

I. A New Approach to Sustainable Development in Africa

The Global Ecovillages Network (GEN) approach to African development rests on the recognition that villagers are treasured teachers rather than less developed project beneficiaries. The ecovillage paradigm transforms the remoteness and lack of modern infrastructure of African village life from “the development problem” to an important piece of “the answer.” It alters the power relationships in North - South exchanges and attracts partners to share in and learn from the timeless cultural riches of rural Africa. This holistic approach to development enhances village culture, community and spirituality, while introducing sustainable livelihoods and benefits of modern technology. In solidarity with villagers we move forward more effectively from a position of genuine self-respect, rather than hopelessness at the loss of natural resources, spiritual values, livelihoods, and the flight of village children to the city.

II. Introduction

This is a proposal for a three-year project to pilot sustainable development activities designed to strengthen and expand the first GEN network in Africa and its training center, the EcoYoff Living & Learning Center. This project is the first phase of a five-year effort to extend the network to one or more villages in each of the country's 441 decentralized local government units.

Following introductory sections on the country, its GEN network and Living & Learning Center, the proposal describes the strategies and work plans of the Senegal Network and the Living & Learning Center, which is the training center for the Network. The section on the network includes a brief description of the training sessions that accompany the development activities planned for the first year. Discussion of the training methodology follows in the L&L section.

For each development domain, the budget attributes the costs of raw materials, infrastructure and equipment to the Network and training costs to the L&L Center. Each domain budget also presents the total cost of planned activities relating to the domain (raw materials, infrastructure, equipment plus training) in order to encourage different stakeholders to invest in different domains, according to their own development priorities.

A. Senegal

At the far West of the African continent on the Atlantic ocean, Senegal, has about 10 million people living on 196,122 sq. km of mainly flat low-lying terrain, ranging from desert along the Mauritanian border to the North to tropical farm lands and forests in the South. The climate is warm to moderate, with one rainy season lasting from June to October. Mangrove ecosystems line and protect the estuaries of the Senegal River in the North, the Casamance River in the South, and the salty Sin Saloum wetlands.

Despite a dynamic new government, Senegal ranks 145 out of 162 countries on the human development indicator published in the UNDP's 2001 World Report on Human Development. According to World Bank and UNDP 2001 reports, Senegal has a per capita GDP of about \$500, a

2,7% annual population growth rate. Twenty-six percent of the population lives on less than \$1, and 68% on less than \$2 per day. Major food products are groundnuts, millet, rice, fish, cattle and sheep. Half of Senegal's population still lives relatively ecologically in about 14,000 rural villages, which are severely threatened by environmental degradation. Although 11% of total land area is officially protected, total forest area has declined by 70%, with an annual deforestation rate of 450 square km between 1990 and 2000. According to Government of Senegal data, fisheries production has been in decline since 1992.

B. The origins of EcoYoff and the Senegal Ecovillages Network

In January 1996 a small group of Senegalese and international volunteers at the Third EcoCities and EcoVillages Conference, held in Yoff, Dakar, planted the seeds for the Senegal Ecovillages Network (GEN Senegal) and for the EcoYoff Living & Learning Center. The conference declaration, "to incorporate African village wisdom into a global ecological reconstruction program" gave birth to the Yoff EcoCommunity Program (EcoYoff), later incorporated as the NGO CRESP, Senegal. This program engaged Yoff as a sustainable development laboratory community for the year 2020 and beyond. In addition to purely local activities, it has hosted more than 200 Senegalese and international students and volunteers who have learned and worked together in sustainable development projects and courses for periods of 1-15 months. Culture and spirituality (1); education and training (2); economics and food security (3); health, population and nutrition (4); and environment and infrastructure (5), supported by information systems, are the program's main domains of sustainable development as defined by Serigne Mbaye Diene, EcoYoff's founder

In 2001 GEN designated EcoYoff's education and research program as a Living & Learning (L&L) Center, dedicated to experiential learning of sustainable technologies in community. GEN Europe supported workshops facilitated by the Ministry of the Environment, CRESP and its partner TROPIS to prepare to the creation of the Senegal Ecovillages Network. GEN Senegal held its first National Assembly with 10 accredited members in January 2002.

The Senegalese Ministry of the Environment sponsored the creation of the Network, as an extension of its policy of promoting village management of natural resources. GEN Senegal includes, among others, highly successful villages in the Ministry's program. GEN works in support of the government and the people of Senegal against poverty, vanishing forests and wilderness areas and decreasing international aid, which dropped from \$19 to \$16 per person in Africa between 1990 and 2000.

C. GEN Senegal and the EcoYoff L&L Center today

GEN Europe, two foundations, USAID, Senegalese NGO's, village associations and other organizations currently contribute modestly to the support of GEN Senegal and the L&L Center. The EcoYoff L&L Center is an official partner of the UNESCO Chair for the Environment at the University of Dakar, of the scientific specialists of the Ministry of the Environment, and of departments of Laval, Tufts, Cornell Universities, and the Fondation Universitaire Luxembourgeois in Belgium. The president of GEN Senegal, Ismael Diallo is a Belgian-trained hydrologist who heads TROPIS Environment, a local consulting firm which the Government and its funders have contracted as specialists in charge of implementing water protection projects on a national scale. Marian Zeitlin directs the L&L Center and the (non-governmental organization) CRESP. She has worked in 15 African countries, is a visiting professor at Tufts and a courtesy professor at Cornell University, specializing in the design of development programs and social science research methods relating to social development.

During 2002 GEN Senegal is organizing four "regional days" - fairs transmitting technologies, raising ecovillage consciousness among villagers and providing them with information about the network. GEN Senegal has seven commissions specializing in food security, regenerative agriculture, village management of natural resources (by women's groups), protection of mangroves and reforestation, renewable energy, and water. The commission presidents are based in environmental NGOs and associations active in rural villages in Senegal's 11 regions. Representatives of the commissions are traveling to the original 10 villages in the network to create local commissions and introduce their technologies.

The regional days and commission tours are creating demand for more information and for membership in the network. In addition to GEN Senegal's central office and L&L Center, the decentralized NGO headquarters and project sites of the technical commissions are strategically poised to educate, organize and train the villages in their care. These village clusters, depending on their size and closeness may be developed either as a single ecovillage, or a collection of ecovillages.

III. Objectives

Overall Objectives: Strengthen the capacity of African ecovillages to reverse the ravages of poverty, environmental degradation and uncontrolled globalization by:

- Creating environmentally friendly livelihoods to combat poverty and food insecurity
- Protecting and re-integrating traditional ecological values into eco-community living and into the sustainable use of natural resources
- Applying modern and traditional ecological technologies
- Improving education, health and other capacity building and life enhancing services
- Expanding Internet connectivity, already existing in many rural areas
- Creating partnerships and decentralized cooperation with ecovillages and other like-minded communities world-wide

Specific Objectives:

Phase I: Pilot ecovillage solutions in 20 or more villages over a period of three years.

Phase II: Complete the expansion of GEN Senegal to include at least one ecovillage in each of the country's 441 decentralized local government units over a period of five years. Develop the training programs, courses and development exchanges of the EcoYoff Living & Learning Center serving GEN Senegal and its partners. Facilitate the development of GEN networks in other African countries and of a GEN Africa network uniting the African country networks.

IV. Strengthening and Expanding GEN Senegal

A. The grass-roots structure of the Network.

The main source of support for GEN Senegal will always be its member villages. The network is based on a philosophy of local self-sufficiency, wherever possible, and responds to membership demands only when candidates demonstrate that they have invested significant effort and resources in

improving their communities.

Village associations apply for membership in GEN Senegal. Impartial network representatives conduct a site visit, filling in assessment forms together with the association members. This is an intensive exercise in awareness building and training in ecovillage concepts. Villages that already score in the "green" and "yellow" on these forms are accredited. Villages with "red" sectors receive counseling to help them prepare for future accreditation. These environmental and community assessment forms are available on demand.

Each of Senegal's 14,000 rural villages could claim to be an ecovillage in the sense that these villagers consume less energy and natural resources, live in more natural habitats and participate in a closer relationships with nature and with each other than urban and industrialized populations. Nevertheless, ecological consciousness is a new concept to rural villagers, and many out of extreme need are depleting rather than protecting their threatened environments. Therefore, the education and sensitization process to prepare villages for membership must be broad based. Alternate solutions to environmental depletion should be available to new ecovillages. Therefore, it would be a mistake to attempt to go to scale without a pilot phase to test approaches and solutions.

B. Strategy and Work Plan

This proposal requests three years of support for pilot activities to implement and test different models of sustainable ecovillage development in 20 member villages. During this phase we will disseminate successful experiences as they happen and encourage other stakeholders to apply them to an expanding circle of member villages. This simultaneous expansion of the Network, beyond the 20 pilot villages, will enable GEN Senegal to work towards the goal of at least one ecovillage in each of the 441 local government units at the end of five years.

The same or a similar cycle of activities with similar operating costs will take place during each of the three years, using an action research approach to adapting, perfecting and expanding successful strategies and products.

Under the sponsorship of the Ministry of the Environment this pilot phase of GEN Senegal will hold at the start of each year two information and coordination workshops. The Senegalese Commission for Sustainable Development and representatives of line ministries, including Local Development, Social Welfare and Decentralization, Agriculture, Education, Health, the Family and Early Childhood, Culture, and Departments of Urban and Regional Planning, together with university specialists and selected local funding agencies and technical assistance agencies will be invited to participate in the first workshop. This workshop will produce suggestions for types of collaboration best suited to integrate the action plans of the ministries and agencies into the development of the ecovillages.

The second workshop will be organized through the national NGO association, CONGAD, to bring a small select group of NGOs, those of existing GEN Commissions and a few other prospective NGO partners, to discuss their interest in co-sponsoring ecovillage activities in their existing community projects. Appropriate members of the GEN Board, commissions and related stakeholders will follow up the suggestions from these workshops. New GEN Senegal commissions are expected to emerge from the first sessions of these meetings, including commissions for micro-credit, health, eco-guards, information technology and others. Building cooperative partnerships with these ministries and other organizations is critical to the Network's strategy to maximize outreach and impact throughout the country.

The work plan will continue the 2002 strategy of holding regional ecovillage fairs. These fairs, four per year, will increasingly be located in the different ecovillages and will combine information, education and communication (IEC), including through ecovillage folk theatre presentations, with markets for crafts, organic produce, and appropriate technologies. They may also include traditional dance festivals and other cultural activities.

Annual tours by representatives of each commission to the different accredited and candidate ecovillages also will continue. These tours serve to create and counsel the local village commissions and also double as accreditation and evaluation visits.

Following the creation of the local commissions, the L&L Center will facilitate a series of training activities for the local heads of these commissions. The pilot project will sponsor one training cycle per year for each of the commissions. Village representatives will be trained as trainers using efficient cascade methods, described in Section V. B, which were developed and used by CRESA in the creation of the Popular Information System network (www.siup.sn). They then will return home with necessary materials and reproduce each training session in their own villages. The commission heads will join the L&L and the Network in monitoring and supporting these waves of capacity building training at the periphery. These training sessions will take place at the L&L Center in Dakar, at the regional headquarters of the respective commissions, or in the villages themselves depending on cost and logistics. These three annual training and project cycles allow each commission to perfect a package of training materials and procedures.

Given extreme poverty in the villages and the need to develop ecological local sources of revenue, a micro-enterprise and marketing specialist will be attached jointly to the Network and the L&L Center. This specialist will work with each of the commission projects to produce and market ecological products.

At the end of year three, the environmental assessment forms will be re-administered by the heads of commission, and each of the ecovillages will write a final project report.

C. Approaches used by the different commissions

This section briefly describes the activities and methods of each of the commissions as envisioned by the Network. Section VI, Budget Narrative and Budget, details and costs these activities. Only activities for which commissions already are in existence, or contacts already planned, will be carried out during the first year. Some of the more expensive and difficult programs will first be piloted at the sites where they are most needed or most likely to succeed. Any unused funds will be carried over to the following year. The L&L Center will coordinate their training programs. After being trained to become a trainer each village commission head will be responsible for local training and for on-going ecovillage activities in his or her new areas of skills, with on-going technical assistance from the Network and the L&L Center.

1. Renewable energy: Abdoulaye Toure will hold a three-day training of trainers in Dakar on the construction of solar ovens, which relieve the need to cut trees for firewood. They will return to their villages with the solar ovens they construct and the materials to construct two more ovens during their on-site training. Marketable products: solar ovens.

2. Regenerative organic agriculture: M. Abdur Rahman Tamba, head of SOS Environment, will hold a one-week training session on roots and grains in the organic agriculture demonstration garden in front of the CRESP building. This training, which will introduce hardy varieties and organic fertilizers and pesticides, will cover African yams, cassava, sweet potatoes, maize and sorghum.

3. Reforestation: will be carried out separately by each of the villages with training from local agents of the Sub-ministry of Water and Forestry. Given the estimated annual deforestation rate of 450 sq km, reforestation is a top priority. The GEN Senegal board will organize annual reforestation campaigns. Marketable products: seedlings, forage plants, etc.

4. Mangrove restoration: M. Cheikh Kanji of the NGO WAAME, located in the ecovillage of Mbam, will train representatives of 10 coastal ecovillages on site in their own villages to take into account differences in the soil, water and mangrove species. Locally marketable products: ecologically species sheltered in healthy mangrove ecosystems.

5. Food security and ecovillage values: Demba Mansare, the head of this commission, also will use the demonstration garden to hold a one-week training on the cultivation, processing and marketing of organic sesame seeds. He will distribute seeds for the villagers to test in their local soil and climate conditions, and will work with the marketing specialist on the transformation and sale of sesame products. M. Mansare, who directs 350 member villages of COLUFIFA (Comité pour la Lutte pour La Fin de la Faim) in Casamance, the Gambia and Guinea, will also lead discussions on local food self-sufficiency. Marketable products: organic sesame products.

6. Management of natural resources: Oulimata Sow, the President of the women's collectives of Popenguigne will conduct training in Popenguigne for women leaders from the ecovillages on the organization and training of women's groups to manage and protect natural resources, while harvesting them sustainably. TROPIS et CRESP will support their preparation of learning materials in the context of the Living & Learning Center. Locally marketable products: ecologically species sheltered in healthy mangrove ecosystems.

7. Expansion of Internet connectivity: The SIP Project of CRESP will link the creation Internet connectivity, data bases for decision-making and web pages to its on-going training of local youth to create the popular information system (www.siup.sn). The SIP website for Faoune, the home base of the Ecovillage of COLUFIFA, can already be seen visible on this website. To create SIP in 20 pilot villages would cost about \$2,000 per village, not counting local contributions of about \$1,000 in equipment and expenses of the trainees who create and manage their own sites. The poorer ecovillages will need help in acquiring computers and printers. Marketable products: training, word processing, email connections.

8. Support for eco-guards, and the construction of training and demonstration centers in the ecovillages: The L&L Center will work with the Senegal Council to create demonstration and training huts in each of the ecovillages and train eco-guards. The eco-guards will manage these local training sites, give tours of the village, and sell local food products, crafts and art work. Each hut will model the local traditional ethnic architecture. Ideally each hut should have a video projector for local training. The eco-guards also should have all-terrain motor-bikes that can transport visitors over permissible trails. Marketable products: tours, local products, arts and crafts

9. Water management: M. Adrien Coly of TROPIS Environment will direct water protection and recycling projects, involving villagers in the construction of embanquements to protect against salinization, rainwater collection basins, and waste-water recycling stations. The training for these construction efforts must be carried out on site.

10. Micro-enterprise and employment: The micro-enterprise staff member of the GEN Senegal and L&L teams will head this commission unless/until an NGO or other institution specializing in micro-credit and job creation takes on this task.

11. Education: Education activities will be developed with the relevant ministries and non-formal education programs, and will focus on promotion of equal education for girl children

12. Health and nutrition: Health and nutrition activities similarly will be developed with the Ministry of Health at the center and at the periphery, its national programs and the network of NGO's and associations engaging in these services.

V. Strengthening the CRESP/EcoYoff Living & Learning (L&L) Center

A. Introducing the L&L Center

This section will present EcoYoff's relationship to GEN Senegal and its action research approach of evolving from learning experiences to sustainable development activities. Appendix A presents EcoYoff's academic program of courses and action research internships for international and local students and volunteers. It should be noted, however, that approved international participants will learn and work side by side with Senegal's ecovillagers, and that this international solidarity is central to the GEN approach to development.

1. Relations with GEN and GEN Senegal

The EcoYoff Living and Learning Center is part of a worldwide program of sustainable systems education and demonstration. Living and Learning Centers are evolving experiments in sustainable community that provide hands-on training in developing green technologies and regenerative systems integrated with traditional culture and wisdom.

EcoYoff L&L will work closely with the Network, as needed, to identify and obtain the best available trainers and training locations and to organize the training courses mentioned in the section above on the activities of the Network. EcoYoff encourages new learning initiatives. Any group in Senegal can approach EcoYoff with a demand for course accreditation, by submitting the description of for a course of learning related to ecology and community development and a report on the outcome of the experience. After a satisfactory panel review of these courses, and crosschecks with participants, EcoYoff provides certificates, in the name of GEN, that give full credit to the training group. EcoYoff's training role in the development of the Network therefore will include direct training, arranging off-site courses, evaluation and certification of off-site courses, and coordination with other trainers who award their own certificates.

2. A Process of evolving from Learning Experiments to Development Activities

Experiential learning doesn't end with training. Potentially it is a powerful process on the pathway towards sustainable development, a process of exploration and action research that defines the future through the social construction of reality, in terms of new authentic paradigms, activities, programs, and projects. This is the transformation process that the L&L Center will foster in the GEN Senegal Network. EcoYoff's five original program components and the information system, listed in the introduction, have given birth to projects that continue in Yoff and beyond through the NGO CRESP and APECSY (Association pour la Promotion Economique, Sociale et Culturelle de Yoff), the village Association from which EcoYoff and CRESP developed. These projects are available to the Network and to students and volunteers.

The Culture and Spirituality component has produced an international EcoArts Festival held annually in Yoff, and the PALETTE project collecting local folk stories and preserving them in school readers. Education and training took root in a preschool parent-child education program, sponsored by the Ministry of the Family and Early Childhood, UNICEF, and the Christian Children's Fund.

The original information system evolved into a national training program in data base development and web site creation for local governments in Senegal (www.siup.sn) and national ministries engaged in early child

development programs in Senegal, Kenya, Eritrea, Uganda, Burundi and Rwanda. At home it produced an IT training center and a cybercenter in the CRESP/TROPIS building. These two centers, staffed by previously unemployed young people, generate income and jobs at a job creation rate of around 40%. Food security activities take place in the demonstration garden mentioned earlier. Action research in nutrition and health still is piloting approaches to combine anemia rehabilitation of preschoolers (about 70% of whom are anemic) with the above early child development (ECD) program. In the area of environment and infrastructure, APECSY and members of the EcoYoff Ecovillage group are constructing an ecovillage, "Eco Cité APECSY," and have completed a 40 household waste-water recycling station with the help of the ecological design, Claudia and Jerry Weisburd.

B. Annual L&L Work Plan in support of GEN Senegal

The L&L Center will participate with GEN Senegal in the two workshops with Ministries and NGOs at the beginning of each project year. During these workshops EcoYoff will develop an annual high level seminar/workshop series on topics related to traditional wisdom and ecological development. The first year of this series is expected to focus on discovering, recording and disseminating traditional Senegalese ecological values and approaches to maintaining these values.

EcoYoff will coordinate closely with the GEN Senegal Board and the commissions below in planning one or more annual training/participatory action research activity, with follow-on technical assistance. If needed, EcoYoff will organize and conduct the commission trainings. These training programs and activities are defined for year 1 in Section IV. C above.

The L&L Center also will supervise living conditions and logistics, provide cultural orientation, and facilitate experiential learning activities for international partners applying to work with EcoYoff and these commissions (see Annex 1 on Academic Programs).

C. Cascade Approach to the Training of Trainers

During the past five years, CRESP has developed and perfected a successful approach to the cascade training of trainers in the context of the Popular Information System in Senegal and in its similar program in regional ministries responsible for the development and health of young children. This system divides the learning group into equal numbers and creates a revolving calendar, which permits the members of each group to obtain training experience under the supervision of the senior trainer. Each training calendar depends on the materials being taught, the teaching resources, and the time constraints of the trainer and learners/trainers in training. Although this model would not apply to all situations - for example to construction of a basin to collect rainwater - it has proven extremely effective in creating training capacity.

For 20 ecovillage representatives learning to build solar ovens, for example, the calendar might look as follows. The group would be divided in half into Groups A and B. Each learner would construct two ovens to take back to his/her village, the first during the training and the second during the final exam.

*

As shown in the table, the expert instructor trains each group as trainers in the afternoon, giving them the evening to prepare their own training for the following day. These evening sessions include instruction on teaching adults. In the morning, each of the 10 trained as trainers teaches one member of the other group what he or she learned the evening before. In this model, each trainer in training teaches during half of the lessons. The expert trainer coaches and evaluates the training of each new trainer. Very clear criteria for the selection of trainees is a key to successful use of this approach.

VI. Budget Narrative and Budget (IN PROCESS/CURRENTLY BEING COMPLETED)

This budget narrative and the budget will first detail the separate operating and annual activities costs of GEN Senegal and of the L&L Center. The individual commission projects will then be described and costed as separate modules, combining funds for raw materials, infrastructure and equipment, which pass through the Network with the training costs passing through the L&L Center. The purpose of this form of presentation is to encourage donors to sponsor these activities according to their own development priorities.

A. GEN, Senegal

1. Fixed Operating and Annual Activities Costs

These include salaries for the President and Secretary of the Network, and for a micro-enterprise specialist. secretarial services.....

2. Budget

B. Fixed Operating and Annual Activities Costs for the L&L Center

1. Fixed Operating and Annual Activities Costs

These include salaries for the President and Secretary of the Network, and for a micro-enterprise specialist. secretarial services...

2. Budget

C. Budget narrative and budget for each commission project.

1. Renewable energy
2. Regenerative organic agriculture
3. Reforestation
4. Mangrove restoration
5. Food security and ecovillage values
6. Management of natural resources
7. Expansion of Internet connectivity

8. Support for eco-guards, and the construction of training and demonstration centers in the ecovillages
9. Water management
10. Micro-enterprise development
11. Education
12. Health and nutrition

Costs of training will be 90,000 per day plus 10,000 in plant materials for each trainee to take back to his/her village.

Appendix I EcoYoff Academic Programs and Action Research Internships

EcoYoff holds an annual three-week course in Sustainable Development, Theory and Practice, for the Kalamazoo College Study Abroad program and local students, as well as high-level seminars in ecological technologies. In 2002, the L&L center offered its first full summer program for 11 international interns and 14 local partners. As mentioned earlier a total of more than 200 local and international students, interns and volunteers, have lived and worked with the program since 1996. International interns and students come not to help Africa, but to learn from and with Africa. Either in Yoff or in other ecovillages, they live with local families and work with local work partners and mentors who share their passions and skills. A stipend to cover the costs of their partners' participation is Included in the internship fee. These shared learning quests have given birth to the CRESP and APECSY programs mentioned above and to employment for some of the local partners. Before ending their work together, international and local partners present and discuss their results with the local government council and community members.

This international partnership program explores North – South social constructions of perspectives and realities. Many discussions turn around differences in wealth and values. Experiential learning swirls around concepts of human rights, between the right to share group resources in Africa, versus private property rights in the North. These discussions re-open the long unquestioned claims of Europe and Asia to the right of humans to “own” nature. In this meeting point of diverging world views, two vast cultural rivers join. And we ask, what is possible in their flowing together?

Professors of the University Cheikh Anta Diop (UCAD) of Dakar, and a wide range of other local experts and mentors, serve as faculty and resource persons for the L&L program. The CRESP/EcoYoff L&L center has formal affiliations with Laval University, Tufts, Cornell, Kalamazoo College, and the Harvard University Bhumi Internship program in addition to the UNESCO Chair for the environment of coastal areas and small islands in Senegal. CRESP's funders and partners have included UNICEF, the World Bank, USAID, IDRC, the French Government, the Fondation du Devenir, Geneva, and private donors.