

## THE IMPACT OF TOURISM ON THE LANGUE DE BARBARIE (SENEGAL RIVER DELTA)

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In the municipality of Ndébène Gandiol (region of Saint-Louis, Senegal), tourism, and particularly nature-based tourism is dominated by wetland ecosystems of the Senegal River Delta. Tourism is a sector of considerable importance in Ndébène Gandiol both in the role it plays expanding economy and in the opportunities it can offer in the future local development if properly managed (Ministère de Tourisme, 2002). Today, the planning and management of tourism development in a territory is essential for the activity and is consistent with sustainability of the overall development of the site (UNEP, 2009), as is the case discussed here. The aims of this paper are: 1) to analyze the impacts of incipient tourism development taking place in this area in recent years, and 2) to define what model or tourism development strategy should be chosen in order to avoid the costs and risks of spontaneous development, and help boost tourism development and economic development in the area from a sustainable point of view.

The study area extends about 20 km from the Pilote-Tassinère villages north to the south of Degouniaye, in an area partially included within the National Park of the Langue de Barbarie (NPLB), created in 1976 by the Senegalese government to preserve the delta ecosystem formed by dunes and beaches, savanna areas, mangroves and the river mouth (Direction National des Parcs du Senegal, 2010) (Figure 1). Ndiébène Gandiol is a municipality that has an estimated population of 19,342 inhabitants (2009), 6,246 inhabitants of which are part of the four villages that comprise the study area (Mouit, Tassinère, Pilote and Degouniaye). The climatic conditions have had a serious impact on the functioning of the region (drought, flood, warming climate, etc.). The construction of a dam at Diama, 50 km from the river mouth, to retain the saline waters, has contributed to the general destabilization of the ecosystem and human activities. To this is added in 2003 the opening of the channel load of Langue de Barbarie (near Gandiol) to fight against food in Saint-Louis that brought about several impacts more.

Tourism development in this area started in 1990 and is still largely concentrated on the coast, especially in the Langue de Barbarie (Diop, 2004). Tourism development was conducted in two phases. The first phase involved the installation of large hotels in the

northern part of the area. The second phase, from 1996 to the present, is characterized by the development of new tourism initiatives based on lodgings called *campements*, more integrated in the landscape than the traditional hotels. The fringe of sand between the sea and the river, the urban and cultural heritage of the city of Saint-Louis (former colonial capital of West Africa, with an architectural heritage recognized as world heritage by UNESCO) and the natural protected areas of the region (Langue de Barbarie, Djoudj and Guembeul national parks) have played, as the main attractors, an important role in tourism development.

In order to analyze tourism in the study area, we chose participatory approaches. Our research was based on the perception of local stakeholders about the impact of this activity on local development (Cissé, 1997; Allan and Curtis, 2002; Mayoux and Chambers, 2005). The analysis has been done from interviews to *campements*, especially in Zebrabar, Ocean-Savane, Faro and Teranga and in the National park of Langue de Barbarie (Table 2). In each for these facilities two models of inquiry were developed in order to assess the impacts of tourism. First, our surveys have been addressed to the owners and workers of tourism industry (guides, restaurant staff, receptionists, boat drivers, etc.) and another for visitors. In general, the fieldwork was based on parameters such as: origins and month arrivals, places visited, expenditure, activities of tourist, jobs created, water and energy consumption, waste management, environmental protection, etc. Subsequently, another survey was addressed to villages to know the perception of local population about the advantages and disadvantages of tourism in the area (Table 4). Lastly, some actions are suggested in order to favor a sustainable management of tourism in the area.

The tourism activity comprises a network of stakeholders that have an interest in development, management and marketing in the study area. Three actors are identified: 1) the regional tourism board is the tourism office in Saint-Louis and an association of tourism professionals that gives support to promote tourism in the region, 2) the tour operators, that are also suppliers of tourists, especially in the low season (from July to October) and have their own guides and cultural leaders, and 3) the local population, represented by an economic interest group (GIE) and collaborates in the management of the park and providing tourist guides. The NPLB has 10 guides, all inhabitants of the surrounding villages.

The main attractions and tourist resources of the study area are the natural park's ecosystems, like the river, wetlands, mangroves and adjacent beaches and dune systems, which are visited with guided tours on foot, by boat or carts horses. One of the most emblematic activities is the observation of local and palearctic migratory birds. The avifauna is characterized by local and migratory species. Indeed, there are 51 local species, 10 marine species and 21 species from the Sahel. In terms of migratory wildlife, 29 palearctic species have been identified (Direction des Parcs National du Senegal, 2010). The NPLB is also a place of attendance and breeding of sea turtles, finding three distinct species.

Regarding the supply of tourism accommodation in Ndiébène Gandiol, the *campement* is accommodation designed for the development of tourism/ecotourism. The study area includes four tourist *campements*, a total of 109 accommodation places distributed in 45 bungalows that have been developed since the mid of 1990s (Table 2).

According to the surveys conducted in the camps, most of the tourists visiting the study area are from Europe. Specifically, over half are French (58%), many others from the rest of Europe (19%) -mainly German, Dutch, Spanish, Swiss and Belgian- and from Africa as well (19%) -most of them Senegalese (Figure 2). The annual number of tourists staying in the park is estimated around 4,000 tourists, which constitute approximately 10% of visitors to the region of Saint-Louis (Figure 3). These arrivals undergo fluctuations over the year, being the months of June and September (rainy season) less crowded, and the winter months and August too (European vacation) the most visited, following the general pattern of the rest of the country (Seck, 1990). According to interviewed visitors of the NPLB, the main motivations for their visit are: the own NPLB (47%), the city of Saint-Louis (23%), leisure activities on the beach (13%), visiting the river and its mouth (8.7%), among others.

In 2009, revenue received by the public finances of the park were 10 million CFA (15,267 €), but the following year dropped to 8 million CFA (12,213 €) in 2011 and continued downward for several reasons (environmental modification, decreased number of birds, global financial crisis, etc.). The average daily spending by tourists is 23,625 CFA (36.06 €) with full board, which varies depending on the analyzed *campements*.

Tourism generates various positive socio-economic impacts in the study area, such as better knowledge of the region and appreciation of local culture, or job creation but also negative as sex tourism. Since its emergence in the mid-1990s until today, tourism has shown a remarkable ability to create employment in the area: 48 direct jobs (such as managers, waiters, receptionists, cooks, etc.), which 26 workers are local (Table 3). However, tourism employment is characterized by a high level of instability and poor working conditions and low skill.

The impact of tourism on environment offers a varied range of impacts related to the morphology of the site (island), salinization of water due to the new channel, lack of infrastructure, etc. The tourism phenomenon as being developed in the study area shows a lack of planning from the beginning of the activity.

We can identify (Table 4) what kind of impact is most strongly perceived by the inhabitants of each village with the values from 1 to 5, meaning in each case 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree.

In relation to the assertion that tourism contributes to a better provision of infrastructure in the area, the views were variable depending on villages. In Degou Niaye most frequent answers are (3) neutral and (4) agree, because the only medical infrastructure for the whole area was built by the park. Moreover, in the villages of Mouit and Tassinère, population disagreed (2) with the assertion that tourism has improved infrastructure because tourism investment does not take into account the social infrastructure in the villages.

There was full agreement that tourism is a commercial advantage for population. However, opinions were more divided when asked about the role of tourism in the increase of prices; perceptions vary by population with a tendency to insist on negative economic impacts.

Regarding the positive socio-cultural impacts, the general perception is that tourism helps to value and enhance local culture. With respect to negative socio-cultural impacts, there is a neutral perception of the phenomenon of sex tourism which is developed in the area especially after the party called «*soirée senegalaise*» organised in the beaches.

Positive environmental impact as improving environmental education and awareness is perceived favourably by the public. The park offers residents training in wildlife inventory, monitoring of birds and turtles and leadership and management of tourist groups. The GIE *Takky Liquey* of women from Mouit, Tassinère, Pilote, Degou Niaye, and the local committee on management of biodiversity are involved in the park management. Finally, the negative environmental impact has greater unanimity on the part of residents of villages such as land speculation, occupation of the maritime public zone. There is also a fairly broad agreement about the perception that the arrival of tourism has resulted in an increased pollution of the area and the destruction of the natural environment.

Taking this analysis into account, as a main conclusion we can say that ecotourism is certainly a good model to encourage sustainable tourism in the study area. However, for this model to be viable in the future it is necessary that tourism is integrated as much as possible in the territory, trying to maximize the positive impacts, particularly contributing to the overall development of the region and fighting for the poverty eradication, and minimize negative impacts.