COLLECTIVE OF WOMEN’S GROUPS FOR THE PROTECTION OF NATURE (COPRONAT)
Senegal

Equator Initiative Case Studies
Local sustainable development solutions for people, nature, and resilient communities
Local and indigenous communities across the world are advancing innovative sustainable development solutions that work for people and for nature. Few publications or case studies tell the full story of how such initiatives evolve, the breadth of their impacts, or how they change over time. Fewer still have undertaken to tell these stories with community practitioners themselves guiding the narrative.

To mark its 10-year anniversary, the Equator Initiative aims to fill this gap. The following case study is one in a growing series that details the work of Equator Prize winners – vetted and peer-reviewed best practices in community-based environmental conservation and sustainable livelihoods. These cases are intended to inspire the policy dialogue needed to take local success to scale, to improve the global knowledge base on local environment and development solutions, and to serve as models for replication. Case studies are best viewed and understood with reference to ‘The Power of Local Action: Lessons from 10 Years of the Equator Prize’, a compendium of lessons learned and policy guidance that draws from the case material.

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Acknowledgements
The Equator Initiative acknowledges with gratitude the Collective of Women’s Groups for the Protection of Nature (COPRONAT), and in particular the guidance and inputs of Woulimata Thiao, President of COPRONAT, Boucar Ndiaye, and Lamine Kanté. All photo credits courtesy of COPRONAT. Maps courtesy of CIA World Factbook and Wikipedia.

Suggested Citation
This collective brings together women’s groups from communities bordering the Popenguine Nature Reserve, a 1,000-hectare coastal reserve located in the Thies region of Senegal. Since the creation of the reserve in 1986 to prevent over-harvesting of marine resources and degradation of mangrove forests, the park’s authorities have sought to involve local communities in its management. Volunteer groups of women began forming to help reforest sections of mangrove forest in the late-1980s, eventually leading to the creation of COPRONAT in 1996.

Comprising more than 1,500 women organized in economic interest groups (Groupements d’Intérêts Économiques) in eight villages, the collective’s work has focused on rehabilitating ecosystems and resources that underpin the local economy. Its successes have included the creation of the co-managed Community Nature Reserve of Somone, and the operation of revolving credit funds that catalyze alternative livelihood activities such as ecotourism.

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The Collective of Women’s Groups for the Protection of Nature (COPRONAT) is a partnership between local communities and the Senegalese government which has been charged with protecting the Popenguine Nature Reserve since 1996. COPRONAT brings together women’s groups from eight different villages to voluntarily manage nurseries, plant trees, manage erosion and waste, conduct environmental education activities and reduce poverty by investing in the community. The group has made significant contributions towards restoring the mangrove ecosystem and preserving the biodiversity of the reserve and surrounding areas, affecting a total of 100 square kilometers. This women’s collective has overseen the recovery of threatened species such as the jackal, mongoose, civet, gray duiker, patas monkey and bushbuck. Members of COPRONAT benefit from access to a revolving micro-credit fund, which helps to stimulate grassroots businesses.

The resource-dependent economies of Popenguine

Livelihoods and local economies in the Popenguine region of Senegal are dependent on natural resources and largely oriented around livestock rearing, fishing and small-scale agriculture and farming. Livestock typically includes sheep, goats, cattle, poultry and pigs. Donkeys and horses are also bred for traction purposes. Fishing is a year-round activity, especially in the port towns of Ndayane and Guéréo. A typical division of labor sees men do the fishing and women the processing and selling of fish products. Fish catches are used both for household consumption and sale at inland village markets. Agricultural production is dependent on rainfall, which is inconsistent at best and fluctuates greatly from one year to the next. Where rain does fall, the main crops are millet, peanuts, black-eyed peas, and sorghum. Again, crops are used for both household consumption and for sale in local markets. Farming is traditionally practiced by the Serer people, and is extremely labor intensive. On top of unpredictable rainfall patterns, local agriculture is challenged by soil infertility (driven by overexploitation), crop pests, and a lack of appropriate seeds and equipment. To supplement their incomes, many families are expanding into fruit tree farming and household gardens. This once biodiverse region has become severely degraded due to deforestation, overgrazing and the over-exploitation of forest resources (both timber and non-timber forest products).

Popenguine Nature Reserve

In response to rapid environmental decline in the region, and to stem the further loss of forests and biodiversity, the Government of Senegal created the Poppenguine Nature Reserve (RNP) in 1986. The reserve covers an area of 1,009 hectares, including a maritime fringe that is 800 meters deep and over two kilometers long. It also contains a southern portion of the ancient forest of Popenguine. The reserve is located on the Atlantic coast, fifty miles south of Dakar in the region of Thies in the Senegal-Mauritania Sedimentary Basin. The relief is formed by hills reaching altitudes of between 20 and 30 meters, culminating in the Cape of Naze at 74 meters. Drainage in the reserve is poor, but channeled mostly through a lagoon located at the end of the Somone River. The lagoon is reinforced by a dam, which regulates water height and prevents spillage and overflow into the ocean.

Popenguine Nature Reserve was created with two explicit objectives in mind: to protect the forest and its endemic wildlife species and to safeguard the wintering site of Palaearctic migratory birds. Two years after the reserve was established, the National Parks Department launched its “Five Year Conservation Action Plan for the Integrated Development of a Network of Protected Areas”. This strategy somewhat markedly broke with convention by putting local people and socio-ecological context at the heart of its protected area management approach. As a result, Popenguine Nature Reserve became the test site for a new approach that would combine considerations of environmental conservation and sustainable natural resource management with those of local development, community empowerment and creating economic opportunity for communities living adjacent to the reserve.
Conservation and local development, led by women

At the same time that the National Parks Department was beginning a process of devolution, and shortly after creation of the Popenguine Nature Reserve, a women’s social movement began to emerge in buffer zone communities. Local women were observing interventions taking place inside the reserve and felt there was a role for community-based action in restoring degraded areas. On a voluntary basis, groups of women began to bring their local knowledge and expertise to bear on the protection and management of the area. Thus was born in 1989 the Coalition of Popenguine Women for the Protection of Nature (RFPPN), initially composed of 119 members. The voluntary association focused its efforts on reforesting the mangroves of Somone, which had become degraded due to unrestrained harvesting. Within three years, almost ten hectares of mangroves had been reforested as a result of their work, leading to a return of avian diversity (not only high concentrations of Palearctic birds, but also Afro tropical birds). In recognition of the efficacy of this model, the Rural Council of Diass gave the restored area an official legal designation, calling it the Community Nature Reserve of Somone. This designation for community protected and managed land was the first of its kind in the country.

The model of local leadership and cooperation pioneered by RFPPN quickly spread to seven other villages surrounding the reserve. Women in each of the seven villages mobilized their own ‘economic interest groups,’ ultimately leading to creation of the Collective of Women’s Groups for the Protection of Nature (COPRONAT) in 1996. The central concern of COPRONAT is the rehabilitation of local ecosystems through reforestation, with an emphasis on jumpstarting the local economy. The Somone lagoon has been a specific focus because of its importance as a migration site for birds of the western Palearctic ecozone. Its early success in managing the Somone lagoon led to the signing of a Memorandum of Understanding (signed in June 1996) between the Ministry of the Environment and COPRONAT which provided for community co-management of the reserve.

Membership in COPRONAT now stands at more than 1,500 women from eight villages. COPRONAT has become the official community-driven framework for local conservation and decision-making authority in the region. The organization's leadership has been assigned responsibility for developing collective projects for each village adjacent to the reserve. COPRONAT strategically prioritized income-generation and development activities outside of the protected area, with the expectation that economic benefits and security would spill over into conservation objectives within the reserve. The logic was that a local population suffering from food insecurity, a lack of employment, and limited opportunities for income diversification could not focus on conservation without proper incentives. While COPRONAT is a women-led initiative, and while its membership is exclusively female, the organization has spawned a broader youth volunteer movement of both boys and girls. Youth have been enlisted to support in community development projects, to serve as ‘eco-guards,’ and to support village-level conservation efforts.

COPRONAT is made up of eight economic interest groups, one in each participating village. Each group operates a revolving credit fund and has its own institutional framework. The organization runs a central office. Each economic interest group runs their own general assembly and holds their own committee meetings. The presidents of each of the eight groups meet monthly, while a larger general assembly meets once a year.

“We know that the earth is not ours. It needs to be shared with our children and our grandchildren. We need to protect our natural heritage to provide our children and grandchildren with a future.”

Woulimata Thiao, President of COPRONAT
COPRONAT is directly involved in co-management of the Popenguine Nature Reserve. An important aspect of this work is managing the socio-economic ambitions and priorities of communities that live around and adjacent to the reserve. The organization illustrates the true integration of the three strands of sustainable development, giving equal consideration and emphasis to the economic, social and environmental.

Conservation and reforestation

The roots of the organization are in environmental conservation, with specific attention to the ecosystems, forests and wildlife in and around the Popenguine Nature Reserve. COPRONAT manages a number of tree nurseries and engages community members from local villages in reforestation efforts. The goal is to restore what has become a degraded landscape, to renew soil fertility (and reduce soil erosion) and to maintain the unique ecological characteristics of the area. Regulation of natural resource management and human incursions into the reserve are complemented by scientific research and environmental monitoring. The women’s collective is also focused on water management, environmental education and natural firewalls and buffers (to prevent the spread of forest fires).

Improving local livelihoods and incomes

The collective prioritizes community wellbeing and aims to reduce environmental pressure on local ecosystems by providing residents of the buffer zone with new and sustainable sources of income. With this objective in mind, COPRONAT oversees a number of activities in agricultural diversification and livestock rearing, promoting techniques that do not infringe upon or damage surrounding forests. The collective also promotes and develops ecotourism in the region, which boasts close proximity to the country’s capital city, pristine sandy beaches, panoramic views, and an abundance of natural beauty, endemic wildlife species, and biodiversity. The women manage an ecotourism camp called Keur Cupaam. The enterprise has created job opportunities and new income streams, directly through the hiring and employment of guides, but also indirectly by sourcing crafts, food, and services from surrounding villages. A revolving credit fund has been established to stimulate the activity and entrepreneurship of local artisans. Groups have been launched which produce sculptures, paintings, jewelry and textiles. Revenues from the ecotourism business (and from reserve entrance fees) have been reinvested into buffer zone communities, local infrastructure and basic service provision.

Social service delivery

COPRONAT carries out several activities which produce economic and environmental benefits, but which are defined by broader social objectives. As one example, the organization runs a literacy program which is helping provide an economically-marginalized population that has limited educational opportunities with basic reading and writing skills. COPRONAT has also established ‘tuck shops’ in each village – stocked with cereal, grains, butane gas and other staple items – to provide the local population with easier access to the essential items of daily living at discount prices. With funding from the World Wildlife Fund, the collective also established a credit union in 2007. The credit union is managed by the organization and distributes small loans to inhabitants of the area at low interest rates. Interest from distributed loans is reinvested in local development and conservation projects, including the operating costs of several tree nurseries.

“COPRONAT carries out several activities which produce economic and environmental benefits, but which are defined by broader social objectives...”
Impacts

BIODIVERSITY IMPACTS

Before the Popenguine Nature Reserve was designated as a protected area, the zone was quickly being reduced to barren hills from deforestation and overgrazing. With several decades of protected area status, forest cover has started to return and the ecosystems that make up the area are beginning to regenerate.

Terrestrial and mangrove reforestation

The collective has assumed a leadership role in protecting the reserve and in rehabilitating its surrounding ecosystems. The organization regulates resource access and use and monitors grazing areas. They have also actively promoted (and carried out) reforestation, which directly contributes to biodiversity conservation and the recovery of local plant and animal species. Reforestation has been carried out through a strategy of ‘enrichment planting’. Planting efforts focus on indigenous tree species, which help the forest grow faster than it might otherwise. COPRONAT has overseen the cultivation and planting of more than 11,000 trees in and around the reserve. Perhaps even more impressive, the organization has planted more than 80 hectares of mangrove forests with roughly 50,000 trees in the marine zone of the reserve. The latter has resulted in the recovery and proliferation of shrimp, oyster and waterfowl populations.

Additionally, COPRONAT works with local villages to maintain natural fire walls around the reserve which are no less than six meters wide and run a length of twelve kilometers around the perimeter of the territory. Since the installation of fire walls in 2002, there has been only one forest fire which affected the reserve. Water retention dams and erosion control tools (such as stony bunds) are also among the conservation projects carried out annually by COPRONAT.

Environmental education

COPRONAT has succeeded in reducing pressure on forest and marine resources primarily through environmental education, community outreach and direct and honest communication with the local population. A key target demographic has been the youth of Popenguine and surrounding villages. Youth are encouraged and supported to participate directly in the activities of the collective, including reforestation and the operation of village wood lots. The latter have allowed COPRONAT to control local consumption of firewood and to reduce incursions into the reserve for fodder.

Recovery of wildlife and bird populations

The area now called the Popenguine Nature Reserve once housed a much greater number and variety of animals, including elephants (*Loxodonta africana*), roan antelope (*Hippotragus equinus*), leopards (*Panthera pardus*), wild dogs (*Lycaon pictus*), turtles (*Caretta caretta*, *Chelonia mydas*), and more. Reforestation and environmental stewardship have resulted in many of these species returning to the area. Examples of mammals disappeared from the region but which have returned since COPRONAT operations began include the bushbuck (*Tragelaphus scriptus*), the common duiker (*Sylvicapra grimmia*), the spotted hyena (*Crocuta crocuta*), the golden jackal (*Canis aureus L*), the civet (*Viverra civetta Schreber*), thepardine genet (*Genetta pardina*), the serval (*Felis serval*), the mongoose (*paludinosus G. Cuvier*), the crested porcupine (*Hystrix cristata*), the Patas (red) monkey (*Erythrocebus patas*), and more. The reserve also now boasts a high density of bird life at certain times of the year, including the Blue Rock-thrush (*Monticola solitarius*), the Rufous-tailed Rock-thrush (*Monticola saxatilis*), the Helmeted Guineafowl (*Numida meleagris*), Stone Partridge (*Ptilophacus petrosus*), the Double-spurred Francolin (*Francolinus bicalcaratus*), and the Grey Heron (*Ardea cinerea*).

SOCIO-ECONOMIC IMPACTS

COPRONAT is made up of eight women-led economic interest groups. Part savings scheme and part social club, these groups now play
an important function in local social organization and community action. Once a month, members of each economic interest group contribute 2,000 francs to a revolving fund. On a rotating basis, a different woman is allowed access to this money and is responsible for repaying the loan with minimal (5%) interest. This micro-credit scheme allows women to start small business ventures or to cover unexpected expenses. Other areas producing socio-economic benefits include ecotourism, the operation of tree nurseries and cereal banks, the distribution of energy-efficient stoves, and the direct provision of health and education services.

**Community-based ecotourism**

The collective built and now operates the Keur Cudaam camp which, on a seasonal basis, receives tourists who come to experience the unique environment and biodiversity of the Popenguine Nature Reserve. Visitors pay an average of 6,000 francs for a dorm-style bed and 12,000 francs for a private cabin. Each visitor also pays a 1,000-franc entrance fee to access the reserve. Local eco-guides are paid an average of 5,000 francs per tour. The ecotourism venture has seen significant growth over the last several years; between 2005 and 2009, the number of tourists doubled from 300 to 600. The ecotourism venture has created employment and economic opportunity, particularly for local women and youth who work as tour guides and in service sectors such as food, accommodations and handicrafts. Seven full-time management positions are also all held by women. Three of these are fixed salary positions, while the remaining four divide 30% of monthly profits. COPRONAT sets aside 30% of its profits (minus salaries) for community projects in environment, health, and education. Additionally, 20% of revenues from the camp are allocated for the credit union fund.

COPRONAT has connected local artisans with the tourism market, providing and additional source of income and a previously nonexistent market supply chain for local women. One group sells tourists necklaces made from recycled newspaper and fabric. Another group has adopted a cooperative model where, for every product sold, 30% of the profit goes to the artisan who made the product and the remaining 70% is invested into community development projects.

**Tree nurseries and cereal banks**

Each economic interest group operates and maintains a tree nursery in their village where up to 1,000 trees are grown. Trees and plants cultivated in each nursery – notably including baobab and mango trees – are replanted in the reserve on a yearly basis. A portion of trees from the nursery are sold by local women as a source of additional income.

COPRONAT also maintains cereal banks in each of the eight participating villages. The organization has used a percentage of its growing capital fund to build these storehouses, and to stock them with grains. The primary objective of this initiative is to strengthen local food security. The storehouses allow community members to access food staples year-round, enabling them to survive poor harvests, price hikes and other environmental and economic shocks. As a complement to the cereal banks, the organization has been able to provide occasional assistance to farmers whose crops are fledgling or to individuals or families having some difficulty making it through a lean period. This support is provided discreetly by allowing them to purchase grain on credit. In addition, a millet mill has been installed in each village which local women rent for a minimal cost and which helps lighten the work of grain processing.

**Wood lots and energy-efficient stoves**

Significant strides have also been made by COPRONAT in addressing energy security in participating villages. Each village operates a community wood lot, which reduces pressure on local forests from foraging for fuel wood. The collective also ensures women have access to butane gas and energy-efficient stoves at discount prices. Butane gas provides quick cooking fuels. And, unlike fire wood, butane does not produce smoke, which has been the source of a number of health and respiratory problems in the local community. Energy-efficient stoves are made of clay or stone and have reduced energy consumption.

**Health and education services**

Ten percent of collective profits are allocated for health services, while another ten percent are allocated for education and local schools. Support has been provided to local health centers (in the form of medicine and equipment) on an ‘as needed’ basis and at the request of resident healthcare professionals. So too, to overcome the human resources deficits faced by local health centers, COPRONAT has enlisted community health assistants who are made available as support staff. Other contributions in the area of health services include digging wells and the construction of a water tower to improve local access to fresh water and reduce incidence of water-borne diseases. In the area of education, local schools have been supported to purchase desks and educational materials. Each of the eight economic interest groups meets with their respective school directors to decide on priority resource needs and actions.

**POLICY IMPACTS**

The most significant policy impact achieved by COPRONAT has been creation of a co-management arrangement for the Popenguine Nature Reserve. The management committee, established in 2007 to oversee and govern the reserve, includes members from COPRONAT. Through this collective management committee, local women have been centrally involved in decision-making.

COPRONAT has also helped create legal space for communities to manage natural resources and protected lands. In 1996, the Senegalese government began implementing a policy of ‘regionalization’ and decentralization of authority to the local level. The architects of COPRONAT had targeted the Somone lagoon for restoration, but lacked any legal framework to gain protected area status. In collaboration with the National Parks Department, local women proposed creation of the Somone Community Nature Reserve. This resulted in the signing of the Agreement Act in 1999, which provided a precedent whereby areas not protected as national reserves were offered protection as community lands.
SUSTAINABILITY

COPRONAT cites staying updated through participation in national and international conferences, financial transparency and the formalization of partnerships as crucial to maintaining the sustainability of its projects. The basis of long-term sustainability, however, is the active involvement and ownership by the local community in project design, implementation and management. It is equally important that the local community be provided with economic incentives for conservation in the buffer zones. Without adequate poverty reduction efforts, rural communities cannot be expected to make significant investments of time, energy and resources into environmental restoration and recovery.

Capacity building has also been instrumental for COPRONAT in ensuring the proper functioning and sustainability of its environment and development activities. By strengthening the skills and abilities of local women – such as training in guide services, reserve management, and monitoring and evaluation – the group has been able to draw on local knowledge and expertise to identify problems and to take concrete actions in finding solutions.

COPRONAT has received financial and technical support from international donors as well as the Senegalese state. A capital fund, which grows with accumulated entrance fees and loan interest repayment, has also helped to sustain the organization financially. Technical support has come in the form of trainings on how to restore degraded habitats, set up nurseries, and develop projects in arboriculture, environmental education, and research.

The organization also attributes its success to favorable enabling conditions, notably including: the protected area status of the reserve, the presence of local leaders with an awareness of natural heritage, and the ethnic cohesion and solidarity of local women.

REPLICATION

The model of a community-managed nature reserve pioneered by COPRONAT has spread across Senegal and been replicated in several different locations. The organization's grassroots reforestation and mangrove restoration campaigns have also spawned a number of comparable projects, including by a local community in the Ngongop lagoon. COPRONAT lessons and experiences have been shared with other communities and women's associations across Senegal and in other countries in West Africa. The collective has hosted peer-to-peer site visits for other communities, and trained visiting women to organize themselves along a similar model. Delegations have been received from Mauritania, Guinea, Benin, Burkina Faso and Mali. COPRONAT also receives a large number of researchers, students and development practitioners on an ongoing basis.

PARTNERS

COPRONAT has received assistance from a number of partners in the form of financial, scientific, and technical support.

Technical partners have included: the Government of Senegal and the National Parks Department, who provide ongoing guidance and assistance and policy support; the Government of Japan (through JOVC), which provided for construction of local meeting facilities and human resources support (volunteers); the Peace Corps, which assigned volunteers to provide technical training and helped to launch an environment newsletter; the Scouts of France, which helped to create a waste incinerator; and the Eco Village Network, which has provided equipment and training.

Financial partners have included: The Nicholas Hulot Foundation, which provided funds to establish the tourist camp and restore select ecological sites; the Global Environment Facility, which provided funds for eco-guard training and for millet mills in every village;
USAID, which provided funds for construction of a water retention dam; the European Commission, which provided funds for general environmental conservation in the buffer zone; the United Nations Development Programme, which provided funds for construction of the Guéréo village dam; the Apprentices of Auteuil, which provided funds for the construction of public lavatories in Popenguine; the World Wildlife Fund, which provided funds for a Mutual Savings and Credit Union; GIRMAC / World Bank, which provided funds for environmental education; and OXFAM, which provided funds for the cereal bank project.

Scientific and research partners have included: ORSTOM, who provided scientific guidance in creating the reserve; and BIOSEN, who provided guidance in mapping, phyto-sociological studies, restoration site selection, and leadership training.

“It is time for all citizens and local governments to change their attitude. We need to take greater responsibility for the sustainable management of our resources and our planet. This requires a new level of commitment and a regulatory environment that prioritizes both nature and marginalized communities.”

Woulimata Thiao, President of COPRONAT
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The Equator Initiative brings together the United Nations, governments, civil society, businesses and grassroots organizations to recognize and advance local sustainable development solutions for people, nature and resilient communities.

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