



SENEGAMBIA AGROECOLOGICAL VILLAGE (SAEV) PROJECT

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Presented to

**PARTNERSHIPS WITH CANADIANS BRANCH (PWCB)
PARTNERS FOR DEVELOPMENT – Projects (Under \$2M)**

Submitted by

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1. Project Proponents



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REAP - Canada is an independent, not-for-profit research and development organization with over 20 years experience working with farmers, scientists and the private sector to develop and commercialize sustainable agricultural solutions for fuel, fibre and food needs. As one of the first organizations in Canada to develop participatory on-farm research and plant breeding programs, REAP-Canada has become one of the world's leading organizations in working with communities to develop agro-ecological farming systems, climate change and renewable energy options in a participatory manner. REAP-Canada has been involved in rural development and the AEV model in China, the Philippines and the Gambia for over 12 years with projects sponsored by CIDA, USAID, the government of China and the Shell Foundation. REAP-Canada also has significant technical experience around sustainable agriculture, particularly in plant material development in tropical agricultural areas and in transferring innovative techniques to new areas and between beneficiary groups in different countries. Materials and practices of notable importance transferred by REAP include: ECO-rice (seeds and cultivation practices), Bokashi organic fertilizer production, NERICA rice, as well as numerous high yielding, drought tolerant vegetables, crops and perennial grasses.



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NATC is a non-profit community based organization established in 1990 by farmers in the village of Njawara to support sustainable natural resource management. They are now one of the leaders in agricultural development in the country and the region and their relevant participatory research and training program allows them direct, on-the-ground access to beneficiaries and community members alike. Their 6-hectare site includes training areas and demonstrations for nursery establishment, soil fertility and management, live fencing, gardening, orchard and woodlot management and small animal husbandry. NATC has 12 full-time and 13 part time staff members (approximately 40% women) and has a strong record in project management and financial reporting to external donor agencies such as Concern Universal and Oxfam-America and is able to effectively monitor and facilitate activities on the ground. Financial reporting with international donors including CIDA has previously been handled proficiently and transparently and they have a finance director and full-time bookkeeper on staff. Their 12-member board is composed of 50% women and includes village elders and members of the Village Development Committee (VDC) to ensure their accountability.



Cadre Locale de Concertation des Organisation de Producteurs (CLCOP)

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Since its formation in 2002, the CLCOP-Wack Ngouna has supported the development needs of local producer organizations. It is a farmers alliance organization that provides services to support 75 members organizations representing 3500 farmers in the Niore du Drip district (Kaolack Region). Its primary activities are to facilitate the development of small farmers organizations to accelerate agricultural development and capacity building in the region. CLCOP Wack Ngouna's primary interests include strengthening farmers access to

improving farming knowledge, supporting institution building processes of organizations, helping farmers access appropriate tools and seeds for local conditions. CLCOP Wack Ngouna provides support services in a number of ways to local producers including providing a regional storage centre for improved seeds and farming tools. They also have a strong gender orientation as they specifically address the needs of women farmers in all of their activities.



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NARI is the Gambia's principal agricultural research and development institute focusing on the advancement of livestock, horticulture, agronomy and agro-forestry systems. NARI has extensive experience in project implementation, record keeping and financial reporting and their staff includes the leading agricultural and natural resource scientists in the country. NARI is presently developing the Participatory Learning and Action Research (PLAR) approach for plant improvement in the Gambia, already introducing improved varieties of rice, corn and cassava. Through years of research and extension, NARI has a developed understanding and resources to support plant material improvements in rural communities in the Gambia. NARI has been working closely with REAP, NATC and AVISU in improving the plant material base and building the technical capacity of farmers in ecological methods since 2003. The involvement of NARI's agricultural scientists in the partnership will provide an additional level of technical capacity building to the Farmer-to-Farmer training networks being established.



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The Senegalese Institute of Agricultural Research (ISRA) is a research institute in applied science and technology. It was created in 1974 to design, organize and carry out all research on the rural sector in Sénégal. Its mission is the generation of knowledge and appropriate technologies to achieve the objective of food security of rural Senegalese people, create jobs and wealth and contribute to economic, social, scientific and cultural development. To accomplish this mission, along with its administrative and service, the Institute has a hundred researchers and research assistants. This interface presents the innovation obtained from the research efforts of these scientific teams. The Centre for National Research in Agriculture (CNRA) brings together researchers from different disciplines working in cereals, legumes, crop diversification, agro-forestry, mechanization of agriculture and natural resource management.

2. Project Description & Rationale

Sénégal and Gambia are low-income, food-deficit countries which are identified by the FAO as being amongst the worlds' most food insecure countries. The SAEV Project offers a holistic agro-ecological approach to strengthening food security and livelihoods while at the same time improving the agricultural resource base to ensure sustainability of farming production systems. The direct beneficiaries are farmers living in 10 rural communities of the North Bank (NBD) of the Gambia and the Nioro du Rip region of Sénégal. In these impoverished areas, incomes are below national averages and more than half of the people suffer from malnutrition. These regions are also experiencing ecological decline from unsustainable farming practices and over-exploitation of fuel wood and grassland resources. The SAEV project responds to these challenges. It is championed by REAP-Canada, NATC and CLCOP-Wack Ngouna and creates a dynamic new partnership that forges a high level of human and institutional

capacity to work collaboratively to implement ecological farming and participatory processes to increase food and livelihood security. SAEV utilizes the Agro-Ecological Village (AEV) development approach to support the long-term development of the social, ecological, economic and technical infrastructure of communities. Overall, the AEV strategy developed by REAP Canada and its partners aims to drive long term farm productivity and prosperity through a series of key interconnected activities including community organizing, farmer-to-farmer training, learning farms, participatory plant material improvement, sustainable livestock management and appropriate technologies and farming tools. Food security and livelihoods will be strengthened through interventions in three primary production areas: vegetable production, field crop production and livestock husbandry.

Project Goal

The main goal of the SAEV project is to enhance food security, reduce poverty and create sustainable livelihoods in 10 vulnerable agrarian communities as well as surrounding communities in the Gambia and Sénégal. Specific project objectives are:

- ❖ *Objective 1:* To build the capacity of rural communities to equitably self-organize and proactively plan & implement sustainable community development and farmer to farmer training using participatory processes
- ❖ *Objective 2:* To build capacity and further develop and increase the use of resource efficient ecological farming methods and systems by men and women in beneficiary communities
- ❖ *Objective 3:* To increase men and women farmers' food security, nutrition and livelihoods through improving access to and utilization of improved plant material resources for food, fodder and soil management.
- ❖ *Objective 4:* To increase net household income by expanding farm production and market access, and reducing household expenditures on purchased food and fuel-wood.

The *AEV* development strategy strives to significantly improve agricultural production, well-being and income while strengthening the ecological resilience and integrity of the farming environment rather than contributing to its resource exhaustion. The implementation of the model will enable participatory community input and planning into each step; ensuring activities are flexible and revolve around the interests and opportunities in each community. It will empower farmers to take a leading role in their own development process through farmer to farmer training and the development of learning farms in each community. The adoption of this approach will build beneficiary farmers' capacity around implementing agro-ecological processes in their ecologically fragile environments. Over time, this will:

- Increase the capacity of local communities to manage their resource base in a sustainable manner using agro-ecological approaches and participatory farmer-to-farmer training and on-farm research;
- Increase food security, health and income;
- Enable more dynamic participation of women in farming and marketing activities;
- Reduce wind and water erosion and sustain the long-term capacity of the land to support food production and biodiversity;
- Help communities develop low-cost simple technologies to improve surface and ground water resources, farming techniques and household fuel-wood use;
- Minimize the use of synthetic pesticides and fertilizers;
- Diversify and improve the quality of the diets by strengthening food resources to reduce protein deficiencies and anaemia which is omnipresent in the three project regions;
- Diversify and enhance farm income from field crop, vegetable, and livestock husbandry while reducing food and fuel-wood purchases.

3. Project Beneficiaries

The direct beneficiaries of SAEV project are farmers living in the North Bank Division (NBD) of the Gambia and the Ndiedieng subprefecture in Kaolack District of Sénégal. These are very impoverished areas with household incomes well below national averages. The villages and small towns in these regions typically have no running water or electricity, few clinics, limited schools and few working opportunities

outside subsistence farming. Young people in the region often migrate to the capital in search of employment opportunities. The agricultural and environmental systems in these areas are continuously deteriorating. Rice production is hampered by recurring incidents of pest damage from hippos, monkeys, birds, and insects, reported to be on the rise. Increased salinization within proximity of the river contributes to the reduced rice productivity and increased environmental contamination witnessed over the past few years, rendering large tracts of land unsuitable for cultivation. Most importantly however, the local communities are lacking in the social infrastructure required to advance sustainable farming. Lack of coordination between development efforts and difficulties with transportation has proven to be major impediments for previous agricultural development initiatives.

The project beneficiary villages include Sare Bigi, Saaba, Noo Kunda, Jumansarba, and Conteh Kunda Niggi in the Gambia and, Mbayène, Ngayene Djime, Keur Seydou Hane, Keur Ndiaga Peulh and Wack Mbatio in Sénégal. From these 10 villages, the direct project beneficiaries include:

- 40 local farmers who will be enlisted as farmer trainers (~50% females), benefiting from intensive lessons in improved agricultural practices. This will increase farm production, improve local understanding of soil conservation, and increase farmers' ability to critically evaluate the economic, social and environmental situation in their communities;
- 500 local farmers (~50% females) who will participate in the FTF training program and network. Like the trainers, these farmers will benefit from training topics identified by the communities themselves, along with strategies to assist in increasing farm production and sustainability, soil conservation and fertility management. Trainings on value-added processing, marketing and food security will also be provided. Engaging women and local youth will improve the perception of farming as a viable livelihood opportunity;
- 40 local farmers (~50% females) who will participate in the learning farm program and benefit from increased access to various types of agricultural inputs including improved vegetable seeds and crop and fodder materials selected for higher yield, resistance to drought and/or pests, ease of cultivation and market value. Farmers will be able to access inputs including organic fertilizers, improved varieties of livestock for breeding and draft use, and fodder/fencing materials. These inputs will increase local agricultural production and food security and decrease manual labour requirements;
- 10 Community based organizations will be strengthened or formed;
- 250 local women will gain access to improved cooking stoves to reduce their labour burden and exposure to harmful pollutants;

Overall, the project will also directly benefit more than 7,625 people in the beneficiary villages (Table 1). This includes approximately 5,477 people (359 households; 47% female) from the project villages in the Gambia, and 2148 people (241 households; 49% female) in the project communities in Sénégal. These people will have the opportunity to participate in CBOs, as well as increased access to sustainable agriculture/soil conservation trainings through word-of-mouth, observation of their neighbours/families yards and fields, and direct participation in the training program. They will also have better access to improved seeds, plant materials, livestock and farm inputs being multiplied and produced in their villages and experience improved food security in their areas. Over the long-term, increased farm income from improved agricultural productivity and diversification will allow farmers to reinvest capital into identified opportunities.

Table 1. SAEV Project Beneficiary Villages and Populations*					
Country	Region	Village	Female Population	Households	Total Population
The Gambia	Lower Nuimie	Sare Bigi	90	16	175
		Lower Baddibou	Saaba	953	142
	Central Baddibou	Juman Sarba	285	32	632
		Noo Kunda	960	114	2135
		Konteh Kunda Niggi	266	55	590
			Total (Gambia)	2554	359

Sénégal	Ndiédieng	Mbayène	474	102	913
		Ngayene Djime	116	34	236
		Keur Seydou Hane	140	38	306
		Keur Ndiaga Peulh	145	32	307
		Wack Mbatio	187	35	386
		Total (Sénégal)	1062	241	2148
Project Total		3616	600	7625	

*from government census data sources 2011. Actual numbers may vary.

The project will indirectly benefit over 87,811 farmers and family members in the surrounding villages in the districts where the project will be implemented. This includes approximately 54,770 people (50 villages, 46% women) in the Lower Nuimie and Baddibou Districts in Gambia and approximately 33,599 people (64 villages, 49% women) in the sub-prefecture of Ndiédieng in Sénégal. The project will also attempt to link the new project villages directly with previous CIDA-funded Agro-ecological Village project villages (i.e. from the GGIGS project 2008-2011). Like the farmers from the project target villages, the indirect beneficiaries will have increased access to the improved seeds and plant materials being multiplied and preserved in the beneficiary villages and benefit from increases in popular knowledge through the wide-spread adoption of improved practices. Indirect beneficiaries will also receive regional benefits from implementation of the SAEV project, including improved approaches to food security and nutrition, increased income generation and market opportunities in district areas, improved microclimate (from improved soil quality, water availability, biodiversity), and improved communication between regional farmers, research institutes and the national government. The wide-spread adoption of improved plant materials and agricultural practices can stabilize production, improve farm water-use efficiency, minimize erosion and assist in the overall regional adaptation to climate change. Additionally, the introduction of improved cooking stoves is anticipated to expand to the capital regions, replacing fossil fuels and greatly improving air quality.

4. Gender Analysis & Strategy

Gender equity: *equal valuing of the similarities and the differences of men and women, and the roles they play. It is based on women and men being full partners in their home, their community and their society, with equal opportunities and rights.*

~UNESCO definition.

While both women and men play important roles in Senegambian households, there are fundamental differences in the nature of their work, the way it is valued, the allocation of financial and social power and the access to and control over resources. All of these tend to disadvantage women. Women in Senegambia have challenging, difficult lives. They are responsible for all household duties and caretaking, including family health concerns and nutrition. They are also solely responsible for the provision of food, water and fuel for the family throughout the year, including the labour-intensive task of producing the rice and vegetables that the family consumes annually. They spend the equivalent of at least one of every three days collecting fuel wood. Conversely, men are responsible for the cultivation of cash crops and the generation of the family income and during the fallow season, their work requires less time and effort than that of the women. Men grow the cash crops and control income generated from them while women generally have little access to cash. No income is associated with growing food for the family, and women must often take loans from their husbands to buy seeds or basic household goods. Land ownership is not restricted to men, but the traditional structure of hereditary land endowment rarely benefits women.

The majority of women in rural areas are malnourished due to poor-quality diets, frequent pregnancy, and high incidence of disease combined with a heavy workload. Women have limited decision making power, both in the home and on the farm. Social traditions and customs privilege men and there are few national policies or laws that have an appreciable effect on gender equality or consider women's needs and

interests. Women are often forced into polygamy, which strains family relations and increases household size, resource requirements and women's workload. In some communities they are subject to female circumcision and in others, women are forced into local level commercial sex work which becomes a lifeline for women in need of cash.

Some of women's practical needs include access to income, land, cooking fuel, agricultural inputs, a balanced diet and health care. Strategically, it is also in women's interest for them to have access to education, particularly around family planning issues and nutrition. A political or public forum for women to pursue their interests would also be very beneficial. Reducing their burden and the intensity of their workload is another important strategy to increase the amount of time they devote to income-generating activities, food self-sufficiency and household management. Since women are responsible for most of the food and fuel consumed by their families, one of their primary responsibilities is to act as custodians of local resources (farmland/forests), though this duty is often neglected due to more short-term concerns.

Given the important role of women, the advancement of sustainable agriculture is of great importance to improving their quality of life. The SAEV project has developed a gender strategy which is closely aligned with both REAP and CIDA's strategy to promote gender equality (See Annex 7 for REAP's Gender Policy). Gender concerns will be mainstreamed throughout the project but specific ways in which gender equality will be promoted include:

- Increasing support and education to women in adopting improved agricultural and soil conservation practices through their participation in relevant trainings.
- Promoting diversified farming systems that will offer opportunities for women to participate in different aspects of food production including planting, marketing and value-added processing.
- Participation of women in the CBOs will help them gain specific skills and expertise in marketing and value-added processing of agricultural goods.
- Increasing women's access to and control over agricultural inputs (including seeds and materials of improved crops for evaluation, multiplication and seed banking of these seeds by women). If female farmers have improved access to seeds, education, equipment and credit, crop yields will increase and soil fertility will improve in the short and the long term. This will increase food provisions, nutrition levels, income generation and livelihood security.
- Introducing improved stoves directly targeting women and is expected to decrease their exposure to household smoke and reduce their time spent collecting fuel, and allow them to devote more time to leisure, priority work activities, farm management and income generation.
- Encouraging cross gender exchange of knowledge through equal participation of men and women in CBOs, as farmer trainers and training participants
- Involving women as key contributors in project design and implementation (staff/farmers) to increase their capacity and confidence to engage in policy and planning
- Gender analysis and sensitivity training for staff
- Targeting women directly: A target of 50% female participation in all project activities has been set, including the participation in data collection, farmer-to-farmer training sessions and selection as farmer trainers and participation in learning farms.

Importantly, men will also receive support in trainings and access to improved inputs. Bridging the economic, social and educational disparity between genders, and integrating equity in decision-making into all project activities will encourage and institutionalize the important role of women in the home, the farm and the community. As such, the project will endeavour to encourage the participation of both men and women to ensure they gain more control over their family and individual well-being. Both ecological farming and marketing training will also benefit men as farm expenses are significantly reduced through lower-cost agricultural methods.

5. Workplan for project activities

Agro-Ecological Village Development Model

To reverse the environmental degradation process, the SAEV project will work together with partners and rural communities using the Agro-Ecological Village (AEV) methodology. Used since 1999 by REAP-Canada, the AEV emphasizes participatory planning, training, on-farm research and evaluation to encourage the adoption of ecological agriculture and soil conservation measures. The AEV development strategy significantly improves agricultural production and income and is an effective way of achieving results at low cost. The AEV incorporates participatory community input and planning into each step, ensuring activities are flexible and revolve around the interests and opportunities in each community. The AEV also uses a framework that promotes long-term development of the social, ecological, economic and technical infrastructure of communities, with results extending into outlying areas, national institutions and governments. The AEV approach is depicted in Figure 1 below:

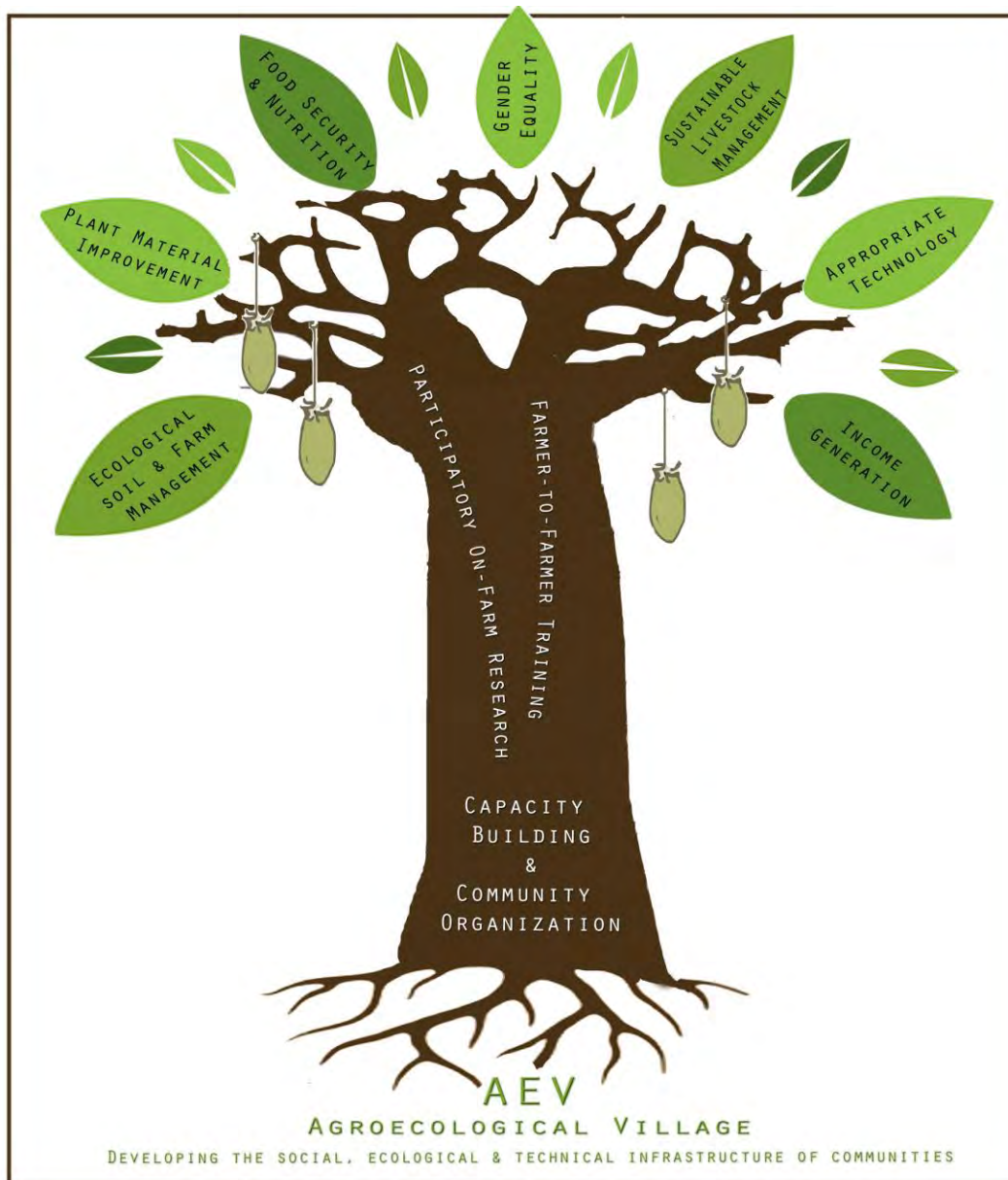
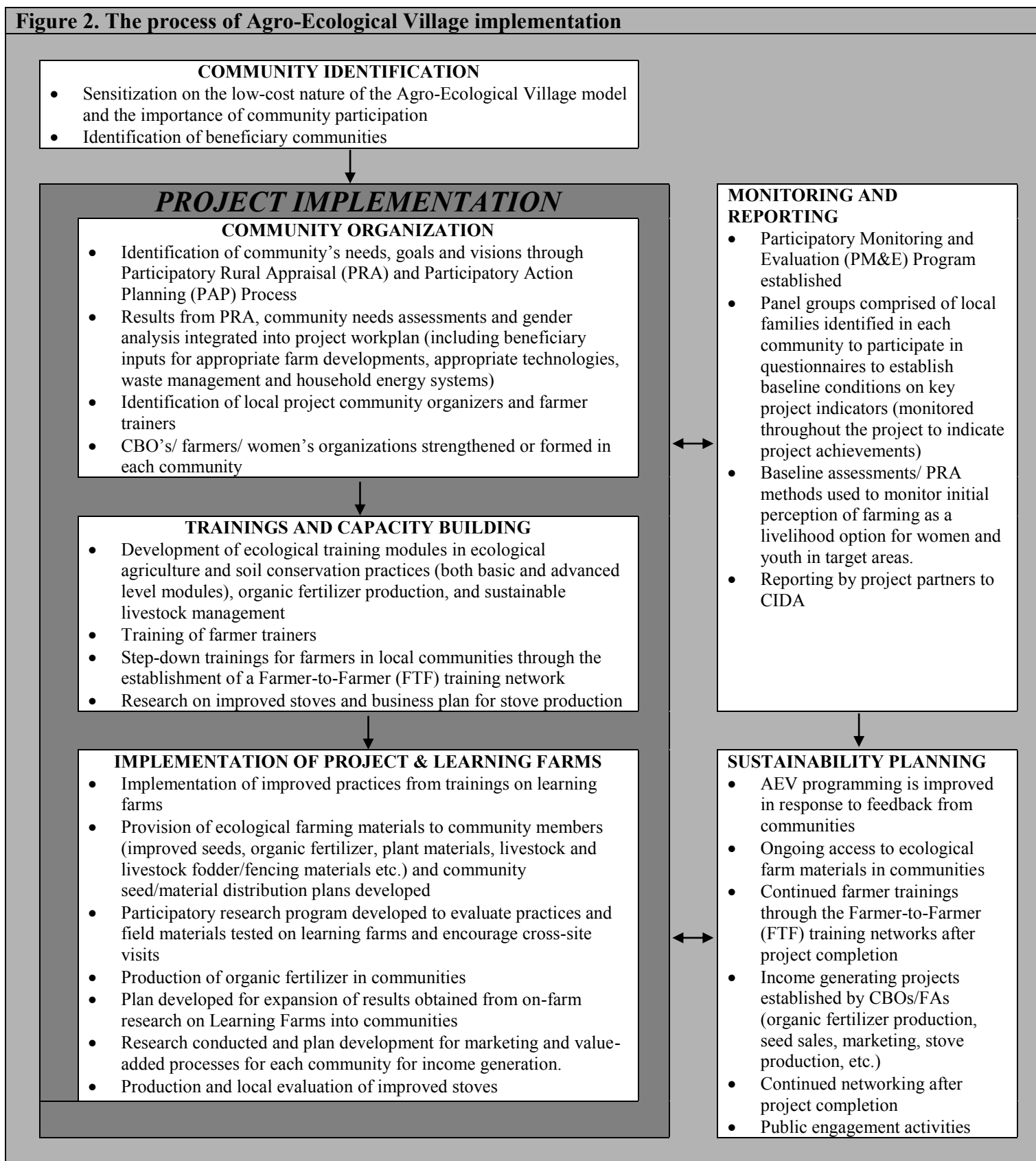


Figure 1: The general characteristics of Agro-Ecological Villages appropriate for agrarian communities in the Gambia are outlined and compared to conventional approaches in Annex 1. The process of Agro-Ecological Village implementation is overviewed in Figure 2.

Figure 2. The process of Agro-Ecological Village implementation



5.1. Activity 1 - Community Organizing & Capacity Building

5.1.1. Description of Activities

The sub-activities in the **community organizing and capacity building** activity are all designed to ensure that the needs and priorities of each community are incorporated into the project and to strengthen the social infrastructure and the ability of communities to self-organize. These processes will be initiated through a Participatory Rural Appraisal (PRA) and a Gender Analysis which will engage the project community members to identify their needs and goals for improving food security, farm productivity and household livelihoods. The PRA will establish baseline conditions in the villages and assess local economic, social/gender, ecological, and agricultural issues, identify causes and solutions to land degradation, and establish other community concerns, resources and opportunities. The intention is to begin the community organization process within each community while also identifying cohesive goals of the communities as a means to direct the implementation of the project including the farmer training and learning farm program. Community-Based Organizations (CBOs)¹ will be formed and will have ongoing empowerment, organizing, and training activities. CBOs will create community action plans (CAP) which will formalize and incorporate the needs, goals and long-term vision of community members and set out specific project activities, income generating strategies, training targets and monitor indicators set in each community. The COs will work with the CBOs to plan and implement these CAPs. The participatory monitoring & evaluation (PM&E) program will encourage farmer trainers to monitor changes in yield, food security, soil management, and adoption of ecological farming practices. Baseline assessments and questionnaires will be yet another way to ensure that community needs, goals, priorities and gender concerns are integrated into project implementation and activities.

5.1.2. Methodology

Participatory Rural Appraisal (PRA) - A PRA team will be compiled to perform the PRAs. The team will be comprised of facilitators, community organizers, and other project management staff including the Project Manger and Social Coordinator Officer. The Project staff will also seek to involve other individuals who have specific expertise in conducting PRAs. The PRAs in each of the communities will be done through two days of plenary discussions with community members along with any additional field data collection if possible. PRA participants will involve people from different groups so as to cover the spectrum of different socio-economic classes in the village and collect as many different opinions as possible, including: men and women, rich and poor, young and old, healthy and disabled, educated and non-educated, and different ethnic groups. Members of Community-Based Organizations (CBOs) and/or institutions will participate whenever possible in the PRA. Women and youth will also be given leadership/facilitation roles. PRAs will aim for a participation target of 40-50 farmers.

The specific goals of the PRA are outlined below. Because the partner organizations have extensive experience working in the project areas, much data on the socio-economic and gender issues has been collected to date. As such, the goals of the PRA include the following:

- Assessments and analysis of current farming practices, agro-ecological problems and their impacts on livelihood strategies;
- Assessment of local environmental problems and levels of soil quality deterioration;
- Identification of gaps that can be addressed by the training /learning farm program;
- Identification of areas of priority for the community, specifically in: agricultural trainings; soil quality improvement; seed and livestock (i.e. improved poultry and sheep breeds) materials; need for livestock management; improved cookstoves;
- Discussion on how programs might impact the villages and how the changes should be monitored;

¹ Farmer-Based Organizations (CBO) is a blanket term that refers to any organized group of individuals at the community level (can include farmers groups, women's groups, associations etc.)

- Record keeping of discussions and community needs and objectives;
- A review of the existence and capacity of community and farmers' associations during the PRA exercise in order to properly establish or incorporate them in project design;
- Identification of key project personnel including farmer trainers (50% female/ 25% youth) and community organizers;
- Preparation of a formal report that includes an analysis and development of recommendations for further project activities and indicators of success;
- Based on PRA findings, review and elaborate on project objectives, results and indicators according to the local situations and integrate changes to the project work plan.

Community organization - Selected communities are sensitized to the project and the idea of ecological development as a new approach to agricultural revitalization in the region. Emphasis is placed on the low-cost nature of the project and the contributions that the farmers themselves must make towards the project. It is explained that assistance will be discontinued after the project timeline but that there exists an excellent opportunity to establish the social infrastructure to continue project benefits such as trainings, seed provision, livestock breeding, on-farm research, organic fertilizer production, and community organizing and networking with NGOs, government and research institutes well into the future.

The AEV approach emphasizes the organizing and empowerment of community groups as the basis for sustainable rural development. In each village, the existence and capacity of Community-Based Organizations (CBOs) will be reviewed during the PRA exercise and if possible, they will be incorporated into the project design. If no CBO exists in a community, the project will initiate steps to support the development of such a group and officially register them in the country. Local Village Development Committees (VDCs) will also be encouraged to participate in the project. The participation of CBOs is critical to community organization within and beyond the beneficiary communities and after the project's lifespan. During and after the project they will play a key role in coordinating trainings, distributing ecological farm materials and equipment, organizing community-wide programs such as seed saving / banking, value-added and food processing, sustainable poultry, organic fertilizer production, and the participatory evaluation of learning farm interventions. After the project, they can actively continue to access, propagate and spread seeds and plant materials and poultry for breeding, both within and outside their villages. Equipment (such as seeders) can also be purchased for community use and be used as a revenue generating source after the project with the funds revolving back into other programs such as the purchase of seeds and livestock. Hungry season seed and food banks can also be established by the CBOs. The communities as a whole can make the decisions regarding the inputs they are interested in attaining and the strategies they will use. The specific roles of each CBO will be outlined by the community members and stakeholders in which the groups are based.

Community Organizers (COs) will play a crucial role in facilitating the engagement and organization of each community. One CO will work with each respective community throughout the project. Their role is to be actively involved in coordinating the trainer's trainings, the farmers' training sessions, learning farm development, recording and planning for access to ecological farm materials (seeds, plant materials, livestock fodder/fencing etc.). A key function of the CO is to encourage farmers to work together to address local problems with an emphasis on continuing such work after the project is completed. As such, COs will be trained in community development and must be familiar with the key concepts of ecological farming and the content of the ecological training program.

PM&E Program – Project Questionnaire – As part of the project's participatory monitoring and evaluation (PM&E) programme, an annual questionnaire will be carried out in each project village to provide quantitative performance data on indicators. This will be complemented with the PM&E program (See activity 3) that will provide qualitative analysis. Questionnaires will be administered during the first year of the project to establish baseline conditions and again in the second and third years

of the project to assess impacts. Panel groups comprised of 10 local farmers identified in each community will participate in questionnaires to monitor changes to key indicators. Participants will include 50% women and 25% youth. These panel groups will be monitored throughout the project to indicate project achievements. The format of the questionnaires will be standardized and include specific / structured closed-ended questions (yes or no type answers) to ease the handling of data and subsequent analysis as well as open-ended questions to determine people's thoughts on some topics.

Other baseline condition data will be gathered from agricultural extension staff or other NGOs who may have more official sources of information. By triangulating the information collected from the PRA, the questionnaire and additional information from the PM&E program, it is hoped that a very complete picture of the original conditions and project impacts in community can be obtained.

7.1.3 Key Performance Indicators

The following “*qualitative performance indicators*” have been identified for project management purposes and will be assessed through field visits, semi-structured interviews, focus group discussions, and staff feedback. They are designed to gauge success in the implementation of Activity 1:

- PRA & Gender Analysis conducted in each community; participatory planning & evaluation practices, and gender mainstreaming are institutionalized into community activities and organizations;
- 10 CBOs established and report increased skills and confidence of in CBO organization & management, and identification of emerging opportunities;
- 10 or more COs identified and trained in community organizing; quality of training of Cos;
- CAP created in each community and updated annually; Quality of CAP developed by CBOs
- Ongoing PM&E Program established in each project community; Farmer perceptions of PM&E program (M/F)
- Development, administration, and analysis of Questionnaire (M/F)

Furthermore, the following “*quantitative performance indicators*” have been identified to be assessed by the Questionnaire component of Project Activity 1:

- # of PRA participants (M/F); #of communities w/ completed gender analysis
- # CBOs identified/trained (M/F)
- # of CO identified/trained (M/F)
- # of CAPs created; frequency of updates
- # of indicators identified and data collected
- # of panel group participation; # of questionnaires administered (M/F)

Baseline assessments and the PRA will also monitor initial perception of farming as a livelihood option for women and youth in target areas. Field visits, focus group discussions, and semi-structured interviews (SSI) will be used to monitor changes.

5.2. Activity 2 – Farmer to Farmer (FTF) training program

5.2.1. Activity 2 - Description of Activities

The SAEV project will establish Farmer-to-Farmer (FTF) training networks in beneficiary villages to train local farmers in ecological agriculture and soil conservation practices. The project plans to train a minimum of 500 farmers during its implementation. Men, women and youth will be involved in the trainings (50% women; 25% youth). To conduct the training of community farmers, 40 local farmers will be recruited as farmer trainers (50% of the trainers will be female and community youth will also be

engaged as trainers). FTF training networks will be coordinated by existing and/or newly established local Community-Based Organizations (CBOs) in beneficiary villages. Through CBOs, women and community farmers are expected to have increased access to ecological farming materials (improved seeds, organic fertilizer, plant materials, livestock and livestock fodder/fencing materials etc.). This will be monitored through field visits, testimonials and SSI in a gender-disaggregated manner.

5.2.2. Activity 2 – Methodology

The farmer-to-farmer training process allows local farmers to take the lead in community capacity building. Developing bottom-up training programs to complement traditional top-down extension infrastructure is critical to help continue the development process in communities beyond the project's lifespan.

Selection of farmer trainers – Farmer trainers are selected in each community to train local farmers directly. Women and young farmers will be encouraged to become trainers during the project because of the importance of the participation and engagement of these often marginalized groups. It is also important to avoid the selection of predominantly elders as farmer trainers as such people may not have an interest in farming development but are selected because of their status in the community. As such, a target of 50% women and 25% youth as farmer trainers has been identified. Furthermore, those selected will be innovative, open-minded farmers with an active interest in agricultural development and a strong commitment to their communities. Farmer trainers will go through a training program, first on the basic modules, and afterwards on more advanced modules as they become available before conducting “step-down” training sessions with local farmers themselves. They will also be encouraged to continue trainings after the project is completed. Because of the training format, literacy is an important skill (but not necessary since progressive but illiterate farmers can partner up with literate farmers). Training in participatory methods so as to actively engage all members of the community including the women is also extremely important.

The 40 farmer trainers will be selected in the first year of the project and will be distributed proportionally within the communities based on the relative size of each (Table 2). A minimum of two trainers and a maximum of eight will be selected in each community.

Table 2. Training targets for the SAEV project			
Community	Population	Targeted number of Farmer Trainers	Targeted number of Training participants
Sare Bigi	175	2	18
Saaba	1945	5	82
Juman Sarba	632	4	32
Noo Kunda	2135	5	88
Konteh Kunda Niggi	590	4	30
Total (Gambia)	5477	20	250
Mbayène	913	5	91
Ngayene Djime	236	3	29
Keur Seydou Hane	306	4	40
Keur Ndiaga Peulh	307	4	40
Wack Mbatio	386	4	50
Total (Sénégal)	2148	20	250
TOTAL	7625	40	500
		(including 20 women; optional - 10 youth)	(including 250 women; optional - 125 youth)

Training program - Ladderized trainings are a series of training sessions presented in an order that gradually increase the technical level of information available to the farmer (from basic to advanced).

Interactive training modules are developed for each topic and act as a guide for trainings in conjunction with farm trials and cross site visits on the learning farms. The principal trainings done in each community will involve the basic modules on the principles of sustainable agriculture/soil conservation as listed in Table 3. Many of these training modules already exist but are in need of updating and translating into local languages. These trainings are delivered first as they provide a base of understanding on the principals of ecological farming from which the farmers can build upon. Advanced courses and training modules will include topics of interest identified by the farmers, along with strategic topics identified in the PRA and gender analysis. Advanced modules will continue to be developed as required. Training topics will also be selected to engage women and assist them in marketing and developing value-added products on their farms. Tailoring the trainings to topics identified by the farmers themselves ensures the project is relevant to the needs of the communities while encouraging farmers continued interest in the project and the retention of knowledge. Part of the training program involves getting to know every village separately and tailor trainings accordingly, maintaining a flexible approach to fulfil each village's distinct needs, histories, knowledge base, group dynamic and training atmosphere.

Table 3. Possible Agro-Ecological Village Farmer Training Modules
Basic Modules
Introduction to the principles of ecology and sustainable agriculture
Soil Fertility and Organic Components of Soils (<i>including introduction to tropical soils, soil properties, and organic components of soils, composting and manure management</i>)
Cropping Systems (<i>including examples of crop rotations and DIFS - Diversified Integrated Farming Systems</i>)
Farm planning, Food Footprint and Farm Weatherproofing
Green manures and cover crops
Soil and Water Conservation
Food security/dry-season vegetable production
Seed conservation, plant material propagation and multiplication
Bokashi organic fertilizer production
Sustainable fodder production and semi-intensive livestock and poultry management
Advanced Modules
Livestock /Poultry health and nutrition
Livestock / Poultry breeding and improvement
Agroforestry / Community nursery management
Disease and Pest Control / Integrated Pest Management (IPM)
Nutrition and Food processing, preservation, storage and marketing
Ecological rice production
Marketing
Nursery Management
Plant improvement and farmer-led breeding
Sustainable Household Cooking
Participatory Learning and Research (PLAR)
Gender
REFLECT Literacy Method
CBO Management (CBOs only)
Community development (COs only)

Training format – Farmer-to-farmer trainings should be done in a participatory manner. Maintaining interest and participation during a training session is best achieved through questions that are tailored to bring out farmer experience, build confidence, and have them relate their own experiences. Groups can be kept small to encourage participation. Practical demonstrations and concrete review sessions that ask farmers to demonstrate their new knowledge are also necessary to ensure that ideas are retained and that no errors in comprehension occur. Other successful strategies include the use of simple, ‘memorable’

verbal tools to effectively summarize sessions (i.e. the Four Keys from the Seed Sustainability training: Preserve! Test! Multiply! Disseminate!). Finally, participation and attention can be increased by frequent energizing activities such as songs, dances and stretching. Efforts should be made to not leave participants sitting for more than an hour at a time or they will tend to ‘doze off’. A strong emphasis will also be placed on providing trainings in the form of on-site visits whereby trainees are exposed to sustainable farming practices on learning farms. Specific technical assistance will be provided to women including “on-the job-coaching” to support women with adoption of new practices and management of inputs.

Trainings can be held all year round but the majority will be concentrated in the months when farmers are less busy (Dec-Mar). Trainings are free for participants and farmers will not be reimbursed for their time, or travel costs to ensure such a low-cost program can continue after the project is completed (and avoid the “dole-out” mentality prevalent in the country). Most training sessions will provide a lunch however, to avoid time lost in participants lunch break. Participants should be encouraged to see their time and effort as an in-kind contribution to their own education and as a benefit to their own community. To minimize travel costs, trainings should be held in an area close to the locations of the farmers. Farmer trainers however, will be compensated for their participation in the project with a modest monthly salary.

5.2.3. Activity 2 - Key Performance Indicators

The following “*qualitative implementation indicators*” have been identified for project management purposes to gauge success in the implementation of Activity 2:

- Quality of training modules developed, published and distributed
- Farmer trainers gain confidence and skills in sustainable agricultural practices (M/F)
- Beneficiaries increase their use and understanding of sustainable agricultural practices (M/F)
- Trainings continually tailored community needs

Furthermore, the following “*quantitative performance indicators*” have been identified to gauge the success of Project Activity 2:

- # of basic & advanced modules developed
- # of farmers trainers trained (Target 40; 50% female)
- # of local farmers trainers (Target 500; 50% female; 25% youth)
- # & frequency of training needs assessments

5.3 Activity 3 – Participatory research and implementation of ecological agriculture and soil conservation practices carried out on learning farms

5.3.1. Activity 3 - Description of Activities

Beneficiaries will initiate and carry out development of the learning farms by volunteering demonstration areas on their own farms and contributing their time and resources to evaluation trials and cross-visits during and after the project. Learning farms will not only demonstrate that ecological farming methods are viable, but that these approaches can be replicated by other farmers. Learning farms also serve as valuable reserves for plant materials, allowing beneficiaries to continue multiplying successful varieties of crops, vegetables, fodder, live fencing materials and livestock during and after the project.

A minimum of 40 learning farms and gardens (50% female participants) will be developed by farmers in the FTF training program during the course of the project to demonstrate improved agricultural and soil conservation practices. Learning farms can combine demonstrations of any number of ecological farming practices introduced to farmers (Table 4). On-farm testing of farming and livestock systems is developed

based on priorities identified by the community. Together, farmers develop evaluation protocols and keep records of successful new techniques and materials. Plant materials are assessed by the farmers for various agronomic traits, performance and yield and local adaptability. Field cross-visits assist in the evaluation process. Farmers visit the learning farms to observe trials of new materials/techniques carried out in conjunction with the trainings and the PM&E program (both within communities and between communities). Promising varieties are then increased into larger field strips and further distributed to the community at large.

Table 4. Approaches to introducing sustainable farming evaluated on learning farms/gardens	
Improved agricultural practices & seed/plant materials	<ul style="list-style-type: none"> • Adaptability trials (new varieties/crops, drought/water/salt resistant) • Demonstration of (EFS) Ecological Farming Systems (intercropping, multiple cropping, pest and disease management, etc.) • Seed bank (living gene bank), plant material multiplication (tree nursery) and breeding • Farm planning and weatherproofing farms (reducing vulnerability to vagaries of the weather)
Livestock Management	<ul style="list-style-type: none"> • Livestock (semi-intensive management, new varieties, sustainable fodder production) • Ecological Poultry Farming (coop design, chicken rearing basics, garden integration etc.)
Soil fertility improvement	<ul style="list-style-type: none"> • Demonstration of Ecological Farming Systems (contouring, soil carbon management etc.) • Composting, green manures and organic fertilizers (Bokashi) • Soil and water conservation (field borders, windbreaks, contour farming, drip irrigation, minimal tillage)
Appropriate Technologies	<ul style="list-style-type: none"> • Improved farm equipment to reduce labour • On-farm energy management

Participatory Monitoring and Evaluation (PM&E) – The success of on-farm project activities will in part be monitored through a participatory monitoring and evaluation (PM&E) program. Through participatory research and implementation, the farmers become “scientists” and gain confidence to select the crops, varieties and management practices that best fit their local micro-climate, soil conditions, and labour and economic constraints. It allows farmers to take a more active role in developing participatory on-farm research as a tool in accelerating their plant and farming systems improvements. The project Social Director will work directly with farmers to determine how selected project initiatives are intended to impact them, then together identify indicators for success that the farmers themselves can monitor and report back to the project management team. In doing so, they beneficiaries can validate the workplan and continually assess the direction of the project, while contributing to the ongoing capacity building of the community.

5.3.2. Activity 3 – Methodology

Learning farms are not model farms but are actual individual working farms, developed on a volunteer basis by local farmers/trainers on their own farmland. Learning farms will be implemented on a small area (less than 0.5 ha) of local farmers property. Learning farms are sized to maximize space for adaptability trials and demonstration of ecological methods without compromising the farm family’s food security and minimizing risk of failure. Learning farms are coordinated by interested farmers that are willing to share their experiences and ideas with others. Farmer trainers are the first among the community to participate in the training courses, and as such may be ideal candidates for taking on learning farm activities if they are interested in volunteering their farms. In doing so, the farmer trainers can spend time working on maintaining and improving their own individual farms while strongly supporting community initiatives and the sharing of information and plant materials in the community. This also establishes a stronger connection between the test trials, trainings and cross-site visits.

The following steps will be followed to identify and establish local learning farms/gardens:

- Assessment of best farms in region through farm visits and field trips

- Concurrent assessment of interested farmers willing to share their experiences with others
- Final decision of learning farm locations, preparation of sites for planting (trees, seedbeds, etc.), and announcements to community and extension of welcome for them to visit through the season
- Development of seed selection and evaluation criteria, and preservation, multiplication and (multi-year) distribution protocols in each community and announcements of distribution plans for following years to the community at large (the SSPPI manual contains further details on this process)
- Distribution of new/improved varieties and species for adaptability trials (small tests sites with an emphasis on low-input management and integration with improved practices)
- During cropping season, adoption of improved practices on small trial areas of learning farms
- On-going assessments and documentation of tests of materials and practices through both local farmer assessments (not scientific), leading farmers, and NARI experts
- Scale up of those deemed successful and further distribution into local communities.
- Seed breeding and exchange programs developed (both within and between communities)

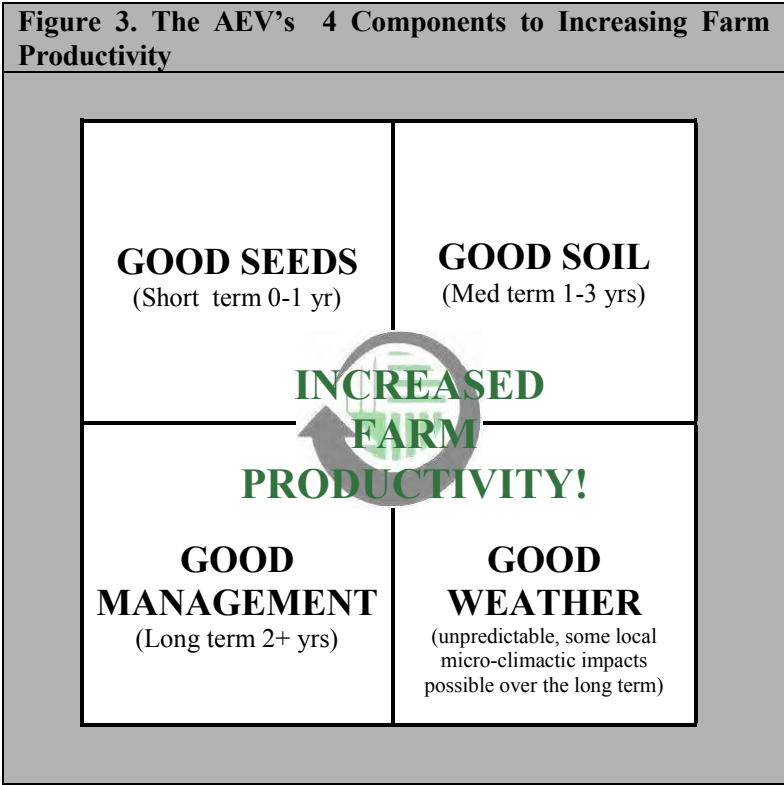
The 40 learning farms and gardens will be established in the first year of the project and will be distributed proportionally within the communities based on the relative size of each. A minimum of two learning farms will be selected in each community, the number in each community being at least the same as the number of trainers (Table 2). In smaller communities, it will be important to have farmers other than the trainers developing learning farms so that a greater number of community members reap the benefits of the project.

Improved agricultural practices

Ecological agriculture focuses on maximizing soil health as a means of sustaining and enhancing agricultural productivity using organic, localized inputs and knowledge of the local ecology. The adoption of ecological agricultural systems in the project area will bring long-term improvements to the environment. Intercropping and increasing crop diversity will create a favourable soil and structural environment for beneficial insects, plants and microbes, increasing overall agro-biodiversity and reducing the need for chemical pesticides and products. Increased use of biological-nitrogen fixing species further reduces the need for chemical fertilizers. As the region is at risk of both drought and flooding, increasing the diversity of species found on farms through improved plant materials, farm weatherproofing and community seed-banking will ensure the resiliency of the farm ecosystem in the present and future. Improving soil promotes greater biodiversity, higher plant nutrient content, higher resistance to disease and pests, reduced soil erosion, increased soil water-holding capacity and less vulnerability to drought.

Soil fertility conditions in the project area have seriously degraded due to intensive cropping of annual crops such as peanuts and millet. This is particularly the case for row crops, which can generate serious soil degradation problems. A number of new strategies will be introduced through the FTF trainings and assessments on learning farms to teach local farmers about soil health and conservation in a strategic way, first introducing activities/inputs that offer short term benefits to increase participants interest in the project, followed by medium-term and long-term strategies once participants are more committed:

- Short term (0-1 years) - Soil (carbon) amendments: Increasing organic soil amendments can increase agricultural yield and drought tolerance within the first growing season. Additions of Bokashi, compost, field residues or stubble can reduce and even eliminate the need for chemical fertilizers by increasing soil carbon and nutrient cycling, microbial activity and enhancing water retention and soil aeration. Additions must be balanced to maximize benefits (which may plateau once a certain amount of material is added). Permanent field borders can also immediately reduce soil erosion and loss from fields (created by simply leaving field borders unploughed, over time they build up and create a bund);
- Medium term (1-3 years) - Soil fertility management and ecological farming: A wide-range of ecological management practices can increase agricultural productivity while building soil fertility. Building capacity around farm planning for soil fertility will include the following practices: crop rotations, inter-cropping, cover-cropping, nitrogen-fixing crops. Green manure crops and drought tolerant grain legumes will also be explored;
- Long term (2+ years) - Soil conservation strategies: To slow soil erosion processes and maintain the benefits of ecological farming, farmers will begin implementing a series of practices and investments for the longer-term. These innovations will include more substantial field borders, reduced tillage and contour farming, perennial forages, agro-forestry (for food, fertilizer, fodder and fuel) and farm planning and weatherproofing.



To develop their farms, farmers will create long-term farm plans which integrate information from the PRA and trainings. Community members will also create management plans for communal areas. This process will be facilitated through the FTF trainings on farm planning and management. On a broader scale, the farm planning process is guided by the AEV's "4 Components to Farm Success" (Figure 3).

Improved plant and seed materials

Seed sustainability education and access to improved plant materials has been identified as crucial interventions in the Senegalese and Gambian agricultural context. As the informal seed sector makes up 80% of all seed-use and multiplication in these areas, the capacity development of farmers in the areas of plant material multiplication, preservation and dissemination is a crucial activity for improving rural livelihoods. This project provides an opportunity for the development of participatory plant material improvement programs through the *Seed Sustainability and Participatory Plant Improvement (SSPPI)* training module. The general slogan of the SSPPI training is "Preserve, Test, Multiply, Disseminate!" These Four Keys to Seed Sustainability provide the backbone of the training course and were developed as a tool to represent the best approaches to seed management by farmers. If such training is not provided (particularly before seeds are distributed), there is a serious risk that many improved (and indigenous) plant varieties will be lost. As such, the program goals emphasize both the provision of improved materials and building capacity for preserving, testing, multiplying and disseminating improved varieties and developing seed-sharing networks between and within communities to build good seed resources and improve the organizational capacity of participating farmer's groups.

At the beginning of the SAEV project, a simple plant needs assessment will be conducted in conjunction with the PRA to determine and prioritize what improved plant materials would assist the beneficiary communities. In each of the villages, current plant materials will also be initially reviewed. Through this information collected during the PRA and previous experience and interviews in the country, the desired traits of potential new plant materials, crop and horticultural varieties have been identified. The general conclusion is that due to the increasingly erratic rainy season, *fast-maturing, drought resistant* crop seeds are needed to improve the food security of the communities. Based on this information, the project has identified key improved field cultivars or new species that are of interest to the local communities (Table 5, next page) that will be evaluated during the course of the project. The list will be expanded to include more field crop varieties, vegetables, fodder and fruit varieties in the coming weeks as the full plant needs assessment is completed. This list will be updated and evolve over the course of the project.

Improved plant materials will be collected by the Project Management Team (PMT) and distributed to the communities at the beginning of the project. Materials collected should be both those asked for by farmers themselves and those existing in the communities already as well as those recommended by agricultural research institutions. *Key contacts for Seed Purchases:*

- Ansumana Jarju (Head of NARI Agro-Forestry Program) [contact: 448 3168 or 993 5282 (phone); akjarju2000@yahoo.co.uk] – The primary NARI contact for the project.
- Kemorring Trawalley (NARI Head of Grain Legumes and Oilseeds Program) [contact: 990 7784 (mobile) or 448 3165 (office); ktrawalley@yahoo.com] – Resident NARI groundnut specialist.
- Dr. Samba Thiaw (Director Institute Sénégalaise de Recherches Agricole (ISRA)) [contact: 221) 77 702 05 73; (221) 33 973 60 50 (mobile); sambathiaw90@yahoo.com]
- Dr. Yaou Niang, (Centre pour la Développement de la Horticulture (CDH) contact : youniang_1956@yahoo.fr, or on the phone at 76 665 51 57. Office phone: 338721383. Access to fruit trees, végétale seeds, training etc...

In disseminating the seeds, only small quantities will be provided so that only a few farmers (between 2 to 4) receive each seed type. This is to encourage the evolution of a sense of stewardship regarding the seeds and also to minimize the risk of seed loss if one farmer has difficulties. Limited quantities require active efforts to multiply and disseminate the varieties and thus farmers need to cooperate to effectively manage the resources so that all community members will eventually benefit. The materials will be distributed differently between communities to reflect the differences in microclimate, soil conditions and access to water and interests of beneficiaries. Farmers coordinating the learning farms will be asked to establish the samples provided on their farms to demonstrate the proper care and test the varieties and multiply superior ones for greater community access. One key strategy is to identify local farmers as specialists who are already developing certain crops access to improved varieties and ask them to assess them on their farms. Community members are invited to view the progress of the samples throughout the growing season. Through this method, farmers can practice their skills while other community members are able to observe the results, increasing adoption rates.

The local communities will keep records of the materials distributed in a log book. Entries will reflect the name and source of each cultivar, the amount first distributed (kg), the name of the farmer first accessing the materials, where they are located, evaluation results, farming conditions that year, and other characteristics of the variety. The records will also include the distribution plan developed for the next generation. In developing the protocols and plans, goals should be created as a group regarding how many farmers the seeds should be supplied to in each new growing season to ensure that everyone in the community eventually benefits from the program. The PMT will keep a summary of the materials distributed and community protocols in a “master log”. The PMT must also develop protocols for the planting of the improved materials from the trainings. This will include specifications on the distance the materials must be from other crops/vegetables to discourage out crossing and general, planting and ecological management recommendations.

Table 5. SAEV Project Improved plant materials list

Crops	Variety	Days to Maturity	Aflatoxin Resistance	Seed Dormancy	Drought Tolerance	Yield	Oil Content	Disease Resistance	Other Notes
Promising Groundnut Varieties	73-33 (released as P1 404021) (Virginia)	105-110	Moderately Resistant	1 month, but 5% of seeds germinate immediately	Good to excellent	1500-2000 kg/ha	50%	Very susceptible to late leaf spot	Very good plasticity, making it adaptable
	73-30 (Spanish)	90-95	Moderately Resistant	Total, allowing it to survive late rains	Good	2000 kg/ha	48%	Susceptible to rosette virus and aphids	Good fodder quality
	55-437 (Essayama, (Spanish)	90	Highly Resistant	Non-dormant, will sprout in field	Good	1000-1500 kg/ha	49%	Susceptible to leaf spot and aphids	Good quality haulm for fodder, Tolerant to high heat when flowering
Crop	Variety	Days to Maturity	Growth type	Seed Dormancy	Drought Tolerance	Yield	Insect resist.	Disease Resistance	Other Notes
Cowpea	Melakh	64 days	Indeterminate and semi-erect	Moderate sized seed is white with brown eye	Terminal season drought tolerance. Will be damaged by midseason drought	Yields about 1 tonne / ha on farm in N. Senegal	Resistance to cowpea aphid and flower thrip	Resistance to bacterial blight (and CABMV (cowpea aphid borne mosaic virus)	
	Mouride	68 days	Indeterminate and semi-erect	cream with brown eye, seeds smaller than desired by consumers	Mid-season drought tolerance; Less resistance to Terminal drought Melakh due to flowering / maturity time	Yields about 1 tonne / ha	Resistance to cowpea weevil	Resistance to bacterial blight and some resistance to CABMV	Some level of resistance to Striga weed, splits grains during cooking
	Yacine	62 days	Erect	large (20% larger than Melakh) and brown	potentially susceptible to mid season drought	Similar grain yield to Melakh	Not recomm. in areas where cowpea thrip is a problem. Resistance to cowpea	Resistance to "major" strains of CABMV and bacterial blight	Very good eating quality (more susceptible to cowpea thrip than Melakh)

Crop	Variety	Days to Maturity	Growth	Seed Quality	Drought Tolerance	Yield	Insect resist.	Disease Resistance	Other Notes
Millet	Souna 3	Flowering 56 days, harvest 85-95 days	242 cm tall, 2-5 tillers per plant, panicle length 55 cm long	Colour: Yellow olive; Weight of 1000 grains (g): 9 Protein level: 15.1% Vitreousness: Good Acceptability: Good	Souna 3 may be more drought tolerant than IBMV 8402	Average (farm field): 1700	aphid	Mildew: Sensitive Smut : A little sensitive Ergot : Rather sensitive	good characteristics for making tuwo and couscous, released in 1972
	IBMV 8402	50 days Plant maturity harvest time: 75-85 days	224 cm tall 4-6 tillers per plant Panicle length 51 cm	Colour: Light yellow; Weight of 1000 grains (g): 8.5-9 Protein level: Not noted Vitreousness: Weak Acceptability: Rather good		Average (farm field): 1500		Mildew: Tolerant Smut: A little sensitive Ergot: Sensitive	Released in 1984

The specific information collected in each community will be based on the protocols established for seed selection, evaluation, preservation, multiplication and (multi-year) distribution. It is also important to emphasize that improved plant materials may not taste as good as older, local varieties and farmers should always be reminded that a new variety may by no means surpass an old one. Accordingly, the qualities of the improved seed varieties (such as taste) should be fully documented in the evaluation process. Ongoing meetings should also be organized to review the status of the seeds and discuss any problems/issues.

The SSPPI program is organized to highlight the benefits of collective seed stewardship, including group cooperation to reduce workload on any one individual, increased knowledge through community dialogue and knowledge exchange, and the reduction of seed loss risks (e.g. if one person loses the seed, others would still be able to share their portions). By working together, the workload of testing and multiplying the seeds is spread throughout the community. As such, efforts must be made to include the entire group in all discussions and decision-making to avoid any individual receiving undue power in the distribution process. Once most members of the villages have (planned) access to the improved seeds and agricultural yields and year round food ability has increased, Community Organizers can assist villages/CBOs in the development of business/marketing plans for continued agricultural production and seed sales as a source of income generation after project completion. Opportunities for improved seeds or organic produce will be investigated. This could possibly be coordinated with the local CBOs and even regional partners who operate seed stores or seedbanks (such as the NATC) or organic produce sales to the capital region. If contributing to NATC seedbanks, farmers should also be able to have preferential access to the seed stores if needed (i.e. crop failure).

Livestock management

Free-range sheep, goat and poultry rearing is common throughout the region and severely limits agricultural development by destroying permanent vegetation and devastating crops. Given a serious shortage of fencing materials and animal food, especially in the dry season, farmers typically do not pen their animals. The project will help semi-intensive livestock management become a viable option and also support animal diversification by encouraging sustainable smallholder poultry production. This effort will help communities produce low cost protein and iron rich foods and increase poultry manure inputs into the carbon and nutrient depleted soils. Improved cockerels and rams will only be provided to highly motivated and committed communities and only after there is an adequate level of organization. The project will use a four-pronged strategy:

- 1) Sustainable Fodder Production (including indigenous varieties of grasses, legumes, field crops and tree species produced on marginal lands) for livestock and/or poultry.
- 2) Sustainable Fencing / Chicken Coop Production (with live fences, agro-forestry species and locally-woven metal fences) Communal fencing methods will be explored as they reduce the costs of fencing materials and allow project funds to accommodate for fencing in each community, however, proper organizing and a transparent, equitable process and community land tenure agreements must be ensured before any fences are constructed.
- 3) Animal Breeding and Health - Animal health will include nutritional requirements of the animals when under in-stock management as well as disease prevention and holistic health treatments. Breeding programs will introduce improved varieties of rams and poultry as breeding stock.
- 4) Community Organization - around animal management, containment and breeding. As with the seed programs, the community sustainable livestock management plans will be based on protocols established in each community for trait selection, offspring evaluations, and (multi-year) distribution of offspring and exchange programs with other communities to ensure that as many people as possible in the community eventually benefits from the program.

The project will only support the purchase of male animals, which can interbreed with local varieties. As with the fencing programs, no livestock will be distributed until proper organizing and a transparent, equitable distribution process within the community are developed. A draft animal breeding program

may also be considered for support through the project provided again that the proper procedure channels are followed and equitable distribution plans can be developed. One possible mechanism would be providing such animals to be managed by women’s groups, where rental and access to the animals can be organized locally. Such animals would greatly assist in labour-intensive activities such as the transfer of manure and compost to fields.

Participatory Monitoring and Evaluation (PM&E)

The following steps will be followed in establishing the PM&E program:

1. Identify participants interested in participating in the PM&E program in each community. This should include farmer trainers and learning farm coordinators, as well as any other additional community members interested in the process.
2. Review what indicators will be monitored with the program with participants (including agricultural products produced and yield, year-round food production and availability, soil conservation/quality improvement, and adoption of ecological farm management practices (all gender-segregated).
3. For each indicator, together determine how changes and success should be measured by developing a system of parameters (metrics) that are measured. A measurement program should be developed separately in each community to reflect the diversity of interests in crops and cultural differences. In each community, parameters should be specific in terms of what they are measuring and it should also be decided who is responsible for the measurements. Metrics (one or more can be developed for each indicator) must adequately measure changes and impacts. The parameters together should fully describe the ecological, social and economic dimensions of anticipated changes and include input from a diversity of stakeholders (researchers, government, technicians, men and women, and farmers not directly involved in the project). Additional measurement parameters can be identified as the project proceeds. Some methods of monitoring include surveys, institutionalized village meetings, household records, or project reports.
4. The Social Directors will review and analyze each monitoring plan. Local members of the PM&E program should keep records of the logs and other monitoring programs for their own purposes and for submission to the Social Director. The Social Director can keep a similar record summarizing the programs for each community. An example of a PM&E record log for a monitoring program is included below (Table 6).
5. After the PM&E programs are well developed in each community, planning sessions should be held on developing and institutionalizing the PM&E program after completion of the project.

Table 6. Example PM&E record log					
Indicator	Measurement parameter (Metric)	Measurement method	Person(s) responsible for measurement	Assessment schedule	Deadline for report submission to PM&EO
Yield	kg crop/hectare	Household records	Learning farm farmers testing each crop (i.e. Lamin Jobe will measure the peanuts, Binta Ceesay will measure the potatoes)	September	September
	Early season growth	Household records	“”	July	September
	Resistance to pests and disease	Cross-site visits	PM&E team	Periodic visits during the growing season	Summary by September
Year round food production	...				

5.3.3. Activity 3 - Key Performance Indicators

The following “*qualitative performance indicators*” have been identified for project management purposes to gauge success in the implementation of Activity 3:

- Level of adoption of new ecological farming practices on learning farms;
- Farmer assessments of seed quality performance & taste (M/F)
- Public announcement of seed distribution plans for 4 years of the project; Seed CAP programs developed; Access to improved materials such as improved seeds, organic fertilizer, plant materials, livestock and livestock fodder/fencing materials; and year round food production and availability (M/F)
- Changes to livestock survival and health, and farm perception of meat quality improvement in 10 communities
- Benefits of tree planting documented including availability of fruit and fuel wood; community perceptions of wind erosion control & impact on soil fertility (M/F)
- Farmer assessments of compost quality & impact on soil fertility and crop yields (M/F)

Furthermore, the following “*quantitative performance indicators*” have been identified to gauge the success of Project Activity 3 through the Questionnaire and PM&E program (results will be corroborated with other PRA/participatory methodologies including *focus groups, testimonials, SSI and field visits*):

- # of learning farms selected and prepared (M/F) (Target: 40); Number of farms/farmers using ecological agricultural/soil conservation practices (M/F)
- Quantity of seeds collected (kg/ variety and species type) and distributed (kg/seed/village) (M/F) (*Targets: 5000 kg of groundnut, 5000kg millet, 5000 kg maize and 5000 3000 kg rice and 5000 kg sorghum*); Agricultural products and yield (M/F)
- # of protocols established
- # of offspring from cockerels and rams (*Target: 100 cockerel; 40 rams distributed*)
- # of shelterbelt and fruit trees, and community based tree nurseries (*Target: 50,000 shelterbelt and fruit trees planted*)
- # of community members producing compost and quality of compost produced per village (*Target: 50 tonnes per year of compost produced*)

5.4. Activity 4 – Enhancing Sustainable Economic Development through Value Added Processing and Market Access

5.4.1. Activity 4 - Description of Activities

The low market value of field crops is a major challenge to farmers in the region, locking farmers in a cycle of poverty and hunger that is difficult to overcome. Enabling woman and men farmers to gain more in return for their labour is an important step in creating livelihood security and helping farmers step out of the cycle of poverty. This activity is specifically designed to assist farmers in diversifying their livelihood opportunities so as to make sustainable economic gains. This activity, through its several sub-activities, will focus its efforts by working with CBOs to better understand market dynamics and develop strategies to enhance the value-chain and capture higher prices especially in vegetable production.

Farmers and community members will identify value-added skills and processes appropriate to their crops and vegetables. Farmers will be encouraged to expand their skills and access to technology in order to build their capacity in value-added processing of crops and vegetables using various post-harvest processing means and techniques. A sub-activity will explore options for strengthening marketing cooperatives and will develop CAPs for increased value-added and food processing in each of the communities. In addition CBOs will receive training on relevant business skills for marketing and developing value-added products. The project will also promote the establishment of credit and savings microfinance programs, including using reflows from farm materials and supplies provided to communities.

5.4.2. Activity 4 – Methodology

Building farmer’s capacity to enhance value-added processing and to improve their market access will enable the farmers in the beneficiary communities to achieve a higher level of livelihood security. By improving both skills and access to technology, this activity will have a long-term impact in the beneficiary communities beyond the project that will increase incomes. The sub-activities are designed to support increased diversification of farming activities and improved access to markets. The business plans and marketing skills gained will provide soft skills with which the farmers can access new markets. This project’s objective is to engage communities in these activities through training and support of local CBOs and farmers themselves.

Value-Added Processing – The project staff will work with men and women in each of the 10 beneficiary communities to research and identify promising value-added and food processing opportunities appropriate to the agricultural products of each village. With support from project managers, marketing officer and respective COs, CBOs will lead the development of these activities and will develop a CAP suited to the local farming systems and available markets.

Understanding Market Dynamics – understanding the market dynamics of key products and reasons behind the low market value of field crops and vegetables in the region will help farmers overcome this problem. This will enable farmers to learn ways in which they can take advantage of the market in order to receive appropriate returns from their products. In this sub-activity, efforts will be made to work with CBOs in order to improve understanding of market dynamics for the major field crops and value-added goods produced in each village. This will allow communities to develop strategies to enhance the value-chain and capture higher prices for their products. This activity is expected to be especially important in enhancing returns from vegetable production, although several other field crops are also promising. COs will assist CBOs in understanding market dynamics so farmers are able to follow a longer-term farm plan in order to increase revenues rather than selling raw farm produce and receiving the lowest returns.

Business and Marketing Skill Development – Each of the 10 CBOs will receive training on relevant business and marketing skills. This is essential in building the communities’ capacity to continue to create value-added products beyond this project, and thus will be a key aspect of the SAEV project’s sustainability. This sub-activity will also provide support in securing the necessary supplies for executing the identified value-added business plans.

5.4.3 Activity 4 – Key Performance Indicators

The following “*qualitative performance indicators*” have been identified for project management purposes to gauge success in the implementation of Activity 4:

- Value-added and food processing opportunities researched and understood in each community
- Strategic food processing CAP developed in each community; Access to value-adding materials and equipment (household/M/F)
- Quality of training received (M/F)
- Changes in income with diversified livelihood options available (M/F); Necessary supplies for business plans delivered to each CBO

The following “*quantitative performance indicators*” have been identified to gauge the success of Project Activity 4 through both the PM&E program and the project Questionnaire:

- # of promising value-added / food processing opportunities identified
- # of community plans for food processing
- # of CBOs trained on relevant business and marketing skills
- Percent increase in farm income (M/F) (Target 40% over 4 years)

5.5 Activity 5 – Appropriate Technologies for Ecological Farming

5.5.1 Activity 5 - Description of Activities

Deforestation and land degradation is becoming severe in the region, leading to erosion, erratic rainfall patterns, and deteriorating agricultural productivity. A major cause of this ecological decline is collecting fuel wood for cooking. Indoor air pollution from cooking is also a major source of respiratory illness and disease for women and their young children who accompany them while they cook. Smoke inhalation from cooking fires shortens the lives of women who must perform this daily task. Deteriorating land quality is leading to soil compaction and erosion is making farming more arduous and less productive. Throughout the SAEV project efforts will be made to continue to develop and scale up improved non-wood and improved wood burning household cook stoves and other appropriate labour-saving technologies such as light farming tools (e.g. mechanical rice weeders) so as to reduce the environmental impact of daily life and to counter the resulting mounting physical challenges posed by farming on this degraded landscape.

The SAEV project will introduce improved stoves such as the Mayon Turbo Stove (MTS) and the Noflay clay brick stove into 250 Gambian and Senegalese households. These stoves will improve air quality by reducing airborne particulates, GHG emissions, and fuel use compared to traditional 3-stone wood fires. Since the MTS requires no fuelwood and instead requires rice husks or groundnut shells which are readily available in the communities, the MTS allows women to spend significantly less time and energy undertaking the tremendous task of fuelwood collection. In this way introducing the MTS helps to reduce the strain caused by the demand for fuelwood. Unlike the MTS, the Noflay stove does burn fuelwood. However, the Noflay is a low priced stove made from local materials by local women and masons that still reduced fuelwood consumption and indoor air pollution while also improving cooking convenience and safety.

Another aspect of this activity is the introduction of light farming tools, including mechanical weeders, and improved seeding devices farmer input in order to improve tool performance will be incorporated while also enhancing farmer access to tools by implementing microfinance schemes and programs from reflows from equipment purchases and crop-for-credit schemes.

5.5.2. Activity 5 – Methodology

The sub-activities around appropriate technologies for ecological farming are envisioned to lead to a reduction in local deforestation practices, women's labour burden and health risks from smoke inhalation, and improved agricultural productivity. Increasing access to these improved technologies is important, but another important aspect of this activity is engaging the communities in adopting these new technologies through demonstrating their benefits. This will be done by developing an appropriate technology marketing plan. Furthermore, the farmers themselves will be encouraged to get involved in developing and improving the light farming tools to best suit their personal environments and needs.

Developing an Appropriate Technology Marketing Plan – Market research on opportunities for improved stoves and farm tools, production requirements and fuel availability across the two countries will be performed. The outcome of these activities and efforts will be the development of a business plan for appropriate technology production throughout this project. The plan will include further pilot testing of technologies before large scale production. If communities approve these technologies, beneficiaries will be encouraged to initiate their own local appropriate technology manufacturing and/or distribution programs with support from the project. In the last year of the project, business plans for continued appropriate technology production as a source of income generation after project completion will be developed (possibly in coordination with CBOs/partners).

Improving Access to Appropriate Technology – this sub-activity includes an element on stoves and another on appropriate light farming tools. Strategies will be developed in tandem with COs and CBOs

to integrate improved appropriate technologies into households and farms in each of the 10 project villages. For the improved cook stoves, this will involve the evaluation of the new technology compared with 3-stone fires based on combustion quality, fuel consumption and compatibility with traditional food preparation methods. For the light farming tools, this will involve evaluating the effectiveness of the tools and conducting trials with any alterations that are thought to improve the tools' performance. Workshops will be held at the beginning of the project in each community to start this process of evaluation and to develop an outline for the SAEV project's strategy for introducing these appropriate technologies. Members of the PMT will attend along with people familiar with appropriate technology introductions, local engineers, stove experts, workshop managers and beneficiaries. Beneficiaries will also play a larger role in the appropriate technology program through needs assessments and evaluation trials. Once the strategies are developed, workshops promoting use of these technologies and teaching women to use the stoves will be conducted.

5.5.3 Activity 5 - Key Performance Indicators

The following "qualitative performance indicators" have been identified for project management purposes to gauge success in the implementation of Activity 5

- Stove designs and small farming implements reflect women's' needs & stoves burn efficiently and effectively
- Stove designs reflect women's' needs & stoves burn efficiently and effectively; Quality of stoves and appropriate technologies produced
- Development of a business plan for appropriate technology production; Changes to access to appropriate technologies by women.
- Qualitative assessments by women users of improved air quality, labour burden and fuel-wood consumption

The following "quantitative performance indicators" have been identified to gauge the success of Project Activity 5 (through technology impact assessment component of questionnaire in project activity 1):

- Stove designs and appropriate farming technology tools are enhanced
- # stoves and improved tools produced
- # stoves and improved tools distributed
- # of technology impact assessments conducted in each community; # of women cooking with improved stoves

6. Project Management

6.1 Project Structure

Key staff from the project partner organizations: REAP-Canada, NATC and CLCOP will form the Project Management Team (PMT), responsible for the overall direction and management of project responsibilities, research and field activities. The PMT will develop the three-year workplan for the project, which will identify detailed project activities and outputs and their associated indicators (both internally and for reporting to CIDA). The workplan will be reviewed on a monthly basis in accordance with the project planning schedules (developed each year). The project partners will be in regular contact to monitor the project's overall progress and conduct strategic planning. The REAP Project Manager will undertake recurrent visits to the project sites. Additionally, CIDA-funded Canadian interns in Sénégal and the Gambia may provide additional project support. All partners will strive for gender equitable staff representation.

6.2 Roles and Responsibilities of Project Proponents

Please refer to Annex 4 for the full breakdown of the SAEV Project Partners Responsibilities

REAP-Canada's primary role is to introduce the AEV model to guide the development process, keeping local partners on-track to achieve project objectives and providing technical agricultural expertise and insights from Canada and other developing countries. Other roles and responsibilities will include:

- Performing technical writing and research to support the development of innovative training modules on sustainable agriculture, soil and livestock management;
- Accessing improved plant materials for improvements in yield, food-security and income from other areas of the country, the surrounding region, and internationally;
- Assisting in the evaluation of farm trials on learning farms;
- Coordinating research on sustainable livestock management together with the OACC;
- Guidance on baseline data collection, PRA, gender analysis, workplan, and CAP;
- Leading the technical development of sustainable cooking activities;
- Leading the reporting (financial and narrative) to CIDA;
- Facilitating national and international networking and information exchange between farmers, scientists, governments and the private sector;
- Dissemination of information on project successes to the public through conferences, articles, videos, websites and presentations at conferences and universities.

The NATC and CLCOP are the core project partners and will be responsible for the implementation of the project in The Gambia and Sénégal, respectively. Their roles and responsibilities will include:

- Overall supervision of all project activities and coordination of local staff in the Gambia (NATC) and Sénégal (CLCOP) respectively;
- Coordination, collection and analysis of baseline data, PRA and gender analysis;
- Project planning, design and implementation of activities at the local level;
- Adaptation of training modules to increase cultural sensitivity and local comprehension;
- Training of farmer trainers and community organizing for the FTF training program and learning farms by supporting FAs/CBOs and women's groups in beneficiary villages;
- Supporting the development of CBOs in beneficiary villages.
- Effective field-level monitoring and reporting program (including PM&E);
- Documentation of finances, bookkeeping and accounting of individual budget allocations and submission of quarterly project financial reports to REAP;
- Writing, consolidation and submission of narrative progress reports to REAP-Canada (in English - NATC and French - CLCOP);

NARI and ISRA are the leading institutions in the Gambia and Sénégal, scientifically assessing performance on plant materials and agricultural practices. Their roles and responsibilities will include:

- Provision of improved plant materials for crops, vegetables, agro-forestry and fodder;
- Participation in development of learning farms and PM&E program for crop assessments;
- Provision of technical contributions to training modules and extension program;
- Submission of narrative progress reports to NATC and CLCOP.

6.3 Project Management and Implementation Structure

Project Management Team (PMT) - The PMT will be responsible for implementation of the project at the local and national level. The PMT will be headed by the local project implementing partners from NATC, CLCOP and REAP and supported by the PIT (Figure 5; Table 7).

Project Implementing Team (PIT) - The PIT is composed primarily of local community organizers, farmer trainers and other local farmers, village group leaders, local government extension personnel, and other technical persons from NARI, ISRA and elsewhere. The PIT also includes the project Financial Officer. The PIT are based in the beneficiary villages and will facilitate project implementation, coordinate and conduct technical trainings and will be involved in the field implementation and on-farm research. They also provide a link between the community and the PMT and as such are involved in

recording the technical trainings (topics, locations, participation, and women) and other community activities such as the development of field-level implementation. They will provide feedback and reports during the project assessment and planning sessions on the status of their work to the PMT.

Community-Based Organizations (CBOs) - Local Community-Based Organizations (CBOs) will be responsible for training coordination, community resource mobilization and managing the distribution of inputs/implements from the project to farmer trainers and other local farmers.

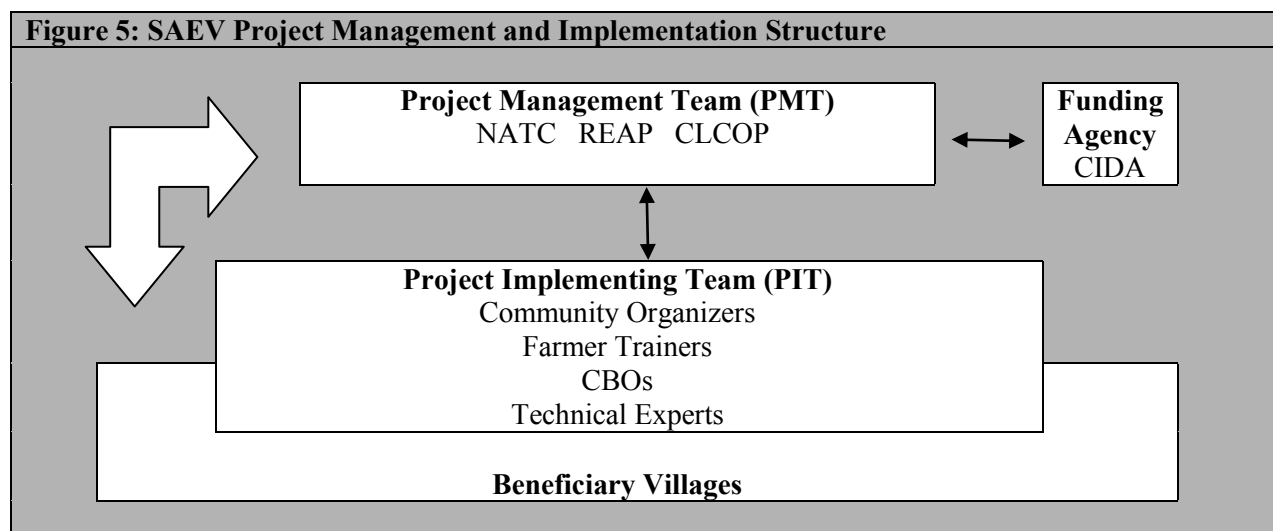


Table 7: Official SAEV Project Management and Implementation Team Members	
Project Team	Team Members Position, Name, and Organization
Project Management Team (PMT)	Gambian Project Manager – TBA, NATC Gambian Social Director – Bintu, NATC Gambian Marketing Coordinator – Mamadou Tourrey, NATC Senegalese Project Manager (Sénégal) – Elhadji Seyni Gningue, CLCOP Senegalese Social Director – Elhadji Diop, CLCOP NARI Research Coordinator - Ansumana Jarju, Agroforestry Program Leader, NARI ISRA Research Coordinator – Dr. Samba Thiaw, ISRA Canadian Project Manager – Meredith Kushnir, REAP Canadian Agronomist – Roger Samson, REAP Canadian Gender Specialist - Claudia Ho Lem, REAP
Project Implementation Team (PIT)	Senegalese Finance Officer – Mamadou Lamine Diamé Gambian Finance Officer – Abliye Tourrey Community Organizers: Samba Diallo, Modou Gueye, Omar Panneh, Dieynaba Diop, Fatamata Dem, CLCOP. Bala Drammeh, Musa Dempha, Hady Fal, Lamin Njie, NATC Farmer Trainers (40) 10 Village Development Committees 10 CBOs/FAs/womens organizations (including existing and new) Technical Expert - Erik Delaquis, Research Associate, REAP Technical Expert - Derek Lynch, Assistant Professor at NSAC Technical Expert - Shelly Juurlink, OACC Organic Dairy Extensionist & Research Coordinator

6.4 Project Staff

Project Manager (PM) – Based at the NATC and CLCOP, the Project Managers will be responsible for the overall management of the technical aspects of the project, including the following:

- ✓ Coordinate learning farm development including research activities, field visits, and trainings and liaising with NARI and ISRA and other individuals who can further project goals.
- ✓ Coordinate technical aspects of the farmer-to-farmer training, including the research and development of the training modules.
- ✓ Work with technical experts from NARI, ISRA and REAP-Canada Agronomist to identify and source improved field cultivars, vegetable seeds, tree/shrub species and poultry.
- ✓ Responsible for ensuring smooth implementation of project activities in line with the workplan and budget allocations and adherence to line items.
- ✓ Work with SCD on the Participatory Monitoring and Evaluation and gather farmers seed logs and records, training records and all other quantitative data from communities.
- ✓ Consolidate and supply all technical data for project narrative reporting to the SCD.

Social and Communication Director (SCD) – Based at NATC and CLCOP, the SCD will be responsible for communication, staff management and capacity building aspects of the project including:

- ✓ Coordinating project staff members, community organizers and farmer trainers to implement the capacity building, community organization, community action planning, and farmer-training aspects of the project;
- ✓ Train staff and maintaining efficiency of project team members;
- ✓ Coordinate PRA, Gender Analysis activities and the Participatory Monitoring and Evaluation frameworks in each community. Will be primarily responsible for all qualitative data gathering.
- ✓ Facilitate community meetings, staff meetings and ensure the effective and frequent communication by and amongst all staff.
- ✓ Responsible for consolidating and submitting required project narrative and financial reports.

Project Marketing Officer – Based at NATC, the PMO shall be responsible for the economic development of beneficiary communities in both Senegal and Gambia. Responsibilities will include:

- ✓ Research value-added and food processing opportunities in each community
- ✓ Work with SCD and COs to coordinate CBO-led Community Action Plans for value-added processing and market access and secure necessary supplies for executing these plans.
- ✓ Train CBOs on relevant business and marketing skills for value-added activities
- ✓ Work with the PM on implementation and development of appropriate technologies.
- ✓ Coordinate appropriate technology impact assessments in each community.

Finance Officers – The Financial Officer shall be responsible for the development of a financial plan for the anticipated flow of expenses during the year in accordance with the project workplan. The Financial Officer will also be responsible for the monitoring and consolidation of their organization's expenses, record keeping of all project expense reports according to project standards, copying them and sending originals to Canada, and monitoring and identification of discrepancies from project budget lines (over or under 10%) to the PMs and SCDs.

Research Coordinators – The Agroforestry Program Leader at NARI shall act as the SAEV Research Coordinator in Gambia and the Director of ISRA shall act as the SAEV Research Coordinator in Senegal. They will be responsible for the coordination of all NARI / ISRA activities and or responsibilities as contained in both the partnership agreement and the activity schedule. They will consult with all the relevant Program leaders at NARI / ISRA and coordinate the implementation of all the required research activities and plant materials at the project village sites. They will also maintain a close link with the Project Managers and to keep track of PM&E program progress and maintain records of plant/seed material distributions and performance evaluations.

Community Organizers - Based in their respective local community, the COs will be responsible for facilitating organizational strengthening activities in their local communities. They will assist in preparations for the training and the training activities and materials required, and will also be familiar with the training course content by attending at least one entire session of the trainings themselves. They will work with their respective communities to support their community action planning and implementation of activities at the village level. A key part of project reporting, the COs will be responsible for reporting to the SCD and PM and, for assisting in monitoring field implementation activities, trainings and PM&E research.

Canadian Project Manager – Based at REAP-Canada, the CPM is responsible for overall written and financial reporting of the project to CIDA. The CPM oversees project management and implementation and is also responsible for facilitating the appropriate arrangements for the roles and responsibilities of the Canadian partner as described in this Workplan.

Canadian Agronomist – Based at REAP-Canada, The project Agronomist is responsible for technical agronomical guidance and for co-facilitating the appropriate arrangements for the roles and responsibilities of the Canadian partner as described in this project.

Technical Experts – The project Technical Experts will contribute their technical experience to the project training sessions, training manuals and on-farm research program. This includes specialists on low-input fodder production and soil and nutrient management (Derek Lynch, OACC), organic dairy and livestock production, sustainable fencing and holistic animal health (Shelly Juurlink, OACC/Organic Meadows), improved plant materials, ecological farm practices, perennial fodder (Erik Delaquis, REAP-Canada).

Farmer trainers - Local farmers selected and trained to deliver step-down project trainings to community on sustainable agriculture and soil conservation practices.

7. Monitoring and Reporting

7.1 Project Monitoring and Evaluation

Careful participatory monitoring of performance is essential to the success of the Agro-Ecological Village development programming. M&E is indispensable for good management. For M&E to succeed it needs to be driven by managers' needs for information, their use of the information and their desire to create a learning environment. The M&E system for the SAEV project has three interrelated functions:

- Guiding the overall project strategy and Workplan
- Creating a learning environment
- Ensuring effective project operations

Project evaluation will be pursued through the identification and assessment of key progress indicators. These indicators are used in both formal reporting and inter-partner implementation assessments and are deeply integrated into project activities including the PRA, baseline situation assessments, and Participatory Monitoring and Evaluation (PM&E) program for on-farm research. Results from these monitoring programs will be incorporated into each annual project report and annual planning and management activities. In this way, the project develops an iterative process to validate the action plan and continually assess the direction of the project, while promoting the ongoing capacity building of the local community. Beneficiaries will gain increased skills and confidence in understanding the local economic, social, and agricultural issues that affect them and increase their ability to identify emerging opportunities. Through these monitoring programs, participatory planning and evaluation practices also become institutionalized into community activities and organizations. Please see Annex 5 for the M&E Matrix.

Project Performance Indicators

Performance indicators are used to monitor project success in overall project reporting to REAP-Canada. They correspond to the performance indicators identified under each sub-activity area. There will be both qualitative and quantitative data gathered and they will be monitored using the following methods:

PM&E Program (results will be corroborated with other PRA/participatory methodologies including *focus groups, testimonials, SSI and field visits*): (please refer to section 7.3.2 under Activity 3 for further details on the project PM&E program)

- # of learning farms selected and prepared (M/F); Number of farms/farmers using ecological agricultural/soil conservation practices (M/F); social quality improvements.
- Quantity of seeds collected (kg/ variety and species type) and distributed (kg/seed/village) (M/F); Farmer assessments of seed quality, performance & taste (M/F)
- Changes in access to improved materials such as seeds, organic fertilizer, plant materials, livestock and livestock fodder/fencing materials etc; (M/F)
- Year round food production and availability (M/F)
- # of offspring from cockerels and rams
- # of shelterbelt and fruit trees, and community based tree nurseries
- # of community members producing compost and quantity produced per village
- Farmer assessments of compost quality & impact on soil fertility and crop yields (M/F)
- # of promising value-added / food processing opportunities identified
- Annual farm income (M/F)

Project Questionnaire: (please refer to section 7.1.2 under Activity 1 for further details on the project Questionnaire)

- Agricultural products and yield (M/F)
- Number of farms/farmers using ecological agricultural/soil conservation practices (M/F)
- Changes to farmers use and understanding of sustainable agricultural practices (M/F)
- Year round food production and availability (M/F)
- Changes to livestock survival and health, and farm perception of meat quality improvement
- Benefits of tree planting documented including availability of fruit and fuel wood; community perceptions of wind erosion control & impact on soil fertility (M/F)
- # of community members producing compost and quantity produced per village
- Access to value-added materials and equipment (household/M/F)
- Changes to Annual farm income (M/F/household)
- Number of women cooking with improved household stoves
- Changes to access to appropriate technologies (M/F)
- Household air quality improvements / Household fuel wood consumption

Other methods:

- Community Based Organizations (CBOs) will maintain records for indicators such as kilograms of organic fertilizer produced; training topics and number of farmers trained in ecological agriculture/soil conservation through the FTF training network; Number of protocols established and all data on community action plans (CAPs).
- CO monthly reports will corroborate CBO records and account for all training statistics in their communities, CAP details, CBO meetings feedback from communities and farmers, qualitative information and feedback from learning farms etc.
- Technology feedback assessments will be conducted in conjunction with the annual project questionnaire to gain specific information about the effectiveness of the new technologies, their

ability to meet the needs of the women, and qualitative information on changes to labor, fuel-wood consumption, air quality etc..

- Project Management Staff will ultimately be responsible for keeping track of all training statistics (including numbers, dates, topics covered, quality of trainings etc.) and consolidating much of the information for reporting purposes.
- In addition, information will be corroborated through field visits, testimonials and semi-structured interviews by CLCOP, NATC and REAP staff as well as consultants on the project.

7.2 Inter-partner Reporting

REAP-Canada will be responsible for the annual reporting to CIDA, based on the quarterly, semi-annual and annual reports consolidated by and received from NATC and CLCOP. These reports will be supplemented with information collected from field visits, regular updates, and frequent communication to place between project partners. Monthly updates are scheduled to take place between NATC and REAP-Canada, and CLCOP and REAP-Canada, and these will be used to track progress and identify any issues that may arise during implementation. These processes have ensured effective and timely management of projects in the past [see Annex 4 for the Project Reporting Schedules].

NATC and CLCOP will be responsible for narrative and financial reporting for their respective organizations and will submit narrative reports to REAP on an annual and semi-annual basis and financial reports on a quarterly basis. As such, they are responsible for ensuring reporting conforms to adequate standards and that all final reports are submitted in English or French to REAP-Canada in a timely manner according to the deadlines listed in the Project Reporting Schedules (Annex 4). Narrative Progress reports shall include a description of project activities completed during the reporting period. Project progress will be described according to the indicators listed in the SAEV “Results-Based Summary Table” (Annex 2) and assessments and variances between project performance versus stated targets as well as lessons learned described and explained.

To assist this process, the project leaders and COs will exchange monthly updates outlining the status of the project programming and work plans. This will include reviewing the status of the project activities, assessments of performance indicators and any additional concerns identified. Project staff will contact one another immediately if challenges arise or irregularities occur.

To ensure the project direction maintains relevance to activities on the ground, Community Organizers will be responsible for reporting issues encountered at community level to PM and SD at their respective organizations on a monthly basis through activity reports (including assessments of the performance indicators) and a monthly project meeting (held in the Gambia and Sénégal respectively). Farmer trainers and members of the CBOs/FAs will also be invited to present at these meetings if relevant. Summaries of these meetings will be transmitted to the overall project administrators during the monthly updates.

8. Financial Management

The partners will manage project funds exclusively for the purposes of the SAEV project in accordance with the project budget. REAP-Canada shall distribute funds to NATC according to the Advance Payment Schedule (Annex 6). This schedule may be revised over the course of the project to reflect adjustments in cash-flow requirements, subject to adjustments and approval by CIDA. NATC shall be responsible for further allocation of project funds to the local partner agencies AVISU, NARI and APROFES to support project implementation and will distribute funds in a timely manner. Note that the budget is subject to amendments in subsequent annual work plans agreed to between REAP and CIDA. Furthermore, it is understood that the release of advance payments will be contingent upon receipt by REAP-Canada of satisfactory financial and narrative report documents as outlined in SAEV Required Reporting Periods (Annex 5) and verification of financial claims with attached receipts. All project activities are eligible for financing up to June 30, 2016 when project field activities are officially ended. After which, only

activities related to the preparation of the final report will be eligible for financing until the project termination date, October 31, 2016.

REAP-Canada will be responsible for the overall financial report consolidation for submission to CIDA. NATC and CLCOP Financial Officers will be responsible for the financial reporting and consolidation of their organization expenditures on a quarterly basis. All implementing partners will be responsible for the documentation of finances, bookkeeping and accounting of their budget allocation. Procedures and protocols will be established in the first few months of the project to ensure a smooth reporting process.

Quarterly financial reports shall include a statement of expenses incurred during the previous quarter and the cumulated disbursed funds vs. planned (in CAD dollars). Supporting documents will include original receipts of actual expenses and an accomplishment report/time sheet for each staff on the project (recording staff names, positions, rates, pay period, total amount disbursed for each staff person and original signatures by both the employees and guarantors). All expenses claimed by NATC or CLCOP must correspond to a line item in the project budget (Annex 6) and must list specific items/services purchased. Expenses in each category should not exceed the project budget by more than 10% unless a valid reason exists, which must be explained in detail in the financial reports or ideally beforehand. In addition, partners' total expenditures must also not exceed their total budget as such additional expenses cannot be reimbursed. To ensure that expenditures are accurate, the project partners will work together to develop quarterly financial forecasts. At the outset of each year, a financial plan will be developed with the project workplan to enable all project partners to understand the anticipated flow of expenses for the year.

9. Environmental Assessment

The SAEV project is not subject to the standards of the Canadian Environmental Assessment Act (CEAA) as no physical works or construction activities will be undertaken or involved in project implementation. The environmental risk of this project is limited as its main emphasis is on the introduction of more ecological farming practices and farmer training. Instead, the project has the potential to benefit the local and global environment in several important ways:

- Decreased soil erosion due to wind and water through the implementation of sustainable agro-forestry techniques and other ecological farming practices
- Increased soil nutrient cycling and soil quality through improved ecological farm management and organic soil amendments such as Bokashi
- Restoration of local plant and animal biodiversity through increased farm diversity, farm habitat. and reduced chemical input usage
- Decreased deforestation and increased indoor air quality through improved biomass stoves

10. AEV Sustainability

The long-term impact this project intends to make is to improve the lives of farmers living in environmentally degraded environments through the widespread adoption of sustainable agriculture and soil conservation techniques and other capacity building activities. The project envisions the successful implementation of a low-cost community development model that can easily be replicated in other areas of the Gambia, Sénégal and West Africa to reach the millions of peasant farmers who desire to improve their quality of life.

To achieve this, the main activities of the project at the community/institutional level are centred on the support of local CBOs. CBOs are a key element to the implementation of the monitoring, training and participatory research aspects of the project. As the project progresses, the CBOs will take increasing responsibility in directing programming and this will extend after the project is completed. CBOs in beneficiary villages will also coordinate the PM&E program, synthesizing the needs of villagers with results from learning farms and trainings. CBOs will be central in the multiplication of valuable plant

materials and livestock varieties and coordinating distribution, evaluation and seed banking of seeds both during and after the project.

These activities will be supported by the project for the first three years. During this time, CBOs are expected to increase their own income and in-kind contributions from community members and take on a larger role in coordinating activities. In return for providing these services to their communities, villagers will contribute to the organization either in time or through membership, rental or training fees. This income, together with project resources, will be used to invest in materials valued by beneficiaries (trainings, improved seeds, plant materials and livestock, improved stoves, organic fertilizers), which can then be revolved back to the organization to continue activities in the communities after the project is completed. As an example, valuable seeds can be multiplied and sold to community members for a small price. Rental fees can be charged for access to animals for draft work or breeding or for access to farm tools and labour-reducing machines (seeders, grain processing). CBOs can coordinate the production of organic fertilizer and sell this as an income generating activity. They can also establish programs to support income-generating activities for women, including the processing of value-added local agricultural produce into preserves. Appropriate technologies, including locally manufactured improved cooking stoves, could also generate additional income for CBOs. In addition, the project partners (NATC and CLCOP) will continue to support the CBOs through trainings, plant materials and monitoring after project completion.

Over the long term, the project will result in an improved quality of life and a reduction in environmental degradation to the rural farmers targeted as the immediate beneficiaries. It will also develop their social and community networks, improving relations between government offices, technicians and farmers, and between men and women. It will improve the agronomic practices currently being used in remote rural areas and empower rural peasants to take a more active role in their development process through the PRA, farmer-to-farmer training and on-farm trials. The investment in empowering and training farmers generates a high capacity to continue local development. Increased farm income will allow farmers to reinvest capital into newly identified opportunities. The emphasis on ecological farming systems, environmental rehabilitation, and training and capacity enhancement will also ensure the long term protection and regeneration of the agro-ecosystems from which the rural communities' economies can continue to evolve.

ANNEX 1: An Agro-Ecological approach to rural development

Activity	Conventional approach	Agro-Ecological system
<i>Approach</i>	<ul style="list-style-type: none"> - Emphasizes development of export markets to pay for imported goods - Communities are vulnerable to external forces and loan-dependent - Degrades local natural resources and biosphere - Top down training and development approaches 	<ul style="list-style-type: none"> - Emphasizes on-farm food self-reliance and efficient use of on-farm resources - Orients market development towards local markets and import displacement - Minimizes human impact on local environment and biosphere - Low cost participatory development approaches such as farmer to farmer training emphasized. Focus on long term project sustainability and lasting effects.
<i>Food supply and quality</i>	Purchased foods (often processed and imported) and low diversity of diet, production focus on cash crops	Food security emphasized first through on-farm ecological production of principal food crops; quality diet supported by a diversity of seasonal production of fruits
<i>Soil tillage</i>	Annual crops emphasized and tillage performed with tractors powered by fossil fuels	Production systems include perennial crops and use of ground covers or crop residue mulches, tillage minimized through rotation and ecological soil fertility management
<i>Soil fertility</i>	Off-farm chemical N-P-K fertilizers	On-farm: Biological Nitrogen Fixation (BNF), compost, crop rotation, green manures and minimizing soil erosion
<i>Weed and pest management</i>	Chemical herbicides, insecticides and fungicides,	Mechanical weeders, crop rotations, intercropping, biological-controls, to prevent weed growth compost is used for soil fertility management
<i>Seeds</i>	Purchased seeds sourced from outside the region. Hybrids commonly used which can't be reproduced and selected locally. Some GMO seeds used.	Community seed banking of open pollinated seeds, new seeds assessed in trial farms, farmer driven participatory plant material assessment and breeding
<i>Irrigation</i>	Gasoline and diesel powered irrigation pumps	Use of ram, treadle and wind pumps for irrigation, use of low-water requiring drip irrigation systems, use of water collection cellars and check dams
<i>Household cooking</i>	Use of LPG, kerosene and charcoal fuels; 3 stone fire cooking with kerosene used as fire starter	Use of rice hull cookers, efficient wood stoves, biogas; solar stoves, all fuels farm-derived
<i>Marketing</i>	Cash crops; monoculture production; products sold through traders for distant markets	A diversity of year round local markets are created through diversified production and value added products created where appropriate
<i>Finances</i>	Heavy debt load at usury rates for high input requirements of monoculture cropping	Local Farmers Associations; efficient use of on-farm resources to minimize inputs
<i>Training</i>	Limited training of farmers; top down government trainers teaching high input farming methods.	Participatory Approaches emphasizing farmer to farmer training on ecological farming systems

ANNEX 2: SAEV Project Three Year Detailed Work Plan 2012 – 2016

SAEV Project Workplan Schedule- August 2012 - June 2016									
Activities	Year 1		Year 2		Year 3		Year 4		Indicators
	Aug-Dec 2012	Jan-June 2013	Aug-Dec 2013	Jan-June 2014	Aug-Dec 2014	Jan-June 2015	Aug-Dec 2015	Jan-June 2016	
Activity 1: Community Organizing and Capacity Building									
Conduct PRA and Gender Analysis in 10 communities	x								# of communities with completed PRAs and Gender Analysis (Target: 10); Participatory planning & evaluation practices, and gender mainstreaming are institutionalized into community activities and organizations
Identify and Form CBOs in each community	x	x							# CBOs identified/trained (M/F) (Target 10 CBOs); CBOs report increased skills and confidence of in CBO organization & management, and identification of emerging opportunities
Capacity building and management trainings for CBOs		x	x	x					# of CO identified/trained (M/F) (Target: 10 Cos); Quality of training of Cos
Identify and train Community Organizers (COs) in each beneficiary community	x								# of CAPs created; frequency of updates; Quality of CAP developed by CBOs
Create Community-led Action Plans (CAPs) for project implementation	x	x	x	x	x	x	x	x	# of indicators identified and data collected; Farmer perceptions of PM&E program
Establish and implement PM&E Program in each community	x	x	x	x	x	x	x	x	# of panel group participation (Target: 100 participants - 50% female); # of questionnaires administered; Development, administration, and analysis of Questionnaire (M/F)
Develop, administer and analyze questionnaire to monitor socio-economic indicators	x		x		x		x		
Activity 2: Farmer-to-Farmer (FTF) Training Program									
Research & develop basic and advanced training modules on ecological farming for food security and soil conservation	x	x	x						# of basic & advanced modules developed; quality of training modules
Train Farmer Trainers on basic modules		x	x	x					# of farmers trained (Target 40; 50% female)
Train Farmer Trainers on advanced modules				x	x	x	x		# of farmers trained (Target 40; 50% female); farmer trainers gain confidence and skill sin sustainable agriculture
Coordinate CAP for FTF training	x	x							# of CAPs for FTF program
Deliver farmer-to-farmer training to 500 farmers on basic modules		x	x	x					# of local farmers trainers (Target 500; 50% female; 25% youth)
Deliver farmer-to-farmer training to 500 farmers on advanced modules				x	x	x	x		# of local farmers trainers (Target 500; 50% female; 25% youth)
Conduct annual training needs assessments in each community	x		x		x		x		# and frequency of training needs assessments; trainings continually tailored to community needs.
Activity 3: Implementation of Best Practices for Ecological Farming & Sustainable Livestock Management									

Establish 40 learning farms to demonstrate improved ecological farming and soil conservation techniques		x							# of learning farms selected and prepared (Target: 40 learning farms); community announcements on locations & welcoming community members to visit the farms through the season
Collect improved field cultivars and vegetable seeds	x	x	x	x	x	x	x		Quantity of seeds collected (kg/ variety and species type)
Distribute improved field cultivars and vegetable seeds for participatory variety selection on learning farms		x		x		x		x	Quantity of seeds distributed (kg/seed/village) (M/F); Farmer assessments of seed quality performance & taste (M/F)
Coordinate CAPs for seed selection, evaluation multiplication and distribution in each community		x	x	x	x	x	x	x	# of protocols established; Public announcement of seed distribution plans for 4 years of the project; Seed CAP programs developed
Implementation of ecological techniques on learning farms		x	x	x	x	x	x	x	Learning farms demonstrate improved agricultural and soil conservation practices; Comparison of farm trial results between farmers and between communities; Extension of successes into community
Coordinate CAPs for sustainable livestock management in each community including back-yard livestock husbandry and perennial forage production				x	x	x	x	x	# of offspring from cockerels and rams (Target: 100 cockerel, 40 rams); Farmer perception of meat quality improvement
Collect and distribute shelterbelt and fruit trees for nursery production and planting in each community		x	x	x	x				# of shelterbelt and fruit trees, and community based tree nurseries (Target: 50,000 trees) Benefits of tree planting documented including availability of fruit and fuel wood; community perceptions of wind erosion control & impact on soil fertility (M/F)
Organic fertilizer production			x	x	x	x	x	x	# of community members producing compost and quantity produced per village (Target: 50 tonnes/year); Farmer assessments of compost quality & impact on soil fertility and crop yields (M/F)
Activity 4: Enhancing Sustainable Economic Development Through Value Added Processing & Market Access									
Research value-added and food processing opportunities in each community	x	x	x	x					# of promising value-added / food processing opportunities identified ; perception of opportunities by farmers
Develop and coordinate CBO-led CAP for value-added processing and market access in each community		x	x						# of community plans for food processing (Target: 10 CAP);
Train CBOs on relevant business and marketing skills for value-added activities				x	x				# of CBOs trained on relevant business and marketing skills (Target: 10 CBOs trained)
Assist communities in securing the necessary supplies for executing their respective value-added business plans				x	x	x	x	x	% increase in farm income (M/F) (Target 40% over 4 years); Improved income security with diversified livelihood options available (M/F)
Activity 5: Appropriate Technologies for Ecological Farming									
Research and improvement of stove designs through community stove assessments	x	x	x	x	x	x	x	x	Stove designs reflect women 's' needs & stoves burn efficiently and effectively

Production of stoves and farming tools	x	x	x	x	x	x	x	x	# of stoves produced (Target: 250 stoves); quality of stoves
Establishment of marketing plan and distribution of stoves and farming tools			x	x	x				# of stoves distributed (Target: 250 stoves distributed)
Conduct stove impact assessment in each community				x			x	x	# of stove impact assessments conducted in each community; # of women cooking with improved stoves; Qualitative assessments by women users of improved air quality, labour burden and fuel-wood consumption
Project Management, Monitoring & Reporting									
Formation of Project Management Team (PMT), Project Implementing Team (PIT) and initial project planning and design	x	x							Completion of Workplan
Selection and management of project staff	x	x							Staff selected and contracts signed
Designing and setting up the M&E system	x	x							Clear M&E program in place
Project review, assessment and performance monitoring	x	x	x	x	x	x	x	x	AEV programming is improved in response to feedback from communities
Overall narrative reporting for the project to CIDA (annual and semi-annual)	x	x	x	x	x	x	x	x	Annual and semi annual narrative reports completed in an accurate and timely manner
Annual narrative and semi-annual report from southern partners to REAP	x	x	x	x	x	x	x	x	Annual and semi annual narrative reports completed in an accurate and timely manner
Staff/community/field activity report consolidation	x	x	x	x	x	x	x	x	Staff reports submitted in an effective and timely manner
Submission of monthly reports by Cos	x	x	x	x	x	x	x	x	Monthly reports submitted by Cos
Financial Management									
Overall financial report consolidation to CIDA	x	x	x	x	x	x	x	x	Annual and semi annual financial reports completed in an accurate and timely manner
Quarterly Financial Reports for submission to Canada	x	x	x	x	x	x	x	x	Quarterly financial reports completed in an accurate and timely manner
Documentation of finances, bookkeeping and accounting of individual budget allocations	x	x	x	x	x	x	x	x	Effective and accurate financial management of the project with little over or under expenditures
Audit Southern Partner Operations		X		x		x		x	Integrity of financial recording systems maintained

ANNEX 3: SAEV Partner Roles and Responsibilities

Activities	Roles & Responsibilities (x = responsibility, xx = primary responsibility, u = participation)					
	REAP	NATC	CLCOP	Farmers / CBOs	NARI	ISRA
Activity 1: Community Organizing and Capacity Building						
Conduct PRA and Gender Analysis in 10 communities	xx	xx	xx	✓		
Identify and Form CBOs in each community		x	x	xx		
Capacity building and management trainings for CBOs		xx	xx	✓		
Identify and train Community Organizers (COs) in each beneficiary community	x	xx	xx	✓		
Create Community-led Action Plans (CAPs) for project implementation		x	x	xx		
Establish and implement PM&E Program in each community	x	xx	xx	✓	✓	✓
Develop, administer and analyze questionnaire to monitor socio-economic indicators	xx	x	x	✓		
Activity 2: Farmer-to-Farmer (FTF) Training Program						
Research & develop basic and advanced training modules on ecological farming for food security and soil conservation	xx	xx	xx	✓	✓	✓
Train Farmer Trainers on basic modules	✓	xx	xx	✓	x	x
Train Farmer Trainers on advanced modules	✓	xx	xx	✓	x	x
Coordinate CAP for FTF training		x	x	xx	x	x
Deliver farmer-to-farmer training to 500 farmers on basic modules	✓	x	x	xx	x	x
Deliver farmer-to-farmer training to 500 farmers on advanced modules	✓	x	x	xx	x	x
Conduct annual training needs assessments in each community		xx	xx	x		
Activity 3: Implementation of Best Practices for Ecological Farming & Sustainable Livestock Management						
Establish 40 learning farms to demonstrate improved ecological farming and soil conservation techniques	x	x	x	xx	x	x
Collect improved field cultivars and vegetable seeds	✓	xx	xx	✓	x	x
Distribute improved field cultivars and vegetable seeds for PVS on learning farms	✓	xx	xx	✓	✓	✓
Coordinate CAPs for seed selection, evaluation multiplication and distribution		x	x	xx		
Implementation of ecological techniques on learning farms	✓	x	x	xx	✓	✓
Coordinate CAPs for sustainable livestock management in each community				xx		
Collect and distribute shelterbelt and fruit trees for nursery production and planting in each community	x	xx	xx	✓	x	x
Organic fertilizer production	x	x	x	xx	✓	✓
Activity 4: Enhancing Sustainable Economic Development Through Value Added Processing & Market Access						
Research value-added and food processing opportunities in each community	x	xx	xx	x		
Develop and coordinate CBO-led CAP for value-added processing and market access		x	x	xx		
Train CBOs on relevant business and marketing skills for value-added activities	✓	xx	xx	✓		
Assist communities in securing the necessary supplies for executing their respective plans	✓	xx	xx	✓		
Activity 5: Appropriate Technologies for Ecological Farming						
Research and improvement of stove designs through community stove assessments	xx	x	x	✓		
Production of stoves and farming tools	xx	xx	xx			
Establishment of marketing plan and distribution of stoves and farming tools	✓	xx	xx	✓		
Conduct stove impact assessment in each community	✓	xx	xx	✓		
Project Management, Monitoring & Reporting						
Formation of PMT, PIT and initial project planning and design	xx	x	x	✓	✓	✓
Selection and management of project staff	x	xx	xx		x	x
Project review, assessment and performance monitoring	xx	xx	xx	x	✓	✓
Overall narrative reporting for the project to CIDA (annual and semi-annual)	xx					
Annual narrative and semi-annual report from southern partners to REAP		xx	xx			
Staff/community/field activity report consolidation		xx	xx	x	x	x
Submission of monthly reports by Cos		xx	xx			
Financial Management						
Overall financial report consolidation to CIDA	xx					
Quarterly Financial Reports for submission to Canada		xx	xx			
Documentation of finances, bookkeeping and accounting of individual budget allocations	xx	xx	xx			

ANNEX 4: SAEV Project Reporting Schedules

REAP Required Reporting Periods to CIDA 2012-2016				
Yr	Report	Content	Due Date	Project Period Covered
1	Project Implementation Plan (PIP) & Performance Measurement Framework (PMF)	See above	Oct 19 th , 2012	Life of Project
	Initial Budgetary Forecast	6 month cash flow and budget	Aug 1, 2012	First 6 months
	1 st Annual Workplan	Narrative	Oct 15, 2012	Aug 2012 – July 2013
	Second Budgetary Forecast	6 month cash flow and budget	Jan 1, 2013	Second 6 months
	1 st Semi-Annual Report	RBM & Narrative	Feb 15, 2013	Aug 2012 – Dec 2012
2	1 st Annual Financial Report	Financial	Aug 15, 2013	Aug 2012 – July 2013
	2 nd Semi-Annual Report	RBM & Narrative	Aug 15, 2013	Jan 2013 – June 2013
	2 nd Annual Workplan	Narrative	Oct 15, 2013	Aug 2013 – July 2014
	3 rd Semi-Annual Report	RBM & Narrative	Feb 15, 2014	Aug 2013 – Dec 2013
3	2 nd Annual Financial Report	Financial	Aug 15, 2014	Aug 2013 – July 2014
	4 th Semi-Annual Report	RBM & Narrative	Aug 15, 2014	Jan 2014 – June 2014
	3 rd Annual Workplan	Narrative	Oct 15, 2014	Aug 2014 – July 2015
	5 th Semi-Annual Report	RBM & Narrative	Feb 15, 2015	Aug 2014 – Dec 2014
4	3 rd Annual Financial Report	Financial	Aug 15, 2015	Aug 2014 – July 2015
	6 th Semi-Annual Report	RBM & Narrative	Aug 15, 2015	Jan 2015 – June 2015
	4 th Annual Workplan	Narrative	Oct 15, 2015	Aug 2015 – June 2016
	7 th Semi-Annual Report	RBM & Narrative	Feb 15, 2016	Aug 2015 – Dec 2015
	Final Project Report	RBM, Narrative and Financial	Oct 15, 2016	Life of Project

Southern Partner Required Reporting Periods to REAP 2012-2016				
yr	Report	Content	Due Date	Project Period Covered
1	Quarter 1 Financial Report	Financial	Nov 1 st , 2012	Aug 2012 – Sept 2012
	Six-month Interim Progress Report	Narrative	Jan 1 st , 2013	Aug 2012 – Dec 2012
	Quarter 2 Financial Report	Financial	Feb 1 st , 2013	Oct 2012 – Dec 2012
	Quarter 3 Financial Report	Financial	May 1 st , 2013	Jan 2013 – Mar 2013
	Annual Project Performance Report	RBM, Narrative	July 1 st , 2013	Jan 2013 – June 2013
2	Quarter 4 Financial Report	Financial	Aug 1 st , 2013	Apr 2013 – June 2013
	Quarter 5 Financial Report	Financial	Nov 1 st , 2013	Jul 2013 – Sept 2013
	Six-month Interim Progress Report	Narrative	Jan 1 st , 2014	Aug 2013 – Dec 2013
	Quarter 6 Financial Report	Financial	Feb 1 st , 2014	Oct 2013 – Dec 2013

	Quarter 7 Financial Report	Financial	May 1 st , 2014	Jan 2014 –Mar 2014
	Annual Project Performance Report	RBM, Narrative	July 1 st , 2014	Jan 2014 – June 2014
	Quarter 8 Financial Report	Financial	Aug 1 st , 2014	Apr 2014 –June 2014
3	Quarter 9 Financial Report	Financial	Nov 1 st , 2014	Jul 2014 – Sept 2014
	Six-month Interim Progress Report	Narrative	Jan 1 st , 2015	Aug 2014 – Dec 2014
	Quarter 10 Financial Report	Financial	Feb 1 st , 2015	Oct 2014 – Dec 2014
	Quarter 11 Financial Report	Financial	May 1 st , 2015	Jan 2015 –Mar 2015
	Annual Project Performance Report	RBM, Narrative	July 1 st , 2015	Jan 2015 – June 2015
	Quarter 12 Financial Report	Financial	Aug 1 st , 2015	Apr 2015 –June 2015
4	Quarter 13 Financial Report	Financial	Nov 1 st , 2015	Jul 2015 – Sept 2015
	Six-month Interim Progress Report	Narrative	Jan 1 st , 2016	Aug 2015 – Dec 2015
	Quarter 14 Financial Report	Financial	Feb 1 st , 2016	Oct 2015 – Dec 2015
	Quarter 15 Financial Report	Financial	May 1 st , 2016	Jan 2016 –Mar 2016
	Final Project Report – on all activities	RBM, Narrative	July 1 st , 2016	Jan 2016 – June 2016
	Quarter 16 Financial Report	Financial	Aug 1 st , 2016	Apr 2016 –June 2016

ANNEX 4: Partnership Guiding Principles and Approaches

It is important that project partners have common understanding of, and support, the following development principles and approaches:

- *Shared goal of genuine development of local communities.* Development partners need to share a common goal of working to create genuine development of communities. Project activities and interventions need to be in line with the local historical context and address the basic needs of the masses.
- *Decision making by consensus.* Direction setting and resolution of project implementation issues will be by consensus, no unilateral decision-making will be undertaken.
- *Recognition and enhancement of local development initiatives.* It is important to recognize that there are existing initiatives and processes by the local communities and partner organizations in implementing and sustaining development programs. An introduction or promotion of new development concepts should support and enhance these initiatives.
- *Role complementation and synergy.* There needs to be a positive complementation and synergy of roles among partners. Overlapping of functions should be immediately addressed.
- *Sustainable methods and approaches in resource management.* The approaches used to implement the project should not encourage a “dole-out” mentality or environment; and financial or other resources should not be “dangled” or used to attract people’s interest and cooperation to the project.
- *Respect to partner’s internal policy, systems and procedures.* Partners should respect the autonomy of each organization and no intervention should be initiated to change the internal policy and procedures without proper consultation to the management of the organization concerned. Likewise, it is important to demonstrate sensitivity and respect of the local culture.
- *Transparency and honesty.* Each partner is expected to be mutually transparent and honest in handling the development partner-relationship. Partnership and project implementation-related concerns shall be discussed in the appropriate forum.
- *Encourage a healthy and safe working environment.* Sustainable development can be best achieved by facilitating a mutually healthy, safe and productive work environment. To the best of

their abilities, project partners will jointly work towards creating a work environment free from physical or psychological forms of harassment.

ANNEX 5: Project M&E Matrix

M&E Matrix				
Sub-Activities	Performance Questions and related targets	Information needs: Qualitative & Quantitative Indicators	Data Gathering Mechanisms	Information Use
Activity 1: Community Organizing and Capacity Building				
1.1 Conduct PRA and Gender Analysis in each community	How effectively have community challenges and needs been incorporated into the workplan?	# of PRA participants (M/F); #of communities w/ completed gender analysis	PRAs; Field visits.	PRA report / incorporation into the overall workplan
		Participatory planning & evaluation practices, and gender mainstreaming are institutionalized into community activities and organizations		
1.2 Form CBOs in each community and deliver capacity building and CBO management trainings	How effectively are the community based organizations supporting farmers and implementing the project? In what area have they improved?	# CBOs identified/trained (M/F)	CBO records; Field visits.	Strengthening training efforts to CBOs on a needs basis.
		Changes over time to reported levels of skills and confidence of in CBO organization & management, and identification of emerging opportunities		
1.3 Identify and train Community Organizers (COs) in each beneficiary community	How effectively are Cos working with their respective communities?	# of CO identified/trained (M/F)	Staff field visits and Annual CO appraisals.	Community organizers will receive mentorship and capacity building to help them improve.
		Quality of training of Cos; community assessments of their Cos.		
1.4 Create Community-led Action Plans (CAPs) for project implementation	What CAPs have been developed? How well do they meet the needs of the farmers?	# of CAPs created; frequency of updates	CO monthly reports; CBO records.	CAPs will guide the implementation of the project at the village level.
		Quality of CAP developed by CBOs		
1.5 Establish PM&E Program in each community	What communities have established a PM&E program?	# of indicators identified and data collected	CBO records; CO reports	PM&E information to be compared with feedback from questionnaires and field observations.
		Farmer perceptions of PM&E program (M/F)		
1.6 Develop, administer and analyze questionnaire to monitor socio-economic indicators	How effectively are the questionnaires providing information for monitoring needs?	# of panel group participation; # of questionnaires administered (M/F)	Staff record keeping	Questionnaire information to be compared with feedback from PM&E and field observations.
		Development, administration, and analysis of Questionnaire (M/F)		
Activity 2: Farmer-to-Farmer (FTF) Training Program				
2.1. Research & develop basic and advanced training modules on ecological farming for food security and soil conservation	What modules have been developed? How well do they meet the needs of the farmers?	# of basic & advanced modules developed	Staff record keeping	
		Quality of the training modules developed		
2.2. Train Farmer Trainers on basic & advanced modules	<i>(Target 40 farmer trainers trained; 50% female)</i>	# of farmers trainers trained	CO monthly reports; CBO records.	Reporting to CIDA.
		Farmer trainers gain confidence and skills in sustainable agricultural practices (M/F)		

2.3. Coordinate CAP for FTF training and deliver training to farmers on basic & advanced modules in each community	How effective has the FTF program been and how has beneficiary's knowledge about ecological agriculture changed? <i>(Target: 500 farmers trained; 50% female; 25% youth)</i>	- # of local farmer trainers	CO monthly reports; Project Questionnaire. CBO records.	Reporting to CIDA.
		Beneficiaries increase their use and understanding of sustainable agricultural practices (M/F)		
2.4. Conduct annual training needs assessments in each community	Are the trainings meeting the needs of the communities?	# & frequency of training needs assessments	PM&E program; Annual training needs assessments.	Annual review and adjustment of training activities with key stakeholders.
		Trainings continually tailored community needs		
Activity 3: Implementation of Best Practices for Ecological Farming & Sustainable Livestock Management				
3. 1. Establish 40 learning farms to demonstrate improved ecological farming and soil conservation techniques	What improved farming practices have been developed? What level of adoption has occurred? What are the reasons for adoption or non-adoption?	# of learning farms selected and prepared (M/F); Number of farms/farmers using ecological agricultural/soil conservation practices (M/F); social quality improvements.	CO monthly reports; PM&E Program; Project Questionnaire.	Discussions of adoption levels and developments during staff field visits and CO field inspections.
		Level of adoption of new ecological farming practices on learning farms.		
3.2. Collect and distribute improved field cultivars and vegetable seeds	How have yields and other performance characteristics of crops changed? <i>Target: 5000 kg of groundnut, 5000kg millet, 5000 kg maize and 5000 3000 kg rice and 5000 kg sorghum</i>	Quantity of seeds collected (kg/ variety and species type) and distributed (kg/seed/village) (M/F); Agricultural products and yield (M/F)	CO monthly reports; PM&E Program; Project Questionnaire.	Discussion of agronomic developments during annual reviews and adjustments to seed procurements.
		Farmer assessments of seed quality performance & taste (M/F)		
3.3. Coordinate CAPs for seed selection, evaluation multiplication and distribution in each community	Are CAPs equitably distributing the seed resources and what procedures have been developed?	# of protocols established	PM&E Program; CBO records; Project Questionnaire.	Seed protocols established.
		Public announcement of seed distribution plans for 4 years of the project; Seed CAP programs developed; Changes in access to improved materials; Year round food production and availability (M/F)		
3.4. Coordinate CAPs for sustainable livestock management including back-yard livestock husbandry and perennial forage production	How has meat quality and quantity changed? <i>Target: 100 cockerel; 40 rams distributed</i>	# of offspring from cockerels and rams	CO monthly reports; PM&E Program; Project Questionnaire;	Discussion of changes and developments during annual project review.
		Changes to livestock survival and health, and farm perception of meat quality improvement		
3.5. Collect and distribute shelterbelt and fruit trees for nursery production and planting in each community	How have shelterbelt and fruit trees changed the farming system? <i>Target: 50,000 shelterbelt and fruit trees distributed & planted.</i>	# of shelterbelt and fruit trees, and community based tree nurseries	CO monthly reports; PM&E Program; Project Questionnaire.	
		Benefits of tree planting documented including availability of fruit and fuel wood; community perceptions of wind erosion control & impact on soil fertility (M/F)		

3.6. Organic fertilizer production	How has soil fertility changed?	# of community members producing compost and quantity produced per village	CO monthly reports; PM&E Program; Project Questionnaire;	
		Farmer assessments of compost quality & impact on soil fertility and crop yields (M/F)		
Activity 4: Enhancing Sustainable Economic Development Through Value Added Processing & Market Access				
4.1. Research value-added and food processing opportunities	What innovative value-added and food processing opportunities have been identified?	# of promising value-added / food processing opportunities identified	CO monthly reports; PM&E Program;	Identification of important opportunities in each community.
		Value-added and food processing opportunities researched and understood in each community		
4.2. Develop and coordinate CBO		# of community plans for food processing	CO monthly reports CBO records. Project Questionnaire.	Establishment of marketing plan in each community.
		Strategic food processing CAP developed in each community; Access to value-added materials and equipment (household/M/F)		
4.3. Train CBOs on relevant business and marketing skills for value		# of CBOs trained on relevant business and marketing skills	CO monthly reports CBO records.	
		Quality of training received (M/F)		
4.4. Assist communities in securing the necessary supplies for executing their respective value	How have opportunities in food processing etc. changed well-being, and income levels of farmers? <i>Target: 40% increase in farm income over 4 years</i>	Changes in Annual Farm Income (M/F/household)	PM&E Program; Project Questionnaire. CBO records.	Analysis and discussion of success within staff and with communities.
		Changes in income with diversified livelihood options available (M/F); Necessary supplies for business plans delivered to each CBO		
Activity 5: Appropriate Technologies for Ecological Farming				
5.1. Research and improvement of stove designs through community stove assessments		Stove designs are enhanced	Technology feedback assessments; Staff record keeping,	Results will be incorporated into design improvements / changes.
		Stove designs reflect women's' needs & stoves burn efficiently and effectively		
5.2. Production of stoves and farming tools	<i>Target: 250 produced / distributed</i>	# of stoves produced	Technology feedback assessments; Staff record Keeping.	Reporting purposes.
		Stove designs reflect women's' needs & stoves burn efficiently and effectively; Quality of stoves and appropriate technologies produced		
5.3. Establishment of marketing plan and distribution of stoves and farming tools		# of stoves distributed;	Staff record keeping Project Questionnaire; CBO records.	Reporting purposes.
		Development of a business plan for project stove production; Changes to access to appropriate technologies		
5.4. Conduct stove impact assessment in each community	How have improved stoves changed women's lives?	# of stove impact assessments conducted in each community; # of women using improved stoves or farm tools; Household fuel wood consumption.	Technology feedback assessments; Project Questionnaire.	Analysis and discussion of success within staff and with communities.
		Qualitative assessments by women users of improved air quality, labour burden and fuel-wood consumption		

ANNEX 6: SAEV PROJECT BUDGET

Estimated Canadian Costs <i>as per Annex 1 of the guidelines</i>		Year 1	Year 2	Year 3	Year 4	Total	In cash	In kind ¹	Notes to Budget
I	Canadian component								<i>Notes are requested by line item</i>
	Salary Expense	55,000	55,000	55,000	55,000	220,000	110,000		Refer to Table 4 for details
	Canadian Communications Costs	1,400	1,400	1,400	1,400	5,600	5,600		\$1400 / year long distance communication to Gambia / Senegal.
	Consultants	4,000	4,000	4,000	4,000	16,000	6,000		Refer to Table 4 for details
	International Travel	27,500	27,500	27,500	27,500	110,000	55,000		20 trips (5/yr) for REAP staff and 8 trips (2/yr) consultants (each trip app \$3900 = flight \$2200, visas \$200, health \$300, perdiems \$750, accommodation \$450).
(A)	Subtotal - Canadian component	87,900	87,900	87,900	87,900	351,600	176,600	0	
II	Developing country component								
	Salary Expense - Field/Local Staff	62,125	62,125	62,125	62,125	248,500			Refer to Table 4 for details
	Field Materials	15,000	15,000	15,000	15,000	60,000	2,000		\$24,000 Plant materials (seeds/trees); \$20,000 Farm tools & supplies (farm implements, irrigation/wells, fencing); \$8,000 livestock / poultry; \$8,000 food processing / value-added equipment (milling machinery)
	Farmer Training	6,850	6,850	7,850	7,850	29,400	1,800		\$3,800 Teaching materials (training manuals, flip charts, markers); \$23,600 Farmer training (\$300/training: food, lodging and travel for participants as necessary); \$2,000 2 farmer seed fairs
	Office Supplies, Equipment and Materials	4,000	4,000	4,000	4,000	16,000	4,650		Computer equipment & repairs, printing
	Senegambian Travel, Living & Meeting	14,775	14,775	14,775	14,775	59,100			\$20,400 - Staff travel perdiems (7 core staff - \$25/mn; 10 Cos \$25/mn); \$6,000 travel & lodging of farmers for cross site visits; \$18,300 NATC vehicle km charges (\$375/month); \$10,400 CLCOP motorcycle km charges (\$215/month), \$4000 Senegal consultant travel costs.
	Improved Stove Production	3,500	3,500	3,500	3,500	14,000	14,000		Materials, workshop labour
	Communication	2,900	2,900	2,900	2,900	11,600			Long distance, internet, courier
	Participatory Rural Appraisal (PRA) & Gender Analysis	5,000	1,000	0	0	6,000			Materials, local facilitators
(B)	Subtotal - Developing country component	114,150	110,150	110,150	110,150	444,600	22,450	0	
(C)	Total direct costs (A + B)	202,050	198,050	198,050	198,050	796,200	199,050	0	
(D)	Cost share of direct costs :								

	D1. CIDA contribution	%	75%	75%	75%	75%	75%			
		\$\$	151,538	148,538	148,538	148,538	597,150			
	D2. NGO contribution (in cash)	%	25%	25%	25%	25%	25%			0
		\$\$	50,513	49,513	49,513	49,513	199,050	199,050		
	D3. NGO contribution (in-kind ¹ , if applicable)	%								0%
		\$\$	0	0	0	0	0			0
(E)	Overhead allowance (12% of CIDA's share of direct costs)	\$\$	18,185	17,825	17,825	17,825	71,658			
(F)	Overhead calculation (12% of NGO's share of direct costs)	\$\$	6,062	5,942	5,942	5,942	23,886	23,886		0
(G)	*CIDA overhead allowance on in-kind contribution (12% applicable on a deemed in-kind value of \$200 per working day per Canadian volunteer - if applicable) ^{1,2}	\$\$	0	0	0	0	0	0		
(H)	Total Overhead	\$\$	24,246	23,766	23,766	23,766	95,544	23,886		0
(I)	Total of the initiative (C+H)	\$\$	226,296	221,816	221,816	221,816	891,744	222,936		0
(J)	Total CIDA contribution (D1+E+G)	\$\$	169,722	166,362	166,362	166,362	668,808	0		
(K)	Total NGO contribution (D2+D3+F)	\$\$	56,574	55,454	55,454	55,454	222,936	222,936		0

PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Version: 1 Date: October 19th, 2012

Title	Senegambia Agro-Ecological Villages (SAEV) Project	No.	S065579	Team Leader	REAP-Canada
Country/Region/Institution	Gambia / NATC; Senegal/CLCOP	Budget	\$891,744	Duration	48 Months

ANNEX 7: PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Expected Results¹	Indicators²	Baseline Data	Targets³	Data Sources	Data Collection Methods	Frequency	Responsibility
Ultimate Outcome (Long term)							
Agro-ecological farming is strengthened and men and women farmers experience enhanced food security, reduced poverty, and the creation of sustainable livelihoods in ten vulnerable agrarian communities as well as surrounding communities in the Gambia and Senegal	Changes over time in percent of total households adopting ecological agriculture, their access to improved farming inputs, their household farm income and ability to meet minimum food security requirements.	Average household income, % of households using ecological techniques, % of households who are food insecure at the outset of the project.	Over 4 years targets include: 40% increase to household income 75% adoption rate of ecological agriculture methods in target communities Reduction in food insecurity status in communities.	Beneficiaries Partner Organization Government census data	Project Questionnaire, Focus Groups, SSI, PM&E Program	Annually	Partner Organizations & REAP-Canada
Intermediate Outcomes (Medium term)							
Increased capacity and engagement of communities in equitable self-organization and proactive planning for sustainable community development	Changes over time to reported levels of skills and confidence of in CBO organization & management, and identification of emerging opportunities	Qualitative assessment of level of community organization at outset.	Improvements to organizational structures in CBOs and planning abilities.	Beneficiaries Beneficiaries Partner Organizations	Project Questionnaire, Focus Groups, SSI; PM&E Program Staff feedback	Annually Ongoing Quarterly	REAP / NATC / CLCOP NATC / CLCOP NATC/CLCOP
Increased adoption of ecological farming and soil conservation methods by men and women in beneficiary communities	Level of adoption of new ecological farming practices in beneficiary communities	Number of farmers using ecological farming practices.	At least 75% adoption of improved ecological farming practices by 10 beneficiary communities.	Beneficiaries Beneficiaries Partner Organizations	Project Questionnaire, Focus Groups, SSI; PM&E Program Staff feedback	Annually Ongoing Quarterly	REAP / NATC / CLCOP NATC / CLCOP NATC/CLCOP
Increased cultivation of a diversity of improved agricultural products,	Increased diversity in agricultural products (M/F)	Agricultural products and	Increased diversity in products and	Beneficiaries	Project Questionnaire, Focus Groups, SSI;	Annually	REAP / NATC / CLCOP

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ANNEX 7: PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Expected Results ¹	Indicators ²	Baseline Data	Targets ³	Data Sources	Data Collection Methods	Frequency	Responsibility
increased use of sustainable agricultural inputs and ecological management techniques and increased research and problem solving capacity for on-farm challenges by men and women farmers in beneficiary communities	Farmer assessments of seed quality performance & taste (M/F) Number of farms/farmers using ecological agricultural/soil conservation practices (M/F);	yields at the outset of project.	increased yields.	Beneficiaries Partner Organizations	PM&E Program Staff feedback	Ongoing Quarterly	NATC / CLCOP as well as NARI / ISRA NATC/CLCOP
Increased diversification of livelihood activities of men and women in beneficiary communities.	Changes in Annual Farm Income (M/F/household)	Annual Farm Income at outset of project.	40% increase to household farm income in beneficiary communities.	Beneficiaries Beneficiaries Partner Organizations	Project Questionnaire, Focus Groups, SSI; PM&E Program Staff feedback	Annually Ongoing Quarterly	REAP / NATC / CLCOP NATC / CLCOP NATC/CLCOP
Reduction of local deforestation practices, women's labour burden and health risks from smoke inhalation	Qualitative assessments by women users of improved air quality, labour burden and fuel-wood consumption	Fuel wood consumption, and labour requirements at outset.	Reduce fuel wood use by 25%, improvements to air quality and lesson labour burden for women.	Beneficiaries Partner Organizations	Technology Impact Assessment; Project Questionnaire, SSI. Staff Feedback	Annually & at the end of the project Quarterly	REAP NATC/CLCOP
Immediate Outcomes (Short term)							
Community Organizing and Capacity Building Community needs, goals, priorities and gender concerns integrated into project implementation and activities	Assessments from farmers that project activities and goals are meeting their needs.	n/a	Project goals and activities are relevant to the community's needs.	Beneficiaries Partner Organizations	Focus Groups; SSI. Staff Feedback	Ongoing Quarterly	NATC/CLCOP NATC/CLCOP
Farmer-to-Farmer (FTF) Training Program	Farmer trainers gain confidence and skills in sustainable agricultural practices (M/F) and	Use and understanding of ecological	Farmer empowerment and improved confidence	Beneficiaries	Project Questionnaire, Focus Groups, SSI;	Annually	REAP / NATC / CLCOP

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ANNEX 7: PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Expected Results¹	Indicators²	Baseline Data	Targets³	Data Sources	Data Collection Methods	Frequency	Responsibility
Increased access to advanced and relevant information on improved ecological farming and soil conservation practices by men and women farmers in local communities	increase their use and understanding of these practices.	agriculture at the outset of the project.	and skills (especially for women farmers!)	Partner Organizations	Staff feedback	Quarterly	NATC/CLCOP
Implementation of Best Practices for Ecological Farming & Sustainable Livestock Management Increased access to improved plant material resources by men and women farmers in local communities as well as increased demonstration of improved ecological farming and soil conservation practices on local farms	Changes to access to improved materials and year round food production and availability (M/F)	Seasonal cropping and food availability calendar	Year round food availability in the beneficiary villages.	Beneficiaries Beneficiaries Partner Organizations	Project Questionnaire, Focus Groups, SSI; PM&E Program Staff feedback	Annually Ongoing Quarterly	REAP / NATC / CLCOP NATC/CLCOP NATC/CLCOP
Enhancing Sustainable Economic Development Through Value Added Processing & Market Access Men and women in CBOs increase their incomes through enhanced access to new livelihood activities and gain skills necessary to manage food processing / value-added activities in each community	Changes in income and diversified livelihood options available (M/F);	Income levels and livelihood options at the outset of the project.	Increased options at the village level for income generation and increased income generation from existing activities (i.e. adding value to field and vegetable production)	Beneficiaries Beneficiaries Partner Organizations	Project Questionnaire, Focus Groups, SSI; PM&E Program Staff feedback	Annually Ongoing Quarterly	REAP / NATC / CLCOP NATC/CLCOP NATC/CLCOP
Appropriate Technologies for Ecological Farming	Qualitative assessments by women users of improved air	Annual fuel-use, qualitative	Improved air quality, reduced labour	Beneficiaries	Technology Impact Assessment; Project	Annually & at the end	REAP

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ANNEX 7: PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Expected Results ¹	Indicators ²	Baseline Data	Targets ³	Data Sources	Data Collection Methods	Frequency	Responsibility
Decreased consumption of fuel wood through use of improved stoves in project region and reduced farm labour requirement from appropriate tools	quality, labour burden and fuel-wood consumption.	assessments of health / air quality.	burden for women and reduced fuel-wood consumption.	Partner Organizations	Questionnaire, SSI. Staff Feedback	of the project Quarterly	NATC/CLCOP
Outputs							
Community Organizing and Capacity Building 1.1. PRA and Gender Analysis conducted in each project community 1.2. 10 CBOs established / trained on capacity building and CBO management 1.3. 10 or more COs identified and trained in community organizing 1.4. CAP created in each community and updated annually 1.5. Ongoing PM&E Program established in each project community 1.6. Socio-economic questionnaire developed and administered and analyzed annually	- # of PRA participants (M/F); #of communities w/ completed gender analysis; - # CBOs identified/trained (M/F) and CBOs report increased skills and confidence in CBO organization & management; - # of CO identified/trained (M/F) - # of CAPs created; frequency of updates - # Farmer Logs submitted under the PM&E Program - # of panel group participation; # of questionnaires administered (M/F)	General baseline conditions as above.	10 or more Cos identified Annual questionnaire administered in each village.	CBO records Partner Organizations	Field Visits Staff record keeping;	Monthly Quarterly	NATC/CLCOP NATC/CLCOP
Farmer-to-Farmer (FTF) Training Program 2.1. Basic and advanced training modules on ecological agriculture for food security and	- # of basic & advanced modules developed; Quality of training modules developed - # of farmers trainers trained	General baseline conditions as above.	40 farmer trainers trained (50% female) 500 farmers trained in FTF trainings	CBO records Partner Organizations Beneficiaries	Field Visits Staff record keeping;	Monthly Quarterly Annually	NATC/CLCOP NATC/CLCOP REAP/NATC/CLCOP

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ANNEX 7: PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Expected Results¹	Indicators²	Baseline Data	Targets³	Data Sources	Data Collection Methods	Frequency	Responsibility
soil conservation developed, published and distributed 2.2. 40 Farmer Trainers trained on basic and advanced modules (50% female; 25% youth) 2.3. 500 additional farmers trained on basic and advanced modules (50% female; 25% youth) 2.4. Training needs of communities identified annually and integrated into project workplan	- # of local farmers trainers - # & frequency of training needs assessments; trainings are continually tailored community needs		(50% female)		Project Questionnaire		
Implementation of Best Practices for Ecological Farming & Sustainable Livestock Management 3.1. 40 Learning farms established 3.2. Multiplication of improved crop cultivars from PVS trials within 10 communities to achieve 5000 kg of groundnut, 5000kg millet, 5000 kg maize and 5000 kg rice and 5000 kg sorghum. 3.3. Sustainable seed management established in each community's CAP. 3.4. Back-yard livestock genetics improved by introduction of 100 improved cockerel and 40 improved rams. 3.5. 50,000 shelterbelt and fruit trees planted in 10 communities 3.6. 50 tonnes per year of compost produced	- # of learning farms selected and prepared (M/F); # of farms/farmers using ecological agricultural/soil conservation practices (M/F) - Quantity of seeds collected (kg/variety and species type) and distributed (kg/seed/village) (M/F); - # of protocols established - # of offspring from cockerels and rams # of shelterbelt and fruit trees, and community based tree nurseries - # of community members	Number of farmers using ecological agriculture practices	40 learning farms established; 5000 kg of groundnut, 5000kg millet, 5000 kg maize and 5000 3000 kg rice and 5000 kg sorghum distributed; 100 cockerel; 40 rams distributed; 50,000 shelterbelt and fruit trees planted; 50 tonnes per year of compost produced	CBO records Partner Organizations Beneficiaries	Field Visits Staff record keeping; Project Questionnaire PM&E Program	Monthly Quarterly Annually Ongoing	NATC/CLCOP NATC/CLCOP REAP/NATC/CLCOP NATC/CLCOP

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ANNEX 7: PERFORMANCE MEASUREMENT FRAMEWORK (PMF)

Expected Results¹	Indicators²	Baseline Data	Targets³	Data Sources	Data Collection Methods	Frequency	Responsibility
	producing compost						
<p><i>Enhancing Sustainable Economic Development Through Value Added Processing & Market Access</i></p> <p>4.1. Value-added and food processing opportunities researched and understood in each community</p> <p>4.2. Strategic CAP for food processing developed in each community</p> <p>4.3. 10 CBOs trained in relevant business and marketing skills</p> <p>4.4. Necessary supplies for business plans delivered to each CBO</p>	<p>- # of promising value-added / food processing opportunities identified;</p> <p>- # of community plans for food processing;</p> <p>- # of CBOs trained on relevant business and marketing skills;</p> <p>- Percent increase in farm income (M/F).</p>	Household & Individual farm income at the outset of the project	<p>10 community action plans for sustainable economic development;</p> <p>40% increase to farm income over 4 years</p>	<p>CBO records</p> <p>Partner Organizations</p> <p>Beneficiaries</p>	<p>Field Visits</p> <p>Staff record keeping;</p> <p>Project Questionnaire PM&E Program</p>	<p>Monthly</p> <p>Quarterly</p> <p>Annually Ongoing</p>	<p>NATC/CLCOP</p> <p>NATC/CLCOP</p> <p>REAP/NATC/CLCOP NATC/CLCOP</p>
<p><i>Appropriate Technologies for Ecological Farming</i></p> <p>5.1. Stove designs enhanced to improve local acceptance</p> <p>5.2. 250 stoves produced and small implements produced based on needs assessment</p> <p>5.3. Marketing plan established in each project community and 250 stoves distributed within project communities</p> <p>5.4. Stove impacts identified in each community</p>	<p>- Stove designs and appropriate farming technology tools are enhanced</p> <p>- # stoves and improved tools produced</p> <p>- # stoves and improved tools distributed</p> <p>- # of technology impact assessments conducted in each community; # of women cooking with improved stoves</p>	Number of improved stoves in communities	250 improved cookstoves distributed and small farming implements produced based on needs assessment	<p>CBO records</p> <p>Partner Organizations</p> <p>Beneficiaries</p>	<p>Field Visits</p> <p>Staff record keeping;</p> <p>Technology Impact Assessment</p>	<p>Monthly</p> <p>Quarterly</p> <p>Annually</p>	<p>NATC/CLCOP</p> <p>NATC/CLCOP</p> <p>REAP/NATC/CLCOP</p>