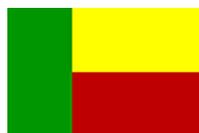




Best Practices Database

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Program for the Protection of the Environment - Pr.A.P.E., Cotonou Benin

Award Winning

New for 2002

- Categories:**
- Production and Consumption Patterns:
 - waste reuse and recycling
 - Poverty Eradication:
 - income generation
 - job creation
 - vocational training
 - Environmental Management:
 - ecological sustainability
 - environmentally sound technologies
 - pollution reduction
 - urban greening

Level of Activity: Neighbourhood

Ecosystem: Coastal

Summary

Pr.A.P.E. helps the Sainte Rita community manage the waste it produces. It trains and employs youth to collect the waste from a total of 2,700 voluntary subscribers (households, organizations), benefiting 80% of the 40,000 total community population. Subscribers pay monthly fees for garbage collection of which 95% are recoverable. Recyclable plastic and paper are collected by women and sold for reprocessing. Organic material is recycled into compost for the initiative's farm operations. Currently, garbage collection activities generate US\$ 140,000 per year; professional consulting fees by Pr.A.P.E.'s administrators generate US\$ 125,000. An outgrowth of this project has been the creation of a community bank for which the net worth is approximately US\$ 1,400,000. This credit grant program was created on the basis of local savings including contributions from over 1,500 women, and functions without outside subsidies. It has granted credits of more than US\$ 550,000 to women, youth and other garbage collection associations in Cotonou.

Pr.A.P.E. changed these poor habits by collecting and then sorting the different components of the garbage. Organic waste is transported to a site where polluted run-off water passes through basins and canals and is biologically treated before being allowed to infiltrate the soil. It organised a community protest to block a government attempt to create a landfill in the proximity of the water basin from which the city of Cotonou (Societe Beninoise d'Electricite et d'Eau) intended to draw its water. Because of this action, the government was forced to adopt a method of sorting and composting, thus protecting the water in this zone.

Later, to facilitate a dumping site for all of Cotonou's garbage, it became necessary to explain to the population what the impacts of having such a site in their area would be. The government as an expert

NGO in waste management, to inform the population how such a dumping site would affect them solicited Pr.A.P.E.. After meeting with the community, the proposal to build the site was accepted by the local population and is financed by the Canadian Agency for International Development.

The organisations of ADF (African Development Foundation), SNV (Dutch Development Service), and Care International, all of which finance projects in the area of waste management, requested a study (completed by Pr.A.P.E.) which would show how to manage projects concerning waste collection properly and how to best reduce the negative impacts in such projects.

Reduction of Atmospheric Pollution

The Ministry of the Environment selected Pr.A.P.E. as a role model and an expert for others in the area of reducing toxins, including those produced by the exhaust fumes of vehicles. Before the initiative, waste was regularly burned in rubbish dumps. This waste included plastic materials, batteries and biomedical waste, all of which, when incinerated, polluted the already fragile atmosphere. Thus, the removal of these wastes and the recovery of plastic materials for recycling are a means of reducing atmospheric pollution. Because of Pr.A.P.E.'s success in ecological waste management, it was selected to participate in a program with the Beninese Centre for Sustainable Development (Centre Beninois de Developpement Durable) to fight against air pollution in Cotonou, caused by the importation of second-hand vehicles lacking environmental protection components.

Urban Greening

The Beninese Agency for the Environment put Pr.A.P.E. in charge of educating the population and maintaining green spaces along certain areas in the city of Cotonou. An example of Pr.A.P.E.'s work can be seen along the avenue of Oueme in Cotonou. This initiative also provided and sold compost to hotels and other structures to develop green spaces in the city. An example of green spaces enhanced by this compost can be seen at NOVOTEL ORISHA hotel, the second largest hotel in Cotonou.

Environmentally Friendly Technology

The basic steps in waste management that Pr.A.P.E. developed using simple technology are still in use today:

- Garbage is collected door to door using manually pulled carts. The area is limited to 1 kilometer, a small area, so as to facilitate the use of carts that do not use fuel.
- Materials are recycled using an electrical grinding machine and agglomerater; thus no unnecessary gasses are produced. The machines produce little noise and use only a small amount of water.
- Polluted run-off water is biologically treated using aquatic plants that also aid in purifying the soil.
- Batteries are kept in an impermeable place away from other waste, where they will not infiltrate the soil.
- Composting converts food and plant waste into organic fertilizer.

Maintenance of a Healthy Environment

Pr.A.P.E. evolved from the Bethesda Health Centre, and was assigned responsibility for taking care of environmental aspects which it evaluates periodically. Its main focus is to provide a healthy environment for the community.

Pr.APE's activities include checking that food sold in schools by local women has been properly prepared, and seeing that vaccinations given to children are done under proper conditions. Through good management of waste and taking sanitary precautions, one important goal of the project is to protect people from harmful elements of the environment, and to facilitate the existence of clean air and water

Narrative

SITUATION BEFORE THE INITIATIVE BEGAN

Before Pr.A.P.E, there was no garbage collection by the government or any other source, and the

population suffered many illnesses, e.g. gastroenteritis. Household garbage surrounded persons near their houses, in the streets and canals. Contributing to the problem was general disorganization of the population, and absence of financial structures.

ESTABLISHMENT OF PRIORITIES

Earlier on, initiative leaders met with many groups including the mayor, neighborhood leaders, health-workers, and governmental advisors to discuss priorities of the enterprise. Participating in these discussions were many women from Sainte Rita who helped identify and prioritize community problems.

The most obvious need was a garbage collection system and convincing the general population of its value. Other priorities of the initiative included patching roads with earth that had previously been filled with garbage, and reducing 30 dumpsites to five.

Discussions led to a contract between Pr.A.P.E and community members that defined the roles of each party.

FORMULATION OF OBJECTIVES AND STRATEGIES

Principal objectives consisted of ending indiscriminate disposal of waste, putting the responsibility of covering garbage collection costs on the population, managing garbage using ecologically sound technology, promotion of employment for youth and women, and organization of a local committee that would take responsibility of this project after five years.

Approaches used to attain these objectives included training of strategic community groups, putting into place sustainable mechanisms for waste management, and organization of a neighborhood committee for development. Neighborhood representatives elaborated these objectives and strategies during the initial 15-month preparation period; Pr.A.P.E further developed technical aspects.

MOBILIZATION OF RESOURCES

During the preparation of this project, GTZ-MEHU (Ministry of the Environment in collaboration with GTZ, a German NGO) informed Bethesda Health Centre about special funds for development offered by France to ease the effects of the 1994 devaluation of the FCFA.

In seeking these funds, the directors of Bethesda Health Centre presented the project to the national committee for the approval of FSD (Fonds Special de Developpement). Their presentation resulted in a grant being given to the initiative for US\$ 122,222. This grant, along with start-up funds from Bethesda, allowed the project to move forward. On-going mobilization of funds is achieved by collecting fees from the participating population for the collection of their garbage.

Human resources include women, who have played an important role in decision-making from the formulation of objectives to the debut and follow-up of all aspects of Pr.A.P.E. Among the leaders of the initiative are thirteen female social workers/administrators, and six women in top administrative positions who play important roles in ongoing planning and decision-making in the project.

A problem encountered at the site for sorting recycling materials was that of plastic waste which occupied a large area of space. However, a recently constructed recycling center now handles these materials. Because the community is made up of many different neighborhoods, an inherent problem is that agreements are not always easily reached. Thus, a committee that fairly represents the whole population was chosen to aid in decision-making processes. Problems that remain to be addressed include accumulation of metal, batteries, and glass.

Pr.A.P.E. uses a participatory approach involving the local community in decision-making processes. The initiative organizes seminars and training meetings to aid in the process of local development. At Pr.A.P.E.'s seminars, women consultants are often employed to give input on specific topics and to serve as teachers.

The credit grant initiative has resulted in training sessions on business management for 226 women who have received credit from the community bank. Specific training sessions for 20 female restaurant managers have also provided participants with a framework for success in their entrepreneurial endeavors.

Through monthly community meetings, a strategic plan was developed which designated responsibilities of each group. In addition to the development committee, a technical advisory committee is in charge of following the activities of the initiative in their respective communities. Both of these committees are composed entirely of community members. Monthly meetings are held for the evaluation of the project. The fees paid by subscribers have also enabled the hiring of a permanent secretary who follows-up the activities of the collectors, looks at problems of the community, and aids the implementation of decisions made at the community meetings.

RESULTS ACHIEVED

Pr.A.P.E. is known throughout Benin today for its work in recycling of waste. Pr.A.P.E. Organises women to help in the collection of recyclable materials (bottles, plastics, etc.), which they resell and earn up to US\$ 12 per day per person. A food preparation business initiated by Pr.A.P.E. Produces a daily income of US\$ 40 for each woman involved.

Measurable results include:

- In 5 years, 80% of the population of Sainte Rita had subscribed to the garbage collection system.
- After 5 years, there was a 95 % fee recovery rate.
- The door-to-door garbage collection system using non-polluting, local technology is 100% self-financing.
- Over 200 permanent jobs have been created (of which 85 belong to women).
- A community bank with a net worth of approximately US\$ 1,400,000 is in operation.

Other important results include:

- Recycling of plastic and paper materials is in place using an electrical grinding machine and agglomerator to control production of harmful gases.
- The city of Cotonou takes responsibility for transportation of waste to the final destination sites, which are in compliance with environmental standards.
- Cooperation of the local population to sort recyclable and non-recyclable materials has been accomplished.
- Beninese Centre for Sustainable Development selected Pr.A.P.E. to participate in a program with them to fight air pollution in Cotonou. The Ministry of the Environment also selected Pr.A.P.E. as a role model for others in the area of reducing toxins, including those produced by the exhaust fumes of vehicles.

SUSTAINABILITY

Pr.A.P.E. developed in 1995 on a very small scale, and has since become a structure of support and assistance to cities, governmental ministries, other NGOs, and acts as an agency for community development. The initiative is sustainable because it is entirely self-financing which allows for some resources to be used in other aspects of development. The combination of community and city resources ensures that the initiative need never go out of existence for lack of funds. Pr.A.P.E. is available to all community members of any economic status. A current base fee of US\$ 1.40 is charged per month for the collection of waste, but depending on the amount and type of waste, other subscribers pay amounts of US\$ 2.10, 4.20, and 7.00. Employing people of varied ages ensures a sustainable work force for the initiative.

This endeavor is also sustainable due to its success at educating the population (the producers of waste) about the importance of garbage collection. It has also developed a technology for recycling plastic materials, cardboard boxes, and used motor oil. The products (such as plastic granules) obtained from recycling permit consumption of less than half of the raw materials that would not be used without this initiative. The briquettes that are produced from recycled paper and sawdust are also

a protection from deforestation. To date, around four tons of briquettes have been produced. At the final dumping site, the garbage is received on an impermeable platform that allows the collection and biological treatment of run-off water using aquatic plants. The isolation of batteries after sorting and composting is also a means of protecting the water table. All of these activities contribute to the sustainability of the environment.

LESSONS LEARNED

Our experience teaches us that the support and participation of community members is very crucial to the success of an NGO. We can cite our community bank that is self-financing without outside subsidies, as a successful model resulting from such research.

The second lesson learnt is that projects well run projects and those that involve transparency in their propagation often succeed. The community is ready to participate in projects in which they can realize their direct benefits and whose internal organization they can understand.

We also believe that the best way to support costs of garbage collection in a developing country is through the recovery and recycling of certain waste materials, e.g. paper and plastic.

Lastly, in developing countries, the most important lesson to be learned is that both the interests of the community and those of the state need to be taken into account, and the two groups must work in collaboration with one another.

Our organization believes that both the community and state must be given responsibility in development projects, and one of Pr.A.P.E.'s goals is to clarify the capabilities of the community as well as the state. For example, door-to-door garbage collection can be completely supported by the local population without aid from the state. However, the state is then needed to aid in the transport and treatment of waste in the municipality.

TRANSFERABILITY

Today Pr.A.P.E has become a program of reference in Cotonou and in neighboring countries for its successful experience in the collection of waste in the urban community. On average, the initiative receives ten interns per year: some from other NGOs working in waste management and the rest being students who have completed their studies or are students. For instance such NGO's such as Programme Benin Propre, Association de Volontaires Togolais pour le Developpement, and Equinox Ville Propre have sent interns to Pr.A.P.E.

The principles from this initiative have been integrated into plans for the management of waste in other cities. For example, African Development Foundation, Dutch Development Service, and Care International requested that Pr.A.P.E. complete a study on how to properly manage waste collection projects and how best to reduce the negative impacts in such projects. In helping others in learning about garbage collection and management, we give consultations on how to avoid transporting waste over long distances and the importance of sorting and keeping recyclable material near its source. We further advise them that all precautions should be taken to avoid the collection of "mixed" garbage and that separation of waste must be done at the source. Because of the success of our project parts of our program have been transferred to other localities, for example Kandi - a city in northern Benin.

Some ideas generated through this initiative have now been transferred to legal regulations (presidential decrees) for the environmental management of waste in Benin.

Pr.A.P.E. has prepared a written description of its history for the World Environment Report (Rapport Mondial sur l'Environnement). In 2001 PNUD (Programme Nations Unis de Developpement) identified Pr.A.P.E. as an encouraging leader in waste management. Pr.A.P.E.'s programs have generated enthusiasm outside the local community. This recognition suggests that Pr.A.P.E.'s initiatives foster further exposure, and may offer valuable ideas to other communities

Key Dates

September 6, 1993- First meeting with the community of Sainte-Rita

August 17, 1994- Financial Assistance from the French Mission

January 17, 1995- Launching of the project by the Minister of the Environment

October 1, 1999- Transfer of garbage collection responsibility to the economic interest groups

August 13, 2000- Signing of the garbage sorting and recycling contract with the city of Cotonou

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Type of Partner Support: Financial Support

Financial Profile

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Year	TOTAL	Pr.A.P.E.	EED	SMB	DUTCH COLLABORATION
2001	\$ 350,860	76.63 %	19.72 %	-	3.65 %
2000	\$ 229,262	54.87 %	45.13 %	-	-
1999	\$ 116,807	40.46 %	59.54 %	-	-
1998	\$ 104,668	22.83 %	77.17 %	-	-
1997	\$ 85,200	31.36 %	64.84 %	3.80 %	-