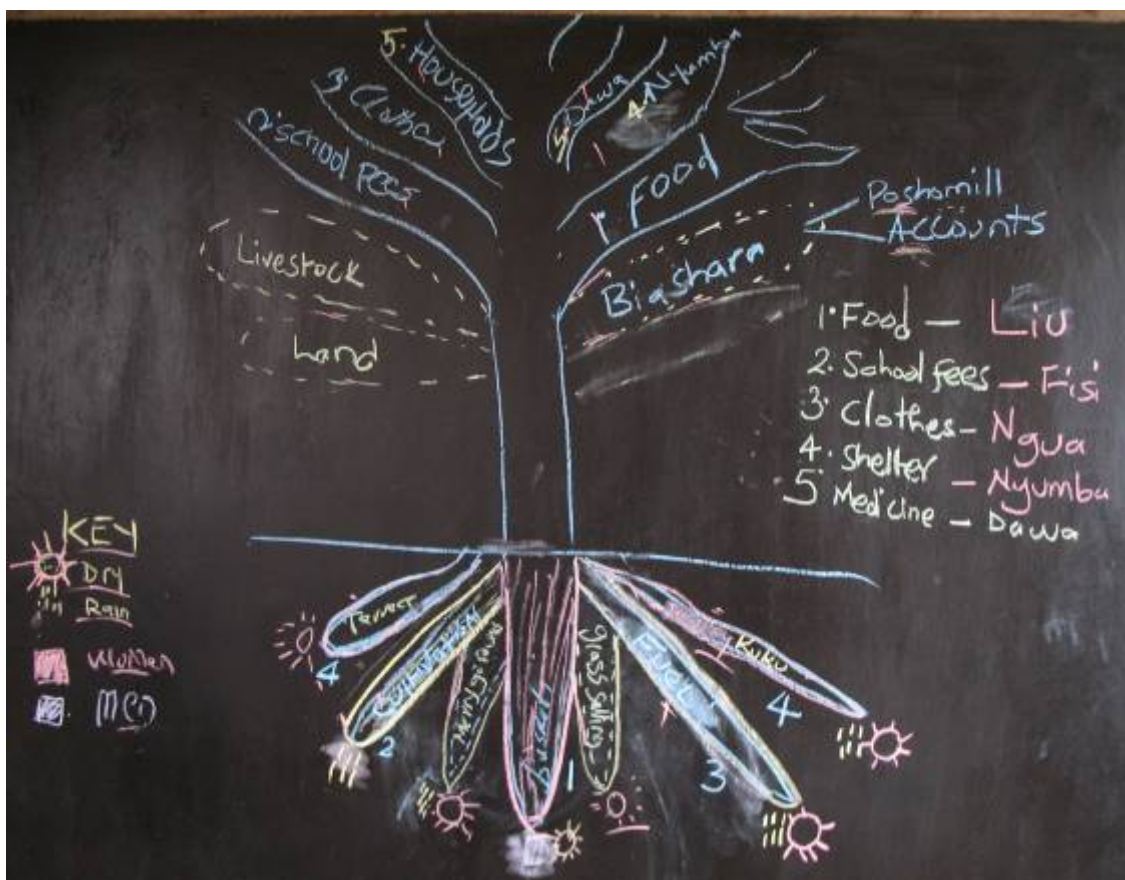


Report Prepared by John Sheffy, Program Manager  
GEM Sustainable Agriculture and Forestry Program (GEMSAF)  
Dr. Victor Phillips, GEM Director  
Global Environmental Management Education Center (GEM)  
University of Wisconsin—Stevens Point

## Transition to Sustainable Agroforestry Microenterprise Workshops Nyumbani Village, Kitui



One of 32 Cash Flow Trees Created by Community Groups to Analyze Current and Future Income and Expenses

**Summary:** From May 26-June 6, 2006 GEMSAF conducted 10 workshops with Community Based Organizations (CBO), Nyumbani Management, and Student Interns to accomplish two goals: introduce CBO's to the "Transition to Sustainability", and to promote participatory analysis among the groups of current and future sources of income and expenses. This report introduces the partnership of GEMSAF with Nyumbani and the transition at Nyumbani Village from construction to income generation, describes the workshops methods, and discusses the outcomes with recommendations for how to proceed with CBO's towards sustainable agroforestry microenterprise activities.

**Introduction:** This workshop is part of a partnership between Nyumbani Village ([www.nyumbani.org](http://www.nyumbani.org)), a project of the Children of God Relief Institute, and GEM Sustainable Agriculture and Forestry Program (GEMSAF) ([www.uwsp.edu/cnr/gem](http://www.uwsp.edu/cnr/gem)). Nyumbani Village is designed as “A model settlement for HIV-AIDS orphans in sub-Saharan Africa”. The village aims to provide the ingredients for sustainable development: housing, health care, education, and social structure for approximately 100 families, consisting of 1,000 destitute children and 250 elders suffering from the HIV-AIDS pandemic. The village rests on 1,000 acres in the Kitui District, a formidable landscape struggling with persistent poverty and harsh dry land conditions. Thorough and ongoing community-based efforts have also imbedded the village within the existing physical and social fabric of the locale. Nyumbani has a goal to be financially sustainable by developing income generating agroforestry activities, supported by members of the surrounding communities. The Year 1 goals of GEMSAF include forming partnerships with organizations and community groups that are working towards sustainable agroforestry microenterprise activities and working with them to identify key knowledge gaps to plan future GEMSAF research, training, and development activities.

We chose the workshop theme “Transition to Sustainable Agroforestry Income Generation” because Nyumbani Village is in transition from the construction phase to the sustainability phase. The initial phase of the project was infrastructure development, which has been developed both physically in the form of boreholes, farm fields, and buildings as well as socially by engaging the local community to cooperatively construct the village into a new socioeconomic community center. During this phase pre-existing, self-organized and monitoring community-based organizations (CBO’s) were hired on a per job basis, rather than as individual laborers. Nyumbani did this partially to decrease management costs, as well as to develop the management capacity of the groups. With the construction phase and external funding nearing completion, Nyumbani is encouraging CBO’s to play a leading role in developing sustainable agroforestry income generating activities that utilize the Nyumbani infrastructure they helped to construct. In light of this transition to sustainability, Nyumbani invited GEMSAF to participate in developing agroforestry microenterprise projects with local CBO’s.



**Group members drawing and presenting their Cash Flow Trees.**

These workshops fulfilled the need of Nyumbani to facilitate the introduction of the transition. The idea for the workshops originally came from a GEMSAF visit to Nyumbani two months prior during the pre-transition, construction phase. Based on the mission of Nyumbani, GEMSAF felt that Nyumbani needed to create a participatory forum, such as the workshops, to open a dialogue about how the CBO's can answer the call to use the Nyumbani infrastructure. The workshops also fulfilled the needs of GEMSAF to determine appropriate places for training and planning assistance and generate credibility for GEMSAF among the CBO's and Nyumbani management.

**Workshop Methods:** From May 26-June 6, 2006 GEMSAF conducted 10 workshops with Community Based Organizations (a.k.a. Self Help Groups, CBO) with the assistance of Mr. Joseph Kitana (Nyumbani Village Elder) and several students from Egerton University, Kenyan Institute of Organic Farming, and the University of Wisconsin-Stevens Point. The workshops took place at the newly constructed Nyumbani Primary School in morning and afternoon sessions that lasted from 2-3 hours. Mr. Kitana invited the groups the day prior to the workshop. The aforementioned "Transition" was described at the beginning of every workshop as the reason for meeting and for the following "Cash Flow Tree" activity.

We selected the main activity of the workshop, the "Cash Flow Tree", for several content and process related reasons. On the content side, it required group members to map the relative importance, timing, and gender of their existent sources of income and household expenses in relation to their desired future conditions. On the process side, the activity allowed each member to think independently, analyze their ideas as a small group, and finally debate ideas across the entire group, the scale at which decisions would be made and actions taken. Following the general introduction of the "transition", we explained the detailed method of the cash flow tree.



**Diversity of Trees Drawn by Different Sub-Groups**

The method used in these workshops is an adaptation of the cash flow tree method described by FAO tools for participation website (<http://www.fao.org/Participation/>). The Cash Flow Tree is attractive because it uses simple figures (branches, stems, roots) that anyone can draw, and the tree metaphor demonstrates the connections between growth of expenses and income over time through the tree life cycle, something most farmers understand. The original FAO tool examined only current income sources (roots) and expenses (branches and leaves). We expanded the activity to also include gender analysis, seasonal variation, and future envisioning.

The activity occurs in two main steps. The first step is for each sub-group (4-5 members) to draw a tree that represents their current household conditions. These conditions are indicated by solid outlines of roots and branches. Once drawn, the groups describe each current branch and root using different colors to indicate variable seasons and gender roles. The second step repeats the first step, only using desired future income sources and expenses, indicated by dashed lines. For the most part, the groups had no problem handling these added complexities, and leaving out steps is not necessarily bad since the primary goal of the activity is going through the process and seeing what the different ideas and levels of understanding exist among the group, rather than the precise details of each tree.

We split up each of the groups randomly in most cases using a counting off system. In a few cases the groups sat in small clusters during the introduction and simply grouped them in this way imagining they would be comfortable with those people. After the drawing steps are



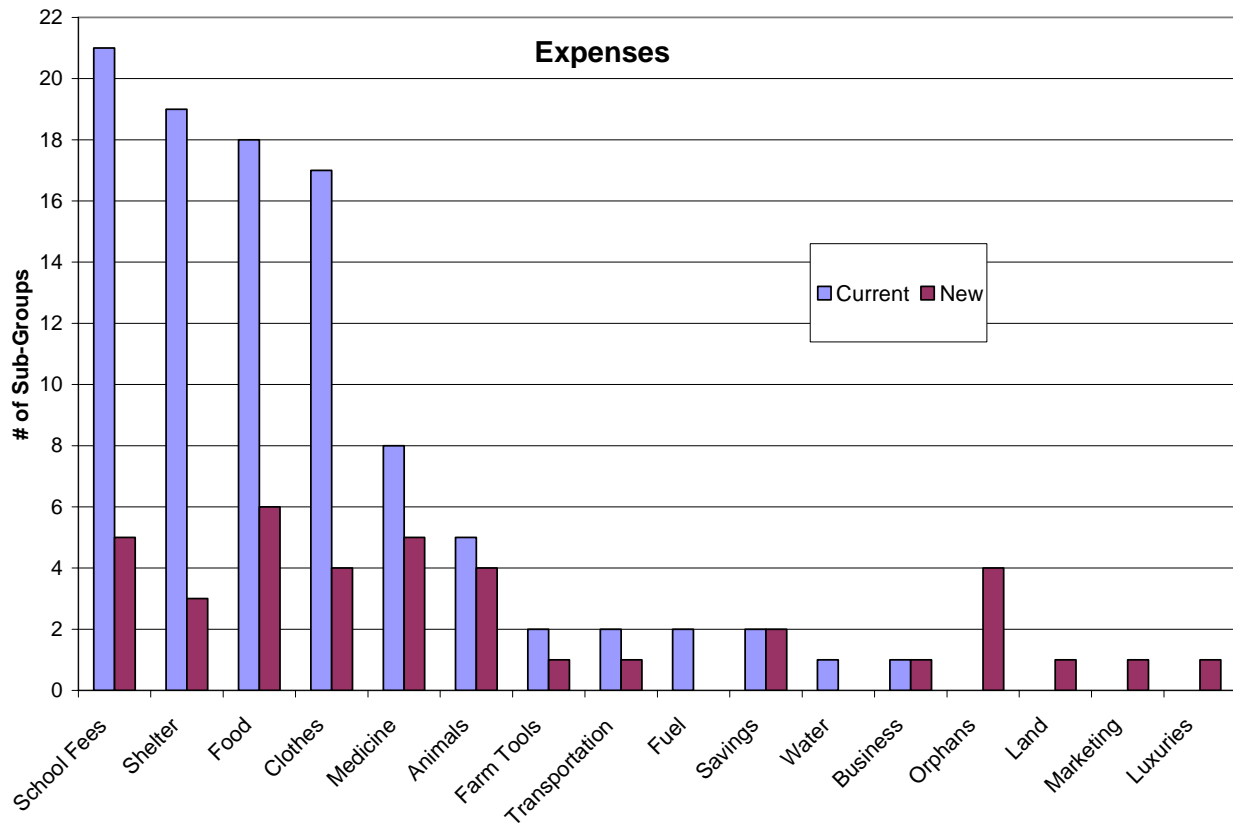
complete (usually 30-45 minutes) each group chose a representative to present their tree and field questions from the other groups and facilitators. This period usually led into whole-group, open discussion between both presenting and non-presenting subgroups. We concluded each workshop by summarizing the many interesting ideas and debates that were brought to light, but saying that the workshop was only the first step for each group to planning their future at Nyumbani.

**A Mixed Age and Gender Sub-Group of Nduvia SHG with Their Cash Flow Tree**

**Outcomes:** The following section outlines some of the complex topics and issues the workshops brought forward among the group members, GEMSAF students, and Nyumbani managers. However, the primary outcome of the workshops is the process and dialogue that they created. These quantitative outcomes should only be used to reflect and build upon that effort, not to make independent decisions, which would undermine the participatory process.

Groups ranged in size from 10-35, totaling approximately 200 participants divided among 32 sub-groups during the activity. The following *Branches* and *Roots* graphs list all activities drawn by the sub-groups on the x-axis, while the y-axis indicates the total number of groups that drew that activity. The blue (lighter) bars represent the number of sub-groups that drew an activity as a current expense or income, while the red (darker) bars represent the number of groups that said they would like to expand or start a new expense or income source.

**Branches: Current and Future Sources of Expenses**

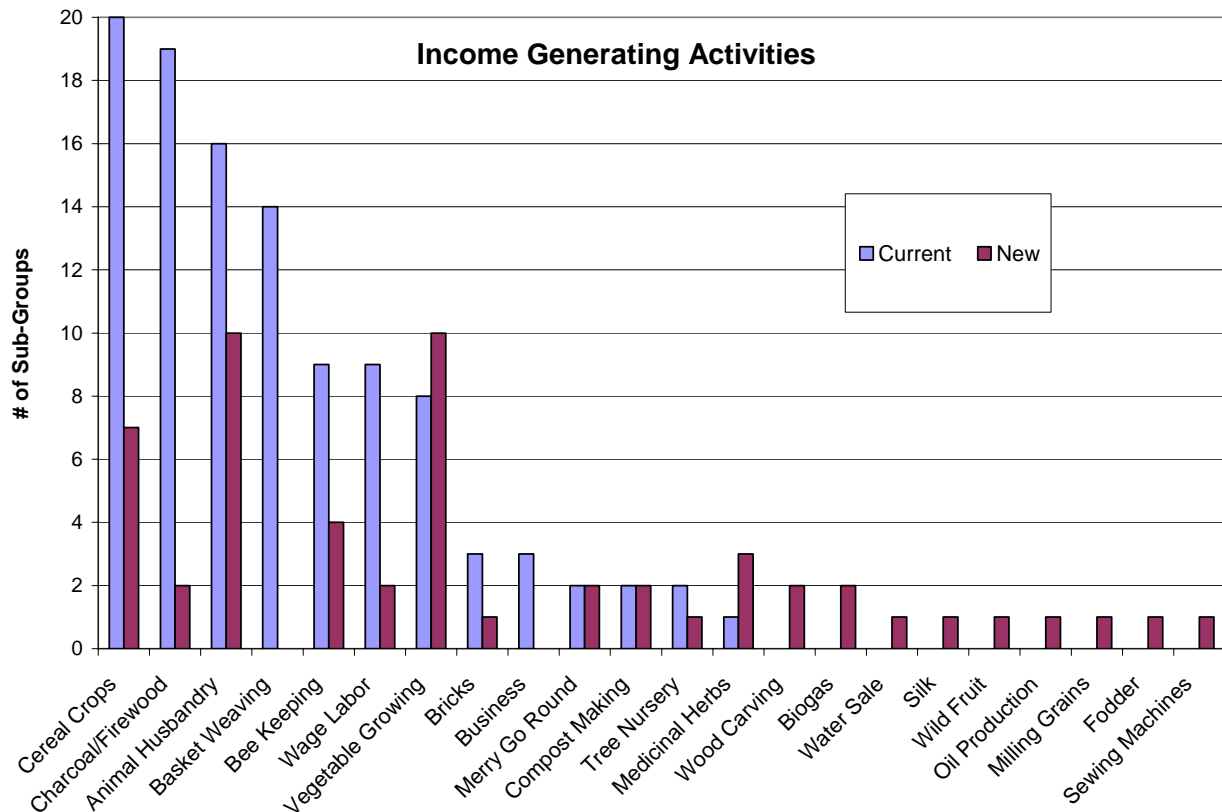


The groups drew a total of 16 household expenses. The top five current household expenses described were School Fees, Shelter, Food, Clothing, and Medicine. The discrepancy between the number of current and new expenses drawn could be due to two causes. Some of the groups did not draw any new expenses on their trees because they did not clearly understand that step in the activity. Others were reluctant to draw new expenses since they felt that would decrease their household income, rather than representing how they would prioritize using new income. In general, the groups that did respond with future expenses indicated that they would like to increase all expenses, particularly the top five, as well as investing in animal husbandry and funding for the orphans. Other future investments included Farm Tools, Transportation, Land, and Business. However, these were described by only one group each.

Seasonality of expenses and income were common. Groups often indicated a seasonal source of income linked to a seasonal expense. This commonly included selling rainy season crops to pay school fees. Since everyone in the region grows cereal crops during the rainy season, this coincides with the lowest prices of the year for these crops. If higher value supplemental income sources were available during the rainy season group members could store their rainy season harvest and avoid another considerable seasonal expense of buying grains at higher prices in the dry season. Another solution to this would be to simply increase production during the rainy season through improved crop management to produce enough harvest to sell and store. On the other hand, groups could grow grains or vegetables to consume and sell during the dry season using the irrigated fields at Nyumbani. However, the cost of irrigated production during the dry season would be higher than rain irrigated production during the rainy season.

Groups and Nyumbani management must carefully consider the trade offs between land use activities during different times of the year. Particularly in light of what seasonal expenses could be reduced, which would release income to be used for other expenses or invested. Eliminating unnecessary expenses should be a greater priority initially than creating additional income sources. Well planned, seasonally adapted activities will achieve both simultaneously. Nyumbani and groups can create savings plans or subsidies for group members without having to invest heavily in training and activity development. Savings will create more time and resources for group members to invest in new activities. For example, a co-op grain storage system could be created at Nyumbani where CBO members could sell some of their harvest when cash is needed, but then buy grain back from the co-op for a previously agreed upon price when food is needed. A similar co-op system could work with cattle as well. Perhaps Nyumbani could offer reduced medical and school fees to CBO members working on Nyumbani projects. Incentives such as these that reduce household expenses will enhance the Nyumbani reputation beyond a source of wages and encourage CBO's to participate in future activities.

**Roots: Current and Future Income Sources**



The sub-groups described a total of 22 current and future income generating activities. Cereal crops, Charcoal, Animal Husbandry, and Basket Weaving are current income sources indicated by most groups. Bee Keeping, Wages, and Vegetables were also mentioned by a third of the groups. Like new expenses, the groups indicated interest in expanding a wide range of income generating activities, including many completely new activities like Biogas, Silk, and Wild Fruits. However, most groups concentrated their interests on expanding Vegetables, Animal Husbandry,

and Cereal Crops. Expansion of vegetables and cereal crops were noted predominantly during the dry season when irrigation at Nyumbani would permit them to cultivate.

Animal husbandry included cattle, which are typically used as a safety net for when large sums of cash are needed (like school or medical fees), in contrast to poultry, eggs, and milk production that are sold regularly. Nyumbani and groups should consider the use of income when deciding what type of husbandry activity to develop. Some groups asked for Nyumbani to provide start up funds to purchase animals as a group, or for Nyumbani to own the animals under the care of the group. This would provide income and food sources for Nyumbani while building upon local husbandry knowledge. However, activities like cattle herding are traditionally individual activities. The groups should not assume that the dynamics of group ownership and management will work as well for these activities as individual households. Nyumbani should proceed slowly with activities that rely on both new market systems and new labor systems.

This also relates to a deeper issue of dependence on Nyumbani for funds, both to start up activities and provide markets. When questioned how groups would make income from their proposed activities, a common response was, “Nyumbani will buy them”, or “Nyumbani will find the market”. New income generating activities must be based on sustainable business plans that cannot depend on non-refunded subsidies or zero-cost markets. This does not imply that there should never be loans and grants, or marketing assistance that gradually builds CBO capacity to manage its own businesses. However, assistance should be developed in such a way that the burdens of planning, monitoring, and evaluation are realized by the group so they are invested and stand to lose if they do not perform.

Basket weaving, an activity done only by women, and wage labor, done by both men and women, were significant current income source that the groups did not indicate a desire to expand. This demonstrates that the groups understood the purposes of this exercise: to brainstorm future activities that Nyumbani infrastructure, particularly access to irrigated land, will aid. The case of basket weaving also indicates that the groups do not desire future activities done only by women because women’s activities already out number those of men, especially during the dry season (i.e. most of the year). However, despite women’s engagement in more activities, men generally incurred more numerous expenses (not necessarily larger or more frequent). These reasons perhaps explain why the male only activity of bee keeping was chosen by several groups to expand. Nyumbani and the groups should consider the gentrification of certain activities, and their timing in relation to other gender specific activities and expenses when prioritizing activities to develop.



Although nearly all groups indicated charcoal as a significant current income source, particularly during the dry season, only two groups chose to expand it given other options. When describing charcoal only one group used the term “green charcoal” to make a distinction between sustainable and traditional charcoal production methods. This could indicate that other groups did not choose to expand charcoal because they see it as a negative land use. Perhaps they also see the value of charcoal making as individual and external to Nyumbani and have not considered the possibilities of value added packaging and marketing as a group under a Nyumbani label without actually doing the activity on Nyumbani lands. The reason for the lack of interest in charcoal and other less popular activities (like silk, wild fruit, oils, etc...) should be researched more thoroughly before heavy investment in training and processing for these activities.

Other future activities were also noted, including compost, water, oil crops, fodder, and sewing clothes. However, most of these were indicated by only one or two groups that were obviously more knowledgeable of Nyumbani management plans. The most dynamic group (Mbolea) selected a range of over 10 new income sources. When questioned about how one group could simultaneously pursue them, they replied that they would incorporate other group members or other groups into their group as an umbrella. Selecting such activities for training and development could help Nyumbani by diversifying income sources across groups and accommodating a larger population, i.e. more groups. A group specializing in one activity could have a greater sense of empowerment and desire to manage more effectively than a group competing with or replicating other groups.

On the other hand, diversifying could create feelings of favoritism between groups, particularly if one group controls the access of another group, like the umbrella idea. Diversifying in too many specialty products could also spread resources and facilities too thin and decrease the quantities of each product that would be necessary to access and supply premium markets. Nyumbani and the groups need to prioritize the income activities they will pursue, as well as prioritize the groups it will work with. No two groups are the same and it cannot be assumed that a generic system of group activity development will succeed. Sustainable agroforestry microenterprise activities should be based on the unique interest, experience, and capacity of the groups; the management, research, and training abilities of Nyumbani; and the access to various markets.

**At the heart of Nyumbani Village, Kyondo Weavers Self-Help Group arrives at their sharecropping field in the riparian area to plant tomatoes.**

