

Episcopal Church of Sudan

Agriculture Assessment- February 18, 2009

Vision:

The province of ECS intends to engage in agriculture projects that promote: food security / hunger relief, income generation, support for pastors, and training in improved sustainable techniques. Beginning from our current capacity, we will make every effort to build that capacity through training and field experience. Our External Agriculture Consultant, and missionary Miss Robin Denney will provide technical assistance in planning, development, and implementation of projects, but the projects will come from the vision and commitment of the dioceses and church groups.

Summary:

The province has several pieces of fertile farmland, which it plans to develop for large-scale commercial production of staple commodities and in some areas tree crops and vegetable crops. This year, the agriculture department of the province will work with the individual dioceses to assist them with training in improved techniques and with planning, development, and technical assistance in implementation of projects as needed. The agriculture department will seek funds to assist dioceses with seed and tools for agriculture projects, however large-scale or capital-intensive projects will need to be proposed by the diocese as an individual project to granting agencies. The agriculture department will also develop supporting projects like a training site and tree nursery, which will assist all the dioceses.

Currently, most of the dioceses have some parish level gardens, and 15 dioceses have diocesan level farm/garden projects. The vast majority of these gardens are 4 acres or less, and farmed using traditional techniques like scratching the soil and scattering seed, which results in very low yield. Every diocese has a plan for agriculture projects they would like to begin. These plans are held back by lack of capital for start up costs, availability of seed and tools, and training in improved techniques.

ECS is working on many priorities at once with limited staff and resources. Agriculture projects must therefore work first from the existing capacity, with an effort toward capacity building through training and experience in the field.

Status:

The small diocesan or archdeaconry gardens, and the parish level gardens could be significantly assisted with supplies of seed and tools, or money to buy seed and tools, as well as some basic training in improved planting and farming techniques. In areas where they are limited by the amount of land they can clear, a tractor would be useful. However, mechanized farming still requires a great deal of hand labor.

The level of volunteerism, and church community commitment to agriculture projects varies between dioceses, and of course parishes. The vast majority of existing gardens rely on volunteer labor, and donations of seed and tools from the community. In a few areas, projects have to rely on hired labor

because of the scale of the project, lack of volunteers, or distance between the parishes and suitable farmland.

All of the dioceses show an interest in agriculture programs, and are planning for programs in the future. The ECS agriculture department will do all it can to assist these dioceses. But the initiative and implementation must come from the diocese.

The province has been granted land in the following areas: Yei: approx 6 acres of fertile soil beside a river (with the opportunity of obtaining more if it is well managed), Lainya: a piece of land that was used as a coffee plantation, but the trees are now damaged or dead, Yambio: a very large land area (approximately 1,000 acres) which is very fertile, Torit: a 2,000 acre piece of extremely fertile land that will need to be cleared of scrub trees. These pieces of land were either developed years ago by the province and are now overgrown, or they have never been cultivated. In order to secure these pieces of land for future use, the province must begin at least small projects as soon as possible, to show the intention of developing agriculture projects there.

The first efforts of the department will be in planning, capacity building, and assisting the existing agriculture gardens with training and any assistance as income is available.

Capacity

The context is vital to keep in mind. Many of the dioceses lack the basic infrastructure of an office. Each diocese is struggling with priorities of: infrastructure development, income generation for sustainability, education, health services, hunger relief, support to returning refugees and current IDPs, evangelism, and agriculture development. The staff of each diocese ranges in size from 5-15, most of whom are volunteers with other jobs. Many dioceses do not have homes for their bishops, and are not able to pay a salary for their bishops. There is a tremendous amount going on in each of their priority areas. In planning for agriculture projects, it is important to remember the amount of work and energy that will be required to complete it. Therefore, it is important to work first through the existing vision of each diocese, driven by the energy and enthusiasm of volunteers.

Sudan is in desperate need of food resources. Farmers are not able to grow enough food even to feed their families for more than a few months per year. Hunger is widespread and pervasive. Many people have lost their agricultural knowledge, or never learned how to farm during more than 20 years of war. Most farmers are using farming methods that result in very low yield and seed loss (i.e. scattering seed, and burning to clear land). The plight of returning refugees is particularly difficult. They must rely on food aid, which often expires before their first harvest.

Now is the time for quick impact, simple, moderate scale projects, which will produce food, be relatively inexpensive to implement, and will give everyone involved experience and a sense of accomplishment. The projects should include in-the-field, basic training on improved techniques, as well as capacity building through setting up basic farm record keeping, and other systems that will be needed at a larger scale.

There is also a need to begin support projects which will become larger in the future. This should include a tree propagation nursery, which can begin at a small scale and will be a good way to teach rooting, grafting, and other important techniques. Ideally there should be a tree nursery in every cluster,

because transport of seedlings over long distances is risky. The other support project is a training center. Because the need is immediate for training, and a training facility will take years to establish, we can use the guest house, cathedral, and ECS office grounds in Juba to plant different trees and crop plants, and demonstrate some improved techniques. This will have the added benefit of beautifying the grounds, and in providing a teaching site for the nearby theological college (BGC) for their agricultural classes when they begin.

Challenges / Assets:

ECS is well suited to carry out agriculture projects. It has the benefit of the existing and widespread structure of the church, it has vision, it has a Gospel call to feed the hungry, it has access to plenty of land (in the south only), it has a large base of volunteers, it has a vast network of friends and partners, and it has a resident agricultural missionary.

The factors which have prevented further agriculture development by the province are: a lack of personnel trained in agriculture development and a lack of capital for investing in equipment, tools, and seed. The agriculture department which the province is establishing now with the help of their agricultural missionary, will train personnel and will liaise with NGOs, government, and partners for further agricultural advice, and to secure funding sources.

At this point the challenges are finding immediate funding sources for the start up costs of the department and this years planting expenses (planting season begins in March in the far south). And the scale to which the projects can be developed is limited also by the current capacity of the province to carry out such projects, as well as availability of seed, tools, and personnel.

The agricultural challenges vary from diocese to diocese. The most common challenges limiting the production of food are lack of training in improved techniques, difficulty in clearing land, cost of seed, cost of tools, water for vegetable production in the dry season, access to markets, transportation of crops or supplies, lack of processing facilities, insect/bird damage, availability of seed, spoilage of food/seed in storage, and availability and cost of seedlings for permanent tree crops. Most farmers are subsistence farmers, who lack any resources for start up costs. They rely on seed saved from the last season to plant the next crop. Large-scale production is limited by the very high cost of imported goods, including equipment and seed, and the challenge of clearing land thoroughly enough for mechanical cultivation. Even if the land can be cleared and tilled mechanically, in most cases it still has to be planted, weeded, and harvested by hand.

The major agricultural asset is the abundance of rain fed extremely fertile farmland in southern Sudan. In some areas in Equatoria, farmers claim that they can farm the same land year after year without any inputs and not see a decline in yield (this is not advisable in the long term, but shows how fertile the land is currently). Farmers also already engage in the good practice of crop rotation between grains and legumes. Another asset is the Nile River, and other year-round rivers, whose banks can be used for the cultivation of vegetables during the dry season. Dry season vegetable production is important, as vegetables cannot be stored year-round, and because vegetables can be sold for a good price during the dry season.

Action Plan:

2009 Goals:

- Compile an initial assessment of the status of agriculture projects, the vision is for future projects, the capacity for implementation, and the agricultural challenges for each diocese. (Already completed)
- Recruit and hire an Agriculture Officer and support staff for the province who will make up the agriculture department and work closely with Miss Denney through every step of planning, establishing, and implementing programs.
- Begin training workshops in each diocese that has an ongoing agriculture project, or plans to start one this planting season. (beginning April in the far south, May in the central south, and June in the north). Training workshops will be one or two days, and focus on the group currently working on the project, or representatives from the different parishes involved in agriculture projects. Training will focus on easy, yield increasing techniques, like grid style planting (rather than scattering), mulching, composting, natural pest prevention techniques, and any other techniques that address problems specific to that area.
- Establish a tree nursery in Juba, using reused material for planting containers: plastic bags and water bottles. And using locally collected seed and plant material to propagate, and local materials to build a shade structure. Assistance in design for a tree nursery and propagation techniques will be given to any diocese that requests it.
- Use the existing grounds around the ECS guest house, All Saint's Cathedral, and the ECS office building, to develop a demonstration area of types of trees, and crop plants that can be used in agriculture systems. There will also be basic demonstrations of improved techniques in small demonstration plots. This will also serve to beautify the grounds, provide a training site for agriculture officers from the different dioceses, theological students studying improved agriculture, and anyone else desiring knowledge in sustainable agriculture. This area will also provide a bank of plant material and seed that can be distributed to interested parties.
- Begin basic development of Provincial agriculture land. On each site, mark the corners of the property with signs, and build a basic structure that can serve as a guardhouse, and storehouse.
 - Yei: Fence property, clear brush, begin planting tree crops. Plant vegetables at the start of the dry season in the area next to the river.
 - Panyi-Kwara: Clear scrub trees and brush as labor and equipment are available (leave the large trees). With the goal of clearing and planting at least 100 acres to maize. After the maize harvest, plant the same acreage to groundnut. If possible we will use this site to practice larger scale production, and modeling good farm record keeping (planting and harvest dates, yield, temperature, rainfall, etc.).
 - Lainya: Determine if any of the old trees are still viable. Clear brush, and begin planting tree crops.
 - Yambio: Because of insecurity in the area, it is uncertain whether any development of this property can happen this year.
 - Bor: Obtain approval for 1000 acres of land in Bor diocese for agriculture production. If a tractor is available, it may be possible to plant some acreage this year.
- Make contact with different NGOs, government departments, and partners who have agriculture experience to provide advice and assistance. Apply for grants to expand agriculture programs next year.

- Purchase a small truck (Toyota Hilux) for the agriculture department, as funds are available. The number of workshops that can be conducted, and the ability to develop the training grounds (at the guest house etc in Juba), are directly related to transportation of personnel and supplies.
- Purchase seed and tools to assist diocesan farming projects, as funds are available.
- Begin designing agriculture curriculum for the theological colleges.
- Begin planning for a two-week or one month training course for diocesan agriculture advisors, to be done next year.
- Research small scale crop processing equipment, and plan post-harvest technology projects.

2010 Goals:

- Hold a two week or one month training course for diocesan agriculture officers and other project leaders.
- Hold a training for agriculture teaching staff of the theological colleges. Implement agriculture curriculum at the theological colleges. Assist the colleges in developing demonstration areas for agriculture production.
- Assist dioceses in developing model farms at the diocesan or archdeaconry level, as it is requested.
- Assist the diocese in developing tree nurseries as requested.
- Continue workshops with agriculture work groups in each dioceses that requests assistance.
- Obtain tractors (through UTO grant, or government program)
- Purchase a lorry (large flat-bed truck) to transport supplies, equipment, and crops to market. The lorry could also be used in the relief efforts of the church.
- Larger scale purchase of seed and tools to be distributed to each diocese that either is currently doing an agriculture project, or has the planning and structure in place to start production this year.
- Identify possible granting agencies for individual diocesan projects, and give the diocesan staff the appropriate information.
- Provincial agriculture lands: Hire a project director for each site. Further develop the facilities as needed and as funds are available. This assumes that tractors will be available by this time either from the government or the UTO grant.
 - Yei: Continue tree planting, expand vegetable production.
 - Panyi-Kwara: Continue clearing and planting, increasing production as much as possible, with a goal of at least 200 acres.
 - Lainya: Continue with tree planting. Vegetable production if possible.
 - Yambio: Assuming security will have returned, begin clearing, develop initial guardhouse/storehouse, and plant first area, as large as possible, with a goal of 100 acres.
 - Bor: Plant 500 acres of sorghum using tractors.
- Continue to liaise with NGOs, government departments, and partners to plan and fund future projects.
- As funds are available, begin implementing post-harvest processing projects.
 - Mango juicing, canning or drying
 - Threshing of grain crops
 - Chopping and drying of cassava

Future Goals:

It is difficult to put a date on goals after two years, because what we accomplish to this point will vary tremendously depending on the amount of funding we will have received.

Here are some future goals-

- Full utilization of the provincial farmland in Yambio, Bor, and Panyi-Kwara for large-scale food production of commodities: maize, sorghum, beans, simsim (sesame), and groundnut (peanut). And long-term timber trees planted for investment.
- Full utilization of the provincial farmland in Yei and Lainya for tree crop production: Moringa, Mango, coffee, citrus, pineapple, guava, etc. and for vegetable production during the dry season. The site in Yei could be developed into an agricultural retreat center, with demonstration areas also.
- Provincial agricultural center: Develop a training center which will be to demonstrate new techniques, train agriculture staff, used for research and development, and as a teaching site for students of the provincial colleges.
- Large-scale commercial tree nursery, to provide seedlings cheaply to diocese, and sold to the public for income generation.
- Post-harvest processing facilities:
 - Mango juice and drying plant/factory
 - Dried milk factory
 - Grain threshing and storage facility
- Technical advice and support to diocesan agriculture projects.
- Annual short course for continued training and discussion/information sharing for diocesan agriculture officers.
- Support to the colleges in terms of continued training for teachers, and other support as needed.
- Continue to liaise with NGOs, government departments and partners.