

Emergence of an environmental citizenship in Senegalese rural areas: local development initiatives by the Fannabara association in Missirah (Fatick, Senegal)

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Abstract. In Missirah, a village in Senegal, a group of young ecologists who are part of an association called Fannabara, developed initiatives with the objective of restoring deteriorating ecosystems and promoting local culture. Along with the many numerous to their credit, in cooperation with partners such as the IUCN and the Global Environment Facility (GEF), Fannabara is trying to establish itself as a framework within which the interests of the Missirah communities can be defended. The projects undertaken are in line with a perspective that promotes public-awareness, education and actions for a sustainable development. The project is dependent on obtaining the necessary resources to meet the ecological, economic, social and cultural challenges faced in Missirah. This research shows that the decentralization and accountability context for community-level players – associated with the changes taking place in rural areas, namely as they relate to the participation of populations in the governance of biodiversity – has greatly contributed to the promotion of new local development dynamics.

Keywords. environmental citizenship, rural areas, local development initiatives, Africa, Senegal, natural resources management

1 Introduction

Missirah is a village in the district of Toubacouta in the region of Fatick in Senegal (Fig. 1). It is located at the centre of the Saloum Delta Biosphere Reserve (SDBR) and on the outskirts of the Saloum Delta National Park (SDNP).

Missirah, one of the most prominent coastal villages of the Saloum Delta, has a large population, natural-resource potential and fisheries infrastructures. All of the outlying villages of the (SDNP) established themselves through Missirah, which serves as core-village. The Socés¹ are the dominant and founding ethnic group of the village. In Missirah, despite the importance of external sources of revenue, households rely heavily on natural resources for their subsistence. Therefore, any form of environmental degradation has an economic, social and demographic impact on the village. The Saloum Delta is a fragile ecosystem that is under natural,

but more importantly under intense anthropogenic pressure, which has justified the creation of a biosphere reserve and a national park to preserve biodiversity. Missirah, which is exposed to these pressures, is not spared the ecological dangers and threats affecting the Saloum Delta (Fall, 2006). It is in response to this situation that a group of young ecologists, brought together under an association named Fannabara, decided to carry out actions to restore degraded ecosystems and raise public awareness of environmental deterioration. The objective of the projects is to preserve the cultural and material heritage of the village, as well as defend the interests of local communities. This paper presents the results of an action-research project which has the purpose of tracking the evolution of Fannabara, highlight its accomplishments and analyze its environmental citizen actions in order to provide the association with expertise to help them succeed in their approach. It will be structured around the following points: the examination of the ecological challenges linked to the establishment of Fannabara, the research methodology and the accomplishments and future challenges of the association.



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¹The Mandinka people of Senegal.

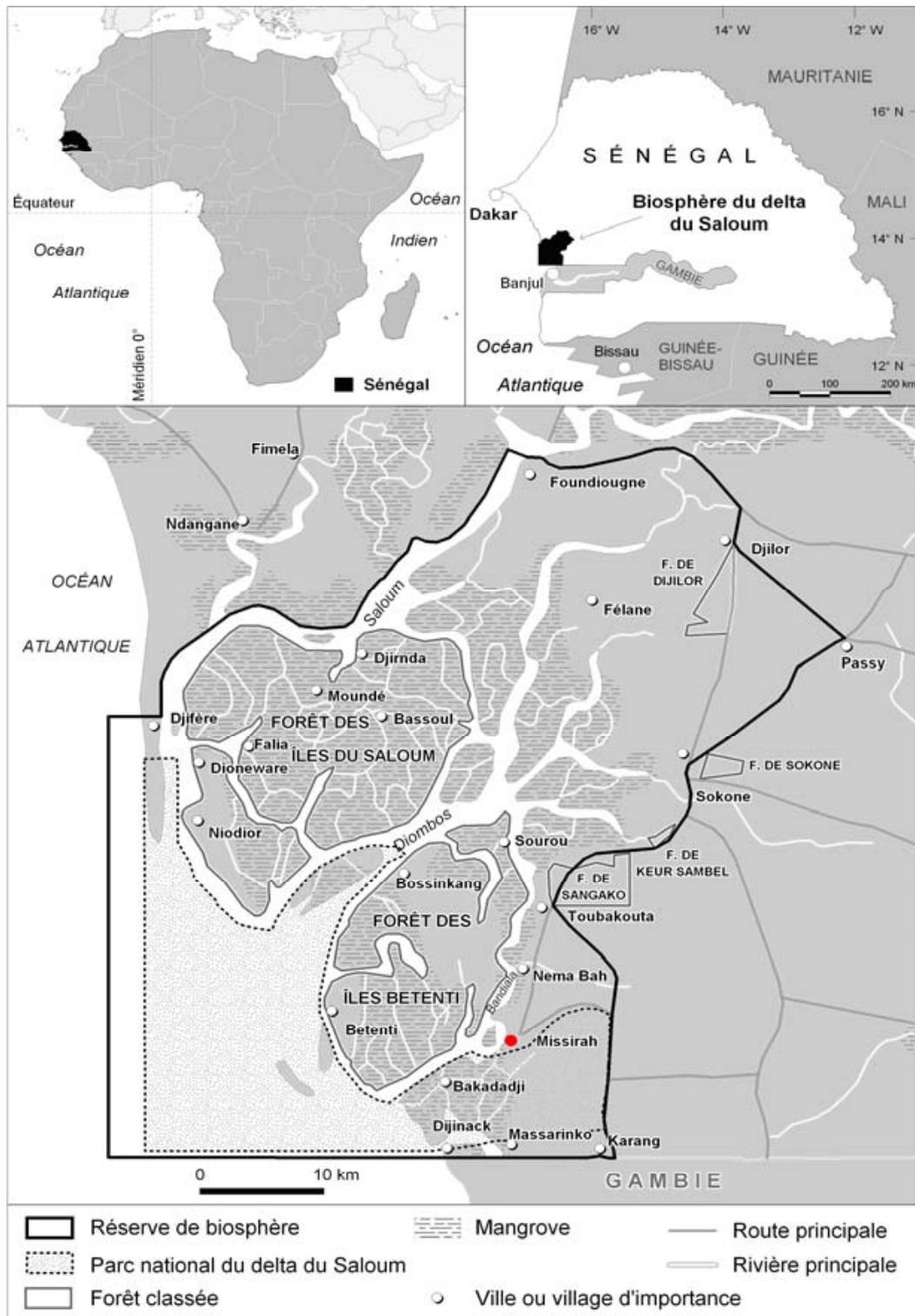


Figure 1. Location of the village of Missirah (Source: Fall, 2006).

2 The emergence of an environmental citizen science in Missirah: the creation of Fannabara

In Missirah, the development of natural resources, formerly founded on the principles of sustainability (Dia, 2004), has undergone significant changes. These last few years, as a result of considerable demographic growth and a particularly difficult socio-economic context, natural resources have been subjected to alarming levels of overexploitation. This situation is attributable to several factors such as climate change and the cycles of drought which Senegal has been experiencing since the 1970s (Diop et al., 1995). This has led to an accelerated deterioration of production systems and has fostered the gradual establishment of rural poverty. Indeed, the Saloum Delta has experienced a significant decrease in rainfall over the last twenty years. The most obvious consequences of rainfall shortage are the excessive salination of coastal waters, a decrease in water table levels and the salination and acidification of soils. This has led to both the degradation of the environment and a crisis involving all agricultural and piscicultural systems (Fall, 2006).

Environmental degradation has been accelerated by a strong demographic pressure caused in part by the influx of populations from the country's interior regions. This, in turn, entails a need for more land and an increased demand for energy and resources, of which there is an already limited supply. The ongoing exploitation of forests and the pressures put on land, halieutic and hydric resources are factors affecting biodiversity and contributing to the development of tensions and conflicts (Fall, 2006). To mitigate the threats on biodiversity, various actions have been undertaken by public authorities and NGOs present in the Saloum Delta such as: the intensification of the preservation of protected areas, the toughening of legislation; mangrove reforestation actions; the establishment of biological recreational sites and the raising of public awareness. However, the actions to preserve biodiversity in the villages of the Saloum Delta will not bear fruit unless the communities make them a priority and unless they have an ongoing concern for the sustainability of their production systems. It is within this framework that the initiatives developed by Fannabara fall. Based on the experience they acquired as eco-guardians of the SDNP and enhanced by a deep knowledge of the ecosystems of their land, these young people have developed an acute awareness of the environmental risks involved and a willingness to change the order of things. As a result, they have decided to actively participate in the restoration of ecosystems, the management of biodiversity and the promotion of local culture.

Fannabara was created in the early 2000s, during a period marked by a series of changes and reforms initiated by the Senegalese government for rural areas. First, worsening climatic conditions fostered a public awareness of the vulnerability of ecosystem, without which production activities would simply not exist. Then, numerous projects carried out in the Saloum Delta, through the insistence on public

awareness and environmental education, increased the level of information of the populations and created milestones for their motivation and commitment in terms of actions they must take to preserve their living environment. Lastly, decentralization policies, despite the blunders linked to their formulation and the tangents they took during their establishment, have paved the way for rural populations to assume greater responsibility in the ownership of their destiny and to take possession of the management powers for their land (Blundo, 1998). In the wake of the reforms brought about by decentralization, it should be noted that the 1990s and 2000s in Senegal were marked by the proliferation of peasant organizations, producer groups and grassroots organizations (Gellar, 1997); in short, by an associative vitality that has led certain analysts to confirm the emergence of a peasant movement. These organizations are increasingly targeted by donor and aid agencies to increase the efficiency of the implementation of development projects and also create a closer relationship with the communities. Although it was won over rather late by this associative effervescence, the Saloum Delta ended up taking part in the movement, as evidenced by the establishment of Fannabara (a Mandinka² term meaning “*we reap only what we sow*”).

The purpose of Fannabara, which includes 10 members from the young ecologists of Niombato association, is to carry out multifaceted actions: an ecotourism complex, an ecomuseum, environmental education, a nursery, the promotion of pharmacology, the rehabilitation of endogenous knowledge and practices of resource management, the valorization and transmission of local culture and the fight against the pillaging of resources. Since its inception, it has attempted to position itself as a crucible for the goals of the inhabitants of Missirah, the framework within which they can take control of their destiny, the environment where they can express their views and the instrument of defense of their interests. This is what we are trying to show in this research through their achievements and their impact on local development.

3 Action-research steps

The action-research project has the village of Missirah in the Saloum Delta as its geographical framework. Action-research is situated within the framework of environmental social sciences and requires knowledge of qualitative research methods to better analyze the relationship existing between people, space and resources. It is also a participative method, as the researchers involved became immersed in the life and activities of Fannabara. The principle means through which information was gathered were: group discussions tracing the history of environmental degradation, the

²The Mandinka (who represent about 6% of the Senegalese population) live in Eastern Senegal (in the Tambacounda region), as well as in Saloum and Casamance.

measures and actions taken by local communities to solve this problem and future challenges; one-on-one discussions with members of Fannabara to understand the context and conditions that led to the creation of the association and to understand their views and their motivations, their objectives and the strategies they use to attain them, their achievements and the challenges they must overcome; environmental diagnoses of the causes of ecosystem deterioration, the manifestations of these and their impact on the development of the village.

These fundamental qualitative research tools are part of an open system having a purpose of action and change (Simard, 1989). The purpose of our research efforts will be to better understand the motivations behind Fannabara members' initiation of their development projects and to analyze the impact of these on the populations of Missirah. Several village players participated in the activities, including the two founding members of Fannabara and two associate members, 5 members of the women's group, the village chief, two members of the Rural Council, a hotel operator, a park warden, three youths and two village elders.

4 Accomplishments

Fannabara has shown achievements in the development of Missirah. Its limited financial capacity has not prevented it from creating an ecotourism complex, a nursery and an experimentation venue for traditional pharmacopoeia on the site named Kaltoupoto north of the village.

The ecotourism complex, established on land overlooking the mangroves, is designed to welcome and lodge visitors. Ten traditional huts are being built. The site is ideal for the promotion of "integrated green tourism", as it is located on the outskirts of the village and is surrounded by production zones and mangroves. The revenues obtained from housing and the provision of services will be spent on salaries for the women of the village who do the housekeeping and gardening for the site. The fruits and vegetables grown are sold and consumed locally. The ecomuseum, which is part of the complex, is designed to faithfully reflect the natural and cultural landscape of the Saloum Delta. Its purpose is to restore biodiversity and protect species facing extinction, as well as to showcase the rich, cultural, historical and artistic heritage of the villages. It is a large hut where relics of plant and animal species, traditional musical instruments, masks, pictures and symbols of the land are on display. All the material shown has been provided by the inhabitants, who, through this action, put effort into and participate in the vitality of the ecomuseum.

The nursery is located on 150 hectares of land and produces 15 000 seedlings annually. This level of production, which will increase within the next five years, with an investment of about 50 000 USD (25 million CFA francs) by the GEF, is intended for local usage, for the restoration of



Figure 2. Landing and Coly, the founders of Fannabara, in the papaya plantation for local pharmacopoeia (Source: Fall, 2007).

ecosystems through reforestation. At present, the seedlings grown include forest species such as eucalyptus and filao for arboriculture, fruit species such as papaya, mango, guava, lemon, soursop, avocado and cashew. Seedlings are distributed according to demand; this year (2008), 5000 plants were given to local communities to reforest their fields, 5000 were given to associations to reforest the wooded areas of the village, and the remaining 5000 were offered for sale to NGOs for arboriculture. Since the establishment of the nursery, real progress has been observed in terms of reforestation, preservation and the enrichment of biodiversity.

Learning of traditional pharmacopoeia also takes place on site, and particular emphasis is placed on species such as the tamarind and papaya (the medicinal tree), of which the leaves, fruit, sap, roots and bark – made available to families – are used for medicinal purposes (Fig. 2).

5 Discussion

The Fannabara experience has allowed for the acquisition of greater knowledge about environmental, economic and socio-cultural issues in the Saloum Delta. It has provided the opportunity to develop a deeper ecological consciousness and to create a mandate for community development. What makes this commitment all the more interesting is that it provides youth with an incentive to stay in the village. These last few years have seen the rural exodus of many young people due to a lack of prospects.

Local development incentives created by Fannabara, namely in terms of "awareness-raising", also have a social and political dimension. Feelings of injustice and rebellion have been aroused in these communities, as they have been dispossessed of their ancestral lands and excluded from the formulation of environmental management policies and the decisions involved in the creation of protected areas (biosphere reserve and national park) on their land. This dimension is amplified by the collusion between forestry and territorial administrations and locally elected leaders and private developers, who feign working towards the integration of communities, while really only being concerned with their own interests. This is often the case with development projects, which often involve a degree of population

Table 1. Summary table of actions and future challenges for Fannabara.

Projects	Actions	Future challenges
Ecotourism	<ul style="list-style-type: none"> – Construction of 10 huts equipped to welcome visitors (tourists, researchers, guests). – Creation of an ecomuseum to preserve threatened species and promote traditional crafts and local culture. 	<ul style="list-style-type: none"> – Enlist the support of NGOs and donor agencies to expand the ecotourism complex and cover management fees. – Greater visibility for the complex and vitality of the association in the territory.
Public-awareness	<ul style="list-style-type: none"> – Educational activities on the endogenous causes and consequences of and solutions for environmental degradation. – Raising awareness for the creation of wooded areas in villages and the preservation of mangroves. 	<ul style="list-style-type: none"> – Organize public-awareness activities in schools, the Rural Council and women's and youth groups. – Elicit greater community involvement, particularly from men.
Promotion of indigenous knowledge	<ul style="list-style-type: none"> – Promotion and popularization of pharmacology and research on the medicinal virtues of plants. – Showcasing of local cultural, artistic and musical heritage. 	<ul style="list-style-type: none"> – Produce written background on pharmacology; collaborate with research centres on plant-based medicine. – Establish a museum featuring the art and culture of the Saloum Delta.
Restoration and reforestation	<ul style="list-style-type: none"> – Establishment of a nursery for the production of 15 000 seedlings for local communities, associations and NGOs. – Production of forest and fruit species 	<ul style="list-style-type: none"> – Expand nursery, increase production capacity, reach new customers. – Introduce new species, collaborate with researchers and forest developers.
Partnership and Collaboration	<ul style="list-style-type: none"> – Collaboration with the Rural Council, local administrative services (sub-prefecture, water and forestry services, fisheries, Local Development Support Centre), park wardens. – Support of NGOs such as the IUCN and donor agencies such as the GEF. 	<ul style="list-style-type: none"> – Reinforce partnerships with locally elected leaders, administrative services. – Submit financing requests for development projects. – Obtain stronger support from local NGOs. – Forge partnerships with international NGOs.

mobilization that is conditional on the immediate and real benefits of the project. The communities have, with reason, converted to the utilitarian ideology, which is reflected in the local saying which states that “*an adult cannot sit where there is nothing to sit on*”. Therein lies the challenge inherent to every grassroots organization in the same category as Fannabara: that of moving from critical expression and sectoral actions to political commitment, with all the risks and prejudices such a stance involves. Playing politics differently, without compromising oneself, by giving primacy to the quality of life of citizens and by encouraging changes in behaviour, living conditions and structures, such would be the innovations introduced by Fannabara. The spirit of accountability promoted by decentralization reforms has the opportunity to emerge and establish itself only if it is accompanied by a well-trained elite, able to bring about change and inspire leadership.

In Missirah, the success of Fannabara's activities can be seen in the achievements that are the pride of communities. Young people find work in the construction and development of the huts, in nursery activities, in the search for partner-

ships and in experiments involving the integration of various activities on one given site. The analysis methods concerning the social impacts of the projects, namely those having to do with ecotourism, were developed by the young people of the association and presented to the communities associated with the projects. For example, for the creation of the ecotourism complex and traditional museum, the communities were consulted and heard regarding the social acceptability of the project. They gave their approval for the construction of 10 traditional huts that will be used to lodge visitors. The recreational spaces will be used by villagers for community activities. The opening of their village will also allow for a greater understanding of the unique characteristics of their culture and for the promotion of their social environment. As to the nursery, local species are reproduced to reforest degraded areas. Communities, and particularly community associations, are very interested in the seedlings sold at a modest price by Fannabara.

The women, who are marginalized in local business matters, have acquired respect and gained recognition for their organization and production abilities. In the market gardens,



Figure 3. Women working in the market gardens (Source: Fall, 2007).



Figure 4. An elderly woman explaining the medicinal virtues of certain plant species (Source: Fall, 2007).

they are involved daily in the production of tomatoes, onions, lettuce, beets, cucumbers, green beans, mint, parsley, leek and sweet potatoes (Fig. 3). Most of the produce is sold locally and the profits are kept in a women's solidarity fund, which allows them to deal with unforeseen circumstances as necessary. With the funds obtained, they also intend to establish a micro-business to process and package tomato juice and paste, dry mint and parsley, and provide food service for the ecotourism complex.

The experience of the elders in and their empirical knowledge of traditional pharmacopeia is promoted through the training workshops for young people and scientists doing fieldwork (Fig. 4).

5.1 Conclusion

In this contribution, the purpose was to outline the major steps involved in the creation of an association devoted to the achievement of environmental citizen actions in Missirah, in the Saloum Delta in Senegal. This analysis was carried out with the decentralization reforms and current changes in rural Senegalese environments – namely in what concerns the associative boom and awareness-raising – as a backdrop. To this end, we presented the achievements of Fannabara and analyzed the impact these have had on the development of Missirah. The extent of the association's actions is still limited, for it is confined to a geographically limited environment. Spreading these types of initiatives, through an aggregative effect in the rest of the Saloum Delta and region, is hoped for, so that they can take on a greater stature and reconfigure the rural space of Senegal as a whole.

Acknowledgements. This article is part of the research thesis and postdoctoral action-research of the primary author. These studies were financed by the International Development Research Centre (Canada).

References

- Blundo, G.: *Élus locaux, associations paysannes et courtiers du développement au Sénégal, Une anthropologie politique de la décentralisation dans le SudEst du bassin arachidier (1974–1995)*, Ph.D thesis, Université de Lausanne, 440 pp., 1998.
- Campal, A.: *Enjeux et contraintes de la décentralisation: les communautés rurales du département de Mbour*, M. Niang (éd.), *Participation paysanne et développement rural au Sénégal*, Dakar, Codesria, 184 pp., 97–126, 2004.
- Dia, M.: *Elaboration et mise en œuvre d'un plan de gestion intégrée, La réserve de biosphère du delta du Saloum, Sénégal*, Gland, Suisse et Cambridge, UICN, 129 p., 2004.
- Diop, E. S., et al.: *Observation à propos des facteurs limitant le développement de la mangrove dans le Saloum, Îles du Gandoul*, Final report, EPEEC, Dakar, 42 pp., 1995.
- Faber, C. and De Pange-Talon, M.-F.: *Le guide de l'écocitoyen: vivre vert à la maison, au jardin, sur la route*, Paris, éditions Josette Lyon, 215 pp., 2005.
- Fall, M.: *Dynamique des acteurs, conflits et modes de résolution pour une gestion durable des ressources naturelles dans la réserve de biosphère du delta du Saloum (Sénégal)*, Ph.D thesis, Université de Montréal, 246 pp., 2006.
- Ferone, G.: *Ce que développement durable veut dire: comprendre, comment faire, prendre du recul*, Paris, Éditions d'Organisation, 340 pp., 2004.
- Gellar, S.: *Conseils ruraux et gestion décentralisée des ressources naturelles au Sénégal, le défi: comment transformer ces concepts en réalité?*, in Tersiguel, P. et Becker, C. (éds.), *Le développement durable au Sahel*, Paris, Karthala, 280 pp., 44–69, 1997.
- Ndiaye, P.: *L'implication des populations dans la gestion des ressources naturelles, Le cas du Sénégal*, in Tersiguel, P. et Becker, C. (éds.), *Le développement durable au Sahel*, Paris, Karthala, 280 pp., 247–259, 1997.
- République du Sénégal: *Loi 96-07 du 22 mars 1996 portant sur le transfert des compétences*, Dakar, 1996.
- Roesch, A.: *L'écocitoyenneté et son pilier éducatif: le cas français*, Paris, L'Harmattan, 134 pp., 2003.
- Sambou, B., Lô, H.-M., and Diouf, P.-S.: *Gestion intégrée et communautaire de la biodiversité du parc national du delta du Saloum, Rapport de consultation*, Dakar, Ministère de l'Environnement et de la protection de la nature, 2000.
- Serre, D.: *L'écocitoyenneté de a à z*, Paris, Éditions Nérée, 130 pp., 2005.
- Simard, G.: *Animer, planifier et évaluer l'action: la méthode du "focus group"*, Laval, Québec, Mondia, 102 pp., 1989.
- Thiéba, D.: *Conflits et gestion des ressources naturelles*, Tersiguel, P. et Becker, C. (éds.), *Le développement durable au Sahel*, Paris, Karthala, 280 pp., 73–87, 1997.