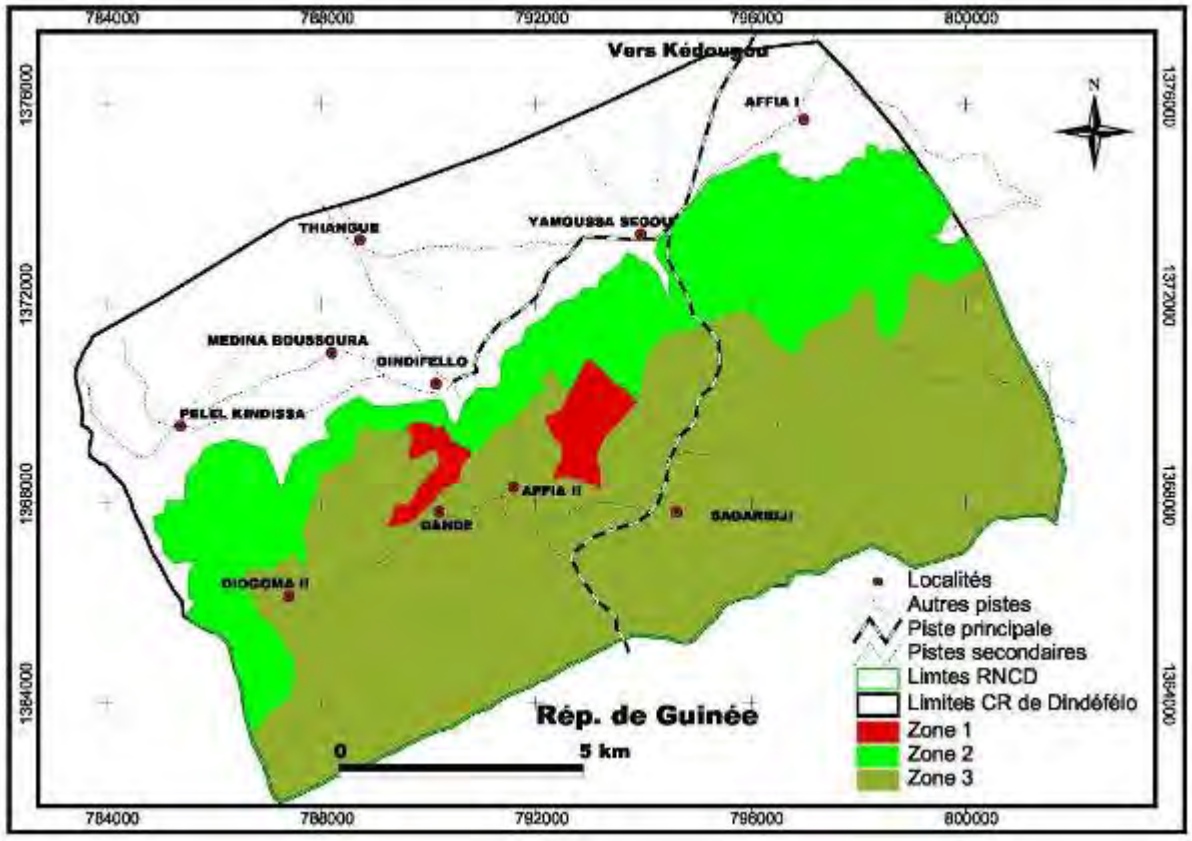
However, the will to set up the RNCD came up against a roadblock. The former Rural Community of Bandafassi had been split into three CRs in 2009 (Bandafassi, Dindéfélo, and Nénéfécha), and the local government had ruled in favor of a hunting concession operator with land overlapping part of

the desired reserve. With a goal of establishing the reserve, the Program's approach was first to advocate for local authorities to organize a forum on the idea of the RNCD, and then to sponsor a study tour for the officials to the Somone Reserve.

The Rural Council was assisted and advised in the process of deliberation to set up the RNCD. Thus, by Deliberation Number 05 of January 14, 2010, the Rural Council of Dindéfélo created the Community Natural Reserve of Dindéfélo. The RNCD involves 10 villages that are officially in the CR.

The required technical and financial assistance was quantified and supported financially at every step through a grant request to Jane Goodall Institute. The necessary technical studies, extension work, and research resulted in a written management plan for the RNCD.

Nonetheless, the strategy was redefined during the process of setting up the reserve as part of the local convention. Writing the local convention was an opportunity to define the limits of the reserve's 13,200 ha, and local rules for management its natural resources were described for various domains including agriculture, livestock, and forest products, which if neglected can threaten natural resources in the zone, and especially chimpanzee habitat.



Community Natural Reserve of Dindéfélo, set up to conserve chimpanzee habitat in USAID-Wula Nafaa work areas around Kédougou

In the process of setting up the RNCD, the major result achieved was the approval of the Dindéfélo Rural Council's deliberation on the RNCD management plan, May 4 2012 (No. 18/AB/SP) for the period 2012 to 2016. The operational plan was divided into two axes: one for conservation, with rules and actions for preserving biodiversity; and one for development, with a detailed list of revenue-generating activities for local populations. All management bodies were set up, and training was given in the roles and responsibilities of the committee members.

Constraints to be overcome included defining the exact limits of the Dindéfélo CR, especially whether Tépéré and Newdou are part of it. Although they are cited in the presidential decree as being part of

the CR, the sub-Prefect had asked that they be removed from the RNCD documents before they were approved. Finally, after many false starts, the two sites were integrated into the CR of Dindéfélo.

All in all, the approach initiated in Dindéfélo in terms of biodiversity is interesting in more than one way. First, it has been an exercise in advocacy to annul a concession award (an individual interest) for the benefit of a natural reserve. Second, the actions that led to finalizing the reserve's management plan were recognized in a local convention at the community scale. This bodes well for a better appropriation of the process by the whole of the rural community.

Third, assistance provided by a research team from the university gives a scientific guarantee to the approach, which utilizes ecotourism and habituation. The ecosystem aspect will be integrated by building capacity for tourism activities that already exist in the zone, and this will be based on solid experience. The fact that revenues will be generated for the populations of the rural community (from ecotourism and habituation of chimpanzees) means that there will be means to preserve this threatened piece of nature for the future.

Finally, assistance given to local actors in the participatory and inclusive process that ended in the creation of the RNCD has provided a model for other sites. Starting in the first year of implementation of the management plan, it can attract new partners in development: the Agency of Eco-villages, GEF, Yakar Africa NGO, and others.

In terms of sustainability, with the building up of an eco-village in Dindéfélo, implementation of the management plan can experience significant development. The presence of other partners can boost this development. The possibility for setting up a cross-border reserve with Guinea Republic can also lead to better protection of the chimpanzee, who tends to ignore borders.

Mangrove management

The second phase of the Program was changed by the integration of maritime ecosystems in Fatick Region into the zones of intervention. Actions were planned to accompany the fisheries component with tools and practices for sustainable management of mangrove resources. The marine mangrove zones are being degraded because of poor fisheries practices. To confront this fact, strategies were defined and some pilot actions were carried out on a test basis:

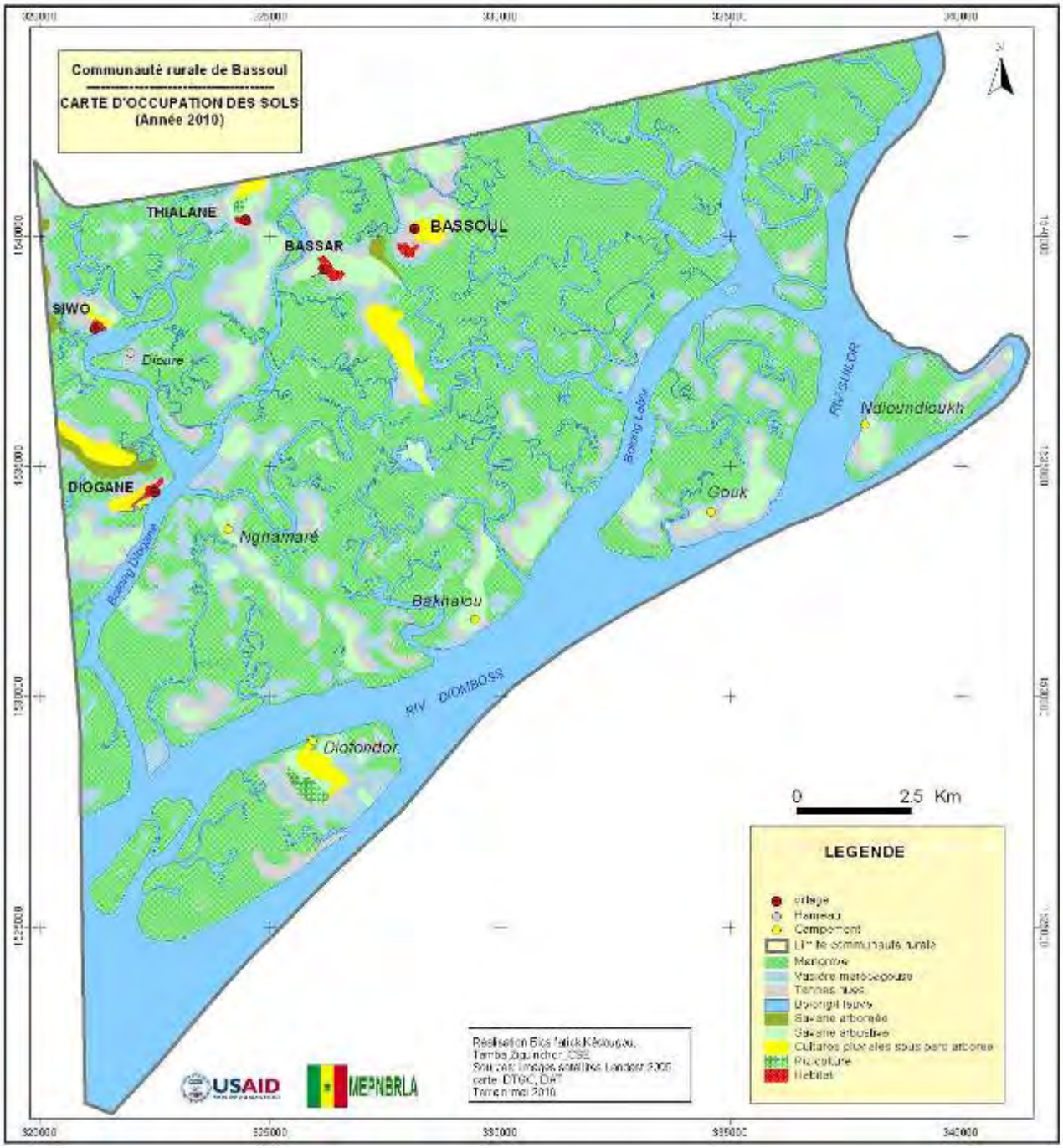
- An agreement was signed with IUCN to involve it in USAID-Wula Nafaa during the 2009-2011 period.
- A study on the potential for beekeeping in the mangrove zone was done.
- Contacts were made to establish a partnership with the local NGO APIL to manage and exploit a 300-hectare mangrove plot in Diogane, Rural Community of Bassoul.
- A protocol was signed with Regional Forest Service/Fatick to collaborate on managing the mangroves there.
- A POAS was drawn up for Bassoul to refine the methodology for studying mangroves.
- A strategy for management with other actors in the mangrove zone (Regional Council, Fatick Regional Forest Service, PERACOD) was drawn up for Fatick.
- A thousand technical notes on improved production and processing of cockles, oysters, and cobos, as well as establishment of mangrove nurseries, were made available to USAID-Wula Nafaa by JICA, the Japanese aid agency.

On the basis of the collaboration protocol, the Program offices in Fatick Region were located in the IUCN offices at Sokone from 2009 to 2011.

The study of beekeeping potential in the mangrove zone was carried out in 2010. The study showed that there is natural potential, but also human potential, for honey production in the mangroves. There is also some beekeeping infrastructure in place that is not insignificant. The main constraints

identified are the lack of training on the part of stakeholders, not enough knowledge about marketing techniques, and the need for training in quality and standards.

In terms of map production, the land use map for Bassoul's POAS was completed. This is a step that was part of the process for elaborating a local convention for the CR. The map is shown here.



Land use map for the Rural Community of Bassoul, 2010

For the mangrove proper, the Program strategy was redefined in 2010 and an action plan was written with the Fatick Forest Service. This plan was made to integrate other actors from the region who work in environment and NRM, including the Regional Council of Fatick.

To assist the CLPA in Toubacouta and Missirah (CR of Toubacouta), technical studies for closing off certain zones to harvesting were done for four bolongs and four mudflats in the mangrove zone. The

results of this study were used to elaborate a management plan for the zone where oysters and mollusks are collected.

The approach was oriented to two principles:

- The organization of producers through the CLPA; and
- Assistance for the creation of wealth, including setting up marketing networks, training in processing, hygiene, and quality, and providing equipment.

Numerous activities were carried out to organize actors in the CLPA:

- A collaborative workshop was organized to study how to make local conventions and the CLPA functions consistent, using Toubacouta as a model.
- A workshop to elaborate and validate an action plan with fisheries partners was attended by fifteen institutions.
- Improved oyster production techniques were implemented (oyster farming, biological rest).
- Assistance was provided for implementing improved production techniques for cockles (closure of harvest zones; selective harvesting of cockles).
- A grant was given to IDEE Casamance.
- Local initiatives for good fisheries resource management were encouraged:
    - Respect for regulations on fishnet size
    - Fight against corruption
    - Stronger prerogatives of local people in resource management
    - Better surveillance

In the context of implementing fisheries resource protection measures, the CLPA in Missirah and Toubacouta (Toubacouta Arrondissement) proceeded to close bolongs and mudflats based on prefectural decrees N°132/SP/Tb et N°133 / SP/Tb (August 2011).

The zones that were involved were part of a validated management plan.

USAID-Wula Nafaa Program used its Small Grants Fund to support oyster-based GIE in Sokone to set up garlands (photo below) to grow oysters and to build mollusk purification units.

In terms of difficulties encountered, the unfolding of management activities for mangroves did not have a definitive, clear, and long-term plan for Program intervention.

Nonetheless, the approach that was developed shows that elaborating management tools and providing equipment for fisheries resources exploitation by CLPAs must go hand in hand. It is not a question of putting a large-scale management plan in place for an entire ecosystem, but to develop targeted tools for a defined area and ensure that the resource uses in it are controlled: the bolongs, mudflats, mangroves, cockles, shrimp, etc. The capacity of CLPA to carry out sustainable management of fisheries resources must be increased, and their ties to local government must be strengthened. Their dependence on administrative authorities is a ball and chain to their efficiency.

It is strongly recommended to put management plans for each zone in place according to the resource, as these are easier to implement and monitor by CLPA officers.

Oysters in abundance on aerial mangrove roots in Bossinkang

Good harvest

Installation of oyster farming garlands by the GIE in Sokone

Chimpanzee conservation

The Program strategy for protecting threatened species was detailed after a series of workshops with members of a Technical Consultative Working Group on chimpanzee conservation.

The overall objective of this strategy is to maintain a viable chimpanzee population in the region of Kédougou by preserving habitats, reducing sources of conflict with humans, and involving all stakeholders.

The recommended approach was based on the elaboration of local conventions in the rural communities where there is a strong likelihood of chimpanzee presence.

In parallel with setting up local conventions, the following activities were carried out:

- Assistance with creating the community natural reserve of Dindéfélo (RNCD), with an accompanying management plan (this process was described above);
- Assistance with setting up madd nurseries in order to have madd plantations; and
- Sponsoring high-level research teams for chimpanzee conservation: Jane Goodall Institute, Savanna Fongoli Chimpanzee, PERC (Janis Carter).

For the Senegal Education and Chimpanzee Survey Project (PERC), the overall objective is to promote chimpanzee survival in southern Senegal. Interventions have been broken down into three specific objectives:

Objective 1: Contribute to a reduction in pressure on chimpanzee populations, habitats, and critical resources while improving the standard of living for people by activities such as drilling wells, building latrines, and setting up community forests.

Objective 2: Identify, monitor, and protect critical chimpanzee habitat and corridors between gallery forests, with voluntary participation from local communities; a monitor will be recruited and training will be given for nondestructive madd harvesting.

Objective 3: Sensitize the populations who live near chimpanzees about the threats to the species as well as to humans if chimpanzee habitat and critical resources are destroyed; use radio broadcasts, student education, information exchanges, and shared resources with other partners.

These activities have many constraints, some of them technical (as in well drilling) and others social (reticence on the part of local populations to accommodate changes).

A sanctuary has been identified at Mount Patée, and proposals for protecting it have been written.

The research project by a university student that published a report "Conservation of chimpanzees in southeastern Senegal: The human component", four activities were recommended:

- Sensitize and train guides about the importance of chimpanzees, in collaboration with USAID-Wula Nafaa;
- Set up a nature tourism (ecotourism) site in Bandafassi in collaboration with Janis Carter, Peace Corps, and Jane Goodall Institute;
- Carry out a nesting and population study before establishing the requested hunting concession that overlaps the habitat area;
- Carry out a study on nesting and population before further establishing mines to the north of Kédougou, in collaboration with Peace Corps.

Jane Goodall Institute/Spain requested a grant for "Conservation of chimpanzees and development of sustainable tourism in Kédougou Region". The research team worked on three main components:

(1) Scientific research:

- Improve knowledge about the ape populations and their demography/size, chimpanzee-human conflicts, tool use, social organization, food seeking behavior, diet, and other fauna in the Community Natural Reserve.
- Increase the scientific knowledge of local researchers about chimpanzees and related ecology.
- Improve understanding of the eco-systemic processes of the Reserve to reach better comprehension of how local flora and fauna can become a tourist attraction, including birds, primates in addition to chimpanzees, and small carnivores.

(2) Conservation:

- Start a collaborative relationship with Guinean counterparts for better awareness of transboundary issues.
- Do a study on replanting wildlife corridors and carry it out, using nesting and fruit trees.
- Provide assistance for writing and implementing the management plan for the Community Reserve.
- Assist experts with production of a map of ecological corridors.

(3) Ecotourism development and wealth creation:

- Help design a strategy for sustainable tourism in the Community Reserve and maintain a promotional stance in relation with the government services; use a website, social media, and videos to draw in tourists.
- Develop other activities not linked to chimpanzees, such as bird watching.

- Provide theoretical and practical training to tour guides on the economic values of the Community Reserve beyond chimpanzee-generated ones; train them in how to address undesirable meetings with chimpanzees while leading tourists, such as at the Dindéfélo waterfalls.

Among the research teams that have been subsidized by USAID-Wula Nafaa grants, the chimpanzee research team has had the best synergy with Program staff. It contributed much to setting up the Dindéfélo Community Natural Reserve, and assisted greatly in drafting its management plan.

Meanwhile, through periodic workshops, information exchange meetings, and other forums, solutions for issues related to conserving chimpanzees in Senegal were initiated. It has been an occasion for confronting aspects of the overall strategy for proper preservation of the species, between 'conservationists' and 'theory-based believers' in habituation.

Also in parallel with setting up the Community Reserve, periodic missions to check out sites and habitats visited by chimpanzees were organized. This allowed the Program to update data on the species' presence in some of the CRs of Salémata department. It was necessary to update the data, as wildlife habitat evolves with agricultural development.

An in-depth study on "Status of knowledge and re-activation of the action plan on chimpanzee conservation" was outsourced to a consultant. The principal threats identified were the increasing mineral resource exploration and exploitation activities in Sabodala, Tomboronkoto, and Missirah Sirimana; persistent bush fires; extension of the areas traversed by migrant herding; forest clearing for agriculture, even in forest galleries, for new farmland; development and improvement of road infrastructure through Kharakhéna; and increases in conflicts over access to forest fruit and water between chimpanzees and humans. Increased value of products such as baobab fruit and *Saba senegalensis* as they are processed accentuates the dominance of humans over these fruits, to the detriment of the chimpanzee. In some places, the distribution of these fruits by means of chimpanzees who eat them and leave seed behind has brought substantial benefits to people in the fights against poverty and malnutrition.

Migrant herding from northern Senegal and Mali used to only involve the northern and eastern parts of Kédougou Region. For several years, this migrant herding has been more rampant over the entire region. Thus, trees are being cut in forest galleries and even in chimpanzee migration corridors in Salémata Department (photo below). Forest clearing for new fields as farmers practice extensive agriculture has not stopped at the galleries, and chimpanzee corridors have been impacted. One of these is depicted in the photo of Nangar, Rural Community of Ethiolo, below.

Branch lopping for livestock fodder

Clearing forest to gain agricultural land

Difficulties encountered during implementation of activities are related to lack of synergy between different projects and programs (USAID-Wula Nafaa, PGIES, PROGEDE) in terms of biodiversity conservation. Also, in spite of goodwill projected by the Program, a special legislative session for chimpanzee and associated habitat conservation could not be called; it would have resulted in

adopting a specific statute on priority sites identified as chimpanzee habitat. The idea was to erect sites that are rich in biodiversity as community forests or sanctuaries.

It must also be deplored that a common policy agenda for chimpanzee conservation in countries that share this rare species has not been set.

The approach developed in Dindéfélo, linking protection and development activities by methods for sustainable exploitation, seems to be to be the most adequate for setting up a mechanism to protect endangered species such as the chimpanzee.

To enable the creation of a trans-boundary reserve, and convert gallery forests and chimpanzee habitat into special reserves, are other options to pursue. For this, it will be necessary to census the populations of chimpanzees in the target zones to confirm the optimal densities that will justify setting up special reserves or protected areas.

Establishment of madd plantations

With a concern for limiting conflicts linked to competition between human and chimpanzee populations around forest resources (especially madd fruit), the Program funded a grant to start madd plantations in the CRs of Dar Salam and Dindéfélo.

The objective of starting madd plantations was to increase production of these fruits as well as to relieve the pressure on wild madd vines in the zones where chimpanzees browse them, thus contributing to the maintenance of their biotope and to saving the remaining groups.

In spite of good survival of the seedlings, the late date of plantation made for slow growth of the plants. Also, nursery equipment delivery was delayed; this was another factor in the absence of madd nurseries. As for the plantation in Dindéfélo, it did finally begin during the rainy season of 2012 and is enjoying the supervision of Jane Goodall Institute.

An activity in parallel that must be undertaken is building capacity of the human populations as they receive training in techniques for producing madd. A training session on madd harvest in the rural communities of Kédougou Region was given by the Forest Service, complemented with followup training in the villages by Program facilitators. The modules used deal with madd plant production and setting up plantations.

In summary, the community approach does not seem appropriate for setting up madd plantations. Support should come from private and individual initiatives to guarantee feasibility and followups by stakeholders. In addition, there has been a paucity of action plans to plant madd; responsibility has been shared between the Forest Service, the Rural Council, and groups in charge of conducting the activity. The individual, private approach should be favored. Training and organizational support for madd producers can be community-based, but production should be privatized.

5.2.3. Inventory and mapping offices

Since the first phase, USAID-Wula Nafaa agents quickly understood the necessity to rely on the inventory and mapping offices (BIC) at the regional level set up by PROGEDE 1. The two offices that were installed in Kolda and Tambacounda were given simple equipment: an office computer and ArcView software.

Wula Nafaa needed on one hand to reinforce these offices and on the other hand create new ones in Kédougou and Ziguinchor (first phase), and Fatick and Sédhiou (second phase).

For the three Regions of Kédougou, Ziguinchor, and Fatick, the Program recruited and trained three new agents as head of the BICs, whose salaries were paid by the Program as of June 2009. In 2011, the offices of Fatick and Sédhiou were outfitted with Plotter A0 size for large-format printing, to complement the existing computer with mapping software, scanner, and GPS. Equipment at offices where plotters already existed (A0 in Tamba; A1 in Kédougou, Kolda, and Ziguinchor) were updated

with the acquisition of new software (*Google Pro, ArcGIS 10*), new cartridges and other consumables, and parts, using grant money.

In order to make the Sédhiou office functional, all buildings housing the Forest Service was remodeled and restored with paint, plumbing, electricity, and air conditioning. Also, a request for funding was granted to Kédougou's Regional Forest Service to build a new office that houses a BIC and a meeting room.

The supply of consumables and the maintenance and upkeep of BIC materials have been assured through a maintenance contract signed between the Program and a computer consultant.

Two new plotters in Sédhiou

The BIC building in Kédougou

In sum, the grants and assistance provided to set up the BICs and put them into operation costed nearly **61,157,475 FCFA**. The costs are distributed among three types of activities:

- Equipment (plotter, computer, printer, scanner, GPS, software); infrastructure (construction and remodeling of buildings); and computer maintenance - 36,701,025 FCFA
- Payment of salaries for three Forest Service agents during 3.25 years - 17,550,000 FCFA
- Training of BIC head officers - 6,906,450 FCFA

5.2.4. Charcoal exploitation

In the charcoal market chain, implementation of the USAID-Wula-Nafaa approach was based on the nature-wealth-power triad for all forests managed under the Program. Towards the end of the first phase, promising results came from managing the Community Forests of Missirah and Sinthiou Bocal Ali in Tambacounda Region, and from Saré Bidji/Thièty in Kolda Region. This led the Program to broaden its management activities to other forests in Tambacounda Region (Community Forest of Koussanar), Sédhiou (Community Forest of Sakar), and Ziguinchor (Community Forest of Mangagoulack).

On the organizational level, Charcoal Producer Groups (GPC), who are producer organizations in villages that work in the community forest, are supervised by Block Management Committees (CGB).

The CGB for the Community Forest of Missirah in Tambacounda zone are supervised by the Forest Management Council (CGF). The CGF is under the Rural Council through the Environment and Natural Resource Management Commission. These different entities make up the management bodies of the community forest.

The table below shows the distribution of the GPC, their size, and the revenues they generated by making charcoal in forests managed with assistance from the Program.

Summary of people implicated, volumes sold, and revenues for charcoal

Year	Number of people			Number of sacks of charcoal	Revenues (FCFA)
	Men	Women	Total		
2009	372	5	377	105,258	82,807,595
2010	62	10	72	32,375	68,632,580
2011	314	14	328	96,511	386,773,025
2012	296	26	322	111,857	358,291,050
TOTAL	1044	55	1099	346,001	1,196,504,250

In addition to high revenues from forest management, significant advances were made through creating several local producer groups and the emergence of 200 individual micro-enterprises from organized groups. Likewise, technical prescriptions for management plans were respected by both the producers and external operators. Relationships were developed between networks and GPC, particularly for providing financial services and better organization of the exploitation season in the managed forests, all of which contributed to increasing revenues generated by charcoal.

Sea changes occurred in the charcoal exploitation market chain after it became law that charcoal can only be sold from managed forests and the quota system was eliminated, contributing to greater production in managed forests (Koulor, Sita Niaoulé, Saré Bidji, Sakar, Koussanar, and soon Mangagoulack).

Among the constraints noted in the charcoal exploitation sector is that the decisions that officially open the exploitation season (the CEF) are published late in the season. The consequence of this late start is an overlap with the farming season.

In view of the sustainability of the approach, complementary activities were carried out with stakeholders. To better distribute and use the Casamance kiln, producers were trained in charcoal-production with the chimney, and 12 welders in Tambacounda and Kolda were trained to make it and sell it to producers. The acquisition of chimneys by management structures in some of the managed forests is aided by the collection of fees.

Networks and groups were connected with financial institutions as business partners. This greatly contributed to the development of means for local actors who work in the charcoal business to advance.

5.2.5. Traditional gold mining

USAID-Wula Nafaa Program selected traditionally-mined gold as a new value chain in which to invest in the Region of Kédougou. The aim was to increase revenues earned by miners while building their technical and organizational capacity. However, local practices in traditional gold mining do not match environmental and social standards in the legal texts. For this reason, local conventions that were set up for the area did integrate rules on respecting such standards and defined them.

At the beginning, a vision was established during a roundtable discussion with stakeholders. A mutual vision was devised with the stakeholders: **"Our intervention in the traditional gold mining value chain has the goal of increasing revenues earned by traditional gold miners within the legal and formal framework of natural resource management."**

To realize this vision, the Program developed synergies with regional actors in the traditional gold mining sector. Thus, an agreement was signed between the Program and an NGO, La Lumière, to start implementing activities that advocate the legal aspect of gold mining and sensitization of gold miners in the promotion of gold with support from community relays previously identified in target zones.

Abandoned mining site in Tomboronkoto Rural Community

Another course of action was for the Program to identify gold miners for sensitization with assistance from the community relays; update local conventions in the CR of Missirah Sirimana and Tomboronkoto; and train rural counselors in good local governance.

Commissions were set up in Kédougou zone to monitor the impact of gold mining on the environment. They were set up in 12 villages distributed among three CRs: Khossanto, Sabodala, and Tomboronkoto. The commissions are made up of representatives of the resident populations of gold mining zones in the CRs. They monitor the application of rules defined by community consensus in its name. The commissions were set up after several extension meetings were held on stipulations in the local conventions. Many of the stipulations concern environmental protection in the context of traditional gold mining.

Nonetheless, the suspension of grants awarded to the GIE in Tomboronkoto CR led the gold miners to make a deeper commitment to environmental and social measures and to commit to monitoring the exploitation sites. They understood that the application of these environmental impact mitigation measures, prohibiting children to work in the mining placers, and controlling the use of mercury are measures that USAID requires its beneficiaries to respect.

AKAD is a local NGO that was employed starting in April 2011 to implement activities in the traditional gold mining action plan. This helped maintain the will for key actors to remain committed to develop traditional gold mining while respecting environmental and social requirements.

Significant advances were made, as noted during monitoring missions and discussions held with AKAD members on respecting environmental and social standards, including safer use of mercury and better environmental practices.

The contract with AKAD also led to relaunching the Program's traditional gold mining activities. In six months, the Program was able to finalize making improved gold processing units for gold mining GIEs that received grants.

The partnership not only made improved processing units available to the GIE, but also produced promising results:

- Four improved gold treatment units were set up.
- Mercury use in the washing of amalgams has been reduced.
- Capacity of gold miners was built in improved gold treatment techniques, respecting environmental and social standards.
- Traditional gold miners were organized.
- Data on amounts mined and revenues earned were reported, and the production process was organized.

Also on this theme, the strategy for intervention evolved over time. This limited the impact of initiatives taken on sustainable management of natural resources and the environment. Monitoring the implementation of local conventions was inadequate, particularly for traditional gold mining.

However, the integration of rules specific to gold mining in the local conventions drawn up with partner CRs can help with better environmental and social management at mining sites. But this requires close surveillance and animation, as traditional gold mining is often practiced by foreigners. In addition, the social organization of the diouras tends to make them exempt from laws and regulations, and even more so, from local conventions. This calls for much greater sensitization on best practices.

It is recommended that the local convention approach be more widely disseminated and that stakeholders be sensitized on environmental and social standards as set out in the Environmental Mitigation and Monitoring Plan or EMMP.

5.3. Gender aspects in biodiversity management

- Establishment of madd nurseries and pergolas in Dar Salam by the women's group in Afia will help reduce conflicts with chimpanzees over access to madd in the long term.
- In the context of traditional gold mining, the populations integrated the prohibition of pregnant women in the gold placers into updated local conventions. This measure will preserve the health of women and their children, as they were previously exposed to mercury during gold treatment.
- The Program's approach integrates gender very well into forest management plan activities. Besides economic activities that create wealth, gender recognition is part of the process of responsibilizing the populations in management of local affairs. Only handicapped persons do not participate actively in activities carried out by local partners. In the implementation of the PAF, as with every other tool developed by the Program, involvement of all social categories is still the barometer to appreciate the quality and quantity of participation by the populations. In the many activities carried out as part of the forest management plan, the exchange of ideas, and decision making on resource management (both forest and financial resources), women have not been excluded. 70 women representatives have taken part in these activities.

6. POLICY AND COMMUNICATION: CORNERSTONES OF DIALOGUE AND VISIBILITY

6.1. Progress in natural resource management policy

(Forest Code, bush fire management, annual cutting laws, laws governing quotas in managed forests, reform related to the set up and operation of the CLPA)

The most notable achievement of the USAID-Wula Nafaa Program in the policy arena is the revision of the Forestry Code to better respond to the needs of the rural population within the framework of the decentralization of natural resources. The program was an active participant in the process. The recommendations of the Program made an important contribution to the revision of the Forestry Code. The Program also actively participated in the finalization of the Code through a series of meetings with key personnel from the Direction of the Forest Service with regard to two main themes: the introduction of local conventions, and the reinforcement of the capacity of local collectivities regarding forestry fiscal issues. The Program hired a consultant to follow the process of the revision of the Forestry Code.

Another area of progress is the policy to improve organization of the annual forest exploitation season. The continued tardiness of the decree setting the start date of the annual cut delayed the execution of activities in the annual work plans. Progress was also noted in forest fiscal aspects, early burning, the elimination of the quota on bamboo, and extension of the annual cut inside managed forests. The Program contributed to an improved model of the annual cutting campaign. It also facilitated discussions with the Kolda Regional Forest Service regarding timber cutting.

In addition the Program worked with a student from the School of Advanced Studies in Agriculture who was working on a Master's degree in Forestry on a study: "What strategy to consider to encourage local collectivities to participate in reforestation within the framework of transferring responsibilities related to natural resource management."

The Program also was involved in discussions with the Direction of the Water and Forest Service regarding the revision of Hunting Code in Senegal, but little progress was noted.

The Program was also involved in the setup of the Dindéfélo Reserve by assisting the local collectivity and the technical services in the formulation of a local convention in order to take into account all of the concerns of the different actors involved in the creation of the Reserve.

With continued assistance from the Program, the Community Natural Reserve of Dindéfélo was validated and approved and the structures responsible for its startup were put into place.

Forest management was a focal concern of the Policy Component. A study was carried out by the Program to evaluate progress of the implementation of management plans in five community forests in the regions of Tambacounda and Kolda. The study was a source of useful information with regard to policy and led to the organization of a national workshop on the implementation of forest management plans in Senegal. The study also permitted the USAID-Wula Nafaa Program to reorganize future annual cutting campaigns.

Another study was conducted on baobab to analyze harvesting techniques of the fruit. This study also included issues related to regeneration of the species in three CR.

In response to a request made by the Direction of the Forest Service (DEFCCS) to review bush fire policy in Senegal, USAID-Wula Nafaa financed a consultancy to work on this question. Results of the

study revealed shortcomings in the fire suppression program, which has not reduced the number of hectares burned (approximately 200,000 ha each year for the last several years). From this, one could conclude that local actors find some advantage to fires.

The Program is strongly involved in supporting rural communities for the management of production forests or the creation of community reserves; these forests and reserves are located in zones that are the most susceptible to fires within the lands of the communities. The study prioritized these rural communities for action.

The recommendations of the study are summarized as follows:

- Work should concentrate on the CR as the administrative level that is most apt for the implementation of fire management plans and to work with existing Committees to Combat Bush Fires (CLFB) or to create new CLFB where they don't already exist.
- Put more energy into the technique of early burning ("fight fire with fire") according to a well-defined calendar.
- Develop and implement a Fire Management Plan (PGF) that will act as a complementary tool to the local conventions and to the POAS. This plan must define where, when and how to intervene, and also requires a detailed budget for early burning and related activities (fire breaks, sensitization campaigns, building capacity, etc.).

A test fire management plan was developed in a participatory manner with stakeholders in the CR of Sakar and Oudoucar.

With regard to fisheries, a total of 4 regulations related to the local convention on fishing and the implementation of management plans were signed by administrative authorities from the zones (CLPA) concerned.

6.2. Visibility of the Program

6.2.1. Communication originating on-site (example of community radio)

In the second phase, the USAID-Wula Nafaa supported numerous Local Collectivities in diverse activities involving many actors. In order to assure the success of this approach, all the members of this team must communicate the results of different meetings, comments made by key actors in public, or during bilateral meetings on a regular basis, with the goal of developing a system that is accessible and conveys the policies and messages of the Program.

In terms of communication to better reach these actors, a strategy of proximity was conceived and implemented. The strategy is based on the diffusion of radio emissions and a recognition of the radio as:

- an extremely powerful technology for the transmission of knowhow and with enormous potential at the local level;
- a practical and creative way to facilitate the circulation of information in a rural setting;
- a way to reach all of the segments of the community through local language; and
- a local development tool that facilitates information exchange, knowledge, and skills to the community through its proximity.

The project signed 11 agreements with community and commercial radio stations operating in the zone of intervention of the Program as follows:

- Tambacounda Region: RTS Tambacounda and Community Radio of Koumpentoum;
- Kédougou Region: Community Radio of Kédougou and Community Radio of Saraya;
- Ziguinchor Region: SUD FM Ziguinchor;
- Sédhiou Region: Community Radio of Sédhiou, Community Radio of Samine and Community Radio of Tanaff;
- Kaolack Region: RTS Kaolack;
- Fatick Region: RTS Fatick and Community Radio of Toubacouta.

Thirty-minute segments were broadcast every fifteen days during times when the rural population was most likely listening. A number of themes were developed and a variety of partners and actors were invited to participate in the broadcast. The themes were selected by operational teams in the field based on priority issues and information needs of the actors.

In the case where one broadcast was not sufficient to address the issues of a selected theme, the process continued through the use of decentralized antennas with local actors who followed up in the field. Existing management structures (Oudoucar Sakar and Saré Bidji) were called on to assist in the organization of the decentralized antennas. The same system was used for water and sanitation at Sinthiou Malème and Bambali for Program intervention in the region of Sédhiou.

In response to the positive results that community radio was providing to broadcast information the grassroots, the Program USAID Wula Nafaa approved a grant to the community radio station of Salémata. The population of this new department was not able to access national radio programs and was limited to tune in to radio broadcasts from Guinea. This posed a problem for the Program in terms of providing information related to important activities in this zone, such as local conventions, land use plans, and marketing of agroforestry products.

In addition to these broadcasts and in partnership with the National Station RTS, radio segments were developed and broadcast under the name "Disso" to inform and sensitize producers. The focus of these segments was on conservation farming in Médina Sabakh and management of irrigated rice at Ndinderling.

6.2.2. External communication (written, YouTube, TV, external radio broadcasts, etc.)

USAID/Senegal encourages media coverage of the activities of the programs that benefit from American assistance in Senegal in order to facilitate understanding and acceptance of the objectives of the interventions. USAID also requests from its implementation partners to properly publicize activities through sound planning of events and involvement of the media, the beneficiaries of the assistance as well as officials representing the US government as well as host country officials.

In response to this request, the Program USAID Wula Nafaa worked with national and international media.

The first activity of publication by the Program was a Newsletter printed in July 2009 and distributed to the personnel of the Program and its partners.

With regard to external communication, the Program printed more than twenty publications. A partnership agreement was signed with the newspaper *Le Soleil* for the production and distribution of four articles on the activities of USAID-Wula Nafaa. The first article was on the Agriculture Component, the second on value chains and Wealth Creation Component, the third on governance and natural resource management, and the last on sustainability. This series of publications had a strong impact and increased visibility of the Program and support from USAID at the national and

international level. The publications can be accessed online through the online site for the Journal *LE SOLEIL*.

A number of other publications were produced by the Program. An article on the POAS was published in *Nature and Fauna* by the FAO. An article on the resolution of conflict was also produced and published in the magazine *VIE* of the University of Dakar. The objective of the article was to show how local conventions can be employed as a tool to resolve conflicts related the natural resource management. Two other articles were written for publication by AGRIDAPE upon request by IIED on the management of community forests through the experiences of the USAID-Wula Nafaa Program and on adding value to and marketing agroforestry and forestry products.

Working in partnership with the Office of USAID/Senegal, a number of articles were written and published in a variety of daily newspapers following visits to the project by journalists specializing on the environment. The articles covered the conservation of the chimpanzees in the zone of Dindéfélo. The same journalists visited the managed forests of Sita Niaoulé in the zone of Missirah.

The Program also worked with the media to cover a series of events on television:

- The signing of protocol agreement with the Regional Council of Tambacounda was covered by the regional press of Tambacounda and national television last February;
- Televised coverage (Journal Télévisé) of the activities of the Agriculture Component (Conservation Farming and management of low areas);
- A program was produced on Conservation Farming for Reewmi Kom Kom, National Television;
- With support from the regional service of fisheries from Tambacounda, a thematic film on fishing at Nétéboulou was produced;

Other supporting publications produced by Program are as follows:

- Two electronic posters on the Program and "Nature-Wealth-Power", used to communicate with the public during some of the bigger events;
- Three pamphlets on Conservation Farming technologies;
- A booklet serving as a training manual for producers on Conservation Farming;
- A thematic film on the technique of "Conservation Farming" developed with the Agriculture Component in partnership with the Program Economic Growth. The film focuses on the adoption of CF by agriculture producers at Tambacounda (Malème Niani, Koumpentoum and Bamba Thialène);
- A brochure summarizing the success stories of the Program (the brochure has proven to be an excellent communication document to demonstrate results of the Program with partners);
- Coverage of Program clients' participation at the FIARA;
- Production of three documents with the program Reewmi Kom Kom of National Television on Conservation Farming and hydro-agriculture management structures;
- Production and distribution of two "Pleins Champs" segments on Conservation Farming and management of rice production;
- Production of two "Grand Format" segments on Conservation Farming and management of lowlands for rice production. .

The television station Voice of America produced a broadcast on the results of the USAID-Wula Nafaa Program at Kaolack and Fatick. This video was greatly appreciated by members of the U.S.

Congress who greatly appreciated the rational use of American aid through the USAID-Wula Nafaa Program.

Ten videos were produced to demonstrate the success of the Program with regard to agriculture and "Feed the Future". The success stories were made available on YouTube covered the following themes:

- Program assistance in the management of natural and fisheries resources (reactivation of the CLPA)(http://www.youtube.com/watch?v=XP8VUGVnKHY);
- The introduction of conservation farming to Senegal to improve food security (http://www.youtube.com/watch?v=JQTWNACUsAc);
- Hydro-agricultural management to produce rice and improve food security (http://www.youtube.com/watch?v=PE34Pi8z0I4);
- Assistance for setting up garden perimeters for agricultural production (http://www.youtube.com/watch?v=ntSX5BdPcbY);
- Hydro-agricultural water control and rice production while fighting salinization (http://www.youtube.com/watch?v=GinAbiLzn0g);
- Garden plot planning: SIGESCO planning tool (http://www.youtube.com/watch?v=iz95hXVyP3E);
- Business and technologies developed for the promotion of conservation farming (http://www.youtube.com/watch?v=RMgShUr1Ymo);
- Management of lowlands and local economic dynamics: case of the managed valley in Ndinderling (http://www.youtube.com/watch?v=lTpFFnWGhb0);
- Organizational dynamics (commercialization and supply) that accompany conservation farming extension work (http://www.youtube.com/watch?v=0lK0QVRbvhE);
- Impact of developed technologies, like the treadle pump, on garden production (http://www.youtube.com/watch?v=3RhFJkRlrls).

Communications events were also part of the Program life. The Program participated in the International Agricultural and Animal Resources Fair (FIARA) in 2009. The objective was to heighten the visibility of Program activities and beneficiaries' products, to set up commercial contacts, and to make professional connections. It was a big success both for the Program as presented in the media (featured in the RTS news, the RDV journal, the FIARA journal, and several radio program interviews), and for enterprises and producer groups with their products. Since its first time there, the Program has not missed this big global, farm-based, annual Senegalese event.

The Program also assisted with organizing the second (2011) Regional Fair in Kolda. It worked with the Association for Valuing Okra in Fouladou (AVGF), the U.S. Peace Corps, and Catholic Relief Services.

The Program carried out or participated in communications events such as the "Press Weekend" in Kédougou with the Tambacounda Journalist Association, using a grant to increase data collection on Program activities in Kédougou including biodiversity management, setting up Dindéfélo Reserve, and agriculture activities. It participated in the 50-year anniversary of USAID in Senegal, which was an occasion to raise awareness of USAID assistance in agriculture and natural resources through USAID-Wula Nafaa.

6.2.3. Informing people about Program achievements

Leaving a legacy through activities carried out has been a concern of the Program since it began. The entire Program approach is infused with this concern and integrates the sustainability aspect.

For the last year of its execution, activities reflected the idea of sustainability and long-term continuity. This is a framework in which exchanges and informational sessions were organized with government structures that will pursue the activities.

The National Agency for Agricultural and Rural Councils (ANCAR) is the main structure selected to seat activities developed by the Program. ANCAR has been a technical partner of the Program in the peanut basin (Regions of Kaolack and Kaffrine) to diffuse the conservation farming technique. First, a protocol to collaborate was signed and executed during the 2011 agricultural season between USAID-Wula Nafaa and ANCAR. This collaboration led to the training and monitoring of producers in 22 villages as they applied conservation farming.

Conservation farming (CF) was greatly appreciated in the peanut basin: Falilou Faye, Regional Director of Rural Development (DRDR) for Kaolack Region, said, "The technique led village producers to achieve yields superior to those obtained without the technique." This was stated in front of the panel organized to discuss CF during the 2012 edition of the FIARA. "I applied CF in part of my field where the soil is poor, and, strangely, I got a yield of 3.7 tons of maize per hectare," exclaimed the producer Abdoulaye Ndiaye from Nioro Alassane Tall (Fatick Region).

In order to extend this technique even further in the territory, the choice landed on ANCAR who is nationally connected. A workshop to share the CF experience was organized and followed by a visit to Program sites in the Regions of Kaolack and Fatick. The next step was signing a protocol for vulgarizing this technique in the Regions of Louga, Thiès, and Diourbel, where it is not currently used. ANCAR agents in these regions were trained by USAID-Wula Nafaa experts. Even better, to anchor the strategy for extension on conservation farming in these regions where ANCAR will intervene, material and inputs were sent to the General Director of the Agency. This material is a contribution for setting up demonstration parcels for the technique during the coming agricultural season. With ANCAR, long-term adoption of Conservation Farming is assured. Potential projects have been submitted to the National Agricultural and Agro-Alimentary Research fund (FNRAA) by some of the Directorates in ANCAR's zones.

Continuity also has to do with transferring achievements and sharing experiences. This is how the Regional Development committees (CRD) were organized in Tambacounda, Kédougou, and Sédhiou. The overall objective of the CRD was to inform people about the experiences, share information, and transfer skills from USAID-Wula Nafaa Program in the domains of agriculture, wealth creation, community forest management, community natural reserves, fisheries management, and governance of natural resources.

Since the first phase of the Program, participatory natural resource management tools were designed, implemented, and monitored. This concerns especially local conventions and forest management plans. These tools contributed much to better management of natural resources as they were adapted to the context of decentralization. They are highlights of implementation of USAID-Wula Nafaa Program in the NRM domain. Numerous experiences have been documented, especially in the management of conflicts, community forests, and community green spaces.

The developed tools are used during the activities that assist local collectivities. They are used to frame the intervention clearly as regards writing forest management plans and local conventions to attain participatory and inclusive management of natural resources.

The growing awareness of these tools by students and scholars of universities and professional schools and their professors who specialize in sustainable natural resource management has been a positive addition to their training curriculum. Informational sessions to share knowledge were

organized at schools and universities; the main objective was to present the approach for producing the management tools to students and professors in forestry training institutes.

To better share the Program legacy, all documentation that was generated has been organized, classified, and shared with partners and documentation services.

The Forestry Center in Thiès was a resource center that was especially targeted to conserve the Program legacy. USAID-Wula Nafaa and the Centre FoReT have agreed to:

- Share their experiences in documentation and in the diffusion of technical information for development agents through document exchanges; and
- Pass on effective teaching during training sessions by making human resources available to the Center to develop topics in which the Program has much experience.

6.2.4. Success stories

The production of success stories has been an intense activity for the Communications Component. The success story is a communications support mechanism that is in demand by USAID. The American people use them to receive information on the grants they give out and their impacts on the life of beneficiaries. From the beginning of the second phase of the Program, an expert from Washington, D.C. (Engility) assisted the Program with the content and editing of success stories; this speaks of the importance accorded to this means of communication.

Success stories also constitute an excellent way to document highlights of the Program's activities. That is how a strategy for writing up these stories was developed to involve all the staff, informing them of its impact and the method for collecting and writing up information. During the five years of Program implementation, the success stories that were written up and published in a summary document that was widely distributed are as follows:

- Conservation farming (CF) charms Senegalese producers
- CF: Yields defy the climate
- Rice farming: The grain is reborn in Boli
- The rice culture: women's leadership
- Rice grains replace the steering wheel
- Charcoal invests in and modernizes a home
- Baobab seeds bring profits
- Cashew, a profitable product in 2011
- Forest Products, financial market
- FRA: Enterprises on the export
- BDS services: Processing Units guarantee it
- Oyster farming to fight poverty
- Dindéfélo: Ecotourism moving ahead
- Wrapping quality increases product sales
- Fisheries: a life saver
- Budget assistance, end of red tape
- Governance in the bolongs and mudflats

- Fees to motivate resource guards
- NRM applied to local fiscal matters
- Local elected officials activate reforms on the forestry code
- "Thon" saves the palms
- WASH: A great leap forward
- A well brings health to the village
- WATSAN: Governance in the spotlight

In order to better reach the American people who have given the means to finance the USAID-Wula Nafaa Program, ten success stories were produced in a video version and posted on the YouTube social network. The videos concern agriculture that responds to the "Feed the Future" Strategy. Titles and web links are listed above in section 6.2.2.

6.2.5. Visits by authorities and partners

The Ambassador of the United States visited Tambacounda and Kédougou Regions. In Tambacounda Region, he visited the dam in Wassadou where rice is produced, the managed forest in Sita Niaoulé, and the hydraulic managed sites set up through WADA and Coca Cola Foundation. In Kédougou Region, the visits concerned Program support in the domain of traditional gold mining; the Dindéfélo visit was to see the Community Natural Reserve and the inauguration of Salémata community radio (Salémata FM). The radio station is financed by the program from the grants fund. The radio inauguration ceremony was successful and the populations in Salémata were grateful.

Another great moment for the Program was the visit by the Minister of Agriculture and Rural Equipment to Kaolack Region, with the management of the anti-salinization dike at Kaymor and the application of conservation farming. This visit shows the interest held by the authorities in agricultural development to which the USAID Program has brought solutions with structured management of agricultural production and the introduction of new, more productive, and more environmentally sound farming techniques. The visit was also a chance to acknowledge the mechanisms to achieve sustainability that were put in place by the Program in partnership with the technical services such as the Regional Rural Development Directorates (DRDR) and the Regional Directorates for the National Agriculture and Rural Council (ANCAR).

The inauguration of the anti-salinization dike at Kaymor was hosted by the Minister of Environment and Sustainable Development, with attendance by the secretary general of the Ministry of Agriculture. This ceremony was the perfect occasion for the Rural Council and the populations in Kaymor to testify to their gratitude for the assistance given by the American people.

In the context of support for populations to access potable water and sanitation, the Program inaugurated the wells built in the context of a strategic partnership between USAID and Coca Cola Foundation.

6.2.6. Exchange visits

In the context of building capacity of producers, the Program organized a series of exchange visits for producers in order to arrive at a greater understanding of technical itineraries for producing crops for the main value chains, rice, millet, and maize. The chance was given to producers to meet other producers and technical services who had accumulated experiences in their domains so that they could discover and understand the challenges ahead, see the types of organizations that were set up and relationships with microfinance institutions, see the investments that give structure to the activities,

but also to understand the strategy that was put in place for post-harvest activities and marketing of rice.

The overall objective was to allow members of the Management Committees and networks to understand the issues associated with intensification of farming rice, millet, and maize with an aim to sell more, and the issues involved with new technologies capable of boosting production that leads to professionalizing producers.

The visit to the Senegal River Delta grouped together producers from different valleys within the USAID-Wula Nafaa work areas. 18 producers, of whom 8 are women, went on the visit, accompanied by 11 Program agents. The visit resulted in the following:

- An understanding of the importance of mobilizing fees to be more autonomous and to access tractor services and inputs in a timely manner;
- Meetings and fruitful exchanges about experiences between different rice value chain actors;
- Better comprehension of the technical itineraries for producing rice;
- Comprehension of ways to manage durable goods (tractor, huller, thresher) and ways to finance them; and
- Discovery of seed varieties that are adapted to the site and climate, and potential ways to collaborate with researchers.

7. WEALTH FROM WELL-ORGANIZED MANAGEMENT OF NATURAL RESOURCES

7.1. General considerations and strategy for the Wealth Creation Component

The Program was founded on the Nature-Wealth-Power approach to development. This guides small and medium enterprises, groups, and rural producer networks to generate revenues from expanding and intensifying agricultural production and marketing products based on natural resources, agriculture, and fisheries in better ways.

On the basis of achievements from the first phase, the Program scaled up its assistance and empowered groups, enterprises, and networks working in forestry and non-traditional agriculture value chains. It also provided assistance for organizing, capacity building, and developing business development services (BDS) for agriculture and fisheries value chains. In its second phase, the Program has continued its interest in the initial value chains (fonio, mbepp gum, cashew, baobab, charcoal, fisheries, and traditionally-mined gold) and added agriculture.

Major changes in direction took place following difficulties experienced in its intervention zones. There was a reduction in Program activities in Ziguinchor, which led to changes in facilitator siting and less support for some of the value chains that had been assisted for almost six years (charcoal, mbepp gum, and baobab). Assistance to the charcoal sector was also reduced, since reaching charcoal quotas reserved for local producers (50% of the allotment) was already beyond their production capacity, and because of delayed announcements of the opening dates for charcoal-making season.

The Program launched marketing studies and organized stakeholder forums or CDC for the timber, fisheries, and traditionally-mined gold market chains. It then developed the value chain approach to update analyses of some of the products that did not undergo value chain analyses or VCA.

The strategies for progressive disengagement and broadening the scale of enterprises in the Program have been placed in a context of business development services or BDS: groups, networks, and other partners can offer services to different actors in the market chains. Also, partnerships with other USAID-financed programs, as well as capacity building and lessons already learned, have been integrated into features that will be left by the Program:

- the organization of producers as the basis for better natural resource management;
- the vertical integration of groups and networks to relieve bottlenecks in value chains and BDS providers;
- contracting of the group-network relationships with other actors in the value chains, especially processing and/or exporting enterprises, as a means to improve quality, secure supplies of raw materials, and assure markets;
- strengthening of partnerships with researchers and the private sector at the national level to improve production and processing techniques for products placed on the market;
- facilitation of access to credit.

As of 2011, the main activities carried out target the sustainability and long-term continuation of Program results. Thus, the Program built up a strategy for withdrawal that included reducing its intervention with baobab, mbepp gum, and charcoal; providing continued support for new value chains or those that needed more assistance previously, such as agricultural and fisheries products, honey, and other products considered to be secondary; and providing assistance for development of services provided by local providers and payment for services by enterprises and groups, processing units, and networks. In addition, the Program played a role that facilitated and supported private investors interested in the market chains, so as to install modern processing units at sites with strong potential.

Building capacity of enterprises, networks, and local service providers, and building relationships between local enterprises and the private sector, contributed greatly to achieving the results targeted by the Program. The value chains in which the Program has intervened were chosen after facts and status reports were researched about the informal nature of the enterprises involved, the lack of demand for and supply of services, weak managerial capacity, and poor communications.

Local expertise composed of resource persons and group members was built up and used to provide and follow up on training given to organized groups.

To assist with marketing the target products, the strategy adopted consists of helping producers get to know the distribution circuits through exchange visits and study tours; to understand costs of production; and to negotiate with buyers through training in management and cost calculation. Improvements in the presentation of products and new authorizations for marketing (FRA) contributed to visibility of products at the national and international levels and helped develop local business.

Contacts with buyers and signed contracts have played important roles in the increase of revenues for groups, networks, and processing units, especially in the major value chains such as mbepp gum, charcoal, baobab, and cashew. The Program supported enterprises and other partners as they participated in fairs and set up boutiques to distribute their produce and give the public easier access to goods such as baobab products and precooked fonio.

The Program played the role of facilitator between groups, networks, and processing units and financial institutes. The strategy was based on signed agreements directly with the local financial institutions. In one scenario, funds would then be deposited as a guarantee with CMS. In a second scenario, a collaborative agreement with U-IMCEC and ACEP would be signed without a guarantee fund.

In view of the difficulties and delays in financing agricultural producers, the Program developed an alternative strategy over the last two years: the mobilization of savings and loans (EPC in French). This strategy has greatly reduced the dependency of producers on IMF. A successful experience was the establishment of a direct relationship between horticultural seed suppliers and garden groups in the five perimeters.

All of these approaches were developed with the idea of leaving a sustainable legacy, which is to say that the process of financing and paying back loans is completely taken over by the producers themselves. This is why the Program set up an approach that guaranteed for financial institutions that contracts between producers and groups would be signed, contracts between networks and committed buyers would be signed, and input providers would be included.

The **value chains** in which the Program intervened are:

- **Non-wood forest products:** Baobab, mbepp gum, madd, néré (*Parkia*), shae butter, palm oil, honey, jujube
- **Non-traditional agricultural products:** Cashew, fonio
- **Fisheries products:** Ethmalose (Cobos), Cockles (Pagne), oysters (yokhoss)

- **Garden produce**
- **Grains**

Impacts from interventions in non-traditional agricultural products and forest product market chains can be secondary to exogenous factors that also have impact. Such factors include climate change and control over the resource and quantities that can be harvested or collected. Also, the gathering of raw product is not something that can increase indefinitely, especially in light of fluctuating prices and particularly for exported products. A very good example of this is baobab fruit.

7.2. Agroforestry products

7.2.1. Cashew

In all, **9,443 people**, including **1,404 women,** were assisted during four years of cashew interventions. They marketed 18,932.1 metric tons of raw nuts from 2009 to 2012, with revenues of **9,600,788,723 FCFA**. The tables below show the evolution in the number of people who increased their revenues and the volumes sold with total value of sales from 2009 to 2012.

Number of people assisted who increased their revenues, 2009-2012

Year	Men	Women	Total
2009	2532	436	2968
2010	1155	232	1387
2011	3407	470	3877
2012	945	266	1211
TOTAL	8,039	1,404	9,443

Change in volumes sold and total value of sales, 2009 to 2012

Year	Volume sold (kg)	Total value of sales (FCFA)
2009	4,928,433	1,990,635,245
2010	2,887,239	1,158,897,932
2011	9,609,935	5,824,697,146
2012	1,506,506	626,558,400
TOTAL	18,932,113	9,600,788,723

Special efforts were deployed by the Program in Kolda, Sédhiou, and Fatick Regions. The progress registered in revenues and volumes also comes from the assistance provided to enterprises, including prospective market studies and facilitation of pretreatment by artisanal processing units with an eye toward supplying major and industrial units. Producer groups and processing units in Sédhiou and Fatick benefited from grants for drying areas and processing equipment in order to improve quality and grow their economic profits.

The Program also assisted with setting up an organization that integrated individual producers and groups in Ziguinchor and Sédhiou Regions. The Cooperative of Cashew Producers in Casamance (COPROCA) groups together 194 members; it received organizational support and training to produce quality nuts, and was able to sell 1,600 tons of raw nuts in 2011, for a total value of **720 million FCFA.**

Program results from 2011 surpassed even the most optimistic predictions. **9,609 metric tons** were marketed, compared to 2,887 in 2010; revenues reached **5.825 billion FCFA**, compared to 1.159 billion in 2010. The increase in average price per kilogram went from 401 to **606 FCFA**, which proves that the 2011 market situation was exceptional.

With a goal of attaining sustainable successes, the Program took an approach of consolidating and scaling up by actively participating in the national initiative to organize the cashew value chain while including assistance from government agents. It set up a strategic partnership with Assistance to Casamance Development (PADEC) to make achievements permanent. It subsidized processing units

in Fatick and Sédhiou that are managed mainly by women in order to improve the quality of their cashew nut supply.

7.2.2. Baobab

The total value of baobab sales is **774,323,220 FCFA** for **5,589,175 kg** sold between 2009 and 2012.

In the baobab market chain, **7,217 people**, of whom 4,032 are women, increased their sales from 92,068,320 FCFA in 2009 to **209,958,560 FCFA** in 2012, for an increase of **117,890,240 FCFA** or 128% in relative value.

The tables below show the evolution in the number of people who have increased their revenues, volumes sold, and total value of sales between 2009 and 2012.

Number of people assisted who increased their revenues from baobab, 2009-2012

Year	Men	Women	Total
2009	813	1084	1897
2010	934	1202	2136
2011	883	1129	2012
2012	555	617	1172
TOTAL	3185	4032	7217

Change in volumes sold and total value of baobab sales, 2009 to 2012

Year	Volume sold (kg)	Total value of sales (FCFA)
2009	853,662	92,068,320
2010	1 612 812	197 357 785
2011	1 958 329	274 938 555
2012	1 164 372	209 958 560
TOTAL	5,589,175	774,323,220

Baobab production is distributed as shown in the following table:

Baobab production 2009-2012 (kg)

YEAR	POWDER	SHELLED	SEED	IN THE SHELL	TOTAL
2009	6,649	839,127	7,639	247	853,662
2010	19,211	1,522,033	15,469	56,099	1,612,812
2011	33,995	1,905,467	18,867	0	1,958,329
2012	11,972*	1,122,088*	24,762	5,550	1,164,372*
TOTAL	71,827	5,388,715	66,737	61,896	5,589,175

**Incomplete data collection for this year*

Many factors contributed to making Program interventions in the baobab value chain sustainable: direct involvement of partner buyers like BFC, the emergence of a dynamic local private sector, and the creation of a new processing unit in Bala (which was entirely equipped with the funds of a local private promoter) contributed to permanence of the operation. Buyers and private promoters took on recurrent costs of the marketing season, organized village meetings, and purchased small equipment to collect fruit, tarps, sifting screens, and other items were provided. Wrapping material was obtained by groups to improve presentation of their products. Groups contributed to the costs of training in baobab cake production and participation in FIARA in 2012, as well as to the construction of storage units and warehouses.

The lower production numbers for powdered baobab and shelled baobab in 2012 are due to the fact that data were not collected after facilitators withdrew from the work areas.

Revenues were also increased after assistance was provided in marketing: supply contracts were signed, boutiques were set up in Dakar, authorization for putting product on the market (FRA) was

obtained, and producers and processing units were informed about the commercial circuit. Other factors also contributed: adding value to secondary products such as seeds and fibers as new partners were identified (such as Bio Essence and Baobab des Saveurs), and authorization was obtained to market baobab powder on the European market.

The partnership with BFC, one of the biggest partners, was rocky toward the end of the first phase as BFC tried to purchase whole baobab fruit in the shell. The difficulty was quickly turned around with the promotion of baobab powder, shelled fruit, and seed. The Program put groups in business relationships with processing units to make this possible, and the processors became suppliers of bouye powder and seed. The creation of a direct stakeholder group for negotiating between producers and buyers before the harvest season started; restarting contracts between the producer groups and BFC; and formalization of purchases between producer groups, processing units, and bana-bana buyers through signed contracts were all factors that led to increases in revenues.

The improvement of quality and presentation of the processed product, stimulation of the supply and demand for services between enterprises that are growing in the baobab value chain, and the development of service providers between groups are elements that played an important role in reaching targeted results. That is why some members of the best-performing processing units were solicited to train members of new units.

In addition to assisting with the authorization to sell baobab in Europe by the European Economic Commission (EEC), the Program assisted with installing local processing units as private investors became interested in them.

Loading a truck with baobab for BFC in Bala

Verification and weighing of baobab in Thiès by BFC

To diversify revenue sources and add value to baobab powder, 17 people representing small baobab fruit processing units were trained in techniques for producing baobab snack cakes. The participants have valuable business opportunities, considering that these cakes, which are currently traded in the region, currently come from Mali or Burkina.


Training in making baobab cakes

7.2.3. Mbepp gum

The production of mbepp gum increased slightly in Program intervention zones since 2008. The amount marketed went from 656.564 metric tons in 2009 to 796.240 tons in 2011. The total value of sales is about **1,436,324,083 FCFA** for a total volume of **1,810,397 kg**.

The following tables show the evolution of the number of people who have increased their revenues and the volumes sold with total volume of sales from 2009 to 2012.

Number of people assisted who increased their revenues from mbepp, 2009-2012

Year	Men	Women	Total
2009	742	193	935
2010	372	118	490
2011	533	94	627
2012	0	0	0
TOTAL	1647	405	2052

Change in volumes of mbepp sold and total value of sales, 2009 to 2012

Year	Volume sold (kg)	Total value of sales (FCFA)
2009	656 564	407 982 202
2010	357 593	231 472 775
2011	796 240	796 869 106
2012	-	-
TOTAL	1,810,397	1,436,324,083

Variable production each year created a fluctuation in prices, which made local commerce to be more competitive compared to traditional exports. The Program had emphasized production of raw, unprocessed gum in the first phase, which brought modest revenues to producers. To help producers realize greater profits, the Program started to promote production, adding value, and cleaning the gum to raise the quality before processing at the local level. Producers are taking over marketing the gum by dealing directly with buyers, thus reassuring buyers and sellers of continuity in Program achievements after it ends.

7.2.4. Fonio

In the fonio market chain, **1,222 jobs** were created, including **840** for women. The volumes of fonio product sold (raw fonio, shelled fonio, and pre-cooked fonio) went from **74,404 kg** in 2009 to **153,315 kg** in 2012, an increase of **106%**.

The total value of sales for raw, shelled, and pre-cooked fonio is **639,010,805 FCFA**, which led to 4,184 people, of whom **3,272** are women, to increase their revenues from **47,565,350 FCFA to 166,035,575 FCFA**, an increase of **249 %** compared to 2009.

These results were possible because of:

- Development of a partnership for sharing the tasks and activities that optimize assistance to producers and to processing units;
- Training in management that led units to figure their costs of production and fix a price that incites processors: 1000 FCFA instead of 750 to 850 FCFA/kg as in the past;
- Development of services provided by lead enterprises or networks to groups;
- Signing contracts with new buyers and beginning precooked fonio exports to France by the GIE Koba Club from Kédougou;
- Creation of new processing units in Kédougou;
- Identification of new fonio producers in Koussanar zone;
- A grant awarded to the Yakar Niani Wouly federation and to GIE Nourou Enterprise for construction and processing equipment;
- Establishment of a federation and construction of a warehouse in Dindéfélo;
- Establishment of a federation of 806 fonio producers named URPROFOS (Regional Union of Fonio Producers of Sédhiou) in partnership with VECO;
- Conception of a simple technical sheet for producers on the production method for fonio, which helped new producers sign up for fonio farming.

One of the characteristics of this market chain is that the product is consumed domestically. But, with improvements in farming techniques and reduction of the workload, marketing has soared. Participation by fonio enterprises in FIARA, financing from ADF for Kédougou and Kolda GIEs, and development of a partnership with other SFD for access to credit, training and equipment led producers to earn substantial revenues, on the order of **639,010,805 FCFA.** These revenues were generated by **197 enterprises** with **4,184** members, of whom **3,272** are women and **912** are men.

The following tables show the evolution of the number of people who have increased their revenues and the volumes sold with total volume of sales from 2009 to 2012.

Number of people assisted who increased their revenues from fonio, 2009-2012

Year	Men	Women	Total	Number of enterprises
2009	107	450	557	46
2010	370	1156	1526	73
2011	293	1180	1473	52
2012	142	486	628	26
TOTAL	912	3272	4184	197

Change in volumes of fonio sold and total value of sales, 2009 to 2012

Year	Volume sold (kg)	Total value of sales (FCFA)
2009	656 564	407 982 202
2010	357 593	231 472 775
2011	796 240	796 869 106
2012	-	-
TOTAL	1,810,397	1,436,324,083

Total fonio production sold is 731,456 kg, distributed by year and product as in the following table.

YEAR	RAW FONIO	SHELLED FONIO	PRE-COOKED FONIO	TOTAL
2009	25 216	9 344	39 844	74 404
2010	24 799	19 941	250 531	295 271
2011	2 190	9 639	196 557	208 386
2012	2 260	9 459	141 676	153 395
TOTAL	54,465	48,383	628,608	731,456

Shortages in the supply of shelled fonio are occurring, following a decrease in production and a restriction placed on importing fonio in Guinea.

7.3. Producers' organizations

The strategy for organizing producers is based on producer groups who are the main link in the value chain. In each market chain in which the Program invests, the most active individual producers are identified. These have received Program support in the form of technical assistance for the creation of producer groups and networks. In certain cases, existing producer groups or networks were reactivated.

Organizing producers is the first step taken by facilitators when they are sent to live in the villages. It led to the creation of **2,816 producers' groups** based on agricultural products (1,153 groups), agroforestry products (1,422), fisheries products (167 groups), and traditionally-mined gold (74).

The second step is to form producers' groups into networks and create small processing units for agroforestry products (baobab, fonio, cashew) and fisheries products (mollusks, cobos).

The third step emphasizes building capacity for producers' groups, networks, and processing units.

The fourth step is to assist with formalizing the producers' groups, networks, and processing units as enterprises that carry out an economic activity under the laws governing economic interest groups (GIE). This task led several producers' groups, networks, and processing units to avail commerce registers (RC) and to be counted as commercial enterprises.

For processing units that deal in agro-alimentary products, five enterprises obtained an authorization to sell on the market, the FRA.

The next table shows the evolution of the number of producers' groups created by product and year.

Evolution of the number of producers' groups by product and by year

Product type	Value chain	Number of producers' groups					Total
		2009	2010	2011	2012	2013	
Agriculture	CF	0	101	295	441	316	1153
	Rice	0					
	Market gardens	0					
Agroforestry	Cashew	155	32	166	90	0	443
	Mbepp gum	37	1	88		0	126
	Baobab	104	31	109	72	0	316
	Fonio	56	17	42	33	0	148
	Charcoal	33	29	140	84	0	286
	Jujube	0	0	1		0	1
	Madd	32	9	31	6	0	78

Product type	Value chain	Number of producers' groups					Total
		2009	2010	2011	2012	2013	
	Karité (shae)	0	2	4		0	6
	Honey	0	5	10		0	15
	Bamboo	0	3	0		0	3
Fisheries	Oysters	21	1	17	9	0	48
	Cobos	0	7	36	45	0	88
	Cockles	4	0	2	1	0	7
	Shrimp	0	10	14		0	24
Mining	Gold	11	4	53	6	0	74
Total		453	252	1,008	787	316	2,816

7.4. BDS and capacity building

Recall that business development services (BDS) concepts include a package of services for better management, production, and commercial mediation by enterprises. A strategy for implementation of BDS and capacity building for it was defined and implemented by the facilitators.

The strategy consists of building local enterprises' capacity in providing contracting services to boost the quality and increase demand for services by other enterprises. In the context of the Program's withdrawal, the strategy used the principle of financial contributions by enterprises as they take over the costs of services.

During implementation, a status report was produced on the organization of groups and networks of assisted value chains. This is the basis on which the assessment of training needs was done for groups, networks, and processing units for agroforestry products.

The introduction of BDS concepts was done by reactivating groups and networks (insisting that management bodies take on their functions, maintain administrative and accounting documents, and hold meetings), and through the identification of services that could be supplied by networks to the groups so as to strengthen the links between groups, networks, and processing units. The overall strategy is defined as: (i) progressively introduce the idea of paying for services; (ii) initiate and develop the principle of contributing to costs for services; (iii) promote quality services at a better price; (iv) diversify the services available; (v) pay attention to demand: ensure that the services offered correspond with those requested by enterprises; (vi) boost demand for services by enterprises while making enterprises into service providers; and (vii) try to distinguish enterprises that are leaders in their field.

A training module on BDS concepts was drawn up and training of facilitators and groups with networks was provided in all Program intervention zones.

The implementation of the BDS integration strategy put the focus on building capacity of producer groups in the context of enterprise management.

A simplified module and manual were drawn up, and training sessions were held for enterprises and facilitators. The content of the module is based on the enterprise and the family; marketing products; accounting; calculation of costs; activity planning; credit management; and community-based organization (CBO) governance.

This capacity building greatly contributed to the improvement of management practices. In the context of leaving a legacy of lasting achievements, the networks are becoming responsible. Capacity building for their benefit was done so they could maintain basic management tools.

In the past, a choice was given to networks as to whether they wanted to become dynamic in Program work areas, based on a diagnosis by facilitators; if so, they would be assisted with capacity building.

It was important to hold these workshops to build capacity for processing units and agroforestry product networks so they would know how to use the tools needed to function and increase the visibility of their enterprises.

The refresher training sessions provided management tools to officers of the producers' organizations so they could apply principles of proper functionality to their groups.

Producers' groups and networks also benefited from assistance, such as:

- Organizational support (how to set up a producers' group or network; reactivation of existing groups and networks; writing action plans and business plans; roles and responsibilities of office holders);
- Training in management (maintaining records for collecting data on production and revenues; increasing revenues; producing accounting reports on provisional production and results; marketing techniques; evaluation and preparation of the marketing season for agroforestry products; opening accounts; accessing credit);
- Development of services (initiation to BDS concepts; mobilizing savings in the savings and loan system);
- Training in processing techniques (hygiene and quality through the HACCP approach; packaging); and,
- Participation in FIARA, regional fairs in Kolda, and fonio days organized in Kédougou.

7.5. Strategies and tools used for financing (banks, savings and loans)

- Guarantee fund system with CMS;
- Seasonal credit with ACEP and U-IMCEC, without guarantee fund;
- Capacity building activities in management, basic accounting, marketing, activity planning, credit management;
- Organization of a task force on credit, with the goal of showing beneficiaries how to choose a bank by giving them information on favorable rates;
- Writing up presentation notes for applications to IMFs, and respecting the steps described in agreements that were signed;
- Signed contracts between conservation farming producers, groups, and networks;
- Marketing surpluses to assure that credit loans are repaid;
- Strengthening networks so that they take responsibility for the financing process;
- Facilitation of agreements between dynamic networks and IMFs.

During the last two years of execution, the Program based its intervention on setting up a system to lead networks and agricultural producers to appropriate the process of financing activities. As the Program reduces and withdraws assistance, the successes recorded with financial institutions must be strengthened by producers taking over activities of the groups and networks that were set up.

A participatory approach was implemented so as to guarantee good preparation for the farming season. This approach included:

- Setting up a simple contract system between producers and groups that specifies input needs, credit needs, and the minimum quantity to deliver for repayment based on a fraction of the yield, calculated based on non-CF yields and a commitment to eventually pay all debts);

- Establishment of a contract system between groups and networks with indications of group input needs, request for facilitation of access to credit needed by producers, producers' commitments, amount of yield that will be available to sell as a result of centralization of minimal amounts committed by producers, commitments to quality as required and to monitoring members' crops, determination of the revenue-sharing mechanism for the quantities contributed by members;
- Formalization of commitments made by producers with their groups, including the backing of the rural community represented by the signature and stamp of the president of the CR on documents, giving them the weight of executive strength;
- Earmarking a part of crop yields for paying back loans agreed to by microfinance institutions IMF);
- Strengthening the role of networks that will be in charge of marketing minimal quantities promised to be delivered by producers, with a requirement to report back to members, deposit revenues in IMF accounts to pay back credit, and reverse deposits in any case where the contracted amount is exceeded.

This approach was validated by CF producers during several meetings set up in Kaolack/Fatick Region (4), Tambacounda Region (5), and Kédougou Region. After holding these meetings and trainings, networks and resource persons capable of playing the role of service providers in the credit application submission process submitted requests to partner institutions. The involvement of networks was needed at this stage because of the role they must adopt so that the activities begun by the Program can continue: assisting with access to credit, loan guarantees, and marketing.

Access to financial resources through banks

During Phase 2, the Program facilitated financing for producers for a total of 1,404,952 USD. This table shows the distribution of loans:

Distribution of loans facilitated for groups and activities funded

Bank	Number of groups	Amount granted (USD)	Types of activities financed
U-IMCEC	605	691,571	Cahsew, CF, forest products, fonio, rice farming, charcoal, baobab
Caurie	13	4,100	Agriculture, CF
CBAO	1	14,000	Charcoal transport
CMS	97	186,977	Cashew, fonio, charcoal, madd, traditionally-mined gold, CF, baobab
ACEP	51	79,100	Agriculture, CF
PAMECAS	114	134,420	Fisheries products, CF
CNCAS	4	201,152	Agriculture, CF
EPC	155	92,632	Agroforestry products, fisheries products, rice farming, CF
Total	1040	1,403,952	

In the beginning of its execution, the Program signed an amendment to its agreement with CMS to finance activities in charcoal, baobab, and fonio. The interest rate was high at CMS, so the Program t oriented groups toward commercial banks. CBAO agreed to work with the Program in a letter of intention, refinancing loans in the form of Decentralized Financial Systems (SFD in French). This partnership gave access to 7,000,000 FCFA for Gaye Charbonnage to buy a truck to transport charcoal for producers' groups. With the guarantee available by the Development Credit Authority (DCA), the enterprise benefited from a favorable interest rate.

Besides CMS, the Program collaborated with U-IMCEC, ACEP, and PAMECAS in 2013.

The organization of a decentralized task force to address credit, training and management of loans, writing presentation notes for applications, and monitoring credit reimbursement to IMFs contributed to positive results achieved. The shortcomings observed include the delayed opening of bank accounts and difficulty mobilizing savings from producers, as well as slow treatment of applications by the institutions and reductions in the amounts awarded.

Mobilization of savings

Training in mobilization of savings based on the program 'Savings for Change' or EPC was carried out for lead producers, resource persons, and USAID-Wula Nafaa program facilitators. This program consists of building capacity of communities in the rural environment, especially women, so that they can organize into groups with the solidarity to save up revenues and make loans to each other, with interest, using these savings. The loans are to be used mainly for economic activity purposes.

The introduction of the savings mobilization system was done over time in producers' groups by animators assisted by brokers selected according to performance indicators.

The system not only allowed producers and brokers to increase their skills, but also to mobilize collection of considerable savings used to gain access to agricultural inputs. This greatly reduced the need for credit from IMF partners. In Ngayenne Sabakh area, one producer was uniquely identified as an animator and broker in the savings mobilization program (see box).

Mr. Mactar Gaye, an EPC moderator hired to promote savings mobilization with the Savings for Change (SFC) program in Ngayène Sabakh

In the rural community of Ngayène Sabakh, Mr. Mactar Gaye identified, trained, and assisted with setting up 32 producer groups to work with the Savings for Change Program (EPC) between December 2011 and March 2013.

Recall that Mr. Gaye is a farmer and the President of the Network of CF Producers of Ngayène Sabakh. He had been trained as a trainer in mobilizing savings in December 2011.

The groups that were created with his assistance are composed of 867 members (42 men and 825 women). They reside in the villages throughout the Rural Community of Ngayène Sabakh.

Mr. Gaye in dynamic mode with the women

The trained groups raised 5,902,570 FCFA in savings, and gave out 6,795 loans for a total of 6,475,325 FCFA to its members.

The loans were granted without discrimination to all member applicants, with an interest rate of 10%. The payback rate is 100% for all the groups. Fines for tardiness or absence from meetings vary between 25 and 250 FCFA. Penalties for late repayment of loans are fixed at 10% of the amount due.

7.6. Assistance provided for access to markets (packaging, contracts, fairs, forums, shops)

The strategy developed by the Program to assist enterprises with market access is based on several principles:

- Promote exchanges through study tours and visits between groups and the main buyers;
- Promote the signature of contracts between buyers and groups or processing units;
- Assist enterprises to participate in regional, national, and international fairs;

- Improve the presentation of products by providing better packaging;
- Build capacity of groups and processing units in terms of hygiene and quality through initiation to the HACCP approach;
- Organize business forums with producers, investors, and the private sector;
- Walk enterprises through the process of obtaining authorizations for putting their product on the market;
- Build capacity in techniques for negotiating, calculating costs, and marketing;
- Encourage the private sector to invest at the local level;
- Support the establishment of boutiques in big market hubs;
- Organize product tasting events; and
- Assist in setting up local processing units through small grant awards.

Better presentation of products

USAID-Wula Nafaa Program assisted rural enterprises to pay more attention to product presentation, which is an innovation to position them better in a competitive and exacting marketplace.

Through support for designing and acquiring packaging, emerging processing units and leaders improved their product wrapping and packaging. The ultimate goal is to position them for widespread distribution in the market and so increase their sales and revenues. The first order received, for 236,000 packets and 60 thermo-sealers, was entirely subsidized by the Program, so that the impact on sales could be demonstrated. The beneficiary enterprises then organized other orders for 60,000 packets for baobab powder and 50,000 for fonio in 2012, benefiting from economy of scale. Labels were made to improve presentation of fisheries products, cockles and oysters. The improved presentation increased consumer demand for precooked fonio, baobab powder, and fisheries products significantly.

Contracting

During the last five years, contracts were signed between producers, networks, processing units, and buyers. For the major value chains (baobab, mbepp gum, shelled fonio), 124 contracts were signed for a total value of **113,932,485 FCFA** between producer groups and buyers.

Assistance with legal aspects of putting agricultural food products on the market

The Program facilitated obtaining legal authorization for putting products on the market (FRA codes) for five existing formal units after a process that included analysis of the products and verification of packaging compliance with Senegal regulations. The pilot enterprises that benefited from the FRA are **Thiossane fuladu** and **GIE Bafilone** in Kolda (pre-cooked fonio); **Arindor** and **Nourou Entreprise** in Tambacounda; and **GIE Baobab Fruit** in Bala (baobab powder).

Participation in agricultural fairs

The objective of the Program participating or sponsoring participation in regional, national, and international fairs was to enhance visibility of Program activities and to promote partner enterprises and their products as part of the sustainability plan.

Enterprises from the forestry, agriculture, and fisheries value chains were sponsored to participate in four annual fairs in Dakar, and three annual fairs in Kolda.

Business forum

In the context of creating business relationships between producers and clients, business forums allowed over 250 economic actors to participate in booth visits, information research, participation in informational exchanges, tasting sessions, and other activities. This was 25% more than the original target. 62 business contacts were recorded, and almost 40 partnership agreements were planned with 71 economic actors who participated in the exchanges through plenary sessions or exploratory meetings.

Assistance with setting up boutiques

In 2012, access to the market was reinforced by the Program as it assisted with setting up boutiques to distribute products in big market hubs. This made processed products more visible and easier to buy: fonio, baobab powder, cockles, dried oysters, jujube cakes, and honey. Four boutiques were targeted and supported as they developed commercial contacts between processing units and private promoters in charge of distribution in Dakar and Kaolack.

Arindor Boutique

Koba Club Boutique

Tasting events

Tasting and demonstration culinary events brought many clients to discover new products and increased revenues for enterprises.

7.7. Fisheries products

Volumes of fisheries products sold from 2009 to 2012 rose to 2,311,433 metric tons, for a value of 1,198,441,834 FCFA. Revenues from exploitation of dried oysters (yokhoss), cockles (pagne), and cobos went from **70,972,749** FCFA in 2009 to **331,274,175** FCFA in 2012. Exports of smoked *cobos,* mainly destined for the subregional market, reached **731,404,598 FCFA** from 2010 to 2012 (culmulative results) in Fatick zone.

In this sector, the number of people who have increased their revenues thanks to Program assistance is **3,230** people, of whom **2,595** or **80.34 % are women.**

Number of people and enterprises assisted who increased their revenues from fisheries products from 2009 to 2012

Year	Men	Women	Total	Number of enterprises
2009	70	670	740	25
2010	89	902	991	42
2011	385	674	1059	72
2012	91	349	440	57
TOTAL	635	2595	3,230	196

Evolution of volumes of fisheries products sold between 2009 and 2012

YEAR	COBO (Kg)	SHRIMP (Kg)	OYSTERS (Kg)	PAGNE (Kg)	TOTAL (Kg)
2009	-	-	29 746	11 737	41 483
2010	374 710	-	49 154	47 939	471 803
2011	482 335	543 160	51 677	54 591	1 131 763
2012	616 196	-	32 386	17 802	666 384
TOTAL	1 473 241	543 160	162 963	132 069	2 311 433

Evolution of internal profits earned by producers' groups for fisheries products from 2009 to 2012 (FCFA)

YEAR	COBO	SHRIMP	OYSTERS	PAGNE	TOTAL (FCFA)
2009	-	-	59,328,599	11,644,150	70,972,749
2010	-		113,932,750	47,798,900	161,731,650
2011	99,481,125	333,093,300	146,761,235	55,127,600	634,463,260
2012	201,866,975	-	106,199,000	23,208,200	331,274,175
TOTAL	301,348,100	333,093,300	426,221,584	137,778,850	1,198,441,834

Working towards quality production

In view of improving production of high quality and that respects hygiene as well as preserving the mangroves, the Program subsidized collective oven driers and trained management committees to find necessary resources for promoting use of the ovens. The consensus-based management committee will use a system for collecting fees for promoting use of the ovens by members.

In parallel with production activities, the Program sponsored the acquisition and delivery of 120,000 plastic bags through the small grants fund for cockle and oyster processing units in order to improve the appearance of the products.

Training was given to processing unit heads and to producers on hygiene and quality. Initiation to the HACCP approach helps enterprises identify risks and dangers in diagrammed steps of production and propose actions to control them so that good quality products are presented. Training was also given in sustainable oyster production (through use of garlands that eliminate the need to destroy mangrove roots) and techniques for packaging and wrapping (to improve the appearance of products).

Several production process diagrams were sketched, allowing the units to determine where along the way there are risks and critical points and to propose solutions to them. Meanwhile, the units have not yet obtained their authorization for putting product on the market (FRA) because of dubious conditions at the processing sites.

To obtain access to financing, cockle and oyster producer groups were trained in the savings and loan system EPC.

Shellfish purification stations that were initially planned for the groups were never built.

7.8. Secondary market chain products (honey, madd, jujube, palm oil, and others)

More flexible assistance was provided to producer groups in the secondary product value chains so they could diversify their revenues. In the case of jujube, Program intervention led to adding more value to jujube by making it into cakes, sponsoring training in the process. In Koussanar, the emergence of a woman trainer who specializes in production of jujube cakes, Madam Kadiatou Ndao, provided the training service to a large number of groups who paid for it.

In terms of the Dakar fair FIARA, in spite of competition from other producers in Mali and Burkina, jujube cakes from Gadafaro processing unit in Koussanar and from groups in Kouthia in Bala zone had the "star products" at the fair; they are much loved by children and are also nourishing.

Preparation of jujube cakes in Kouthia

Jujube cakes

7.9. Gender aspects of wealth creation

In the context of natural resource management

Baobab, fonio, jujube, and fisheries products are either completely or mostly exploited by women; this allows them to earn considerable revenues and to fulfill their daily needs as well as their families'. The year 2011 provides examples: out of 647 enterprises assisted by USAID-Wula Nafaa Program, **81** were women's enterprises that include a total of **2,811** women. Out of 4,237 new jobs created, **687** were for women. This is important in light of the fact that women are among the most vulnerable members of the population when it comes to accessing resources.

Activities carried out in fisheries, baobab, and rice value chains had much to do with women. 73 women's enterprises were assisted, including 23 new ones. In Kédougou, women's groups composed of **1,495 members** were assisted with accessing credit amounting to **15,858,000 FCFA**.

Women and financing

In terms of savings and loans, women's groups are the majority of applicants; they have adopted a savings and loan system for credit that led them to mobilize more than 14,000,000 FCFA in savings.

Capacity building

Women and youth made up a large proportion of capacity building beneficiaries, especially in the topics of enterprise management; governance in community-based organizations; organizational dynamics; and gaining access to credit and equipment. This capacity building has led women to be

better organized, participate more actively in meetings to give their point of view, and influence decision-making in a positive way with their sheer numbers.

Participation in the annual FIARA events in Dakar improved the visibility of their women's groups, who are in the agriculture, forestry, and fisheries market chains. The fairs also helped sharpen women's capacity for communication and developing partnerships.

The creation of added value in the fonio and baobab value chains benefited women more because of the creation and emergence of small processing units for agriculture and forest products, which are mainly led by women. This translated into more revenues for women.

8. ACCESS TO POTABLE WATER AND SANITATION FOR A BETTER STANDARD OF LIVING

8.1. General considerations and strategy for the Water and Sanitation Component

Before the unfolding of field activities, a preparatory phase of three months was spent in the Water and Sanitation Component. This phase was characterized by technical and organizational planning of activities and developing a consensus-based approach with partners. The process resulted in the recruitment of two field agents to take responsibility for monitoring the application of regulations that would assist the beneficiary populations.

A broad-scale diagnosis was launched in the target villages of the Program to gain a better understanding of the intervention zone and to establish direct contact with the populations. The themes of guided sessions and training were based on this participatory diagnosis exercise. In the forms that were filled out, discussions on "Hygiene-Water-Health" were held, which helped orient the Program to match how populations comprehended this theme.

Setting up management committees is the end goal of a large-scale social mobilization campaign like this, inciting and harmonizing community dynamics. After village assemblies were held to diagnose social and economic matters, several steps were undertaken. Each step was based on a policy of building harmony, transparency, and community engagement, with an objective of setting the stage for sustainable behavior change with regard to water, hygiene, and sanitation. Beyond this, matters of management and utilization of community infrastructures would also be addressed. It required two general assemblies per village for each one to establish a management committee in a democratic and transparent way.

Out of the group of CRs involved, 11 memorandums of understanding were signed with the Rural Councils to assure their involvement in the process. The Local Monitoring Committees are key for planning and implementation of development actions, so they were set up first. They represent the forces of life in the territory, and are the first recourse for appropriation by stakeholders of Program actions and capacity building. They are also the contracting officers for construction plans at the village level. In all, 23 Local Monitoring Committees were set up, and training in methods for supervising construction work was provided to them.

To facilitate work, relationships between interested parties were formalized through a document signed by the village chiefs and approved by the president of the rural council (PCR). The document mentions the commitments made by the beneficiaries. The commitments are discussed and common agreement is found during village assemblies where the socio-economic diagnostics are done. This step led to precise clarification of roles and responsibilities of each actor, helping the project to work more efficiently.

For the construction of facilities, an internal consultative process was used to choose entrepreneurs who would build them according to recognized standards for Tambacounda. A meeting to update the PCRs and the technical services was necessary to describe the process and amend the steps usually used. After this meeting, a request for expressions of interest was launched in the targeted CRs to select well diggers. Thus, a shortlist was obtained, and a request for bond according to the terms of reference was drawn up. The bids were sorted by a composite commission including Program staff,

the representative of the Regional Division of Hydraulics in Tambacounda, and representatives from the rural communities. The process benefited from the active participation of stakeholders, which continued throughout implementation.

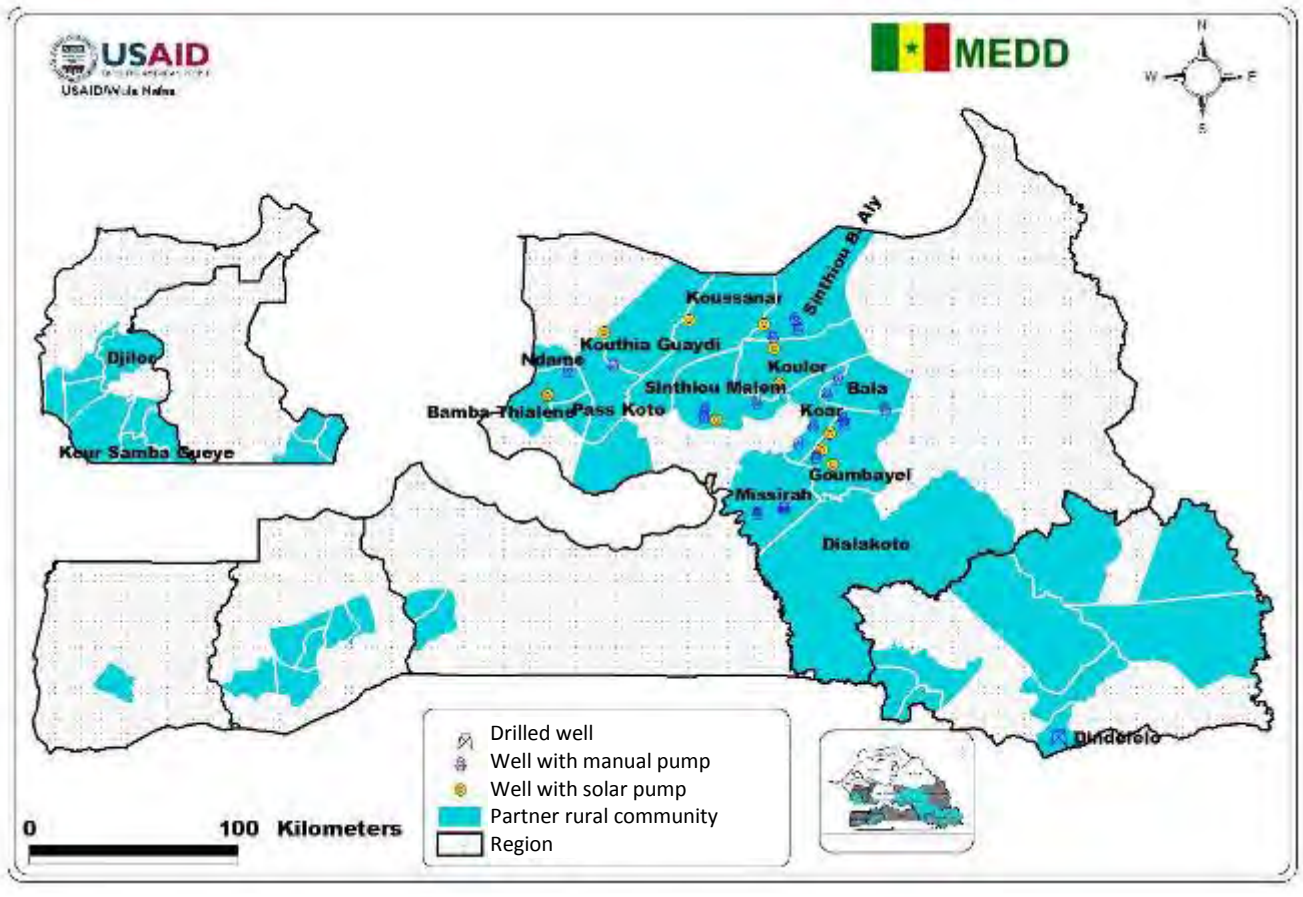
8.2. Results obtained

8.2.1. Access to potable water

The first step to establish the project succeeded through good identification, mobilization, information, and integration of the actors and target groups so they could participate actively in all phases of planning and implementation. A good base was formed for the project by initial consultations with the administrative authorities, the technical services, and the benefiting populations through exchange visits and workshops. Thus a strong participation by the populations in the process of decision-making was attained through local monitoring committees.

Eleven memorandums of understanding were signed with rural community partners; 23 village focal points (relays) were trained in the process of local development and acquired the necessary information for better sensitization of project actors. 47 people were trained in technical monitoring of construction work, and two local development animators were recruited to accompany the project when it was executed. In all, more than 1,000 people participated in the establishment of wells management committees.

30 installations were made, including 19 wells with manually-operated pumps, 10 wells with soalr pumps, and one borehole with a manual pump. The locations of the installations are shown on the map below.



Map showing sites where water structures were built by USAID-Wula Nafaa

After these activities were completed, the rural communities were involved in the planning and execution of activities through the Water and Sanitation Commission. A global vision of the water and sanitation situation was obtained along with data on the prevalence of water-borne illnesses in the villages. Populations and target groups received training of hight standards. 600 people, of whom 463 are women, were trained in PHAST/SARAR methods for permanently changing behavior in matters of water, hygiene, and sanitation.

Partnerships with other actors were developed for synergy in action. Collaboration with the U.S. Peace Corps is laudable, since it allowed the Program to train its facilitators, the community relays, and the hydraulic and hygiene technical services in the PHAST/SARAR method in Kédougou zone.

The Program also actively brought together all local actors and stakeholders in the potable water, sanitation, and hygiene sector. In this regard, it participated in several workshops organized by other projects, particularly the GWI workshop (Global Water Initiative) on advocacy for GIRE (Integrated Water Resources Management) activities. The Program has contributed ideas that reflect the need for projects and programs to work more effectively in the domain of potable water and sanitation in Tambacounda Region. It participated in several meetings and informational exchanges on water, hygiene, and sanitation, including an annual joint review of PEPAM, informational exchanges on the Directional Plan for Potable Water and Sanitation at the Tambacounda-Matam-Kédougou Regional level conducted by JICA, and exchanges with the PEPAM-BAD 2 and GWI Programs.

Improving the quality and supply of potable water for people does not necessarily mean building more wells. It is an iterative process that requires key steps to be taken as the Program accompanies the communities on-site, every day. Measures for assisting populations with social engineering were elaborated, mostly by IEC sessions, but also by equipping committees with materials for sanitation work such as shovels, wheelbarrows, rakes, gloves, and boots. Discussions were held on separating wells for domestic use from those for animal use, a point which is foremost in sensitization meetings that aim for behavior change. Program-built wells are designed to respond to this requirement, and in the internal regulation of wells management committees, the separation of animal and domestic use is explicitly addressed so as to guarantee hygiene around water sources.

The following table indicates villages, type of structure built, number of beneficiaries in theory, and the financial partner.

Wells built through USAID intervention in Wula Nafaa zones

Village	Depth (m)	Type of pump	Number of beneficiaries	Partners
Sitaoule Issac	25.80	Manual	150	USAID Wula Nafaa
Sintian Samba Couro	29.80	Manual	150	USAID Wula Nafaa
Velingara Yaya	22.40	Manual	150	USAID Wula Nafaa
Damamba	49.40	Solar	300	WADA
Sintiou Bougoute Diouf	34.80	Solar	300	WADA
Malem Hama Seydi	45.50	Manual	150	WADA
Madina 2	41.00	Manual	150	WADA
Lounthi	24.20	Manual	150	WADA
Sintiou Pathe	42.70	Solar	300	WADA
Kagnoube	32.70	Solar	300	WADA
Sabikhasse	32.00	Manual	150	WADA
Licounda Mandingue	29.80	Manual	150	WADA
Touba Fall	25.00	Solar	300	WADA
Sintiou Padah	27.20	Manual	150	USAID Wula Nafaa
Medina Diam diam	34.20	Manual	150	USAID Wula Nafaa
Velingara Guinth	63.00	Solar	300	USAID Wula Nafaa

Village	Depth (m)	Type of pump	Number of beneficiaries	Partners
Boulel	58.00	Solar	300	USAID Wula Nafaa
Sintiou Koboto	53.20	Manual	150	WADA
Ndoumane	62.30	Solar	300	WADA
Sintiou Mbalbe	43.20	Manual	150	WADA
Ndioum Demba Guille	39.40	Manual	150	WADA
Patherou	48.20	Manual	150	WADA
Troum Koupe	35.00	Manual	150	WADA
Sinthiou Diohe	41.00	Manual	150	USAID Wula Nafaa
Godioyel	27.00	Manual	150	WADA
Dara	48.70	Solar	300	USAID Wula Nafaa
Mbocka	49.00	Manual	150	WADA
Koundel	39.60	Manual	150	WADA
Sintiou Abdoulaye	36.00	Solar	300	WADA
Total			5850	

A system for monitoring was set up at the local level by means of intermediate monitoring committees established at the beginning of the process. After the Local Monitoring Committees were put in place, training was provided on-site so they could learn how to control and monitor worksites.

Each water source that was constructed had its water tested to assure that it met the required standards for drinking water to be consumed without danger to human health.

8.2.2. Access to better sanitation and hygiene

To reach this objective, enormous efforts were made to build private latrines in collaboration with U.S. Peace Corps Volunteers based in Bembou (Kédougou Region) and Ndame (Tambacounda Region). In all, 63 latrines were built in Bembou; 75 in Ndame; and 130 in Dindéfélo. Janis Carter's foundation has built three community latrines in Salémata zone to improve hygiene in this subregion.

The Program developed synergies with other projects, such as WAAME, to build community latrines in the Saloum Islands. It also worked with PEAT project (Water and Sanitation Project in Tambacounda), being carried out by Eau Vive, to gain access to a database on masons that were already trained by PEAT and to inquire about the availability of labor in the area. This exchange with Eau Vive helped the Program to refine its strategy for building community latrines, which is very problematic in the zone.

Sensitization for better hygiene and sanitation practices in the communities has advanced significantly. Various channels of communication have been used for water point management and the behavior risks related to hygiene, including five radio broadcasts, animated in concert with the Hygiene Service in Tambacounda.

Training in PHAST/SARAR was organized in Kédougou to highlight the relationship between the lack of latrines and healthy populations. Maternal and infant health are linked to access to potable water and management of human and animal excreta in villages.

Six environmental clubs were established in primary schools of Sinthiou Diaobé 2, Sinthiou Bocar Aly, Koundel, Saby Khassé, Kroumcoupé, and Médina Diakha. Teachers who serve these schools were tapped to work with the Program and sensitize on the subject in the villages and schools.

Good and bad hygiene practices are known among all of the target villages. Mobilized populations have been exemplary in carrying out activities that lead to a more healthy environment, like the weekly

gatherings to clean up the villages. 256 vulgarization sessions were held on hygiene and sanitation. A real change in behavior has already been observed in the villages: hand washing and use of bleach are more common.

Thanks to the small grants fund, the Program began two projects to build family latrines in partnership with U.S. Peace Corps volunteers. In all, 271 latrines were built in the regions of Tambacounda and Kédougou.

8.2.3. Assistance for participation by the local private sector

All activities were carried out by local enterprises who benefited from capacity building to conduct this type of work in rural environments.

One private maintenance operator was identified and put into contact with the management committees to perform maintenance and upkeep on manually-operated pumps.

8.3. Gender aspects of water and sanitation activities

The gender aspect of Program water and sanitation activities was included the involvement and participation of women in setting up Local Management Committees for water points. In the management committees, out of five posts, two to three are occupied by women. A total of 1,792 peope were trained in better access to water and sanitation, including 1,063 women.

Facilitating access to water close to the village has considerably reduced the workload of women and girls, allowing them to initiate activities that generate additional revenues for the household and to eliminate one of the social causes for young girls to leave school.

9. Cross-cutting Activities

The Program approach is based on the "Nature-Wealth-Power" paradigm, which is reflected in the implementation of its technical components. To complement these components, cross-cutting activities are carried out that contribute to transferring power, good governance, and promoting and adding value to natural resources. This is the reason for which, in addition to key components, the Program put supporting components in place: Coordination and Management, the Small Grants Fund, and Monitoring-Evaluation.

9.1. Coordination and management

9.1.1. Program management

From the point of view of technical office staff, the second phase of the Program saw an increase in the number of components from three to six. The three new components that were integrated are Governance Improvement, Water and Sanitation, and Agriculture. A new office was opened in Kaolack for the Agriculture component.

Project management personnel also changed. A new Director was recruited after the first one resigned, and experts and administrative officers were hired for the Dakar and the Kaolack teams. Even with new staff members, the volume of work was often more than the human resources that were available, and thus the pressure was on them year round. This was accentuated by the huge intervention zone of the Program, which covered seven regions as well as rural communities that were distant from each other even though they were inside the same region.

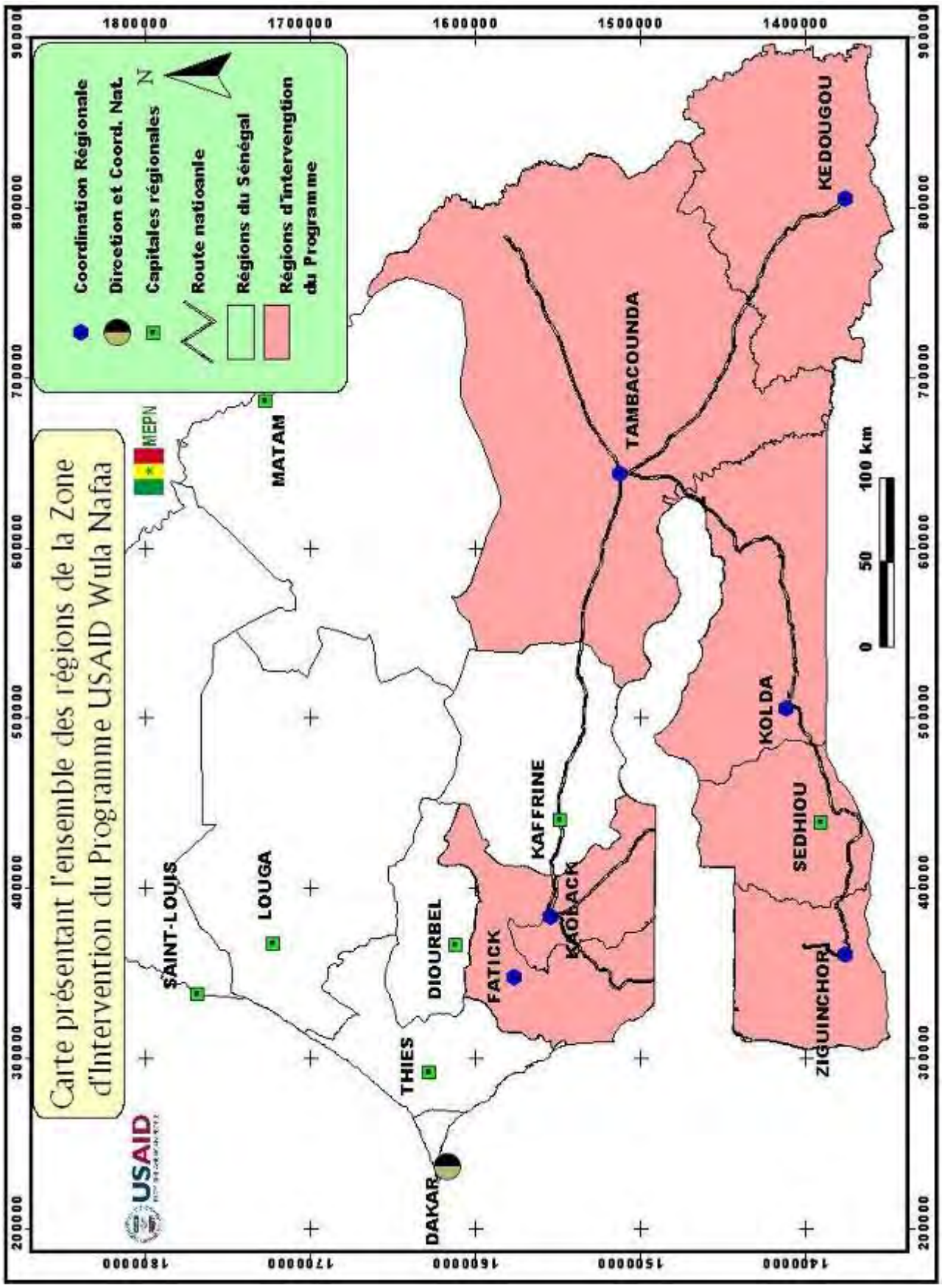
On the logistical side, new vehicles (two Prados and three 4x4s), motorcycles for facilitators, and material and equipment for the offices were purchased. Tambacounda office was barely able to accommodate the staff and did not have the amenities necessary to keep the staff in ideal conditions.

As for any institution, a manual on Administrative and Financial Management was written. It was used to set up rules for procedures regarding personnel, logistical means, and administrative and financial management.

9.1.2. Map of Program intervention zones throughout Senegal

The map showing all the regions in which the Program worked is presented on the next page.

INTERVENTION ZONES OF USAID-WULA NAFAA PROGRAM IN SENEGAL



Operational processes

The operational process used by the Program was one of the keys to its success. It is made up of **weekly meetings** that allow staff to ask questions regularly and avoid disruptions in planning. **Task Forces** were formed as needed to deal with specific issues, to treat them during special meetings with specific agendas. Sometimes, technicians or other partners are invited to collaborate and reflect on a question. **Monthly planning** brought all component heads together and at the same time the Assistant Facilitator Coordinator (ACF) was the key for reviewing the annual workplan and monitoring its execution, thus maintaining a synergy that was always part of the programming. **General assemblies** organized every year were chances to share and communicate between different parts of the technical and administrative staff. They were helpful for reaffirming fraternal and amicable relationships between staff members.

Internal and external communications documents

The **registration form** was designed to announce the initiation of an activity, either ad hoc or in the annual workplan (PTA). Once approved, the initiator prepares a request for a vehicle to execute a field mission. This tool allows the coordinator of activities to have a clear view of the program so as to negotiate vehicle availability as needed.

The **Informational Note** (NDI) is one of the most important documents to go along with planning, once the activity is approved. It describes the activity, its objectives, the place, the participants, the modes of execution, and references to the PTA. It permits the administration to prepare logistical and financial arrangements; it is sent to partners who are supposed to participate in the activity, allowing them also to participate.

Reports and meeting notes are submitted at the end of each activity to inform people about its occurrence, and especially difficulties encountered. The same goes for **minutes** and **voting sessions** or **handovers of structures**.

Quarterly and annual reports are the result of detailed preparation and specific outline, with a **reading correction committee** as needed.

The **Rolling Plan** is a document assembled every month and sent to the headquarters in Washington, DC. It links the execution of financial operations and activities developed with USAID in terms of requests for approval.

The **Bi-weekly** was conceived by the donor; a report every two weeks to retrace the highlights of the week. It is sent to USAID every 15 days, and it is a chance to share impact of Program interventions regularly with personnel.

The **selection process** for service providers is done through newspaper communiques. Sorting through bids for large work projects is done in the presence of selected service providers, and meetings are documented with **verbal transcriptions**.

Highlights of the Program's institutional life

In the context of the approach linked to the Food Initiative Feed the Future, the Program developed another approach to planning. The integration of Program components was effective, permitting the PTA to be drawn up by taking into account the synergy between all the components on the basis of Nature, Wealth, and Power. This is the basis on which monthly operational planning was initiated, using activities planned each month in the workplan. Instead of weekly meetings, thematic meetings were instigated whenever needed, in order to cover topics in a deeper, more cohesive way.

In 2012, the Program recorded departures linked to the end of contracts that were not renewed, either by request from the employee or the employer; more of these occurred in the previous quarter. Also, as of this quarter, the Direction has already begun applying the strategy of disengagement in terms of staff as the end of the Program approaches. Thus, the Tambacounda office was closed, and the rest of

the personnel were redeployed to Kaolack, except for the Monitoring and Evaluation head and the Communications head who were sent to the Dakar office.

The integration of the Agriculture Component was challenging, especially in terms of logistical coordination, because it was based in Kaolack. Adjustments were made with the institution of monthly planning in Tambacounda attended by all component heads.

Unsurprisingly, there were challenges in coordination between the Lead Contractor and CLUSA as the major subcontractor, especially in matters of salary for facilitators who received salaries below the level of Program drivers. Management of facilitators was often a source of management issues between the two institutions; it often seemed as if there was a Program contained within the Program.

The system for successful Program management was based on good planning of activities, integrating periodic meetings to coordinate activities, and holding thematic meetings on strategic topics. Another key to success was the approach based on using facilitators in the field. The facilitators contributed everything to the success of the Program. In summary, the team spirit that was infused in the staff was a catalyst for the high-level performance that is reflected in the results. A good team spirit prevailed, favoring personal advances and taking on responsibility.

Associations, GIE, and small consultancy offices that have been put together including staff members will be able to perpetuate the approach developed by the Program in new projects.

9.1.3. Partnerships

With local collectivities

All the partnerships developed with the rural communities could be considered successes, aside from two where the president of the CR showed animosity towards the Program. In one (Sabodala), collaboration was stopped, and in the other (Dialacoto), the Program played the division in the rural council in order to be able to assist the populations to succeed in their activities. The major constraint is that the CRs are not endowed with human, material, and financial means that match their missions. Also, the literacy rate of counselors is low almost everywhere. Thus, for programs to succeed fully in their activities, it is vital to set up capacity building in good governance while developing long-term activities or creating conditions for sustainability from the day they start.

The fundamental constraint in good governance of activities lies in the structural level of the CRs, where most of the counselors are ignorant of the laws and texts on decentralization, and as a consequence, do not understand their roles and responsibilities. The councils' lack of means and the fact that their technical commissions do not function also did not facilitate implementing Program activities.

Another difficulty or blockage was noted in the coordination and communication between actors who intervene directly or indirectly in natural resource management. Some of the presidents of the CRs show distrust of development, putting their personal interests before others' in the planning process. There was little participation and citizen control over actions in the local collectivities, including drawing up a budget and implementing it (participatory budget), planning activities, and evaluation of the quality of services offered by providers (including the local collectivity).

With assistance from the Governance Improvement Component, the Program contributed to making rural communities less passive entities, but rather active bodies that can work for a more democratic and more decentralized society so that decision making is transparent and there is equitable sharing of resources. However, it must be recognized that the process to get there is very long.

In contrast with the first phase, the selection of CR partners in the second phase was based on fulfilling conditions. This allowed the process to go faster as activities were carried out, thanks to leadership shown by some of the presidents of the CR who also believe in development of their territory and apply themselves to it.

In sum, to make development activities succeed in the CR, the cornerstone of the activities must be development of good governance in terms of organization of stakeholders to assure sustainability, communication to make all actors into participants, and building capacity for success.

Strengthening partner institutions (ARD, technical services, CR, ANCAR, DRDR, etc.)

For Projects and Programs, partnerships are often not possible unless managers of the structures believe in them and common interests between partners are well defined from the beginning. This is often a sincere wish that never materializes. This was the sometimes the case for the Program, which nonetheless tried several forms of collaboration but still could not reach results as high as its expectations.

Collaboration was very good with the DRDR, the Forest Service, the Hydraulic Service, the CRs, and ANCAR, as the protocols with these structures could be implemented at a high success rate. The Program also contributed to construction of physical settings and helping local government structures to finance their interventions. This reflects the lack of means that local government has as it attempts to go through decentralization.

Taking external agents under the Program's wing was often an obstacle to carrying out activities, for if the per diem rates were set out in the work agreements, some of the agents (particularly the Forest Service) would not accept the terms. This situation poses a debate on whether the mission of the technical services merits this, especially when they are instructed to collaborate with Projects and Programs.

The role expected of the technical services as they work with rural communities is not fulfilled most of the time, either by lack of means or especially by misunderstanding of decentralization issues, or simply because per diem is not paid or judged too low. There have been situations in which Program activities were purely and simply blocked without any objective reason being given (for example, the test case for sawtimber harvest in Saré Bidji's managed forest), but rather in a calculated manner with unending required paperwork. In another case, for the study on PAF implementation, the Forest Service Director could not be bothered to participate. It was necessary to change the team so that the new Director would accept to organize a presentation of results, which made up a large part of the official decree that organized the forest campaign in progress.

It is necessary to review at the central level how to make the technical services play the role expected of them in the context of decentralization by giving them the appropriate means to do so. The reflection must go further to review the curricula offered in training schools.

In some situations, it was found that reticence occurred at the level of the Sub-prefects, some of whom delayed signature of Program-sponsored deliberations. At this level, the CADL also have the role of supporting the CRs in their development activities; they also lack personnel and often the agents on site make per diem a condition of their participation.

With the ARDs, collaboration was enriching with Kolda, Tambacounda, and Kédougou offices in terms of accompanying the Program in the implementation of selected activities. However, institutional strengthening planned by the Program could not take place, because the appropriate agents could not be located after several tries. It was also part of the plan that trained ARD would be placed in positions in the institution that would provide the appropriate assistance for all the local collectivities in the Program work zones through better planning, coordination, and harmonization of interventions and initiatives in local development. It is only in Tambacounda, with the Boundou Reserve, that this approach was actually implemented.

University institutional capacities

Participatory management tools for natural resources that were designed by the Program were presented to universities and training schools in Senegal. The Program team went to the Agroforestry Department of the University of Ziguinchor, the Training Center for Forest Service Technicians in

Ziguinchor, the National Higher School of Agriculture in Thiès, the Higher Level Institute for Agriculture and Rural Training (ISFAR) in Bambey, and the Forestry Center in Thiès.

9.2. Facilitator management

USAID-Wula Nafaa Program intervention is fundamentally based on assistance provided close to where it is needed to benefit the clients, and comes with an exit strategy. This nearby assistance depends on facilitators who are in charge of applying all the programs and activities on the ground. In light of the specific and complex mission they fulfill, and especially the diversity of their requirements, the Program set up a mechanism to coordinate the facilitators to maximize the efficiency of their interventions.

Management of facilitator placement – The management of the facilitator placement was guided by efficiency and efficacy. Among other activities, evaluation and renewal of contracts for them as well as redeployments were part of the mechanism used from 2010 to 2012.

Facilitator training – A program for building capacity of facilitators was pursued for new topics as the indicators evolved. Thus, several training themes were developed for them, including those meant to build their personal skills that would let them play their roles more effectively. This includes improving their capacity for organization, facilitation, and familiarization with techniques and technologies that they would eventually teach to the populations as part of their workplan.

Monitoring and management of facilitators - A system for monitoring and coordination of facilitators was put in place to improve their performance and thus help to meet targeted objectives. To do the monitoring, supervision, and management, the Coordinator has a field support network made up of assistant facilitator coordinators (ACF) with whom he or she works in close collaboration. In addition to this mechanism, monitoring visits or missions are used often. Added on to these are assessment meetings and planning meetings in the coordination units, as well as the **weekly individual planning meetings** for facilitators with assistance from the ACF, and the use of detailed reporting forms. This makes up the third important element for monitoring and supervision of facilitators in the field. All of these undertakings are testimony to the collaborative efforts made to improve facilitator management.

Thus, the activities of the Assistant Facilitator Coordinators, Supervisors, and Facilitator Coordinator revolve around monitoring, during which technical assistance and recommendations were made; thus, technical and logistical difficulties were noted, and solutions were diligently found as quickly as possible by the Program.

- **Visits and missions to monitor facilitators** – During the whole process, periodic visits were made to monitor and supervise facilitators in all the zones, either by the Supervisor or the ACF**.** In this context, particular attention was paid to zones where the Facilitator had just been installed. Each mission was the subject of a report shared with the Direction and the technical staff of the Program.
- **Meetings to assess work and to plan facilitator coordination activities -** These meetings were organized with a double objective: first, they permitted the facilitators in each coordination zone to meet all together (under the leadership of the ACF) to assess activities carried out and to plan new ones; second, they strengthened the team spirit and teamwork between facilitators. The meetings were held every two months at the beginning, and then every month starting in 2010, as requested by the direction, in order to link the meetings with the production of quarterly reports for the Program. In the same vein, the outline and content of the meetings were revised several times to better adapt them to information needs of the Program.
- **Rotating meetings (quarterly exchanges) for ACF -** The main motivation for taking this initiative was to contribute to building capacity of ACFs and to further improve

communication between the field and office staff. They were only applied twice before they were stopped, in Kédougou and Ziguinchor.

- **Staff meetings to analyze and give feedback on ACF reports -** This tool was introduced on the basis of lessons learned from previous experiences. Its objective was to incite reactions from staff on field activities, to give new direction to activities if needed, and to provide the coordination with key points that must be followed as field planning is implemented but also to find solutions to problems on the administrative and logistical level as expressed by facilitators. It was also a question of keeping office staff informed regularly of activities that were carried out in the field.

Distribution of facilitators by coordination area and by year

	Number of facilitators					
Coordination Units	2008	2009	2010	2011	2012	2013
Tamba	8	8	12	11	4	4
Kolda/Sédhiou	5	5	8	5	0	0
Kédougou	6	6	6	5	3	0
Ziguinchor	4	4	4	1	0	0
Kaolack	12	12	4	9	4	4
Fatick			5		5	5
Total	35	35	39	31	16	13

Distribution of facilitators by specialty and by year

	Number of facilitators					
Coordination Units	2008	2009	2010	2011	2012	2013
Generalists	35	27	27	15	3	3
Agriculture	0	12	12	16	13	10
Total	35	39	39	31	16	13

9.3. Small Grants Fund and LASF

9.3.1. Program strategy in terms of small grants and LASF

USAID-Wula Nafaa's fund to support local agriculture (LASF) was put in place to sustain direct investment in field activities through sub-contracts, consultant services, and purchase orders. The fund, with a value of 2.3 million dollars, was a flexible mechanism for action when opportunities arose during value chain analyses and interactions with producers, as well as support for agricultural activities: improved productivity and production, construction or rehabilitation of irrigation infrastructures, as well as linking agricultural producers with input markets.

The Program also has a small grants fund available for completing other activities such as training, technical assistance, equipment purchases, consultants, and other expenses that help to achieve Program targets. This fund, a total of 1,100,000 dollars, is a flexible tool that contributes to execution

of activities in the Program plan. The awarding of grants is not an objective in itself; it is rather a mechanism for collaborating with partners in the facilitation and stimulation of enterprise development, and can be used to promote sustainable and improved management of natural resources (NRM) in target zones.

9.3.2. Results

The Local Agriculture Support Fund of USAID-Wula Nafaa (LSF) and Small Grants Fund helped the Program invest in irrigation projects and NRM, such as the design and construction of water management structures to increase productivity and production. The two funds combined enabled generation of revenues for small enterprises and rural producer groups as they increased their activities and sustainable, profitable, decentralized utilization of their natural resource base.

Building capacity of fishermen in the Casamance: USAID-Wula Nafaa helped build capacity in the Casamance fishery of Senegal. Through a small grant fund and IDEE Casamance, Senegalese fisheries actors and civil society were informed of the best fisheries practices for Casamance Region. The project organized radio broadcasts in the community to inform, sensitize, and educate the public on the risks for overexploitation, as well as the monitoring and evaluation of the fishing industry in Goudomp zone.

Community radio project in Salémata: This radio station helped the community to access information on economic, cultural, social, and policy issues. In addition, the educational program helped the community to respond to various needs in matters of health, agriculture, livestock, and education. It also helped to carry out sensitization actions on environmental management, decentralization, and good governance; prevention of conflicts; and preservation of cultural diversity.

Support for groups and private promoters in the acquisition of agricultural equipment: The Program worked with agricultural producer networks, private promoters, and financial institutions to obtain credit for purchasing agricultural equipment for the next agricultural season. This equipment includes three rice hullers; five rice threshers; seven maize shellers; small material in the gardeners' kit; rippers; and four tractors equipped with offset disks, plus transport for their delivery.

9.4. Monitoring, Evaluation, Reporting, and Analysis (MERA)

9.4.1. The monitoring-evaluation system

In the contract signed between USAID and IRG, it was stipulated that Wula Nafaa should submit a Performance Monitoring Plan (PMP) three months after the beginning of activities. A first manual was developed to serve as a guide and reference for all Program actors involved in Monitoring-Evaluation (M-E) activities: management unit, agents, facilitators, technical and development partners, target populations, etc.

The M-E manual for USAID-Wula Nafaa Program contains five sections: (1) the list of acronyms and a lexicon of words used in Program activities; (2) an introduction that provides the basic content of the manual; (3) the presentation of indicators for the Program and organized in a summary table; (4) information on numerical targets each year for each indicator; and (5) informational sheets for each indicator.

Each informational sheet is composed of a series of data that are the label of the indicator, hierarchical level and origin, type of indicator, definition, pertinent information, unit of measure, sources of data, method to collect data, periodicity of collection, means of collection, reference value, person responsible for collection, actions to be taken to assure quality control, and means of control and verification of data. The informational sheets are accompanied by model data collection sheets designed to be used by the agents responsible for collection.

The Program had 25 indicators at its beginning. In 2009, with the arrival of Agriculture and Water-Sanitation components, the number went up to 51. With the definition of the Feed the Future strategy, and after many negotiations with USAID, the number of indicators was brought down to 43, which led to a revision of the manual in March 2011.

The overall strategy for collecting and verifying data was established as follows: For each value chain, each producer group has a receipt book filled in by a member of the group. The facilitator verifies every month that data are put into the correct place. At the end of the exploitation season, the facilitator fills in a data collection form that he/she submits to his/her Assistant Coordinator, who then sends the document to the MERA unit. The head of this unit asks each component head to verify the data and to return the forms to enter into the computer. The component heads validate the data that have been entered. After this, the data are analyzed and reports are produced.

In terms of the calendar for data collection, it was established as follows: For activities (training, occasional assistance, etc.) the collection of data for which is done each month, the facilitator fills in the indicator form just after the activity is complete, and drops it off no later than the fifth of the month with the Assistant Coordinator. Copies of the roll sheet and report are annexed to the form. For the market chains where marketing of products is done all year, the season is defined as being between September 1 and August 31. For all other activities, the person responsible for collecting the data makes sure the form is filled out as soon as data become available.

During the entire length of the Program, the M-E system has given promising results, which means that the verification the missions conducted by USAID often went very well, with very few recommendations for changes.

However, some dysfunction was noted with monitoring of activities linked to a lack of personnel in the MERA unit. Effectively, only one person took care of all the M-E activities, so field missions were not very frequent.

An everyday challenge for the MERA unit was to maintain records for collecting data from clients. Even though they were sensitized in the collection of data and maintenance of the tools, the producer group officers gave little importance to this activity. This situation is due to the rural environment with a high level of illiteracy. To alleviate this problem, the facilitators were asked to teach them as best as they could and to help them to find someone in the village that could use the tools; the forms could even be filled out in local language or Arabic. It is also necessary to be aware of the socio-economic context of Program intervention zones. The population is quite reticent to give true data, especially when it comes to their revenues. This is in spite of the confidential relationship established with facilitators. **These situations could be avoided if the Program took the time to report data collected back to the populations, as it did to USAID**.

After the elaboration of the PMP and its approval by USAID, the facilitators, who are the main users of the manual, were trained in maintaining data collection tools. Between 2008 and 2011, several training sessions and refresher courses were organized. These sessions had these objectives:

- Train facilitators in M-E;
- Present the importance of MERA and discuss roles and responsibilities in the WN system;
- Present the process of setting up and implementing the M-E system;
- Identify the data to be collected in order to satisfy Program needs;
- Standardize comprehension and utilization of the different methods for collecting data;
- Assure that forms for data collection are filled in soon and carefully;
- Assure centralization of the filled-in forms at the time they are needed.

The end results of all these activities were to:

- Fully implicate facilitators in the M-E process for WN;
- Assure that WN's MERA system is participatory;
- Respond to internal informational needs of the Program;
- Satisfy external informational needs of USAID;
- Document and capitalize on Program experiences.

The quarterly and annual reports that were submitted to USAID show that there were encouraging results towards reaching the objectives. In what measure does the published information reflect reality? What is the degree of confidence in these data? What are the strengths and weaknesses of the data? To find an answer to these questions, a mission was sent from USAID to do in-depth assessments every year. A selected number of indicators were considered separately and evaluated in terms of quality of the data as a function of their ***validity*** (do the data sufficiently represent performance?), ***correctness*** (was data collection stable and consistent in time and space?), ***timeliness*** (are the data collected frequently and are they up to date?), and ***integrity*** (are the data untouched, protected from manipulation?).

The USAID method to verify data consists of holding an informational meeting with USAID-Wula Nafaa Program's team to speak of objectives and expectations of the mission. Then the evaluation team works separately to select producers and producer groups for sampling, and identifies the itinerary and dates for visits. The Program provides a list of producers and their groups to make the selection. After choosing sites and producers to visit, the mission goes in the field, accompanied by the ACF and the appropriate facilitator, to compare data contained in the reports with those on the indicator forms, in the record books, and in group notebooks. Upon returning to the Program offices, the evaluation team meets Program staff to give it their first impressions.

Between 2008 and 2012, WN received four verification missions and one audit mission with the objective of determining whether USAID-Senegal's Program for Economic Growth had reached its main goal, to stimulate economic growth by enabling an environment to create wealth, thanks to better management of natural resources in Senegal. After the audit, WN indicators were revised to make them better match the definitions of contractual results for the Program. This exercise was carried out with help from all the technical officers of the Program; in the end it led to simply revising the terminology of some of the indicators and making small changes that did not impact results reported before and after the modifications. Following these changes, the M-E manual for the Program was updated as well as some of the data collection sheets.

Outside these external monitoring missions, a data verification field mission was carried out at least once per year by the M-E head. These verification missions had the following objectives:

- Verification of use of data collection forms and storage of MERA data;
- Verification of the application of the system set up for data collection that was taught to facilitators;
- Holding a meeting to summarize and discuss results and findings with facilitators and the ACF.

9.4.2. Analysis of performance

Out of the 43 USAID-Wula Nafaa indicators, 32 (74% of them) were not completed to the 100% level. See Appendix 2 for details.

For the Agriculture Component, 12 indicators out of 15 surpassed the targets set. Much effort was spent on implementing conservation farming and managing lowlands and the garden perimeters.

Thanks to these actions, the areas farmed and yields increased. This in turn inspired the populations to greatly appreciate the Program.

However, it must be said that the managed sites took much time to materialize. Also, after a reduction in the budget, studies were done in lowlands that were never developed. And lastly, during Program design, the agricultural calendar was not considered, and thus only three growing seasons were entered into the results instead of five. Different results could have been achieved if the Program had the time to see these efforts through.

In the Biodiversity and Sustainable Natural Resource Management domain, only four out of seven indicators were completed. This is explained by the fact that forest management sites are long-term propositions that need many years. In addition, these activities are carried out in collaboration with the technical services, which sometimes causes delays in their execution. NRM activities were ended early, on September 30, 2012, following budget cuts.

For Governance Improvement, three out of four indicators were completed. Recall that good governance is a cross-cutting activity that underpinned all the achievements. Results obtained could have surpassed the targets if the Program had not finally stopped writing new PAFs, in view of numerous restrictions imposed by the Forest Service.

In terms of Policy and Communications, all the targets were reached thanks to the signature of protocols with the Rural Councils, the publication of Success Stories and articles in newspapers, and collaboration with national and community radio stations.

In view of results obtained in the Wealth Creation Component, we can truly say that the Program has reached its objective of contributing to a reduction in poverty. Out of 12 indicators assigned to Wealth Creation, nine were completed. Much effort was put into marketing agricultural, fisheries, and forestry products, which translates into increased profits for the value chains. Thus, **35,463 people** increased their economic profits, for a value of **41,076,660 US Dollars**. Nonetheless, with the coming of the new Feed the Future strategy in the second phase, Program intervention zones were reduced and many value chains were dropped, which explains the poor results for certain indicators.

Results obtained by the Program are generally satisfactory. Nonetheless, donors should be aware of certain realities in the field at the time that results and targets are designed:

- Certain indicators and targets are very difficult to reach because the enabling conditions that underpin them take much time and/or require external collaboration, factors which cause delays.
- Another important consideration is the timing of activities in the context of the agricultural calendar. For example, the Program is ending in the middle of the crop growing season, and therefore data from the final year of operation will not be integrated into the results.

9.5. Participant Training Program

9.5.1. Background

In the contract signed between USAID and IRG, it was stipulated that as a tool to achieve longer-term contract objectives, Wula Nafaa should manage a limited participant training program for individuals from key partner institutions for long-term training programs at accredited universities or institutes of higher learning to strengthen institutional long-term capacity.

The Program, in collaboration with the Ministry of Environment, conducted a recruitment process to solicit and select candidates capable of pursuing Master's degree programs at a U.S. university, advanced degree programs, at a national or regionally recognized institution, as well as specific short term training programs.

Although USAID had initially thought that such training could be offered to personnel in various ministries or even private enterprises with which the Program worked, it was mutually decided to target the Ministry of Environment for the Participant Training Program, given that this is the official partner for the Program, and the long standing relationship of USAID with the Ministry.

Members of the committee to evaluate applicants included USAID Senegal, the Ministry of Environment, and IRG technical staff. The selection process was guided by criteria that were mutually agreed upon, such as current skills, actual level of education, recommendations, potential to contribute to Senegal's management of natural resources, and ability to complete advanced studies including English language capabilities.

After a thorough selection process, 6 personnel of the Ministry of Environment were chosen for the graduate and advanced training, 3 for Master's degree programs in the U.S., and 3 for advanced studies leading to an 'forest engineering' degree at the Rural Polytechnic Institute for Training and Applied Research IPR/IFRA Katibougou, Mali: https://www.msu.edu/user/staatz/university_of_mali/documents/pesentationipr.prn.pdf.

Getting 3 candidates admitted to a suitable U.S. master's degree program turned out to be a difficult challenge. They needed 6 months of English training in Dakar to be able to pass the language tests, and also to be able to take and receive acceptable scores on the Graduate Record Exam, which is given in English.

The Program engaged the services of a U.S. professional educator who was living in Dakar to assist them with the testing and application process. The Program also engaged a consultant, a former USAID Senegal employee who had been in charge of training programs, to help with the student visa application process and language lessons. The visa application process is complicated; the requirements are strict, and the whole process can easily become derailed if particular approvals and documentation are not achieved and presented at the right time.

The Program did not have a relationship with any particular U.S. university; this nearly resulted in the cancellation of this part of the contract. Three universities with appropriate graduate programs were targeted for the students' applications: University of Maryland, Michigan State University, and Virginia Tech. However, due to the challenges of taking the GRE, none of the schools accepted the candidates initially. Fortunately for the Program, there has been a long relationship between USAID Senegal and Virginia Tech and currently a project, Education Research in Agriculture, is being implemented by the Office of International Research and Development (OIRD) at Virginia Tech. The Deputy Director of OIRD was able to work with 3 departments at Virginia Tech to get their applications considered, and eventually accepted by the Graduate School.

9.5.2. Results of training program

The 3 Master's Degree students at Virginia Tech

Mamadou Daha KANE, Virginia Tech Department of Fish and Wildlife Conservation under the guidance of Dr. Marcella J. Kelly:

Mamadou has been conducting extensive field research in Senegal's Niokolo Koba National Park on four species of large carnivores: lions, leopards, African wild dogs, and spotted hyenas. Although Program support for his studies ended in June 2013, he has received an assistantship from his department and will return to Virginia Tech in August to complete his thesis. He will receive his degree in May 2014. His research has been of such high caliber that he is under serious consideration for a Ph.D. in wildlife management.

Adja Adama DIAW, Master's Degree, May 2013, Virginia Tech School of Public and International Affairs:

Her thesis is entitled "Planning for Sustainable Development in Senegal." Adja's research focused on understanding the complex institutional, legal, and political aspects of sustainable development planning in Senegal and identified options to advance the national planning framework to promote more sustainable forms of development. She studied under the guidance of Dr. Ralph P. Hall.

Yakhya Aicha DIAGNE, Master's Degree, May 2013, Virginia Tech Department of Geography:

Her thesis is entitled, "Agricultural practices and perceptions of climate change in Keur Samba Guéye village, Senegal, West Africa". She studied under the guidance of Dr. Lisa M Kennedy.

The 3 Forestry Engineering students at IPR/IFRA Katibougou will all receive a "Diplôme d'Ingénieur de Conception (BAC +5, Engineering Design Diploma) from the Forest Service. They are scheduled to defend their thesis, or 'Memoire de Fin d'Etudes', in December 2013. Their thesis topics are as follows:

- Mamadou GAYE, "Elaboration du plan d'Aménagement participative de la Forêt communautaire de Médina Salam DINGHA, Communauté Rurale de Fafacourou, Région de Kolda (Production of a participatory management plan in the Community Forest of Médina Salam Dingha, Fafacourou Rural Community, Kolda Region)", working with the PROGEDE 2 project.
- Malick JOHN, "Stratégies de mise en Œuvre de l'Initiative de la Grande Muraille Verte pour le Développement local durable, CRs de Labgar, Téssékéré, Keur Momar Sarr et Syer (Strategies to implement the Green Belt Initiative for sustainable local development in the CRs of Labgar, Téssékéré, Keur Momar Sarr, and Syer) ", working with the project Grande Muraille Verte.
- Dairou DIALLO, "Séquestration du carbone dans les Plantations de Jatropha curcas en zone semi-aride du Sénégal (Carbon sequestration in the Jatropha curcas plantations in semi-arid zones of Senegal)", working with the Ecole Nationale Supérieure d'Agriculture, ENSA Thiès.

Other Participant Training Support:

Amar FALL, Training Session in Ouagadougou: "Elaboration, mise en œuvre et suivi-evaluation des plans de gestion des aires protégées", training provided by IFIP-Afrique, UICN, PAPACO, Fonds français pour l'Environnement Mondial, January 2010

Cherif DJITTE, Training Session in Ouagadou: "Gestion des interfaces aires protégées-périphéries", training provided by IFIP-Afrique, UICN, PAPCO, Fonds français pour l'Environnement Mondial, March 2010

Ibrihima GUEYE, 3 Training Sessions in Ouagadougou: "Gestion des Interfaces aires protégées-périphéries", "Systèmes d'informations Géographiques appliqués à la gestion des aires protégées", "Gestion participative des aires protégées et enjeux sociaux", IFIP-Afrique, UICN, PAPCO, French Global Environmental Fund, March-April 2010

Abdou Aziz Sy NDIAYE, conservator of the Parc Nationale des Iles du Saloum: support to complete and present his Master's Thesis on Research and Analysis of Populations and Wildlife Habitat at the Institute du Développement Rural IDR, de Bobo Dioulasso, Burkina Faso, May 2011

9.5.3. Recommendations concerning participant training programs

The participant training program for the Wula Nafaa project was successful and will provide long term benefits to Senegal and also to USAID. Experience from the Senegal Reforestation Project, the Community-Based Natural Resources Management Project, and the initial Wula Nafaa project has conclusively demonstrated the benefits of participant training, especially training at U.S. institutions. Many key GOS personnel now in positions of influence have benefited from such training.

It is, however, a great burden on a field-oriented project to conduct such a participant training program because administering foreign student training in the U.S has become such a specialized activity. The U.S. visa/security requirements alone are extremely burdensome. The admission requirements for U.S. universities are stringent and difficult for candidates educated in French in universities in the Region. Fortunately for the Program, there is a long relationship between USAID Senegal and Virginia Tech and a current project, Education Research in Agriculture, is being implemented by Virginia Tech.

Therefore, it is strongly recommended that any future USAID projects that include such participant training goals be funded at a level that permits the implementing partner to engage a subcontract with a selected U.S. university, the object of the contract would be to enroll and graduate a certain number of graduate students in specified disciplines. Project field staff is useful to participate in recruitment and evaluation of candidates, but the admissions and administrative processes are best left to the university in charge of the students.

APPENDIX I: TARGETED RESULTS

In 2008, the Program had 31 indicators and four components as it began the second phase. In 2009, the Agriculture and Potable Water and Sanitation components were added, which brought the number of components to six and the number of indicators to 51. With the coming of the Feed the Future strategy and following recommendations of the USAID audit, which wanted to review performance indicators, the list was changed as some indicators were eliminated and others were added to take USAID's new strategy into consideration. In the end, 43 indicators were kept, of which 17 are standard and 26 are considered additional.

COMPONENT	REFERENCE NUMBER	TYPE OF INDICATOR	DESCRIPTION
Wealth Creation	I.01	Standard	Number of people who increase their economic profits because of sustainable management and conservation of natural resources
Wealth Creation	I.02	Additional	Total value of sales
Agriculture	I.03	Additional	Increase in the quantities produced by enterprises assisted by the Program, broken down by value chain
Governance Improvement	I.04	Standard	Number of local governments that receive assistance from the U.S. Government to increase their sources of annual revenues
Biodiversity and Sustainable NRM	I.05	Standard	Number of hectares under improved natural resource management
Water and Sanitation	I.06	Standard	Number of people in target zones with access to improved potable water supply thanks to US Government assistance
Water and Sanitation	I.07	Standard	Number of people in target zones with access to improved sanitation facilities
Policy and Communications	I.08	Standard	Number of policies, laws, protocols, or agreements with a goal of promoting natural resources and their conservation that are implemented because of U.S. Government support
Wealth Creation	I.09	Additional	Number of enterprises receiving USAID assistance to improve their management practices
Wealth Creation	I.10	Standard	Change in percentage value of products purchased from small producers thanks to U.S. Government assistance
Wealth Creation	I.11	Additional	Increase in the export value of natural resources, non-traditional agriculture, and marine fisheries products from sustainable sources
Agriculture	I.12	Additional	Number of hectares affected by new or improved water management systems
Agriculture	I.13	Additional	Number of small households benefiting from new or improved water management systems
Agriculture	I.14	Additional	Number of small households increasing their production of key agricultural crops or animal products
Agriculture	I.15	Additional	Number of rural households benefiting directly from U.S. Government assistance

COMPONENT	REFERENCE NUMBER	TYPE OF INDICATOR	DESCRIPTION
Governance Improvement	I.16	Standard	Number of external systems supported by the U.S. Government that supervise the utilization of public resources
Biodiversity and Sustainable NRM	I.17	Standard	Number of hectares in biologically significant areas benefiting from improved management
Biodiversity and Sustainable NRM	I.18	Standard	Number of additional hectares managed using improved techniques or practices
Biodiversity and Sustainable NRM	I.19	Additional	Number of hectares with a forest management fund administered by local government
Wealth Creation	I.20	Standard	Number of private enterprises, producers' organizations, water users' associations, commerce associations, and community-based organizations receiving USAID assistance
Wealth Creation	I.21	Additional	Number of members in producers' organizations and community-based organizations receiving USAID assistance
Wealth Creation	I.22	Additional	Number of full-time jobs created
Wealth Creation	I.23	Standard	Number of women's organizations/associations assisted
Wealth Creation	I.24	Standard	Number of agricultural sites benefiting directly from USAID intervention
Agriculture	I.25	Additional	Number of new water systems put in place
Agriculture	I.26	Additional	Number of existing water management systems improved or extended
Agriculture	I.27	Additional	Number of new technologies or management practices made available to beneficiaries thanks to U.S. Government assistance
Agriculture	I.28	Additional	Number of private enterprises, producer organizations, water users' associations, commerce associations, and community-based organizations that have applied new technologies or practices, thanks to assistance from the U.S. Government
Agriculture	I.29	Additional	Number of producers and others who have applied new technologies or management practices, thanks to U.S. Government assistance
Governance Improvement	I.30	Standard	Number of processes supported by the U.S. Government that allow citizens to participate in local government activities
Biodiversity and Sustainable Natural Resource Management	I.31	Additional	Number of hectares covered by local resource guards who monitor implementation of management plans and local conventions
Policy and Communications	I.32	Additional	Number of educational and informational publications, bulletins, or communiqués on policy reforms
Wealth Creation	I.33	Additional	Value of credit granted to rural people to develop agricultural activities
Wealth Creation	I.34	Additional	Number of small and medium enterprises assisted with gaining access to financial institutions
Agriculture	I.35	Additional	Number of small producers trained in respecting established production standards

COMPONENT	REFERENCE NUMBER	TYPE OF INDICATOR	DESCRIPTION
Agriculture	I.36	Additional	Number of associations of producers trained in established production standards
Agriculture	I.37	Additional	Number of small producers receiving training in new technologies
Agriculture	I.38	Additional	Number of producers' associations receiving training in new technologies
Agriculture	I.39	Additional	Number of CRs and community-based organizations receiving information on policy issues and their implications at the local level (including agencies and technical services)
Governance Improvement	I.40	Standard	Number of individuals trained in strengthening local governance and/or decentralization
Biodiversity and Sustainable NRM	I.41	Standard	Number of individuals who benefit from short training in productivity in the agriculture sector
Biodiversity and Sustainable NRM	I.42	Standard	Number of people who benefit from training in NRM and/or biodiversity conservation
Policy and Communications	I.43	Additional	Number of public educational and informational events organized

APPENDIX 2: TABLE OF PROGRESS ACHIEVED

Indicator	Base value	Targets 2008-2012	Progress achieved					Progress achieved - five years	Difference (%)	Observations
			2008-09	2009-10	2010-11	2011-12	2012-13			
Agriculture										
Increase in the quantities produced by enterprises assisted by the Program, broken down by value chain (I03)	0	CF: 13,800	NA	1,284.09	6,969.56	43,348.37	0	51,602.03	273.93	Much effort was spent to implement CF so that the populations would adopt it. Yields definitely went up thanks to CF.
		Rice: 5,100		0	365.653	922.246	2,608.29	3,896.189	-23.60	The Program invested much in lowland management. However, results are just coming in, just as the Program is ending. Also, following budget reductions, studies on some lowlands were completed but no management took place.
		Gardens: 4,800		272.623	888.311	1,063.14	1,157.83	3381.895	-29.54	The Program invested much in garden perimeter management; however, promising results are just coming in, while the Program is ending.
Number of hectares affected by new or improved water management systems (I12)	0	3,560	0	1,180	5,046	1,871	0	8,097.000	127.44	Much effort was spent on implementing CF, so the technique was adopted by the producers.
Number of small households benefiting from new or improved water management systems (I13)	0	9,024	0	1,677	3,950	1,246	0,	6,873.000	-23.84	Program efforts were focused on new water management systems. Budget cuts disallowed extending activities to other lowland sites.
Number of small households increasing their production of key agricultural crops or animal products (I14)	0	11,250	0	2,247	2,529	6,248	9,073	20,097	78.64	Much effort was spent to implement CF, lowland management, and garden perimeter management. This brought the populations to increase their production substantially.
Number of rural households benefiting directly from U.S. Government assistance (I15)	0	11,250	NA	NA	4,663	6,600	6,141	17,404	54.70	Agriculture activities impacted many people in the regions where the Program works. Promising results obtained for increasing yields led to adoption of the techniques by the populations.
		Old			0	4,619	5,656	10,275		
		New			4,663	1,981	485	7,129		
		Men			4,152	5,737	4,940	14,829		
		Women			511	863	1,201	2,575		
Number of new water systems put in place(I25)	0	60	0	86	201	25	0	312	420	Much effort was spent to implement CF so that the populations would adopt it.

Indicator	Base value	Targets 2008-2012	Progress achieved					Progress achieved - five years	Differ-ence (%)	Observations
			2008-09	2009-10	2010-11	2011-12	2012-13			
Number of existing water management systems improved or extended (I26)	0	118	0	5	16	10	0	31	-73.73	Program efforts were focused on new water management systems. Budget cuts disallowed extending activities to other lowland sites.
Number of new technologies or or management practices made available to beneficiaries thanks to U.S. Government assistance (I27)	0	10	0	5	4	2	0	11	10	
Number of private enterprises, producer organizations, water users' associations, commerce associations, and community-based organizations that have applied new technologies or practices, thanks to assistance from the U.S. Government (I28)	0	1,000	NA	NA	535	503	0	1,038	3.8	
Number of producers and others who have applied new technologies or management practices, thanks to U.S. Government assistance (I29)	0	5,000	NA	NA	11,565	9,434	0	20,999	319.98	The Program promoted the use of new technologies such as rippers, CF, garden toolkits, etc. These technologies were widely disseminated to producers.
		Men			8,679	6,086	0	14,765		
		Women			2,886	3,348	0	6,234		
Number of small producers trained in respecting established production standards (I35)	0	11.250	0	457	3,677	2,862	123	7,119	-36.72	Program efforts concentrated on extension of new technologies like CF. Budget cuts did not favor an ideal extension of these activities.
		Men		170	2,930	2,482	42	5,624		
		Women		287	747	380	81	1,495		
Number of associations of producers trained in established production standards (I36)	0	450	0	167	512	605	21	1,305	190.00	This target is somewhat low (450), which explains why these results were obtained.
Number of small producers receiving training in new technologies I37)	0	11,250	173	6,680	3,795	3,567	4,336	18,551	64.90	CF is the showcase activity of the Agriculture Component, thus many training sessions were based on this theme. .
		Men	166	6,387	3,642	3,352	4,074	17,621		
		Women	7	493	153	215	262	1,130		
Number of producers' associations receiving training in new technologies (I38)	0	450	0	672	269	385	250	1,576	250.22	CF is the showcase activity of the Agriculture Component, thus many training sessions were based on this theme. .
Number of CRs and community-based organizations receiving information on policy issues and their implications at the local level (including agencies and technical services) (I39)	0	658	0	200	415	808	218	1,641	149.39	During the entire time that agricultural activities unfolded, the Program organized many informational meetings on farming activities, evaluations, etc.
		Regional Councils		0	1	1	0	2		
		Rural Councils		25	49	38	6	118		
		CBO		142	299	749	201	1,391		
		ST		33	66	20	11	130		

Indicator	Base value	Targets 2008-2012	Progress achieved					Progress achieved - five years	Differ-ence (%)	Observations
			2008-09	2009-10	2010-11	2011-12	2012-13			
Biodiversity										
Number of hectares under improved natural resource management	2,844,971	1,151,017	691,459	245,541	241,660	97,523	0	1,276,183	10.87	
Number of hectares in biologically significant areas benefiting from improved management	77,021 ha	183,422	63,700	46,764	19,000	1,793	0	131,257	-28.44	The managed forest sites are long-term propositions that require years of time. In addition, these activities were carried out in concert with the technical services, which sometimes causes delays in implementation. NRM activities were also terminated September 30, 2012, following budget cuts.
Number of additional hectares managed using improved techniques or practices	2,767,896 ha	967,594	627,759	198,777	222,660	95,730	0	1,136,829	17.49	The increase is due to writing local conventions that were not planned for, as they were requested by the populations.
Number of hectares with a forest management fund administered by local government	0	106,251	77,021	0	14,000	54,000	0	145,021	36.49	All managed forests have a management fund administered by the population itself.
Number of hectares covered by local resource guards who monitor implementation of management plans and local conventions	0	720,000	0	0	127,065	120,262	0	247,327	-65.65	The results did not reach the target because in some of the Regions, the Forest Service did not play its role of trainer and support-advisor for the CRs.
Number of individuals who benefit from short training in productivity in the agriculture sector	2,618	12,200	1,168	1,454	7,437	6,586	4,459	21,104	72.98	Agricultural activities that were developed contributed to reaching this target.
		Men	180	1,161	6,517	5,976	4,116	17,950		
		Women	988	293	919	610	343	3,153		
Number of people who benefit from training in NRM and/or biodiversity conservation	5,517	21,600	838	4,863	3,096	203	16	9,016	-58.26	Many NRM activities were dropped, which explains why the target was not reached. In addition, in some of the Regions, the Forest Service did not play its role of trainer and support-advisor for the CRs.
		Men	612	4,037	2,374	153	7	7,183		
		Women	226	826	722	50	9	1,833		
Governance Improvement										
Number of local governments that receive assistance from the U.S. Government to increase their sources of annual revenues	0	12	4	12	2	1	0	19	58.33	The result obtained could have greatly exceeded the target if the Program had not ended the writing of new PAFs due to restrictions set up by the Forest Service.

Indicator	Base value	Targets 2008-2012	Progress achieved					Progress achieved - five years	Differ-ence (%)	Observations
			2008-09	2009-10	2010-11	2011-12	2012-13			
Number of external systems supported by the U.S. Government that supervise the utilization of public resources	8	8	5	10	8	2	0	25	213	Many of the supervisory systems for natural resources (PAF, GAF, POAS, CL) were elaborated by the Program to promote good natural as well as financial resource management.
Number of processes supported by the U.S. Government that allow citizens to participate in local government activities	0	40	5	18	6	2	0	31	-23	The Program finally opted for pilot activities, in light of the involvement required to organize this activity.
Number of individuals trained in strengthening local goverrnance and/or decentralization	0	10,000	287	7,251	6,674	4,666	314	19,192	92	Efforts were made to train the populations in how to operate hydro-agricultural structures, PAFs, and other tools; however it is also the place of Rural and Regional counselors to take over this mission completely.
		Men	261	4,541	4,803	3,283	198	13,086		
		Women	26	2,710	1,871	1,383	116	6,106		
Policy and Communications										
Number of policies, laws, protocols, or agreements with a goal of promoting natural resources and their conservation that are implemented because of U.S. Government support	0	18	1	46	2	0	0	49	172	The 'foot in the door' of every activity is the Rural Community; that is why the Program signed agreements with partner CRs to carry out activities in their territories.
Number of educational and informational publications, bulletins, or communiqués on policy reforms	0	50	4	24	21	22	7	78	56	Many success stories were published, as well as newspaper articles.
Number of public educational and informational events organized	0	500	52	190	299	136	21	698	40	Program visibility was a concern every day; that is why the Program collaborated with community radio stations, RTS, Sud FM, and others to broadcast info about activities.
Wealth Creation										
Number of people who increase their economic profits because of sustainable management /conservation of natural resources	14565	27,000	8,722	8,199	13,555	11,059	7,483	35,463	31	Much effort was put into marketing agricultural, fisheries, and forestry products, this led to an increase in profits for all value chains.
		Men	5,457	3,731	7,275	7,065	5,623	29,151		
		Women	3,265	4,468	6,280	3,994	1,860	19,867		
Total value of sales	0	30,000,000	6,033,861.9	5,452,763.1	18,050,999.4	6,936,695	4,602,340	41,076,660[1]	37	Much effort was put into marketing agricultural,

[1] 1$ = 500 FCFA

Indicator	Base value	Targets 2008-2012	Progress achieved					Progress achieved - five years	Differ-ence (%)	Observations
			2008-09	2009-10	2010-11	2011-12	2012-13			
		FTF	0	0	583,909	2,717,783	4,602,340	7,904,032		fisheries, and forestry products, this led to an increase in profits for all value chains.
		Non-FTF	6,033,862	5,452,763	17,467,090	4,218,912	0	33,172,628		
Number of enterprises receiving USAID assistance to improve their management practices	4180	4000	441	445	482	253	104	1,725	-57	With the new FTF strategy, Program intervention zones were reduced and many products were dropped, which explains the poor results.
Change in percentage value of products purchased from small producers thanks to U.S. Government assistance	79%	504%	194%	103%	222%	-41.24%	71%	549%	9	
Increase in the export value of natural resources, non-traditional agriculture, and marine fisheries products from sustainable sources	0	8,000,000	1,072,399	2,153,097	7,393,172.23	674,230	0	11,292,899	41	Results were made possible thanks to work done in the cashew and cobos value chains.
Number of private enterprises, producers' organizations, water users' associations, commerce associations, and community-based organizations receiving USAID assistance	1,039	1500	453	252	1008	787	316	2,816	88	The target was surpassed because of special effort made in the agriculture, fisheries, and forestry market chains.
		Old	0	0	361	479	272	1,112		
		New	453	252	647	308	44	1,704		
Number of members in producers' organizations and community-based organizations receiving USAID assistance	0	15,000	NA	NA	23,399	18,675	18,726	60,800	305	The target was surpassed because of special effort made in the agriculture, fisheries, and forestry market chains.
		New			10,587	8,654	4,576	23,817		
		Men			7,776	6,026	2,887	16,689		
		Women			2,811	2,628	1,689	7,128		
		Old			*12,812*	*10,021*	*14,150*	*36,983*		
		Men			*7,124*	*6,978*	*11,536*	*25,638*		
		Women			*5,688*	*3,043*	*2,614*	*11,345*		
Number of full-time jobs created	0	18,000	7,033	4,115	2,825	1,236	156	15,365,	-15	With the new FTF strategy, Program intervention zones were reduced and many products were dropped; thus, the results for FY 2013 only concern FTF targets.
		Non-FTF	7,033	2,294	1,353	174	0	,10,854,		
		Men	4,178	1,381	927	76	0	,6,562,		
		Women	2,855	913	425	98	0	4,291		
		FTF	*NA*	*1,821*	*1,472*	*1,062*	*156*	*4,511,*		
		Men		*1,001*	*1,441*	*906*	*147*	*3,495*		
		Women		*819*	*31*	*156*	*9*	*1,016*		
Number of women's organizations/ associations assisted	220	500	88	82	156	73	51	450	-10	With the new FTF strategy, Program intervention zones were reduced and many products were dropped; thus, the results for FY 2013 only concern FTF targets.

Indicator	Base value	Targets 2008-2012	Progress achieved					Progress achieved - five years	Differ-ence (%)	Observations
			2008-09	2009-10	2010-11	2011-12	2012-13			
Number of agricultural sites benefiting directly from USAID intervention	5,807	10,000	337	2901	5,208	7,664	4089	20,199	102	It was possible to surpass the target because of special effort made in agricultural activities.
Value of credit granted to rural people to develop agricultural activities	0	320,000	59,600	120,754	545,525	296,167	381,905	1,403,951	339	It was possible to surpass the target because of special effort made in agricultural activities.
Number of small and medium enterprises assisted with gaining access to financial institutions	0	6,000	24	61	6,830	8,846	2,682	18,443	207	It was possible to surpass the target because of special effort made in agricultural activities.
Potable Water and Sanitation										
Number of people in target zones with access to improved potable water supply	0	5,850	NA	0	3,750	2,700	0	6,450	10	
Number of people in target zones with access to improved sanitation facilities	0	3,000	NA	460	1,200	0	0	1,660	-45	The Program concentrated on activities that gave access to potable water. Results that were recorded under this indicator are thanks to grants awarded.

1$ = 500 FCFA

* For conservation farming, rice, and gardens, the targets were estimated between 2009 and 2012

* For Biodiversity, targets are estimated between 2008 and 2012

APPENDIX 3: DOCUMENTS PRODUCED 2008-2013

Date	Title or topic of document	Author	Version	
			French	English
Deliverables				
Oct-08	Plan for the month of October 2008	USAID WN	X	X
Oct-08	Annual Workplan October 2008-September 2009	USAID WN	X	X
Oct-08	Midterm report August-September 2008	USAID WN	X	X
Dec-08	Quarterly Report October-December 2008	USAID WN	X	X
Mar-09	Quarterly Report January-March 2009	USAID WN	X	X
Jun-09	Activity workplan for the Agriculture Component	USAID WN	X	
Jun-09	Quarterly Report April-June 2009	USAID WN	X	X
Oct-09	Annual Report October 2008-September 2009	USAID WN	X	X
Nov-09	LASF Manual	USAID WN	X	X
Nov-09	Procedural manual for the Small Grants Fund	USAID WN	X	X
Nov-09	Annual Workplan October 2009-September 2010	USAID WN	X	X
Jan-10	Quarterly Report October-December 2009	USAID WN	X	X
Feb-10	Monitoring-Evaluation Manual for USAID-Wula Nafaa	USAID WN	X	
Apr-10	Quarterly Report January-March 2010	USAID WN	X	X
Jul-10	Quarterly Report April-June 2010	USAID WN	X	X
Oct-10	Annual Workplan October 2010-September 2011	USAID WN	X	X
Oct-10	Annual Report October 2009-September 2010	USAID WN	X	X
Jan-11	Quarterly Report October-December 2010	USAID WN	X	X
Apr-11	Quarterly Report January-March 2011	USAID WN	X	X
Jul-11	Quarterly Report April-June 2011	USAID WN	X	X
Oct-11	Annual Report October 2010-September 2011	USAID WN	X	X
Oct-11	Annual Workplan October 2011-September 2012	USAID WN	X	X
Jan-12	Quarterly Report October-December 2011	USAID WN	X	X
Apr-12	Quarterly Report January-March 2012	USAID WN	X	X
Jul-12	Quarterly Report April-June 2012	USAID WN	X	X
Oct-12	Annual Workplan October 2012-September 2013	USAID WN	X	X
Oct-12	Annual Report October 2011-September 2012	USAID WN	X	X
Jan-13	Quarterly Report October-December 2012	USAID WN	X	X
Apr-13	Quarterly Report January-March 2013	USAID WN	X	X
Jul-13	Final Report for USAID-Wula Nafaa Program	USAID WN	X	X
Wealth Creation				
Oct-08	Document on re-activating producer groups and networks	USAID-WN	X	
Nov-08	Document to orient USAID-Wula Nafaa staff in BDS	USAID-WN	X	
Nov-08	Report on the internal consensus-building workshop on traditional gold mining	USAID-WN	x	
Jan-09	Report on the workshop to write a common vision and action plan on traditional gold mining in Kédougou	USAID-WN	X	
Feb-09	Document to orient USAID-Wula Nafaa facilitators in BDS concepts (Business Development Services)	USAID-WN	X	
Mar-09	Facilitation and organization of a roundtable discussion on timber harvest	Abdoulaye Ndiaye, consultant	X	
Mar-09	Report on the training of facilitators from Kolda, Ziguinchor, and Fatick in BDS concepts	USAID-WN	X	
Mar-09	Report on the training of enterprises in Kolda and Sédhiou in management	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Apr-09	Workshop to build consensus between cashew producers, processors, and exporters in Kolda	USAID-WN	X	
Apr-09	Report on the workshop to initiate networks, processing units, and baobab and laalo producers in BDS 29 and 30 April, 2009	USAID-WN	X	
May-09	Training in sorting techniques for mbepp gum in Dawady	USAID-WN	X	
May-09	Report on the training in quality improvement of raw cashew nuts in the Regions of Sédhiou and Kolda	Moïse Bassène, consultant	X	
Jun-09	Report on the training in enterprise management for value chain producers' groups, networks, and processing units	USAID-WN	X	
Jul-09	Report on the midterm workplan evaluation workshop for traditional gold mining, 23 and 24 July 2009 in Kédougou	USAID-WN	X	
Aug-09	Initiation to BDS concepts for networks and producers who provide services for cashew, fonio, baobab, and charcoal value chains in the Regions of Kolda/Sédhiou	USAID-WN	X	
Nov-09	Manual to orient the facilitators in BDS concepts	USAID-WN	X	
Nov-09	Report on the training of networks in the baobab, fonio, madd, karité, and traditional gold mining value chains in BDS concepts, 20 and 21 November 2009, in Kédougou	USAID-WN	X	
Dec-09	Training module for facilitators in BDS concepts, December 2009	USAID-WN	X	
Dec-09	Sample request for bids and for exploitation for use by charcoal production groups	USAID-WN	X	
Dec-09	Report on the training of new facilitators du USAID-Wula Nafaa Program in BDS concepts 16 - 17 December 2009 in Kaolack	USAID-WN	X	
Dec-09	Model management notebook for charcoal producers' groups	USAID-WN	X	
Mar-10	Report on the workshop for final evaluation of the 2009 action plan on traditional gold mining and writing a new action plan for 2010	USAID-WN	X	
May-10	Report on participation of USAID-Wula Nafaa Program in the Dakar FIARA, 2010	USAID-WN	X	
May-10	Plan for monitoring, quality control, surveillance, and supervision of the application of social and environmental measures by traditional gold mining groups in Kédougou Region	USAID-WN	X	
Jun-10	Analysis of the value chain and market study for mollusk products (oysters, limpets, rays, cymbium/conchs) in Fatick, Ziguinchor, and Kolda zones	Moustapha Kébé and Moustapha Dème, Consultants	X	
Jun-10	Analysis of the value chain and market study for ethmaloses (*cobos*) products in Fatick, Ziguinchor, and Kolda zones	Moustapha Kébé and Moustapha Dème, Consultants	X	
Jun-10	Report on the training workshop for producers' groups in Fatick on enterprise management and governance of CBOs , 18, 19 and 20 June, 2010 in Toubacouta	USAID-WN	X	
Jul-10	Training module in packaging techniques for baobab powder and precooked fonio wrappings and refresher course in the HACCP approach: Themes and tools	USAID-WN	X	
Jul-10	Training module in packaging techniques for baobab powder and precooked fonio with wrappings and refresher course in the HACCP approach: Trainer's manual	USAID-WN	X	
Aug-10	Report on the training workshops on baobab powder and precooked fonio enterprises in packaging techniques using packets, and refresher course on the HACCP approach, in the Regions of Tambacounda, Kolda and Kédougou	USAID-WN	X	
Dec-10	Training module in techniques for prediagnostics and diagnostics for micro and small enterprises: Trainer's manual	USAID-WN	X	
Dec-10	Training module in techniques for prediagnostics and diagnostics for micro and small enterprises: Participant's manual	USAID-WN	X	
Feb-11	Organization and animation of a business forum	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Mar-11	Training of facilitators in techniques for prediagnosing and diagnosing micro- and small enterprises	USAID-WN	X	
Apr-11	Training of service providers in the Regions of Fatick and Kaolack in BDS concepts from 8 to 9 April 2011 in the Rural Council meeting room in Toubacouta: Participant's manual	USAID-WN	X	
Apr-11	Training of service providers in Fatick in BDS concepts from 8 to 9 April, 2011 in the Rural Council meeting room in Toubacouta	USAID-WN	X	
Nov-11	Report on exploitation of questionnaires on enterprise sustainability	USAID-WN	X	
Dec-11	Report on the workshop to train trainers in savings mobilization in Kaolack from 28 November to 2 December, 2011	USAID-WN	X	
Feb-12	Report on the workshop to train garden producers of Fatick in enterprise management and governance in CBO, from 13 to 15 February 2012	USAID-WN	X	
Mar-12	Report on the training of fisheries enterprises in packaging and initiation to the HACCP approach	USAID-WN	X	
Mar-12	Study on the economic profitability and financial exploitation of a rice huller	USAID-WN	X	
Apr-12	Production of bouye snack cakes	USAID-WN	X	
Sep-12	Capacity building for producers' groups and networks and processing units for agroforestry products in Tambacounda: maintenance of tools linked to functioning, enterprise management, governance, and savings mobilization	USAID-WN	X	
	Capacity building for enterprises in techniques for negotiating commercial terms: Trainer's manual	USAID-WN	X	
	Training module in enterprise management	USAID-WN	X	
Agriculture				
Jul-09	Training in improved production techniques using the conservation farming technique in the Regions of Kaolack, Kafrine, and Tambacounda	USAID-WN	X	
Sep-09	Reference document for the implementation of PTA activities 2009 2010 of the Agriculture Component of USAID-Wula Nafaa	USAID-WN	X	
Nov-09	Wula Nafaa Local Agriculture Support Fund Manual	USAID-WN	X	X
Nov-09	Report on the exchange visit to see conservation farming	USAID-WN	X	
Jan-10	Conservation farming technical training and support	Mike Mailloux, Consultant	X	X
Feb-10	Boli Valley 1	Abdou Mbodj, Consultant GIS/Mapping	X	
Feb-10	Boli Valley 2	Abdou Mbodj, Consultant GIS/Mapping	X	
Feb-10	Lowland of Djilor	Abdou Mbodj, Consultant SIG/Mapping	X	
Feb-10	Satellite image for Ndinderling	Abdou Mbodj, Consultant GIS/Mapping	X	
Feb-10	Location map - Ndinderling	Abdou Mbodj, Consultant GIS/Mapping	X	
Feb-10	Topography - Ndinderling	Abdou Mbodj, Consultant GIS/Mapping	X	
Feb-10	Lowland of Ndinderling	Abdou Mbodj, Consultant GIS/Mapping	X	
Feb-10	Lowland of NdourNdour	Abdou Mbodj, Consultant GIS/Mapping	X	
Mar-10	Conservation farming booklet	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Mar-10	Technical assistance for Toubacouta gardeners: detailed calendar for implementation of the mission	Alioune Diouf, Consultant	X	
Mar-10	Technical assistance for Toubacouta gardeners: Monthly report, March 2010	Alioune Diouf, Consultant	X	
Mar-10	APD studies for lowland restoration work in Ndinderling lowland, Rural Communities of Keur Samba Gueye and Toubacouta in the Region of Fatick	USAID-WN	X	
Mar-10	Report on the training in making and marketing a pedal pump with simple tubing and low cost	Lassané Zongo, consultant	X	
Apr-10	Technical assistance for the gardeners of Toubacouta: Monthly report, April 2010	Alioune Diouf, Consultant	X	
Apr-10	Study on the horticultural sector in USAID-Wula Nafaa zones in Senegal	Ed Perry, Winrock International and Idrissa Wade, Independent Consultant	X	X
Apr-10	Managed site design for the lowlands in Djilor, NdourNdour, Boli 1, Boli 2 and Néma Bah	Abdoulaye Demba Sall, Consultant	X	
Apr-10	Soils study for the lowlands and garden perimeters targeted in Fatick Region	Mankeur Fall, Consultant	X	
Apr-10	Phytosociological study of the Lowlands in the Region of Fatick and program to improve weed control in the rice fields	Souleymane Diallo, Consultant	X	
May-10	Map of targeted lowlands in Region of Fatick	Abdou Mbodj, Consultant GIS/Mapping	X	
May-10	Technical assistance for the gardeners of Toubacouta: Monthly report May 2010	Alioune Diouf, Consultant	X	
May-10	Technical-Economic Assistance for Gardeners of Toubacouta: Image-based review of the development of garden perimeters in Toubacouta Arrondissement	Alioune Diouf, Consultant	X	
May-10	Socio-economic study for Lowland of Ndinderling (CR Keur Samba Gueye)	Moussa Cissokho, Consultant	X	
May-10	Training of well drillers in siting and promoting garden boreholes	Idrissa Diédhiou, Consultant	X	
Jun-10	Lowland of Némanding	Abdou Mbodj, Consultant GIS/Mapping	X	
Jun-10	Némanding's diked estuary	Abdou Mbodj, Consultant GIS/Mapping	X	
Jun-10	Lowland of Keur Andallah	Abdou Mbodj, Consultant GIS/Mapping	X	
Jun-10	Technical assistance for the gardeners of Toubacouta: Guide for garden area data collection with respect to MERA data	Alioune Diouf, Consultant	X	
Jun-10	Report on design work	Fallou Dieng, Engineer GR/Draftsman	X	
Jun-10	Technical assistance for the gardeners of Toubacouta: Monthly report June 2010	Alioune Diouf, Consultant	X	
Jun-10	PESTICIDE EVALUATION REPORT & SAFE USE ACTION PLANS (PERSUAP)	IRG		X
Jun-10	Complementary training and monitoring for quality for the first two craftsmen trained to make irrigation treadle pumps	Kéloutang Sagna, Consultant	X	
Jun-10	Monthly activity report June 2010	ANCAR	X	

Date	Title or topic of document	Author	Version	
			French	English
Jun-10	Request for Bids - Wassadou		X	
Jul-10	Technical assistance for the gardeners of Toubacouta: Report on the training practicum for garden producers, with photos	Alioune Diouf, Consultant	X	
Jul-10	Technical assistance for the gardeners of Toubacouta: Report on the training - Basic Module	Alioune Diouf, Consultant	X	
Jul-10	Technical assistance for the gardeners of Toubacouta: Monthly report July 2010	Alioune Diouf, Consultant	X	
Jul-10	Report Training workshop for lead gardeners and facilitators in garden plan modeling techniques	USAID-WN	X	
Jul-10	Report on the workshop to build capacity of producers in rice production techniques	ANCAR	X	
Jul-10	Monthly activity report July 2010	ANCAR	X	
Aug-10	Map of the Lowlands in Némanding	Alioune Diouf, Consultant	X	
Aug-10	Definition of the technical itinerary for rainfed rice in the uplands and lowlands at two sites in Fatick zone: NdourNdour (salted lowland area) and Ndinderling (non-salted lowland): Deliverable 1: detailed workplan	AfricaRice	X	
Aug-10	Operation of the managed sites in the Lowlands of NdourNdour, Boli 1, Boli 2, Néma Bah and Djilor	Malang Mané, Consultant	X	
Aug-10	Technical assistance for the gardeners of Toubacouta: Monthly report August 2010	Alioune Diouf, Consultant	X	
Aug-10	Monthly activity report August 2010	ANCAR	X	
Aug-10	REQUEST FOR BIDS Kaymor		X	
Sep-10	Strategy for implementing conservation farming with producers: Trainer's Guide	USAID-WN	X	
Sep-10	Refined technical itinerary for rainfed rice farming on uplands and in lowlands at two zones in Fatick: NdourNdour (lowland with salted soil) and Ndinderling (zone with non-salted soil): Deliverable 2: installation of sites and status of progress made	AfricaRice	X	
Sep-10	Final report on Technical assistance for the gardeners of Toubacouta	Alioune Diouf, Consultant	X	
Sep-10	Technical assistance for the gardeners of Toubacouta: Monthly report September 2010	Alioune Diouf, Consultant	X	
Sep-10	Mid-term evaluation of conservation farming: 2009-2010 season	USAID-WN	X	
Sep-10	Feasibility study on setting up tractor labor services and rice hulling in Djilor and Kédougou	USAID-WN	X	
sept-10	Report on the training in adaptation to risks associated with climate change through local policies and development activities in Africa	Saliou Mbodj irrigation expert USAID-WN	X	
Sep-10	Monthly activity report September 2010	ANCAR	X	
Oct-10	Report on the programmatic environmental assessment (PEA) of USAID/Senegal enhanced agricultural productivity activities under the Feed the Future initiative by USAID/Senegal and its implementing partners	IRG		X
Oct-10	Estimation of yield from standing crop with conservation farming and without conservation farming in Fatick Region	DRDR Fatick	X	
Oct-10	Technical assistance for implementing assistance for rice farming production in rainy season, and action research to develop an appropriate application for the conservation farming technique	ANCAR	X	
Oct-10	Monthly activity report October 2010	ANCAR	X	
Dec-10	Report on the training of women producers in techniques for processing, conservation, and storage of rice seed	ANCAR	X	
Dec-10	Monthly activity report December 2010	ANCAR	X	
Jan-11	Report on the workshop de presentation of results from the study on tractor and hulling services through government authorities and supporting structures	Bachir Ndiaye, Consultant	X	

Date	Title or topic of document	Author	Version	
			French	English
Jan-11	Technical assistance for implementing assistance for rice farming production in rainy season, and action research to develop an appropriate application for the conservation farming technique	ANCAR	X	
Jan-11	Monthly activity report January 2011	ANCAR	X	
Feb-11	EMMP for Kaymor	USAID-WN	X	
Feb-11	Refined technical itinerary for rainfed rice farming on uplands and in lowlands at two zones in Fatick: NdourNdour (lowland with salted soil) and Ndinderling (zone with non-salted soil): Deliverable 3: Results from fertilization tests and options for integrated rice management of rainfed rice	AfricaRice	X	
Feb-11	Study on soil fertility in the implementation zone for conservation farming, by USAID-Wula Nafaa in Senegal	USAID-WN	X	
Mar-11	Checklist and EMMP for Wassadou Lowland	USAID-WN	X	
Mar-11	Meeting between CF producers, potential buyers, and seed suppliers	USAID-WN	X	
Apr-11	Local Convention for the Integrated Management of Lowland Resources of Ndinderling	USAID-WN pour la CR de KSG	X	
Apr-11	Refinement of the ripper for conservation farming and Training of artisans in making the ripper	USAID-WN	X	
Apr-11	Capacity building for Conservation Farming trainers in integrated soil fertility, fighting striga, and seed multiplication	PROMISO 2	X	
May-11	Kobofaroté Lowland	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Santanko Lowland	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Sing Sing Lowland	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Ferme 1 Rice basin	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Kobofaroté Rice basin	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Santanko Rice basin	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Sing Sing Rice basin	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Ferme 1 Lowland	Abdou Mbodj, Consultant GIS/Mapping	X	
May-11	Report on the training of trainers for USAID-PCE Program in Conservation farming	USAID-WN	X	
May-11	Final report on topographic studies for Ndinderling Lowland	Mbaye Dieng, Consultant	X	
Jun-11	Mapping of Bembou, Santanko, and Ferme 2 Lowlands	Abdou Mbodj, Consultant GIS/Mapping	X	
Aug-11	Monthly status report on valleys where USAID-WN works	ANCAR	X	
Sep-11	Pedological study of the lowlands of Bembou, Santanko, and Ferme1 in the Region of Kédougou	USAID-WN	X	
Sep-11	Bimonthly report on quality control	ANCAR	X	
Oct-11	Report on the estimation of millet, maize, and sorghum yields using Conservation Farming in the Region of Kaolack	DRDR Kaolack	X	
Oct-11	Monthly status report on valleys assisted by USAID-WN	ANCAR	X	

Date	Title or topic of document	Author	Version	
			French	English
Nov-11	Assistance from a Farmer-to-Farmer volunteer to USAID-Wula Nafaa to contribute to the implementation of Safe User Action Plans of the PERSUAP (pesticide evaluation report & safe user action plans) with regard to pesticide use in Program intervention zones	Oscar Liburd, Consultant		X
Nov-11	Bimonthly report on quality control	ANCAR	X	
Nov-11	Report on the training in techniques for storage and conservation of surplus rice in Ndinderling	ANCAR	X	
Nov-11	Monthly status report on valleys assisted by USAID-WN	ANCAR	X	
Nov-11	Quarterly Report on the assistance program to develop lowlands	ANCAR	X	
Dec-11	Report on the estimation of crop yields using the conservation farming technique promoted by USAID- Wula Nafaa in the Departments of Tambacounda and Koumpentoum	DRDR Tamba	X	
Dec-11	Report on the training of producers in techniques for harvesting, storage, and conservation of rice	ANCAR	X	
Dec-11	Monthly activity report December 2011	ANCAR	X	
Dec-11	Final report on the assistance program for developing the lowlands	ANCAR	X	
Jan-12	Monthly status report on valleys assisted by USAID-WN	ANCAR	X	
Jan-12	Bimonthly report on quality control	ANCAR	X	
May-12	Refinement of the ripper used in conservation farming and training of craftsmen in making the ripper for CF	USAID-WN	X	
Jun-12	Garden perimeters supported by USAID-Wula Nafaa: current level of production	USAID-WN	X	
Jun-12	Report on the training in conservation farming (CF) techniques for field agents and rural farmers who will repeat the training	USAID-WN	X	
Sep-12	Refinement of the ripper for conservation farming: Results from demonstration tests and followup recommendations	USAID-WN	X	
Oct-12	Estimation of yield from standing crop with conservation farming and without conservation farming in Kédougou Region	DRDR Kédougou	X	
Oct-12	Estimation of yield from standing crop with conservation farming and without conservation farming in Kédougou Region	DRDR Kédougou	X	
Nov-12	Estimation of yield from standing crop with conservation farming and without conservation farming in Fatick Region	DRDR Fatick	X	
Nov-12	Report on the estimation of millet and maize yields using Conservation Farming in the Region of Kaolack	DRDR Kaolack	X	
Nov-12	Report on the estimation of crop yields using the conservation farming techniques of USAID- Wula Nafaa in the Departments of Tambacounda and Koumpentoum	DRDR Tamba	X	
Nov-12	Estimation of crop yields using the conservation farming techniques of USAID- Wula Nafaa in the Departments of Tambacounda and Koumpentoum	DRDR Tamba	X	
Nov-12	Report on the estimation of crop yields using the conservation farming techniques of USAID- Wula Nafaa in the Region of Kaolack	DRDR Kaolack	X	
Nov-12	Estimation of crop yields using the conservation farming techniques of USAID- Wula Nafaa in the Region of Fatick	DRDR Fatick	X	
Dec-12	Evaluation of rice production and yields in Fatick	DRDR Fatick	X	
Dec-12	Report on the exchange visit to the Senegal River Delta	USAID-WN	X	
	Technical evaluation of conservation farming in Wula Nafaa work zones	USAID-WN	X	
	Food Security and Livelihoods	IRG		X
	Report on the evaluation of yields from conservation farming and non-conservation farming sites in the Department of Foundiougne	DRDR Fatick	X	
	Evaluation report on yields and production at seven lowland sites supported by USAID-Wula Nafaa in the Department of Foundiougne	DRDR Fatick	X	
Governance Improvement				
Jan-01	Participant's manual in MAP training	ARD Inc	X	
Nov-08	Report on the internal evaluation workshop for the implementation of the GAF in Koulor, Missirah, and Saré Bidji	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Nov-08	Report on the community meeting to negotiate the content of the memorandum of understanding between Sakar/WN	USAID-WN	X	
Dec-08	Wula Nafaa II Local Governance Component: Observations and Opportunities: Vol1: Main report	Charles Benjamin, IRG		X
Dec-08	Wula Nafaa II Local Governance Component: Observations and Opportunities: Vol2: Appendices	Charles Benjamin, IRG		X
May-09	Training of communities in the Rural Community of Toubacouta in good governance	Mamadou Amadou Diako, Lamine Dramé, consultants	X	
Jun-09	Training of the CR of Tomboronkoto in good governance	Abdoulaye Sall, Lamine Dramé, consultants	X	
Jun-09	Training of the CR of Missirah Sirimana in good governance	Abdoulaye Sall, Lamine Dramé, consultants	X	
Jun-09	Training of the CR of Bambali in good governance	Abdoulaye Sall, Lamine Dramé, consultants	X	
Jul-09	Status report on good governance in the Rural Communities of Missirah, Koulor, and Sinthiou Bocar Ali	Malang Mballo, Ismaïla Gaye, consultants	X	
Jul-09	Training of the CR of Koulor in good governance	Malang Mballo, Ismaïla Gaye, consultants	X	
Jul-09	Training of the CR of Missirah in good governance	Malang Mballo, Ismaïla Gaye, consultants	X	
Jul-09	Training of the CR of Saré Bidji in good governance	Abdoulaye Sène, Amadou Hadji, consultants	X	
Jul-09	Module on good governance	USAID, Abt Associates, AED and IRG	X	
Oct-09	Orientation notice on local governance	USAID-WN	X	
Oct-09	Hand out on governance	USAID-WN	X	
Nov-09	Status report GAF	USAID-WN	X	
Dec-09	Evaluation of the implementation of PAF/GAF in the managed forests of Koulor, Sita Niaoulé, and Saré Bidji	USAID-WN	X	
Jan-10	Report on the meeting to validate essential recommendations for the PAF/GAF	USAID-WN	X	
Feb-10	Report on the summary of the mission to support elaboration of budgets by the Rural Communities	COGEMAP	X	
Feb-10	Report on the summary of the mission to support elaboration of budgets by the partner local collectivities of USAID-Wula Nafaa Program in the Region of Kédougou: Forum on the budget in the Rural Communities of Sabodala, Missirah Sirimana, Dindéfélo, and Tomboronkoto	Seydina Issa Ndiaye and Mamadou Moustapha Bah, Consultants COGEMAP	X	
Feb-10	Report on the mission to support elaboration of budgets by the partner local collectivities of USAID-Wula Nafaa Program in the Region of Fatick: Forum on the budget in the Rural Communities of Djirnda and Bassoul	Mamadou Lô and Robert Kor Faye, Consultants, COGEMAP	X	
Feb-10	Report on the mission to support elaboration of budgets by the partner local collectivities of USAID-Wula Nafaa Program in the Region of Kolda: Forum on the budget in the Rural Communities of Saré Bidji, Bambali, Sakar, Oudoucar, and Thièty	Mamadou Houlata Bah and Mamadou Sidibé, Consultants, COGEMAP	X	

Date	Title or topic of document	Author	Version	
			French	English
Feb-10	Report on the mission to support elaboration of budgets by the partner local collectivities of USAID-Wula Nafaa Program in the Region of Tambacounda: Forum on the budget in the Rural Communities of Pass Koto, Kouthia Gaîdy, and Sinthiou Malème	Abdoulaye Sène and Massèye Sèye, Consultants, COGEMAP	X	
Mar-10	Summary of recommendations from the PAF/GAF evaluation	USAID-WN	X	
Mar-10	What strategy to use for greater appropriation of transferred powers in the domain of Environment, Management of Natural Resources by the Local Collectivities, with an emphasis on reforestation?	Mame Mory Diagne, Intern	X	
Apr-10	Status of the GAF for the PAF in Koulor and Missirah	USAID-WN	X	
May-10	Guide for writing and implementing a GAF	USAID-WN	X	
May-10	Participant's manual for training in decentralization and local governance	USAID-WN	X	
May-10	Simplified module for the trainer in local governance	USAID-WN	X	
Sep-10	Report on the mission for technical assistance in increasing collection of the rural tax in the Rural Community of Dindéfélo	Abdoulaye Sène, Consultant COGEMAP	X	
Sep-10	Report on the mission for technical assistance to increase financial resources in the Rural Community of Sinthiou Malème	Massèye Sèye, Consultant COGEMAP	X	
Sep-10	Report on the mission for technical assistance to increase financial resources in the Rural Community of Djirnda	Robert Faye, Consultant COGEMAP	X	
Oct-10	Guide to training in citizen participation at the Rural Community level	USAID-WN	X	
Oct-10	Report on the mission for technical assistance to improve management of civil status fees in the Rural Community of Bambali	Seydina Issa Ndiaye, Consultant COGEMAP	X	
Oct-10	Report on the mission for technical assistance to increase financial resources in the Rural Community of Sabodala	Mamadou Sidibé, Consultant COGEMAP	X	
Oct-10	Report on the mission to establish the status of raising fees from launching ramps	COGEMAP	X	
Oct-10	Report on the mission to establish the status of raising fees from launching ramps in the Rural Community of Bassoul	Lamine Dramé, Consultant COGEMAP	X	
Oct-10	Report on the training "Rights, duties, and responsibilities of the citizen in Rural Community and organization of the citizens' day" in the Rural Community of Oudoucar	Malamine Savané and Lamine Dramé, Associative Consultants	X	
Nov-10	Technical assistance to increase financial resources in the Rural Community of Sabodala	Mamadou Sidibé, Consultant COGEMAP	X	
Nov-10	Technical assistance to increase financial resources in the Rural Community of Bambali	Seydina Issa Ndiaye, Consultant COGEMAP	X	
Nov-10	Technical assistance to increase financial resources in the Rural Community of Djirnda	Robert Faye, Consultant COGEMAP	X	
Nov-10	Report on the training in administrative and financial management of the PAF for Sita Niaoulé and Koulor/Sinthiou Bocar Aly	Association Conseil pour l'Action (ACA)	X	
Dec-10	Day of reflection for the Rural Council and its partners, and forum for stakeholders in the Rural Community of Toubacouta	USAID-WN for the CR of Toubacouta	X	

Date	Title or topic of document	Author	Version	
			French	English
Dec-10	Report on the training in administrative and financial management of the forest management plan in the CR of Thièty	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
Dec-10	Report on the workshop to evaluate and elaborate PTAs and budgets for the management structures of the PAF for Saré Bidji/Thièty and Sakar/Oudoucar	USAID-WN	X	
Jan-11	Report on financial control of management structures of the PAF for Saré Bidji/Thièty	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
Jan-11	Report on financial control of management structures of the PAF for Sita Niaoulé and Koulor/Sinthiou Bocar Aly	Association Conseil pour l'Action (ACA)	X	
Jan-11	Technical assistance to increase financial resources in the Rural Community of Sinthiou Malème	Massèye Sèye, Consultant COGEMAP	X	
Mar-11	Training of elected officials and other actors in the Rural Community of Bassoul in decentralization and good governance	Lamine Dramé, Consultant	X	
Apr-11	Report on the training in administrative and financial management of the Forest management plan for Saré Bidji/Thièty	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
Apr-11	Report on the training in administrative and financial management of the Forest management plan for Sakar/Oudoucar	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
May-11	Technical assistance to improve management of civil status in the Rural Community of Bambali	Seydina Issa Ndiaye, Consultant COGEMAP	X	
May-11	Technical assistance to improve the collection of the rural tax in the Rural Community of Dindéfélo	Abdoulaye Sène, Consultant COGEMAP	X	
May-11	Report on the workshop and refresher course in Financial Management by the Block Management Committees and the Council on Management of PAFs in Sakar/Oudoucar and Saré Bidji/Thièty	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
May-11	Training of local trainers in the CRs of Kaymor, Djilor, and Médina Sabakh in decentralization and good governance	Abdoulaye Sall, Malang Mballo, Consultants	X	
May-11	Training of local trainers in the CRs of Bala, Goumbayel, Koar, Koussanar, and Ndame in decentralization and good governance	Abdoulaye Sall, Malang Mballo, Consultants	X	
May-11	Training of local trainers in the CRs of Keur samba Guèye, Nioro Alassane Tall, and Keur Saloum Diané in decentralization and good governance	Abdoulaye Sène, Ismaïla Gaye, Consultants	X	

Date	Title or topic of document	Author	Version	
			French	English
May-11	Training of local trainers in the CRs of Dindéfélo, Dar Salam, Bembou, Sabodala, Ethiolo, Bandafassi, Missirah Sirimana, and Tomboronkoto in decentralization and good governance	Lamine Dramé, Fatimata Sow, Consultants	X	
May-11	Training of local trainers in the CRs of Sinthiou Bocar Aly, Pass Koto, Kouthia Gaydi and Sinthiou Malème in decentralization and good governance	Lamine Dramé, Fatimata Sow, Consultants	X	
May-11	Training of local trainers in the CRs of Bassoul, Djirnda, and Toubacouta in decentralization and good governance	Abdoulaye Sène, Ismaïla Gaye, Consultants	X	
May-11	Training of local trainers in the CRs of Bambali, Sakar, Oudoucar, Saré Bidji, Thièty, and Mangagoulack in decentralization and good governance	Abdoulaye Sène, Ismaïla Gaye, Consultants	X	
Jun-11	Module for administrative and financial management training of the management committees of the lowlands: Trainer's manual	USAID-WN	X	
Jun-11	Report on setting up and monitoring the utilization of GAF tools for Sita Niaoulé and Koulor/Sinthiou Bocar Aly PAFs	Association Conseil pour l'Action (ACA)	X	
Jun-11	Training in decentralization, good governance, and natural resource management for the Regional Council in Kolda	Lamine Dramé, Consultant	X	
Jul-11	Manual of procedures for management bodies of the PAFs	USAID-WN	X	
Jul-11	Technical assistance to increase financial resources in the Rural Community of Sinthiou Malème (Complementary request made for the study and exchange tour to Diaobé)	Seydina Issa Ndiaye, Consultant COGEMAP	X	
Jul-11	Technical assistance for Rural Communities that share the same managed forest, with the objective of setting up a GIC	Mamadou Diouf and Lamine Dramé, Consultants	X	
Jul-11	Report on the technical assistance to increase financial resources in the Rural Community of Bambali through civil status fees	COGEMAP	X	
Jul-11	Training in administrative and financial management for management committee in Némabah	USAID-WN	X	
Aug-11	Report on producing the Manual of procedures for the management bodies of the PAFs in Koulor/Sinthiou Bocar and Sita Niaoulé (Missirah)	USAID-WN	X	
Nov-11	Mission report on the technical assistance to improve financial resources and on use of the grant from Wula Nafaa awarded to the Rural Council of Dindéfélo	Mamadou Sidibé, Consultant COGEMAP	X	
Dec-11	Assistance-advisement program in auditing and capacity building services for management bodies of the PAFs for community forests in Rural Communities of Sinthiou Bocar Aly, Koulor, and Missirah	Association Conseil pour l'Action (ACA)	X	
Dec-11	Assistance-advisement program in auditing and capacity building services for management bodies of the PAFs for community forests in Rural Communities of Saré Bidji, Thièty, Sakar, and Oudoucar	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
Dec-11	Assistance-advisement program in auditing and capacity building services for management bodies of the PAFs for community forests in Rural Communities of Sinthiou Bocar Aly, Koulor, and Missirah	Association Conseil pour l'Action (ACA)	X	
Dec-11	Assistance-advisement program in auditing and capacity building services for management bodies of the PAFs for community forests in Rural Communities of Saré Bidji, Thièty, Sakar, and Oudoucar	Association d'appui aux initiatives de développement local Aide 18 Safar	X	
May-12	Training module for garden perimeter management committees in organization and administrative and financial management	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Jun-12	Participant's manual for the training for management committees of the lowlands (CG/BF) in administrative and financial management (GAF)	USAID-WN	X	
Aug-12	Report on capitalizing on technical assistance from USAID-Wula Nafaa Program for better mobilization of financial resources in the Rural Communities of Dindéfélo, Sabodala, Bambali, Sinthiou malaimé, Bassoul, and Djirnda	USAID-WN	X	
Apr-13	Conflict management linked to access and use of natural resources: Example of the Local Convention in the Rural Community of Bassoul (Arrondissement of Niodior, Department of Foundiougne, Region of Fatick)			
	Training plan for management bodies and other stakeholders in Ndinderling lowland	USAID-WN	X	
Biodiversity and Sustainable NRM				
Aug-07	Local Code concerning the organization of populations and to modalities for managing the Classified Forest of Balmadou	USAID-WN pour les CR de Niagha, Tanaff, Kolibantang and Karantaba	X	
Oct-08	Report on the mission to select zones and research an intervention approach for the Biodiversity Component I	USAID-WN	X	
Oct-08	Meeting to validate the terms of reference, content, and agenda for a workshop on local conventions in Kédougou	USAID-WN	X	
Nov-08	Report on the internal workshop on local conventions	USAID-WN	X	
Dec-08	Guide for writing and implementing Local conventions in the Rural Communities	USAID-WN	X	
Dec-08	Guide for writing a participatory forest management plan	USAID-WN	X	
Jan-09	Report on the summary of workshops to build consensus on local conventions used for natural resource management	USAID-WN	X	
Feb-09	Report on consensus-building workshops on local conventions used for natural resource management in Toubacouta	USAID-WN	X	
Feb-09	Report on the timber inventory carried out in January-February 2009 in the Community Forest of Saré Bidji	USAID-WN	X	
Feb-09	Report on the workshops on the Local Convention used for NRM in Toubacouta	USAID-WN	X	
Apr-09	Strategy of the Biodiversity and Sustainable Natural Resource Management	USAID-WN	X	
Apr-09	Training workshop for officers of the Inventory and Mapping Units (BICs) by USAID-Wula Nafaa Program	USAID-WN	x	
Apr-09	Workshop on Reflection of chimpanzee conservation	USAID-WN	X	
Apr-09	Report on the training of trainers in forest management: Session on training local elected officials in Sakar/Oudoucar, facilitators from Wula Nafaa, and agents of the technical services.	USAID-WN	X	
Apr-09	Simple and participatory methods for inventory on biodiversity sites	USAID-WN	X	
May-09	Report on the workshop to define a vision for managing chimpanzee conservation in Kédougou zone	USAID-WN	X	X
Jun-09	Monthly report from the community relays in Toubacouta, June 2009	USAID-WN	X	
Jun-09	Proposal for a management plan to exploit timber	USAID-WN for the CR of Saré Bidji	X	
Jun-09	Report on the study tour to wildlife production sites in Burkina Faso and northern Benin from May 20 to June 1, 2009	USAID-WN	X	
Jul-09	Written report on the reactivation of the Local Convention for the CR of Bambali	USAID-WN	X	
Jul-09	Local Convention for sustainable management of natural resources of Bambali	USAID-Wula Nafaa for the CR of Bambali	X	

Date	Title or topic of document	Author	Version	
			French	English
Jul-09	Local Convention for sustainable management of natural resources of Missirah Sirimana	USAID-Wula Nafaa for the CR of Missirah Sirimana	X	
Aug-09	Local Convention for sustainable management of natural resources of Koussanar	USAID-Wula Nafaa for the CR of Koussanar	X	
Aug-09	Report on zone-based meetings to report on survey results in the elaboration of a Local Convention and POAS for the CR of Toubacouta (BIC in Sokone)	Boubacar Diop, BIC in Fatick	X	
Aug-09	Report on the workshop: Elaboration of the terms of reference for community relays TDR des community relays for fisheries, and an action plan to set up a Local Convention in fisheries zones	USAID-WN	X	
Aug-09	Report on the mission to the Great Ape Health Workshop held in Uganda and visit to experience ecotourism with chimpanzees	Soulèye Ndiaye, Consultant	X	
Oct-09	Local Convention for sustainable management of natural resources of Tomboronkoto	USAID-WN for the CR of Tomboronkoto	X	
Jan-10	Wildlife management as part of forest management in the community forest of Sita Niaoulé (ISFAR thesis)	Adama Sané, Intern	X	
Jan-10	Forest management plan for Sakar/Oudoucar	USAID-Wula Nafaa for the CR of Sakar and Oudoucar	X	
Jan-10	Report on the visit to the Community Natural Reserve of Somone by the Rural Council of Dindéfélo	Soulèye Ndiaye, Consultant	X	
Feb-10	Local Convention for sustainable management of the natural resources of Toubacouta	USAID-Wula Nafaa for the CR of Toubacouta	X	
Feb-10	Land Use Plan for the CR of Toubacouta	USAID-WN for the CR of Toubacouta	X	
Mar-10	Contribution to a qualitative and participative characterization of biological diversity in the Community Forest of Koulor in the Region of Tambacounda	Dominique Manga, Intern	X	
Mar-10	Elaboration of a land use plan (POAS) in the Rural Community of Missirah Sirimana Region of Kédougou	Ousmane Adamou, intern	X	
Mar-10	Report on the training of facilitators in Biodiversity;	USAID-WN	X	
Mar-10	Report on the workshop to Train facilitators in biodiversity concepts	USAID-WN	X	
Mar-10	Training module in biodiversity	USAID-WN	X	
Apr-10	Land use plan for the CR of Missirah Sirimana	USAID-WN for the CR of Missirah Sirimana	X	
May-10	Supervisory and monitoring forms for officers of the Inventory and Mapping Offices for the Regional Forest Services in the intervention zones (1st quarter, 2010)	USAID-WN	X	
May-10	Meeting on the exchange about implementation of local conventions produced in the Region of Tamba	USAID-WN	X	
May-10	Study on potential for developing a beekeeping program in Toubacouta zone	Bocar Sow, Consultant	X	
May-10	Study on potential for developing a beekeeping program in the Community Reserve of Boundou	Bocar Sow, Consultant	X	
Jun-10	Local Convention for Sinthiou Malème	USAID-Wula Nafaa for the CR of Sinthiou Malème	X	
Jun-10	Report on the training of the BIC in Foundiougne, May 23 to 31, 2010	USAID-WN	X	
Jul-10	Report on the inventory of the Community Forest of Koussanar	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Jul-10	Towards a strategy for bushfire management in the intervention zones of USAID-Wula Nafaa Program	USAID-WN	X	
Jul-10	Article: Participatory and inclusive process for setting up a Community Reserve to manage biodiversity: Dindéfélo's case	USAID-WN	X	
Aug-10	Forest management plan for Saré Bidji	USAID-WN for the CR of Saré Bidji	X	
Aug-10	Inventory report for the Community Forest of Mangagoulack	USAID-WN	X	
Aug-10	Report on the socio-economic studies to produce a forest management plan for the Forest of Koussanar	Mandou Ndiaye, Consultant	X	
Oct-10	Contribution to writing a forest management plan for the Community Forest of Koussanar: Socio-economic Studies and Forest inventory (Department of Tambacounda, Region of Tambacounda, Senegal)	Delphin Léon Émile Pascal Diatta	X	
Dec-10	Activities in the strategy for chimpanzee conservation	USAID-WN	X	
Jan-11	Inventory report and biophysical characterization of the RNCD	USAID-WN	X	
Feb-11	Land use plan for the CR of Bambali	USAID-WN for the CR of Bambali	X	
Feb-11	Management plan for the Zones for Gathering Mollusks and Cockles	USAID-WN for the CR of Toubacouta	X	
Mar-11	Local Convention for sustainable management of natural resources in Dindéfélo	USAID-WN for the CR of Dindéfélo	X	
Mar-11	Local Convention for sustainable management of natural resources in Bassoul	USAID-WN for the CR of Bassoul	X	
Mar-11	Report on the socio-economic surveys in Dindéfélo	USAID-WN	X	
May-11	Chimpanzee conservation in Senegal: Status of knowledge and updating of the action plan	Soulèye Ndiaye, Consultant	X	
May-11	Report on the refresher course in use of the Casamance kiln by charcoal producers in the Community Forest of Saré Bidji	Sgt Momath Diakhan, Mamadou Diop, ATEF	X	
May-11	Report on the training in techniques for harvesting madd	USAID-WN	X	
Jun-11	Forest management plan for Koussanar	USAID-WN for the CR of Koussanar	X	
Jul-11	Biodiversity characterization of the lowlands in Ndinderling and Kaymor	USAID-WN	X	
Jul-11	Training of producers in the managed forests of Koussanar in technical prescriptions	USAID-WN	X	
Aug-11	Training of local producers of the Community Forest of Koussanar in techniques for Cutting and Burning Charcoal	Fily Sakho, Issa Ba and Guéladio Diallo, Consultants	X	
Sep-11	Administrative and financial management (GAF) for the Local Convention on Natural resource management in the CR of Bambali	USAID-WN for the CR of Bambali	X	
Apr-12	Local Convention for sustainable management of natural resources of Dionewar	USAID-WN for the CR of Dionewar	X	
Apr-12	Management Plan for the Community Natural Reserve of Dindéfélo	USAID-WN for the CR of Dindéfélo	X	
Jun-12	Report on the mid-term evaluation of the 2012 PTAs and budget for the Management bodies of the Community Forest of Sakar/Oudoucar	USAID-WN	X	
Jun-12	Inventory of baobab parks and their potential for monkey bread production in the CRs of Koussanar and Bala in the Region of Tambacounda and the CR of Dar Salam in the Region of Kédougou	Dr. Diaminatou Sanogo, M. Abdourahmane Tamba, Consultants	X	

Date	Title or topic of document	Author	Version	
			French	English
Jul-12	Report on the mid-term evaluation of the PTAs and budget for the Management bodies of the Community Forest of Saré Bidji/Thièty	USAID-WN	X	
Jul-12	Evaluation de the implementation of forest management plans in the Community Forests assisted by USAID-Wula Nafaa Program	Régis Peltier, Consultant	X	
Aug-12	Report on the results of surveys carried out in Assisted Natural Regeneration (RNA) in CF producers' fields	USAID-WN	X	
Aug-12	Land use plan for the CR of Dar Salam	USAID-WN for the CR of Dar Salam	X	
Aug-12	Land use plan for the CR of Ethiolo	USAID-WN for the CR of Ethiolo	X	
Aug-12	Land use plan for the CR of Tomboronkoto	USAID-WN for the CR of Tomboronkoto	X	
Oct-12	Local Convention for sustainable management of natural resources in Ethiolo	USAID-WN for the CR of Ethiolo	X	
Oct-12	Local Convention for sustainable management of natural resources in Dar Salam	USAID-WN for the CR of Dar Salam	X	
Oct-12	Management plan for the Community Forest of Mangagoulack	USAID-WN for the CR of Mangagoulack	X	
Oct-12	Biodiversity characterization of Wassadou Lowland	USAID-WN	X	
Nov-12	Contribution to improvements in the forest exploitation campaign	Régis Peltier, Jean-Michel Borie, Consultants	X	
	Report on the socio-economic surveys in Sakar	USAID-WN	X	
	Local Convention for sustainable management of natural resources in Djirnda	USAID-WN for the CR of Djirnda	X	
	Complementary study to identify unknown species in the Community Forest of Mangagoulack	Moustapha Coly, Consultant	X	
Potable Water and Sanitation				
Apr-09	Status report, priorities for intervention, and action plan for accessing potable water and sanitation in Program intervention zones (Tambacounda area)	Abdoulaye Boli, consultant	X	
Jun-09	Report on community presentations of the action plan for Water and Sanitation with USAID-Wula Nafaa Program	Abdoulaye Boli, consultant	X	
Jul-09	Workshop to explain tools for setting up and functioning of management committees for MFT wells equipped with manual pumps financed by UEMOA	USAID-WN	X	
Oct-09	Manual for building a well	USAID-WN	X	
Jan-11	Report on the training of water point and sanitation management committees	USAID-WN	X	
Jun-12	WADA Senegal close out report	IRG	X	
Dec-09	How to better manage water, hygiene, and sanitation for sustainable behavior change (SARAR/PHAST): Training workshop for facilitators and focal points	Aminata Sow Gueye, consultante	X	
	Methodological approach for implementing the Water and Sanitation Component of USAID-Wula Nafaa Program	USAID-WN	X	
	Water and Sanitation Component	USAID-WN	X	
	Village Assembly survey form	USAID-WN	X	
	AEP inventory form	USAID-WN	X	
	Request for proposal to construct modern wells	USAID-WN	X	
	Terms of reference for relays or water /hygiene/ sanitation focal points	USAID-WN	X	
	Presentation of action plans for Water and Sanitation	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
	Procedures and tools for implementation	USAID-WN	X	
	Geophysical Prospection by the profile and electrified sampling to locate sites of favorable aquifer levels to build three productive wells	Dr Same Diouf, Hydrogeologist – Geophysicist	X	
Policy and Communications				
Sep-08	Contribution of the Agriculture and Natural Resource Management Program "USAID/Wula Nafaa" to the reform of the forestry code and forest fiscality	Seybatou Alpha Djigo, consultant	X	
Nov-08	Report on the meetings on forest fiscality	Seybatou Alpha Djigo, consultant	X	
Jul-09	Newsletter 1	USAID-WN	X	
Aug-09	Decentralized radio station broadcast with the RTS on forest management in the Community Forest of Saré Bidji- Thièty	USAID-WN	X	
Oct-09	Analysis of Senegal's draft forestry code with special attention to its support for decentralization laws	Jesse Ribot, Consultant		X
Nov-09	Report on the informational and advocacy workshop on recommendations from studies done on revision of the forestry code	USAID-WN	X	
Jan-10	Newsletter 2	USAID-WN	X	
Feb-10	Communications Strategy	Laurie Chamberlain, IRG	X	X
Mar-10	Plan for communications on assistance to traditional gold mining activities	USAID-WN	X	
Jun-10	Report on the integration of recommendations by Wula Nafaa on the new forestry code – final report	Seybatou Alpha Djigo, consultant	X	
Jul-10	Forestry Code	Republic of Senegal	X	
Oct-10	Emission by Reewmi Kom Kom from Bamba Thialène (Tamba)	USAID-WN	X	
Dec-10	Agriculture (Management of lowlands and conservation farming, Interview with USAID Director)	*Le Soleil*	X	
Feb-11	Wealth Creation (Adding Value to Agroforestry Products, Management of Community Forests, Adding Value to Fonio, Dindéfélo Reserve)	*Le Soleil*	X	
May-11	Governance and Natural Resource Management (Fisheries, Forest Management, Local Conventions; Interview with the USAID Head of Economic Growth)	*Le Soleil*	X	
Sep-11	Grand Format Program on "Hydro-Agricultural Managements and Conservation Farming"	USAID-WN	X	
Sep-11	Sustainable interventions	*Le Soleil*	X	
Oct-11	Governance in the bolongs and mudflats	USAID-WN	X	
Oct-11	Oyster farming to fight poverty	USAID-WN	X	
Oct-11	Rice farming: the cereal is reborn in Boli	USAID-WN	X	
Nov-11	Fishing: a lifesaver	USAID-WN	X	
Apr-12	Dindéfélo: Ecotourism in progress	USAID-WN	X	
Apr-12	CF: Yields that defy the climate	USAID-WN	X	
Apr-12	Budget 'assistance to end red tape	USAID-WN	X	
Apr-12	Forest Products, financial markets	USAID-WN	X	
Apr-12	BDS services: processing units guaranteed	USAID-WN	X	
Apr-12	"Thon" saves the palm plantation	USAID-WN	X	
Apr-12	Fees motivate resource guards	USAID-WN	X	
May-12	WATSAN: governance in the spotlight			
Sep-12	Emission on CF from Renni Kom Kom in Médina Sabakh	USAID-WN	X	
Sep-12	Grand format program on "reactivation of rice farming in Tamba and Kédougou"	USAID-WN	X	
Nov-12	Rice grains replace the steering wheel	USAID-WN	X	
Nov-12	Grand format program on "rice production in the valleys of Foundiougne Department"	USAID-WN	X	
Apr-13	Organization of the CRD on activities of USAID-Wula Nafaa Program in the Regions of Tambacounda, Kédougou, and Sédhiou	USAID-WN	X	

Date	Title or topic of document	Author	Version	
			French	English
Dec-09	Bouye seed brings profits to rural populations	USAID-WN	X	
Dec-10	Conservation Farming charms Senegalese producers	USAID-WN	X	
Dec-11	Producers buy themselves trucks; transport costs reduced	USAID-WN	X	
Dec-11	Cashew, a profitable product in 2011	USAID-WN	X	
Dec-11	FRA: Enterprises on the export	USAID-WN	X	
Dec-12	Elected officials have their say on reforming the forestry code	USAID-WN	X	
Dec-13	The best natural resource management is a source of revenues	USAID-WN	X	
Feb-12	WASH: Giant steps forward	USAID-WN	X	
	Electronic poster on Program presentation	USAID-WN	X	
	Electronic poster on NWP	USAID-WN	X	
	Poster on Program presentation	USAID-WN	X	
	Wrapping increases product sales	USAID-WN	X	
	The well brings health to the village	USAID-WN	X	
	Charcoal revenues to invest in the home	USAID-WN	X	
	Compilation of 10 success stories, each 3 minutes long	USAID-WN	X	
	Film on "The Local Convention, a tool for preventing and managing conflicts"	USAID-WN	X	
Fisheries				
Oct-08	Findings and Recommendations Concerning Sustainable Fisheries and Aquaculture	Brian Crawford		X
Jan-09	Report on the workshop to reflect on promotion of exchanges between Wula Nafaa Program and other projects working in Fatick zone	USAID-WN	X	
Jan-09	Written report on the workshop on the role of Local Councils on Artisanal Fisheries (CLPA) and possible ways to collaborate for a sustainable exploitation of fisheries resources in the Region of Fatick	USAID-WN	X	
Jan-09	Record of the meeting of Members of the Coordination and Local Councils on Artisanal Fishing in Toubacouta and Missirah	USAID-WN	X	
Jan-09	Role of the Local Councils on Artisanal Fishing (CLPA) and possible ways to collaborate for a sustainable exploitation of fisheries resources in the Region of Fatick	USAID-WN	X	
Feb-09	Report on the meeting of the fisheries thematic group among Senegal donors	USAID-WN	X	
May-09	Report on the training in improved techniques for harvest, production, and management of collection zones for cockles and oysters	Mr Cory SENE, and Mr Ibra SENE, Consultants	X	
Jun-09	Feasibility study on shrimp harvest in the Sine Saloum and Casamance estuaries	Dr Alassane Samba, Fisheries Consultant	X	
Jun-09	Feasibility study on artisanal processing (smoking) of 'ethmaloses in the Sine Saloum and Casamance	Dr Alassane Samba, Fisheries Consultant	X	
Jul-09	Census on artisanal fishing and characterization of collection zones for mollusks in the Saloum estuary: report on fishing units	Moustapha Dème, consultant	X	
Jul-09	Census on artisanal fishing and characterization of collection zones for mollusks in the Saloum estuary: report on fishing hubs	Moustapha Dème, consultant	X	
Jul-09	Presentation of preliminary results of the "Feasibility study on artisanal processing of cobos (*Ethmaloses*) and shrimp harvest (*Peaneus sp.*) in the Regions of Fatick, Ziguinchor, and Sédhiou"	Alassane Dieng, consultant	X	
Aug-09	Written report on the workshop to write management plans for fisheries and coastal shrimp (P*eaneus notialis*) and cymbium in the waters under Senegal's jurisdiction (EPACC)	USAID-WN	X	
Nov-09	International workshop BIODIVALLOC: Adding value to local products: what label to use for which goal	USAID-WN	X	
Jan-10	Local Convention for sustainable management of fisheries resources in the zone of Missirah (problems and solutions)	USAID-WN for the CLPA of Missirah	X	

Date	Title or topic of document	Author	Version	
			French	English
Jan-10	Local Convention for sustainable management of fisheries resources in Toubacouta zone (problems and solutions)	USAID-WN pour le CLPA de Toubacouta	X	
Mar-10	Report on the evaluation of Phase 1 of IDEE Casamance	USAID-WN	X	
Mar-10	Work visit of the USAID-Wula Nafaa Program Director to Foundiougne (meeting with the GIRMAC Program and the Departmental Fisheries Service in Foundiougne).	USAID-WN	X	
Mar-10	Fisheries Regulatory and Enforcement Survey for West and Central African Coastal Countries	USAID-WN		X
Apr-10	Meeting to update stakeholders on the process of closing bolongs and mudflats	USAID-WN	X	
May-10	Logical framework – Wula Nafaa 2 sustainable fisheries program	USAID-WN	X	
General				
Aug-07	Report on the 2007 Program General Assembly	USAID-WN	X	
Apr-09	Evaluation Report on the Status of the 2008-09 PTA	USAID-WN	X	
Jun-09	Report on the meeting to award grants to rural collectivities working with the Program	USAID-WN	X	
Aug-09	Report on the evaluation meeting for the 2008-09 PTA	USAID-WN	X	
Nov-09	Report on the mission: Evaluation of la basing of vehicles at the regional coordination level	USAID-WN	X	
Jan-10	Environmental Mitigation And Monitoring Plans	USAID-WN		X
Mar-10	Meeting on improving office organization	USAID-WN	X	
	Final report and recommendations	John Heermans		X

APPENDIX 4: LOCAL AGRICULTURE SUPPORT FUND, LASF

Rice value chain

Value chain	Supplier	Type of LASF commitment	FY
Rice	Africa Rice	Improvement of rainfed rice production in Senegal	2011
Rice	ETS Ezzedine/1	Construction of the hydro-agricultural management structure in Ndinderling lowland	2011
Rice	Malang Mané	Quality control of construction work on the hydro-agricultural management structure in Ndinderling lowland	2011
Rice	ETS Hassane EZZEDINE	Construction of the hydro-agricultural management structure in Wassadou lowland	2011
Rice	Mouhamadou Bachir Ndiaye2	Organization of the workshop to present results of the study on offering services for tractor labor and rice hulling	2011
Rice	SENTHRAS	Construction of the hydro-agricultural management structure in Kaymor lowland	2011
Rice	PRESCOM	Management of rice farming perimeters in Samécouta and Ferme 2	2011
Rice	SETICO	Quality control of Kaymor construction work	2011
Rice	Modou Gaye Ndiaye	Controller of Kédougou works	2011
Rice	Gallo Sall	Socio-economic study for Bembo, Santanko, and Ferme 1 lowlands in the Region of Kédougou	2011
Rice	ETS Ezzedine/2	Construction of the hydro-agricultural management structure in Wassadou	2011
Rice	GIE TAIF ROSS BETHIO	Offsetting tractor labor in dry soil in the Lowlands of Kédougou and Tambacounda zones	2011
Rice	DG TRAVAUX	Consolidation of dike work in the CRs of Toubacouta and Djilor	2011
Rice	Malang Mané3	Quality control for work in Wassadou	2011
Rice	Abdou Mbodj 3	Mapping of the lowlands of Bembou Santanko and Ferme 1 in the Region of Kédougou	2011
Rice	Mbaye Dieng 2	Topographic study for the lowlands of Bembou Santanko and Ferme 1 in the Region of Kédougou	2011
Rice	Mankeur Fall3	Pedagogical study of the lowlands of Bembou Santanko and Ferme 1 in the Region of Kédougou	2011
Rice	SODEFITEX BAMTAARE	Supplying seed in the 2011 rainy season in Tambacounda and Kédougou Regions	2011
Rice	Moussa Cissokho 2	CONSULTANT	2011
Rice	Assane Camara	Tractor offsetting labor in the Lowland of Ndinderling (Keur Samba Gueye)	2011
Rice	Birane Cissé	Tractor offsetting labor in the Lowland of Kaymor	2011
Rice	Elhadj Bassirou Gueye	Tractor offsetting labor in the Lowland of NdourNdour	2011
Rice	Ibrahima Thiam	Tractor offsetting labor in the Lowland Boli Mandaw	2011
Rice	Ibrahima Cissé	Tractor offsetting labor in the Lowland of Djilor	2011
Rice	ANCAR BAS	Technical assistance from the ANCAR Southern Peanut Basin (ANCAR BAS) to activities of the Agricultural Council for Rice Farming	2011
Rice	BAATA BANTA	Supplying seed in the context of valuing the lowlands in rainy season in 2011 (Fatick regions)	2011
Rice	Niombato SARL	Tractor offsetting labor in the Lowland of Dassilamé Sérère	2011
Rice	Momath Cissé	Tractor offsetting labor in the Lowland of Dassilamé Sérère and Diabang / Pakala.	2011
Rice	Moussa Sidibé	Tractor offsetting labor in the Lowland of Ndinderling (Keur Samba Gueye)	2011
Rice	MALANG SAGNA	Tractor offsetting labor in the Lowland of Ndinderling (Keur Samba	2011

Value chain	Supplier	Type of LASF commitment	FY
		Gueye)	
Rice	ETS Hassane EZZEDINE	Building stone aprons below the Kaymor dike walls	2012
Rice	GIE GOUNASS FABO DENTAL LISLAM	Supplying Nerica seeds, type R1, in the context of valuing the uplands in the 2012 rainy season	2012
Rice	GIE TAIF ROSS BETHIO	Tractor labor offsetting in dry soil in the Lowlands of Kédougou and la and Tambacounda zones	2012
Rice	Mamadou Diallo	Tractor offsetting work on 25 ha in the Lowland of Ndinderling (Keur Samba Gueye)	2012
Rice	Assane Dioum	Tractor offsetting labor on 24 ha in the Lowland of Ndinderling (Keur Samba Gueye)	2012
Rice	Birane Cissé	Tractor offsetting labor in the Lowland of Kaymor	2012
Rice	Arona Diédhiou	Providing seed varieties Roc5 type R1 in the context of supporting the valuation of uplands in the 2012 rainy season in Fatick and Kaolack Regions	2012
Rice	ETS Hassane EZZEDINE	Work to finish dike structures built at Néma Bah and Djilor	2012
Rice	BAATA BANTA	Providing seeds in the context of supporting valuation of the lowlands in 2012 rainy season in the Regions of Tambacounda, Kédougou, and Fatick	2012
Rice	DRDR Fatick	Evaluation of rice yields and production in four lowlands of the Department of Foundiougne (Region of Fatick)	2012
Rice	Babacar Thiam	Tractor offsetting labor on 26 ha in the Lowland of Boli Mandaw, and 5ha in NdourNdour in the CR of Djilor	2012
Rice	ETS Hassane EZZEDINE	Construction of stone aprons on the walls of the anti-salinization dike in Kaymor in the Rural Community of Kaymor	2013

Millet/sorghum and maize value chains

Value chain	Provider	Type of LASF commitment	FY
Millet/sorghum, maize	GIADARA	Refinement of Rippers and hoes adapted to CF	2011
Millet/sorghum, maize	Aboubacar Sadikh Ndiaye	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Moustapha Gueye2	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Diougal Mboup2	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Nohine Ndao	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Lycée Technique UAP	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Ousmane Ngom	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Alioune Badara Cissokho	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Abdourahmane Mboup	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	El Hadj Thiam	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Modou Magane	Craftsmen who make rippers and hoes 2011	2011
Millet/sorghum, maize	Mankeur Fall 2	Soil fertility in the CF implementation zone	2010
Millet/sorghum, maize	Mankeur Fall 2	Pedological study in the lowlands of Bembou Santanko and Ferme 1 in the Region of Kédougou	2011
Millet/sorghum, maize	GIE Wakeur Mame Cheikh Anta Mbacké	Crafting a ripper prototype for the tractor	2012
Millet/sorghum, maize	GIE Wakeur Mame Cheikh Anta Mbacké	Tests in tracing furrows for conservation farming with a tractor in the Rural Communities of the Regions of Fatick and Kaolack	2012
Millet/sorghum, maize	GIE Wakeur Mame Cheikh Anta Mbacké	Crafting of 10 ripper wagons with tractors on behalf of networks in Kaolack, Fatick ,and Tambacounda	2013
Millet/sorghum, maize	UAP (apprenticeship and production unit)	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Nohine NDAO	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Moustapha Gueye	Craftsmen who make rippers and hoes 2012	2012

Value chain	Provider	Type of LASF commitment	FY
Millet/sorghum, maize	Modou Ndiaye	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Elhadji Thiam	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Diougal Mboup	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Ousmane Ngom	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Babacar Ndiaye 2	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	Alioune Badara Cissokho 2	Craftsmen who make rippers and hoes 2012	2012
Millet/sorghum, maize	GIADRA 2	Refinement of the ripper (animal traction) generation 3 and Training of artisans in the hubs of Tambacounda, Toubacouta, Kédougou, and Djilor	2012
Millet/sorghum, maize	Nohine Ndao	Crafting of 22 ripper frames, 22 hoppers to spread compost for conservation farming	2013
Millet/sorghum, maize	Babacar Ndiaye	Craftsman who make the entire frame for the ripper, hopper for spreading compost, a coat of paint and assembly of the ripper for conservation farming	2013
Millet/sorghum, maize	Elhadji Thiam	Craftsman who make the entire frame for the ripper, hopper for spreading compost a coat of paint and assembly of the ripper for conservation farming	2013
Millet/sorghum, maize	Diougal Mboup	Crafting of 19 entire frames for the ripper, 19 hoppers to spread compost, coat of paint, and assembly of pieces for the CF ripper	2013
Millet/sorghum, maize	Ousmane Ngom	Crafting of 17 entire frame for the ripper, hoppers to spread compost, coat of paint, and assembly of pieces for the CF ripper	2013
Millet/sorghum, maize	Alioune Badara Cissokho	Craftsman who make the entire frame for the ripper, hoppers to spread compost, coat of paint, and assembly of pieces for the CF ripper	2013
Millet/sorghum, maize	GIE Wakeur Mame Cheikh Anta Mbaké	Crafting of 10 ripper wagons with tractors on behalf of networks in Kaolack, Fatick, and Tambacounda	2013
Millet/sorghum, maize	Abdoulaye Ndiaye de Keur Samba Gueye	Assistance for private promoters in acquiring tractor	2013
Millet/sorghum, maize	Yankoba Cissé de Nioro Assane Tall	Assistance for private promoters in acquiring tractor	2013
Millet/sorghum, maize	Aboubacry Diallo de Ndam	Assistance for private promoters in acquiring tractor	2013
Millet/sorghum, maize	Babacar Cissé de Kaymor	Assistance for private promoters in acquiring tractor	2013
Millet/sorghum, maize	Modou Ndiaye	Crafting of 49 complete ripper frames, plus 49 hoppers for spreading compost to put on the CF ripper	2013

Horticultural sector

Sector	Supplier	Type of LASF commitment	FY
Horticulture	Gora Bitèye	Construction of wells, basins, and water distribution system	2011
Horticulture	Idrissa Diédhiou 2	Second consultation for well driller training	2011
Horticulture	PRESCOM	Removal and destruction of termite mounds in the horticultural perimeters of Diabang and Nema Bah	2011
Horticulture	Kelountang Sagna	Crafting of soil digger	2011
Horticulture	Keloutang Sagna consultation 2	Training of artisans in Toubacouta and Nioro	2011
Horticulture	ETBGC CONSULT	Construction of wells, basins, and water distribution networks	2011
Horticulture	GECTIS ENTERPRISE	Construction of wells, basins, and water distribution networks	2011
Horticulture	Enterprise Pape Ndiaye	Construction of wells, basins, and water distribution networks	2011
Horticulture	Ngor Diohine Diagne	Quality control over work done (Construction of wells, basins, and water distribution networks))	2011
Horticulture	Alioune Badara Thiam	Craftsmen for treadle pumps	2011

Sector	Supplier	Type of LASF commitment	FY
Horticulture	Amadou Diallo	Purchase of equipment for 10 demonstration sites for linked basins to irrigate Program zones	2011
Horticulture	Enterprise Gora Bitèye	Deepening of 19 wells in the garden perimeter of Diabang	2012
Horticulture	Pape Ndiaye Entrepreneur	Extra work on digging underwater for 9 meters of depth, six wells, in the perimeters of Dassilamé Sérère and Nema Bah	2012
Horticulture	ETBGC CONSULT 2	Rehabilitation of 7 wells and deepening of two new wells in the garden perimeters of Djilor and Ndour	2012
Horticulture	Enterprise Gora Bitèye:2	Work to deepen one well by seven meters in the garden perimeter of Diabang	2012
Horticulture	Ousmane Ngom	Crafting of 19 toolkits for gardeners including seven vital tools for implementing gardening in the fenced perimeters	2013
Horticulture	Lamine Diène	Crafting and installation of 20 rope pumps for the perimeter of Diabang in the Rural Community of Nioro Alassane Tall	2013
Horticulture	Alioune Badara Cissokho	Crafting of 51 toolkits for gardeners including seven vital tools for implementing gardening in the fenced perimeters	2013

APPENDIX 5: SMALL GRANTS AWARDED

Summary table of Small Grants awarded			
Beneficiaries	Designation	Amount awarded (FCFA)	Closure date
WHEPSA (Viola)	Garden fence for planting cashew in Kaymor and Malème Hodar	9,705,752	28-Aug-08
IDEE Casamance	Exploratory mission for producing salt and rice in the association of salt workers from The Salins de Guérande	1,104,000	10-Nov-08
Regional Forest Service Fatick	Inventory and mapping of natural resources in Fatick	3,015,500	25-May-09
Regional Forest Service Kédougou	Inventory and mapping of natural resources in Kédougou	2,700,000	25-May-09
Regional Forest Service Kolda	Inventory and mapping of natural resources in Kolda	1,000,000	25-May-09
Regional Forest Service Sédhiou	Inventory and mapping of natural resources in Sédhiou	1,215,500	25-May-09
Regional Forest Service Tamba	Inventory and mapping of natural resources in Tamba	1,000,000	25-May-09
Regional Forest Service Ziguinchor	Inventory and mapping of natural resources in Ziguinchor	2,650,000	25-May-09
Leadership for conservation in Africa-SN	Study tour to Burkina Faso to better understand community management of wildlife	9,302,000	13-Jun-09
Regional Forest Service Kolda	Training in sustainable management of forests and forest certification	864,500	29-Jun-09
CLCOP de Koumpentoum	Training of producers in conservation farming technologies and setting up demonstration fields	765,000	24-Aug-09
GIE DIAPPO	Training of producers in conservation farming technologies and setting up demonstration fields	765,000	24-Aug-09
GIE Santé Yalla	Training of producers in conservation farming technologies and setting up demonstration fields	765,000	24-Aug-09
Youssouf Diédhiou	Training in protected area management	800,000	24-Sep-09
GIE Koba club, Wakilaré est. de Kédougou	Purchase of wrapping for fonio and bouye processing units of Kédougou	5,393,000	22-Oct-09
Yakar Niani Wulli	Acquisition of a fonio processing unit	5,000,000	30-Nov-09
Nourou Enterprise	Construction and equipment of a fonio processing unit	7,335,500	15-Mar-10
Gaye Charbonnage	Promotion and marketing of charcoal from managed forests in the Program	3,000,000	15-Apr-10
ONG La Lumière	Assistance for traditional gold mining	10,064,030	10-Jun-10
Rural Community of Missirah	Construction of a well in Sitaoulé Issac in the Rural Community of Missirah	5,195,600	15-Jun-10
Rural Community of Missirah	Construction of a well in Vélingara Yayah in the Rural Community of Missirah	5,195,600	15-Jun-10
Rural Community of Missirah	Construction of a well in Sinthian Samba Courou Missirah	5,195,600	15-Jun-10
Hassana Diallo	Demonstration farm for permaculture in Dindéfélo	2,890,000	22-Jun-10
Rural Community of Koulor	Construction of a well in Damamba and Mbocka in the Rural Community of Koulor	6,007,500	30-Jul-10
ASC Banta Fouladou	Rehabilitation of a women's garden to fight malnutrition and food insecurity	1,738,340	10-Sep-10
GIE Dental Wakilébé de Téminto Koutayel	Rehabilitation of a women's garden to fight malnutrition and food insecurity	1,738,340	10-Sep-10
GPF Kawral Fass de Vélingara	Rehabilitation of a women's garden to fight malnutrition and food insecurity	652,110	10-Sep-10
Rural Council of Bambali	Civil status and local fees	4,287,150	17-Jan-11

Summary table of Small Grants awarded			
Beneficiaries	Designation	Amount awarded (FCFA)	Closure date
Janis Carter	Promotion of chimpanzee survival in eastern Senegal	24,440,679	22-Feb-11
IDEE Casamance	Creation of consensus-building groups for fisheries actors in Casamance	26,535,000	17-Mar-11
IDEE Casamance	Capacity building of fisheries actors and embarkation on the comanagement of fisheries in Ria Casamance	30,069,000	17-Mar-11
Maya Lau	Regional fair in Kolda	2,250,000	22-Apr-11
Regional Forest Service -Kolda	Installation of a Mapping and Inventory Office in Kolda	639,102	22-Apr-11
Regional Forest Service -Sédhiou	Equipment of a Mapping and Inventory Office in Sédhiou	2,244,020	22-Apr-11
Regional Forest Service - Tambacounda	Equipment of a Mapping and Inventory Office in Tambacounda	551,016	22-Apr-11
Regional Forest Service -Ziguinchor	Equipment of a Mapping and Inventory Office in Ziguinchor	493,452	22-Apr-11
Association de la Presse Régionale de Tambacounda	Week End de Presse in Kédougou with Tamba journalists	560,000	5-Jun-11
Jane Goodall Institute	Development of sustainable ecotourism based on protection and conservation of chimpanzees in Kédougou	26,352,000	10-Jun-11
UICN	Support for the implementation of local conventions in Fatick	12,500,000	12-Jun-11
Regional Forest Service -Fatick	Equipment and capacity building for the Inventory and Mapping Office in Fatick	2,244,020	21-Jun-11
Regional Forest Service Kédougou	Purchase of equipment for the Inventory and Mapping Office in Kédougou	493,452	10-Jul-11
Regional Forest Service -Kolda	Building capacity for the Inventory and Mapping Office in Kolda	493,452	10-Jul-11
Regional Forest Service Kédougou	Construction of a BIC in Kédougou	6,850,650	19-Jul-11
Oyster producers' groups	Group purchase of wrapping for oyster and cockle processing units	3,132,000	20-Jul-11
Regional Council of Tambacounda	Training and equipment for beekeepers in the villages of the RNC of Boundou	7,735,000	2-Aug-11
Fongoli savanna Chimpanzee	Study on nesting and sensitization activities on chimpanzee importance	21,338,500	11-Aug-11
CRs Region de Tambacounda, Dandé (Kédougou)	Purchase of seven hand pumps for wells	7,217,598	17-Aug-11
Rural Council of Oudoucar	Construction of a storage warehouse	961,000	25-Aug-11
Federation of women processors in Dindéfélo	Construction of a storage warehouse	1,647,500	25-Aug-11
Rural Council of Simbandi Brassou	Construction and fencing of a drying area for cashew nuts	1,100,000	6-Sep-11
Rural Council of Dindéfélo	Mobilization of the rural tax in CR of Dindéfélo	662,360	17-Sep-11
CMC in Soucouta	Support for buying Equipment (Radio Rurale)	900,000	30-Sep-11
IDEE Casamance	Capacity building of fisheries actors	11,030,000	30-Sep-11
Community radio stations (Kédougou, Toubacouta)	Assistance with buying equipment, supplies, and consumables	1,000,000	6-Oct-11
Rural Councils of Nguindir	Equipment of a cashew nut processing unit	1,375,000	6-Oct-11
Regional Forest Service -Fatick	Equipment and capacity building for Inventory and Mapping Office in Sédhiou	500,000	6-Oct-11
Rural Councils	Madd plantations along the Diarra River in Salémata, Bandafassi forest gallery, Dindéfélo, and Ségou	1,221,360	17-Oct-11
Rural Councils of Bambali	Equipment of a cashew nut processing unit	1,375,000	6-Nov-11
Rural Council of Dindéfélo	Construction of 25 private latrines and 10 public latrines in Dindéfélo	7,060,000	12-Nov-11
Rural Council of Sinthiou Malème	Organization of a weekly market	999,000	22-Nov-11

Summary table of Small Grants awarded			
Beneficiaries	Designation	Amount awarded (FCFA)	Closure date
Regional Forest Service -Kolda	Building capacity for the Inventory and Mapping Office in Kolda	800,000	30-Nov-11
Rural Council of Dindéfélo	Construction of facilities to access potable water and sanitation	11,264,000	9-Jan-12
Rural Community of Koulor	Construction of a well in Sinthiou Bougoute Diouf in the Rural Community of Koulor	7,199,000	12-Jan-12
Rural Council of Djirédji	Construction of a drying area	1,464,000	31-Jan-12
Rural Community of Sinthiou Malème and Bala	Construction of three wells in the CRs of Sinthiou Malème and Bala (Villages of Medina Diam, Sinthiou Padah, and Thiara)	18,580,000	15-Feb-12
Rural Community of Sinthiou Bocar Ali and Koussanar	Construction of three wells in the CRs of Sinthiou Bocar Ali and Koussanar	19,992,500	22-May-12
Erika Berg	Construction of 75 latrines in the village of Ndoumane Mbaye	1,211,250	2-Mar-12
Kellen Eilert	Construction de 63 latrines in the village of Bembou (Rural Community of Saraya)	1,485,580	11-Mar-12
Jane Goodall Institute	Development of ecotourism based on protection and conservation of chimpanzees in Kédougou Phase II	25,996,000	12-Apr-12
Association pour la Valorisation du Gombo du Fouladou (AVGF):	Kolda Regional Fair	2,935,620	5-Jun-12
Rural Councils of Toubacouta	Installation of two cashew processing units	1,460,000	6-Jun-12
Rural Councils of Toubacouta	Installation of two cashew processing units	1,460,000	6-Jun-12
Communities in the Department of Salémata	Financing a project to build community radio in Salémata	10,000,000	30-Jun-12
CRs in Region of Tambacounda	Purchase and installation of 3 solar pumps with TENESOL	20,553,527	12-Jul-12
Rural Community of Bassoul	Management of embarkation sites for pirogues	2,270,000	5-Sep-12
Rural Community of Djirnda	Management of embarkation sites for pirogues	2,215,000	5-Sep-12
Oyster farming GIE in Sokone	Assistance to the oyster farming GIE in Sokone to redirect oyster farming efforts	5,620,000	30-Sep-12
Women's groups in Samécouta and Kédougou	Purchase of combination hullers for two women's groups in Samécouta and Kédougou	3,184,000	15-Nov-12
AKAD	Improvement of traditional gold mining	22,960,000	31-Dec-12
Management committee de Kaymor	Purchase and installation of a combination huller and training for the management committee in Kaymor	2,300,000	30-Mar-13
Management committee de Kaymor	Purchase and installation of a Rice thresher diesel and training) for the management committee in Kaymor	2,200,000	30-Mar-13
Network ins Producers de CF de Kaymor	Purchase and installation of a maize sheller training) for the management committee in Kaymor	2,100,000	30-Mar-13
Management committee de NdourNdour	Purchase and installation of a rice thresher 1000-1800kg/h plus diesel motor and training) for the management committee in NdourNdour	2,200,000	30-Mar-13
Network in Nioro Alssane Tall	Purchase and installation of a maize sheller 2000-3500kg/h plus training) for the network in Nioro Alssane Tall	2,100,000	30-Mar-13
Network in Ndame	Purchase and installation of a maize sheller 2000-3500kg/h plus training) for the network in Ndame	2,100,000	30-Mar-13
Network in Bamba	Purchase and installation of a maize sheller 2000-3500kg/h plus training) for the network in Bamba	2,100,000	30-Mar-13
Network in Keur Saloum Diané	Purchase and installation of a maize sheller 2(000-3500kg/h plus training) for the network in Keur Saloum Diané	2,100,000	30-Mar-13
Network in Djilor	Purchase and installation of a maize sheller (2000-3500kg/h plus training) for the network in Djilor	2,100,000	30-Mar-13
Network in Maka	Purchase and installation of a maize sheller (2000-3500kg/h plus training) for the network in Maka	2,100,000	30-Mar-13

Summary table of Small Grants awarded			
Beneficiaries	Designation	Amount awarded (FCFA)	Closure date
Management committee in Keur Samba Gueye	Purchase and installation of a rice thresher (1000-1800kg/h plus diesel engines and training) for the management committee in Keur Samba Gueye	2,200,000	30-Mar-13
Group des women producers de rice de Samécouta	Purchase and installation of a rice thresher (1000-1800kg/h plus diesel engines and training) women rice producers' group in Samécouta	2,200,000	30-Mar-13
Management committee in Keur Samba Gueye	Purchase and installation of a rice huller (350-500kg/h plus diesel engines and training) for the management committee in Keur Samba Gueye	1,950,000	30-Mar-13
Management committee de Wassadou	Purchase and installation of a rice hullers (diesel Type RAJAN N° 8 with long props, 300kg/h) for white rice and training for the management committee in Wassadou	1,980,000	30-Mar-13
Abdoulaye Ndiaye of Keur Samba Gueye	Support for a private promoter for the acquisition of a tractor in the village of Keur Samba Gueye	10,776,000	31-July-13
Yankoba Cissé of Nioro Assane Tall	Support for a private promoter for the acquisition of a tractor in the village of Nioro Assane Tall	10,776,000	31-July-13
Aboubacry Diallo of Ndam	Support for a private promoter for the acquisition of a tractor in the village of Ndam	10,776,000	31-July-13
Babacar Cissé de Kaymor	Support for a private promoter for the acquisition of a tractor in the village of Kaymor	10,776,000	31-July-13
GRAND TOTAL		538,799,660	
	In US Dollars	$1,077,599	

APPENDIX 6: LIST OF PARTNER RURAL COMMUNITIES

Tambacounda Region, 15 Rural Communities

Department	Wula Nafaa CR Partner
Goudiry	Koar
Goudiry	Goumbayel
Goudiry	Koulor
Goudiry	Sinthiou Bocar Ali
Goudiry	Bala
Tambacounda	Koussanar
Tambacounda	Sinthiou Malème
Tambacounda	Missirah
Tambacounda	Dialocoto
Tambacounda	MakaColibantang
Koumpentoum	KouthiaGaïdy
Koumpentoum	Ndame
Koumpentoum	Méréto
Koumpentoum	Pass Koto
Koumpentoum	Bamba Thialène

Kédougou Region, 9 Rural Communities

Department	Wula Nafaa CR Partner
Saraya	Bembou
Saraya	Missirah Sirimana
Saraya	Sabodala
Kédougou	Bandafassi
Kédougou	Tomboronkoto
Kédougou	Dindéfélo
Salémata	Dar Salam
Salémata	Oubadji
Salémata	Ethiolo

Kolda Region, 2 Rural Communities

Department	Wula Nafaa CR Partner
Kolda	Thièty
Kolda	Saré Bidji

Sédhiou Region, 15 Rural Communities

Department	Wula Nafaa CR Partner
Sédhiou	Djirédji
Sédhiou	Bambali
Sédhiou	Diendé
Sédhiou	Sakar
Sédhiou	CR Oudoucar
Sédhiou	Koussy
Sédhiou	Djibabouya
Sédhiou	Bémét Bijina
Goudoump	Kaour
Goudoump	Djibanar
Goudoump	Simbandi Balante
Goudoump	Yarang Balante
Goudoump	Mangaroungou Santo
Goudoump	Simnandi Brassou
Goudoump	Dioudoubou

Ziguinchor Region, 3 Rural Communities

Department	Wula Nafaa CR Partner
Bignona	Mangagoulack
Bignona	Oulampane
Bignona	Ouonck

Fatick Region, 8 Rural Communities

Department	Wula Nafaa CR Partner
Foundiougne	Toubacouta
Foundiougne	Bassoul
Foundiougne	Ndjirnda
Foundiougne	Keur Saloum Diané
Foundiougne	Keur Samba Gueye
Foundiougne	Nioro Alassane Tall
Foundiougne	Djilor
Foundiougne	Dionewar

Kaolack Region, 3 Rural Communities

Department	Wula Nafaa CR Partner
Nioro du Rip	Kaymor
Nioro du Rip	Médina Sabakh
Nioro du Rip	Ngayène Sabakh

APPENDIX 7: LIST OF KEY PARTNERS

FIRM	RESPONSIBLE	TELEPHONE	Nature of Collaboration (Product/Services)
FOLAND SARL	Ning Chu, Directeur General	77 860 1819 33 854 88 88	Agriculture equipment Tillers Thresher, Tractors, Shellers
BAATA BANTA	Djim Sock, President	70 808 23 14 76 847 93 69	Seed (Sahel certified)
GIE GOUNASS FABO DENTAL LISLAM	Moussa Kama	70 806 20 13 77 024 61 37	Seed (Nérica1)
SODEFITEX BAMTAARE	Goulé Gueye	33 889 79 50	Seed Sahel 134 level R1 Seed Sahel 108 level R2
GIE TAIF ROSS BETHIO	Bassirou Fall, President	77 557 57 53	Tractor disking
Matforce	Mr. Ababacar Sarr	77 649 93 25	Agricultural equipment (Tractors New Holland)
AFCO	Jean Bernard Labille, Directeur General	33 832 80 80	Equipment/Material for Agriculture
AGRIPRO, West Africa	Saer Wade	33 867 55 33	Agriculture equipment Tillers Thresher, Tractors, Shellers
TSE Africa SA	Mme Kine DIALLO, General Director	33 832 90 75	Agriculture equipment Tillers Thresher, Tractors, Shellers
Raesa Sénégal Sarl	Mr. Thiemo Sall	33 865 07 26	Irrigation system, Material for Agriculture, Hydraulics-Energy
ETS PRESCOM	Djibril Diagne Diallo, Directeur General	33 960 01 34 33 961 68 01 77 231 06 00	Irrigation system, Hydraulics-Energy
Les Niayes du Saloum	Oumar Mbaye	70 202 52 09 77 901 30 60	Fertilizer, Garden seeds, Herbicides, garden equipment
Entreprise GECTIS	Cheikh Fall, Directeur General	77 645 39 19 33 955 4175	Irrigation systems, Hydraulics-Energy
ETBGC CONSULT	Amadou Abib Tall	77 373 9728 33 825 34 68	Enterprise for construction and civil engineering consultancies
Entreprise Gora Bitèye:	Mr. Gora Bitèye, Directeur General	77 539 73 77 77 518 11 75	Metalworker/construction Thiadiaye
Pape Ndiaye Entrepreneur	Mr. Pape Ndiaye, Directeur General	77 615 36 87	ECE Building, public works, Hydraulics
Group Zenith/AFSIT	Mr. Pierre Ndour, Directeur General	33 952 92 92	Construction of dikes and hydro-agricultural works
NSMTP	Ibrahima DIAGNE, Directeur General	33 869 84 00	Construction of dikes and hydro-agricultural works
Maison Consommé Senegal	Mme DEME	77 639 52 81	Commercialization of forest products (bouye) and farm products (fonio)
Maria Distribution	Mme Mariama Mbodj	7738605 97	Commercialization of forest products (bouye, laalo) and farm products (fonio); training of local units
Saveur du Sahel	Mme Diallo	33 820 92 37	Commercialization of forest products (bouye, honey) and agricultural products (fonio)

FIRM	RESPONSIBLE	TELEPHONE	Nature of Collaboration (Product/Services)
Network PANALE	Mme Fatoumata Diop	77 553 95 42	Commercialization of forest products (bouye) and farm products (fonio)
Baobab Fruit Company	Pascal Octaviano	70 400 70 20	Commercial partner for baobab, baobab seeds
Baobab des Saveurs	Pierre Gilles	77 616 56 61	Commercial partner for baobab, honey
Estival	Mr Stefan Quenum	77 737 11 30 33 825 22 52	Commercialization of baobab powder
Koba Club	Aissatou Aya Ndiaye	77 510 80 37	Production and commercialization fonio and rice
AFBARD	Mme Aida Coly	77 578 04 40	Commercialization of shelled baobab, powder
Bio Essence	Mme Mame Khary	33 864 73 41	Marketing
Vision Baobab	Hamady Sow	77 564 41 48	Setting up baobab processing plants
GIE PAMPY	Kélountan	77 711 05 28	Setting up baobab processing plants
MANOBI	Daniel Annerofe	33 869 20 50	Information management on supply and demand - laalo
GIE Maranda	Kadialy Konta	77 227 78 70	Setting up baobab processing plants
Setexpharm	Mr Diallo	33-839 85 86	Commercialization Laalo
Gaye Charbonnage	Mr Badara Gaye	77 531 11 22	Commercialization charcoal
Federation Yakaar Niany Ouly	Ngouye Camara	77 511 87 49	Production and processing of fonio
Sanoussi Diakhaté	Sanoussi Diakhaté	77 633 42 39	Crafting of fonio huller
SOCOGOMME	Robert Gueye Ibou Cisse	77 569 27 65 77 532 88 00	Commercialization of laalo
COPROCA	Ismael Diéme	77-655-78-15	Organization of cashew value chain
ELYBEE	Elimane Drame	76 687 34 33	Commercialization, cashew processing
URPROFOS	Haby Niabaly	77 775 49 03	Organization of fonio producers and processors

APPENDIX 8. DELIVERY OF MR. YANKHOBA CISSÉ'S TRACTOR TO NIORO ALASSANE TALL ON JULY 17, 2013

(Report from Consultant Laurent Gomis, BDS specialist)

The tractor supplier TSE Africa (Tractor Service Equipment) has confirmed that Mr. Yankhoba Cissé's tractor was delivered Wednesday, July 17, 2013. A mission was carried out with the Agricultural Production and BDS specialists of USAID-Wula Nafaa Program to attend the handover of the tractor and to witness the producer trying it out.

The mission viewed the tractor working a field using offset disk equipment. It then traced furrows with an attached ripper. After these were successfully carried out, the handover would be completed by signing required paperwork with the promoter.

Delivery and reception

The handover was done at the Rural Council offices in Nioro Alassane Tall with the promoter and some producers in attendance. It has the following characteristics:

- Massey Ferguson brand
- 120 horsepower engine
- vertical exhaust
- 200 liter fuel tank
- Dry air filter
- Platformed version
- hydrostatic steering
- four-speed, 12 transmission
- 13 inch disks
- 28 disks on the trailer

The tractor complies with that described in the TSE supply contract.


Equipment offload

Offloading was carried out in two steps:

1. Unloading the offset equipment

This material was unloaded with the help of the local population, who came to see the delivery spontaneously.

2. Unloading the tractor

To unload the tractor, it was necessary to find a bare area in the village of Keur Mama Lamine with a slope steep enough to allow the tractor to roll off. Then the TSE Africa technician unhitched the tractor and made it roll off the truck. He drove to the village of Nioro Alassane Tall to mount the offset equipment.


Offloading the tractor in a field; the facilitator and the promoter on the tractor

Assembling the tractor and offset disks

Fitting the offset disks onto the tractor took time because of the weight of the material, and the requirement for finding a way to tighten all the pieces together.

The technicians showed the drivers all the accessories and repair parts to change regularly, including air and oil filters.


After the tractor was assembled, TSE Africa technicians gave the set of keys and the user manual to Mr. Cissé.

Offset disk test

After the assembly of the tractor and offset equipment was complete, a test was carried out in a field. The TSE Africa technicians proceeded to train drivers, and they worked for about half an hour. The test was done on the upland area, and will be repeated in the lowlands.

TSE technicians showed drivers repeatedly how to make adjustments to achieve the best offset labor results. Offsetting is at 20 to 30cm of depth and the soil will be completely turned over.


Furrow tracing with the ripper

The traction ripper from Nioro Alassane Tall's conservation farming network was also tested. It traces three rows per pass. The rows were traced correctly and were 20 to 30 cm deep.


Recommendations

- Back up training of the tractor drivers in offset disking in both uplands and lowlands. This training could be done by drivers experienced in lowland work.
- Back up technical training of drivers and promoter in knowledge about common accessories: type of part, role, use, length of use, and when to change it.
- Train the promoter in management of the tractor for better control over his business plan.

Speech and document signing

After the disking tests, Mr. Cissé was grateful and happy as he thanked the USAID-Wula Nafaa Program Director and all his staff for giving him the means to acquire such a powerful tractor. He said that the activities begun with the Program will continue, and he will do all he can to use the tractor rationally and profitably for the benefit of producers in the Nioro Alassane Tall area.

Mr. Cissé then thanked TSE Africa for the quality of the tractor. The occasion ended upon the signature of the delivery receipt by Mr. Cissé.