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Senegal
Case Study Report

Frauke Bleibaum

“Anywhere in the world, the development of a country should allow migration to be migration of choice and no forced migration. The development in a society should enable people to decide whether they want to leave or to stay. No remittances may substitute this possibility to choose freely.”

Abdou Salam Fall, sociologist at the University Cheikh Anta Diop

1. INTRODUCTION

1.1. Synthesis of context

The following research focuses on the case study of Senegal for the EACH-FOR WP2- forced migration/regions project. It was conducted between January and March 2008 in Dakar, in the regional capitals Kaolack and St. Louis and the rural communities of Ndienne Lagane, Dya and Ross Mbethio. The aim of this research is to identify the reasons which make inhabitants of rural regions migrate, either to the cities or to other countries. Some of these reasons, it was supposed, will be environmentally induced – such as soil degradation and climate change induced shortage of rainfall. My research supplies evidence to support this assumption. The harvests have declined over the last 30 years due to the reduction of precipitation - especially in the central regions and in the North - and due to soil degradation caused by wind erosion, deforestation and the practice of monoculture. For many farmers, it has become impossible to make a living from agriculture, which pushes them towards other activities like retail trade, seasonal work in other regions or cities or towards long term migration. Nevertheless, environmental degradation should not be regarded as the only factor making people move. State agricultural policies, economic conditions like the position of Senegal on the international market, and changing cultural patterns are among the factors that play a significant role in explaining migration of Senegalese people as well. It often proves difficult to distinguish between the effects of agricultural policies and those of environmental degradation, as we will see in the following analysis.

Senegal is situated in a semi-arid region where water is a scarce resource, especially in the Northern and central regions of the country. As a consequence of climate change, there may be a further decrease in rainfall in the future. Due to its geographic position, Senegal is also affected by rising sea levels and coastal erosion.
Since large stretches of the productive land are occupied by export crops, the need for domestic food crops cannot be met completely. Consequently, food crops, mainly rice and wheat, have to be imported.

Economic growth was at a rate of 5.5% in 2005; with an inflation rate at less than 2%. Senegal’s economic growth is sensitive to development in the agricultural sector and thus to natural occurrences like inundations or lack of rainfall. Of Senegal’s total area, about 54% is covered by wood and savannah, 12 % is cultivated and 16% is used as pasture land for cattle (indications of 1994). Although Senegal has the status of a developing country, the country is more developed in comparison to its neighboring countries. This leads to a comparatively high price of its products for consumers in the region. Senegal’s population increases at a rate of 2.5% per annum and the population density increased from 28 habitants/ km² in 1981 to 52 per km² in 2006.

The ethnic group of the Wolof makes up about 43% of the population, the Peul and Toucouleur (24%) are the second biggest group, followed by others including the Serer (15%), Lebou, Jola, Mandinka, Maures and many smaller communities.

Senegal is an ancient country of immigration. During the colonial period, French, Libyan and people from other West African countries came to the Peanut Basin and Senegalese cities as seasonal agricultural workers or tradesmen. The severe droughts experienced in the 1970s and 1980s led to the first important population movements within the country and to the first large scale emigration. One year without enough rainfall is regarded as normal by the farmers, but in the 1970s they experienced five or more years without rain. The local communities did not possess any coping mechanisms which would help alleviate such pressure. That is why, since the first droughts, the rural exodus to Dakar constitutes one of the major internal migrant movements. In the last decennia, international migration to Europe, to the United States and other Southern and central African countries became important as well. Most international migrants engage in unqualified work or work in the informal sector; only some –including intellectuals, students, artists and marabouts\(^1\) - access better qualified jobs.

Years of drought and unsustainable consumption and production habits degrading the environment pose problems especially for the poorest groups of society who depend on natural resources to survive (Republique du Sénégal 2006:11). Poverty among the Senegalese population has decreased during the last 10 years. But in interviews conducted during the elaboration of the Poverty Reduction Strategy Paper (PRSP), about two out of three households said that they believed poverty has increased during the last years (Republique du Sénégal 2006:7). This shows that the prices of everyday consumption goods have risen and that increasingly, people wish for more secure living situations.

\(^1\) A marabout is an Islamic saint, most often to be found in the tradition of Sufism. They have considerable influence in Senegalese religious, social and economic life.
Since the implementation of liberal adjustment policies in the early 1980s, the Senegalese government has withdrawn from their coordinating and executing activities in the agricultural sector. Before, the government had organized the production and commercialisation chain, mainly for the peanut crop, supplying farmers with fertilizer and seeds and guaranteeing the prices for their harvest. Since the 1980s, the national market has been increasingly liberalised, opening new economic possibilities for private companies, but rendering the situation of the farmers difficult.

Since Senegal’s Independence in 1960, one of its objectives has been political decentralisation, but it was only after 1996 that certain competences were transferred to the rural communities, such as land distribution, preservation of natural resources, health and education issues, gender questions and the promotion of youth issues. State organized centres for agricultural counselling, CERP (Centres d’Extension Rurale Polyvalents), exist since Independence and work in the domains of agriculture, stock breeding, family economy and forestry. Since the drought years, the centres work less efficiently and are often poorly equipped. It is their task to coordinate the autonomous organizations of the rural communities, but they remain too dependent upon the central state to work effectively. It seems that the farmers’ organizations, which have played an important role during the times of drought, have become weaker, replaced decentralized institutions. Nevertheless, a few dimensions have become more organized, for instance the credit systems, irrigated agriculture and para-legal advisors (Lachenmann et al. 2006:6).

Notably, 60% to 70% of the Senegalese population is employed in the agricultural sector, but this sector only contributes to the GDP with about 14%. This sector has a growth rate of about 1.3 %, but the demographic growth, which is approximately at a rate of 2.7% is higher. This discrepancy increases the deficit in food products and other resources.

Land is the most vital resource for farming activities. That is why the security of land tenure rights is indispensable for agricultural productivity, especially in the case of small-scale farmers, women and young people (Lachenmann 1992). The land - which was national territory belonging to the state before political decentralisation – has, after decentralisation, become the property of the rural communities. Although in theory each village habitant should be able to demand land at the Rural Council (RCI), the land distribution is often not organized in a democratic manner (Lachenmann et al., 2006:34p.). The president of the Association APROFES, which organizes seminars for women’s groups and is active in lobbying concerning the position of women in Senegalese society, believes that there can be no local development as long as the problem of access to land, especially for women, but also for those lacking resources and the necessary social relations, is not solved. Papa Demba Fall, sociologist at the IFAN (Institut Fondamental D’Afrique Noire) at Cheikh Anta Diop University, Dakar, believes that the decentralisation process has not changed much for the
rural population. The only families who will still stay in the villages are those who have children in the cities or abroad sending them remittances. According to Papa Demba Fall, the people are struggling to survive on a constant basis.

For farmers, it is often difficult to pay for the necessary agricultural materiel, the seed and fertilizer. When they try individually to access credits, they often can not show the banks any guarantee. Many farmers and farmers associations also face problems in the commercialisation of their harvests. They can only sell raw material and their harvests at relatively low prices, since no food processing and commercialisation infrastructure exists.

A study elaborated by the National Council for Farmer’s Cooperation (CNCR) has come to the conclusion that the situation of the farmers is deteriorating and poverty is increasing. Since 2000, an increasing part of the national budget has been invested in allowing farmers to access seed, fertilizer and agricultural materiel. But the lack of transparency in the selection mechanisms of the benefiting farmers, the often untimely distribution and the insufficient stock of agricultural material leaves many farmers without material support (CNCR 2006).

1.2. Brief overview of environmental problems

In Senegal, environmental degradation is caused by climate variability as well as by human actions. Senegal has experienced droughts as well as a general decline in rainfall for the past 50 years\(^2\) (Centre de Suivie Ecologique 2000). Other effects of climate change are inundations and soil erosion along the coast line.

The persistent decline in rainfall since the late 1960s was abruptly interrupted by a return of adequate precipitation in 1994. However, considering the average precipitation in the last century, rainfall in 1994 was still considered to be at low levels and relatively dry conditions returned afterwards. Since 2000, rainfall has not declined, but not reached the same level as in the 1950s or 1960s either. In Senegal, the average rainfall increases from North to South. The Northern part of the country is therefore the most affected by the drought; while one can have up to 1000 mm/year in the Casamance, in the North the yearly rainfall will sometimes only reach 200 mm.

Although drought is most prevalent in the Northern Sandy Pastoral region or Sandy Ferlo, the drought impact levels have been moderate overall, since the soils of the region are derived from ancient Ogolian dunes which have a large natural water storage capacity. Throughout much of the Sandy Ferlo, countless small interdunal depressions dot the landscape, forming temporary ponds and supporting relatively dense stands of woody vegetation.

According to Lawesson (1995), little has changed from the beginning of the last century till the 1990s. Other experts disagree however and point to a general decline in vegetation cover, biodiversity and productivity of the region. A research conducted by the CSE and USAID (2000) found significantly less deadwood, a recovering of the woody vegetation after the severe droughts, but a great mortality among woody species of both Sahelian and Sudanian affinities (Centre de Suivie Ecologique 2000). Only the Casamance in the South exhibits little to moderate levels of drought impact.

Along with the vegetation of Senegal being threatened by drought, it is also being modified by human pressures. Vegetation loss often represents the beginning of a chain of events ultimately leading to declining soil fertility, reduced generation of convective rainfall and desert-like conditions.

According to one expert, the populations whose livelihood is affected by desertification are already vulnerable, since they are poor (interview with Mr Seck of ENDA). Poverty will increase such activities as deforestation and the overuse of fertilizer, which will in turn increase desertification. There will be a pressure on the natural resources, which will lead to a higher poverty of those dependent on them. Mr Moussa Sall of the State Ecological Survey Centre agrees and told me that in his view farmer’s cultivating practices, like burning fields to increase soil fertility and deforestation, increase the degradation of natural resources. In the case of the River valley, for instance, it is difficult to distinguish between the effects of factors like low rainfall, dam construction and agricultural practices. These have all contributed to reducing the annual floods, thus jeopardizing the survival of the riverine forests.

Due to these problems and the sometimes unsufficient awareness of farmers and herders, local guidelines on the use of natural resources are elaborated by the rural communities (RC). They are part of the local development plans (LDP), but often do not find sufficient support at the local level (Lachenmann 2006:7, 43).

### 1.3. Brief overview of migration processes

The Centre for Catastrophe Research estimates the global number of refugees due to environmental problems and catastrophes with 145 Mio (numbers of 2006) – a number 5 to 6 times higher than the number of refugees due to political conflicts. Therefore the question whether and to what extent environmental questions make people migrate is of high importance in discussions on migration and refugees.

Of the seventeen experts (of NGO, University, state and international organizations) I interviewed, six told me that in their opinion, the link between environmental degradation and migration is a direct one. Five of my interviewees said that they believe that this link exists but that other factors contribute to rural exodus and migration as well. They mentioned the lack of adequate agricultural
policies at national and also international level among these other factors increasing migration. Two believe that it is difficult to establish this link between environmental conditions and migration, and think that alternatively, it is the search for higher economic standards of living that drives migration. In the case of Senegal, we can note rural exodus, movements from less fertile regions to zones advantageous for agriculture, movements within the region among neighbouring countries and international migration, mostly towards Europe. Concluding from literature and field research, most young Senegalese believe in migration to Europe as a relatively easy way of making money and being able to support their families at home. Most often, people do not know about the deprivations and problems migrants face in abroad (SOFRECO: 2007).

In the 1960s and 1970s, many farmers from Senegal's central regions installed themselves in the fertile regions in the East of Senegal, which were called “new” or “pioneer land”. Today, farmers move to the Casamance region in the South and to the East in search of fertile land.

Papa Maisar Fall, who works as a consultant for several farmers’ organisations, distinguishes between two types of migration—either the whole family migrates to some other region for farming there or only certain members, usually the young people, migrate to look for work elsewhere. Some town habitants will also migrate to fertile regions for farming, since in smaller towns, like Kaolack for instance, not many enterprises can be found and the only jobs available are in the informal sector. A factor contributing to rural-urban migration, according to Mr Fall, are the differences in possibilities to access social and public services in rural and urban areas.

Madame Diop, of the Association of African Women for Research on Development (AFARD), told me that the consequences of rural exodus were, in her opinion, catastrophic. In the cities people had multiple problems as a consequence of the rural exodus: the infrastructure is insufficient, the public transport is overstretched, and people have difficulty finding housing and adequate housing. People would like to go back to their home villages, she said, but there is no sustainable solution to their problems there. She further criticizes the governments’ policies for not providing possibilities for migrants and potential migrants.

For young men, the cities of Senegal often only serve as places of transition while on their way abroad. In contrast, most young women migrating to the cities - to find work, to study or to move to their husband's home - often stay in the city. Their chances to find a job as a maid in the better-off households are relatively good. But some women will not have no other possibility than working as prostitutes to make their living or to be able to pay for their school and university fees.
Usually, when one does not have any resources, one cannot even leave for Dakar. Along with financial assets, helpful resources also include social relations. If people want to leave for Dakar, they need someone to find them a place to stay and maybe some articles to sell on the streets, according to Mr Tall of the UNDP. People with less resources utilize alternative strategies, which entails accumulating some resources in smaller, closer towns and then heading for a bigger city, like Kaolack, or even to Gambia and from there abroad.

The Senegalese leaving for Europe usually do not belong to the most underprivileged groups of society, Mr de Boeck of the IOM agreed. This fact is often neglected when proclaiming that migration helps “developing” a country. Social and also family relations have to be taken into account when explaining migration motives and patterns. In Senegal, the most underprivileged of a family are already dependent on those who are more privileged. The fact that someone who earns a salary in Senegal will support 30 to 60 other family members could be a pushing factor for migrants. This social pressure on the more successful may make them want to go away to have more liberty, concerning his or her own earnings.

Apart from political, economic or demographic reasons, migrants also leave for cultural reasons. They remember the successes of the first migrant generations and hope to repeat them.

Most Senegalese migrants to Europe can be found in France, Italy and Spain. Studies on Senegalese migrants leaving by boat show that about 96% of the passengers are men and about 60% of them are between 20 and 30 years old. The Wolof are the most frequent to leave (70%), followed by the Serer and the Peul. Differentiated according to Muslim brotherhoods, the Mourides represent most of those trying to leave by boat. This fact can be explained by the Mouride doctrine, which literally sanctifies work and achievements, and also by Mouride networks stretching from Senegal to Italy and Spain, thus facilitating migration (SOFRECO 2007:6). The most recent wave of migrants also includes the urban elite, who leave relatively well paid jobs to work abroad. Well educated young people often cannot find employment in the formal sector, since the public sector has been under structural adjustment for decades with severe constraints on hiring (Riccio 2001:589).

Mr Boeck of the IOM at Dakar told me that his organisation tries to find ways to make migration a catalyst for development. The IOM identifies ways in which migrants could become agents of development by transferring knowledge or resources for development projects and thus create employment possibilities. His organisation put in place a system of advice and information for the population, so as to decrease irregular migration and to promote legal ways of migration. It is

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4 Traditional stories telling about adventure and glorious return motivate especially young men to leave, who might see the voyage as a kind of passage rite to adulthood.

5 Mourdiyya in Wolof, one of the main Sufi brotherhoods in Senegal
important, he said, that people do not regard migration as their only opportunity. The IOM wants to assure that the people working in other countries will reinsert themselves with their gained knowledge in their home country. When I asked Mr de Boeck which role the remittances of Senegalese migrants play in the national economy and development process, he said that these remittances tend to decrease over time and are not invested productively. Remittances are rather "humanitarian aid", which family members use to buy food and clothes, he explained.

To come back to our research question, I will now have a look at the - direct - linkage between environmental degradation and migration. Papa Demba Fall, sociologist at the university of Dakar, believes that it is difficult to say if migration is caused by environmental degradation or not. But he agrees that the living circumstances of rural populations have worsened over the last decades, which pushes them to leave. Emmanuel Seck of the NGO ENDA, in contrast, thinks that desertification and the droughts have a real impact on migration patterns. Between 60% and 70% of the population work in the sector of agriculture and since drought and soil degradation affect the harvests and the stock breeding, people's livelihoods are threatened.

According to Mr. Tall of the UNDP Habitat Program, in the Peanut Basin, young people used to work in the fields during the rainy season. Presently however, they do not have much work during these months, which makes them stay in the cities and towns not only seasonally, but permanently, Mr Tall of the UNDP Habitat Program said. As another example, Mr. Tall points out that before, farmers had some resources they could invest, due to the profitability of the peanut growing, but now they have nothing to invest anymore. The only sources of revenues are trade and the migrants' remittances. Thus, according to him, there is a direct link between environmental degradation and migration.

Even while migration is strong in rural areas like the Peanut Basin and in the North-East near Bakel or Matam, one should not neglect the fact that the urban population goes abroad just as much, as highlighted by Mr Schorlemer of the Biodiversity project. The fact that people living in the cities leave could indicate that, apart from reasons of environmental degradation, people facing unemployment and a difficult economic situation in general might also opt for migration as a survival strategy. But if the situation in the agricultural domain was more favourable, those potential migrants living in cities might prefer to stay in Senegal and engage in agriculture. This argument shows the difficulty of separating the impact of environmental degradation and climate change induced drought from the influence of agricultural and economic policies on migration patterns.

2. METHODS

2.1. Justification of the selection
I selected the regions of the Peanut Basin and the Senegal River Valley since both regions experience notable out-migration. While the situation in the Peanut Basin deteriorated since the 1970s until today, the situation in the River valley might improve after irrigation agriculture is made possible for more farmers. Both regions face problems like lack of rainfall, poor soil fertility and salinisation of the soil.

The regions of Fatick and Kaolack, the “new” Peanut Basin, are classified among the five poorest regions of Senegal, with 54.2% of the population of Fatick living in poverty, and 45% in the region of Kaolack. In the region of Kaolack the population mainly lives from agriculture and stock breeding; in Fatick, 90% of the population live from agriculture. According to Mr Seck of the NGO ENDA Tiers Monde, the Peanut Basin is one of the regions most touched by out-migration. Due to lack of rainfall and declining soil fertility, farmers often have no other choice than to move to other, more fertile regions like the South and the South-East, or to the cities.

The advantage of the agricultural region of the River valley lies in the fact that irrigation allows for a diversification of crops, which is not possible in Senegal’s central regions. But many factors hinder the exploitation of the valley to the benefit of the local population.

The mismanagement of the dam and irrigation infrastructure leads to an under-exploitation of the land available and to an unequal land distribution. Young people and women, in particular, face difficulties in accessing land and often see no other possibility than to migrate. But the River valley, in contrast to the Peanut Basin, not only experiences emigration, but also immigration of seasonal workers employed by private companies in the valley.

These regions, due to their different patterns of migration and the difference in their agriculture’s development possibilities, were thus chosen to be areas of focus for my research. The following sections provide an explanation of the methodology for the research and then go into detail about the environmental problems experienced in these two regions and the migration patterns found there.

2.2. Discussion of methods

In my research I draw on so-called expert interviews I conducted with representatives and employees of state institutions, non-governmental organizations (NGO), university researchers and international organizations, as well as on structured and semi-structured interviews and informal conversations I conducted with habitants of rural communities (RC)⁶ and the regional capitals. Of

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⁶ Since I have visited some villages in the regions of Kaolack and Fatick already in 2004, some of these experiences contributed to this research as well.
the interviews conducted with migrants, nine are now living at Kaolack, three are now living at St. Louis, 15 at the villages of Ndienne Lagane and Ngoth (RC of Dya) in the Peanut Basin and four at Ndiol (RC of Ross Mbethio) in the River Delta. The interviews in the cities of Kaolack and St. Louis were conducted to be able to see which regions the migrants in these cities were coming from and why they moved.

I did not encounter many problems when speaking with farmers in the villages or migrants now living in the cities. Sometimes it was necessary that another person translated what I and my interview partner said from French to Wolof or vice versa. The main problem I encountered was the fact that I did not manage to speak to many women – for several reasons. Since the land often belongs to their husbands, women are not regarded as farmers even when they are (partly) working on the fields. So when I asked to speak with farmers, these were mainly men. Secondly, when looking for migrants from the rural areas in the towns, men were more visible in public space – like shops or along the streets -, while the women who have migrated often work in the domestic sphere as maids. Consequently, it proved to be more difficult for me to meet migrant women.

Of my interview partners, 19 belonged to the ethnic group of the Wolof, four were Serer, three Pulaar/ Peul, three Maures, one was Mandiak and one belonged to the ethnic group of the Bambara.

3. FIELDWORK FINDINGS & ANALYSIS

3.1 Environmental degradation and the situation of the rural population

3.1.1 The Peanut Basin

In the traditional wooded fallow system, a small area around each village was cropped continuously. On the other land – the bush fallow or wooded fallow – livestock grazed during the day. The wooded fallow not only protected and regenerated outlying fields; it was also a major source of plant nutrients for the cropped land. The collapse of this traditional system began in the 1950s in the Peanut Basin and afterwards touched the whole country. It was replaced by a grass fallow system, in which typically three-fourths of the area is cropped, while one-fourth is kept as grass-fallow. With the collapse of the wooded fallow system, the soils in the Peanut Basin have begun to loose their fertility and became vulnerable to wind erosion. In this system, production levels are quite low, but remain relatively stable (Centre de Suivie Agricole 2000). According to Barbaka Gueye of CECI, in the Peanut Basin, a lot of deforestation has taken place due to the Peanut monoculture. Only in recent years one can note that farmers engage in reforestation, thus protecting the soil against the sun and fertilizing it.
In the regions of Louga and Diourbel, the “old” Peanut Basin, the situation is worse than in the regions of Kaolack and Fatick. Droughts and poor soil fertility have moved the old Peanut Basin from the North of the country to the central regions Fatick and Kaolack some forty years ago. Marius Dia of the CNCR confirmed that the agricultural practice of constant soil cultivation degrades the soil and lessens its fertility. In some zones, like Tamba or Kolda, one cannot see any young trees because they have been cut down before maturity and thus no seed falls down to create new trees, Mr Dia said.

As stated by Mr. Tall, the Peanut Basin, as motor of development, is a thing of the past. Peanut cultivation costs too much and depends on meteorological factors, which are no longer favourable. According to Mr Dia of the CNCR, within two months of harvesting in 2007, farmers have not harvested more than 25 thousand tonnes of peanut compared to the 250 thousand tonnes which have been predicted. Mr. Tall stated that since Independence, there has never been a harvest this bad. Still, in the social system, the peanut crop has its place, since it is used for oil fabrication, as a spice and as animal food. Mr. Tall further notes that not only the peanut harvest, but also the harvest of subsistence crops like millet and beans have declined in the whole region. In recent years the government has tried to encourage the farmers to diversify their crops and to plant millet, manioc and maize, but many farmers still believe that peanut is the least risky crop. Most farmers grow simultaneously for their own consumption and for sale. But sometimes it is difficult for them to find the balance, since they cannot know exactly how much they will be able to sell at which price. That is why diversification needs time, Mrs Willems of VECO believes. It is not just a matter of selling a different crop; eating habits and the problem of stocking play a role as well.

In the Sine Saloum, situated in the central region of the country, the salinisation of the soil is the most severe. Only certain crops can support the high salt content and many farmers do not know what to grow anymore, Mrs Gueye of the National Environmental Department has claimed. Some types of niébé beans can support salt and have short growing cycles, but more research needs to be done in this field. The main problem in the Peanut Basin is the water management. The groundwater level in the Basin is profound and it needs an expensive drilling system to reach water and pump it to the surface. While the water resources would be sufficient for stockbreeding, Mr. Tall believes that vegetable growing would neither be feasible nor profitable.

Not only decreasing soil fertility and lack of rainfall, but also lack of seed and fertilizer - which have become increasingly expensive - are negatively impacting the harvest. Many farmers are frustrated and try to send their children to the cities or to Europe in hopes of their gaining better prospects for the future.

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7 Now, the niébé beans are sold at 400 FCFA the kilo, while before the price has never exceeded 150 FCFA; consequently is has become too expensive to be an affordable subsistence crop.
8 interviews Demba Fall, IFAN; Moussa Sall, CSE; Marius Dia, CNCR
I conducted field research in two villages. The first was conducted in Ndienne Lagane, which is the seat of the Rural Council of the community. Ndienne is situated in the region of Fatick, at the road leading from one regional town to another and hosting a big weekly market. I estimate that about 800 people live in this village. It possesses, compared to other villages, well developed infrastructure, with schools up to the 10th grade, a health post, electricity, several water pumping systems and running water in some yards. There is a lot of uncultivated land available around the village, but still, some herders told me, they need more pasture grounds. Since water is expensive, only rain fed agriculture is possible. The Wolof is the preeminent ethnic group and many have connections within the networks of the Mouride brotherhood. This facilitates their migration to cities or abroad.

The other village, Ngoth, belongs to the region of Kaolack and does not have any direct access to a road. There is neither running water nor electricity in the yards and houses (although the village is included in the rural electrification program and will have electricity soon). This village is surrounded quite closely by other villages, leading to a lack of cultivable land. Some positive initiatives have been undertaken to promote soil fertility: live hedges and trees have been planted and nearby one finds a village forest, which is protected area where people are not allowed to cut trees. Mostly members of the ethnic group of the Serer live in this village. It is with about 400 habitants smaller compared to Ndienne and less developed with respect to the infrastructure available.

I spoke with 12 male and female farmers and 3 stock breeders living in Ndienne and in Ngoth. Seven of the farmers also have animals, which helps generate income during the long dry season. The main problems mentioned, linked to the environment, are:

Lack of rainfall and water in general (12 interviewees), poor soil fertility (10), lack of seed and fertilizer (of good quality) (10), lack of machines and equipment (8), decline of harvest (5), lack of resources in general (4), lack of work and employment (3), deforestation (2), lack of animal food (2), lack of animals for the fieldwork (2), salinisation of the soil (1), lack of cultivable land (1), lack of pasture land (1), difficult access to veterinary services (1) (see table in the annex).

Six of my interview partners said that the water situation was the same as before, the others said that it had deteriorated. This difference in opinion might depend on which time period one looks at; rainfall may not have declined over the last 5 or 7 years, but compared to the 1960s it did.

All of those interviewed - except for two - said that they would like to stay in their village as long as they can make a living out of their activities. In their explanation, they referred both to the environmental situation and problems related to inputs and commercialisation. Many stressed that the government
does not support them and their activities enough. Before the disengagement of
the state in cultivation and commercialisation of the harvest, the situation had
been better, many believe. Furthermore, the seed the farmers receive from the
state services are insufficient and of bad quality. The seed of the new plants
often cannot be used again the next year. Before, the farmers’ organisations and
cooperatives could support the farmers in keeping seed for the next years and in
demanding credits, but with the ongoing liberalisation process, they have lost
their role. The CNCR has, already some years ago, begun a programme for the
reconstitution of seeds to address this problem. The farmers’ organisations at
Ndienne Lagane are members of a Union of associations, which helps the
farmers in the field of seed multiplication, which will guarantee them more
independence from state institutions. When the seeds are analyzed and certified,
the farmers are allowed to sell them. But a parallel market for non-certified and
cheaper varieties exists as well. Still, these amounts do not satisfy the needs of
the farmers for seeds of good quality. All of my interview partners believe that
being member of a farmers or village association would help them in their
activities, enabling them to access loans and facilitating the commercialisation
of their products. Some also mentioned NGO support is positive. In the village the
residents developed a new Local Development Plan and will ask NGO for help to
accomplish the plan in case the financial resources of the RC are not sufficient.

I will cite two of my interview partners at Ndienne to give a more concrete insight
into their perspective. A young man living with his wife and his two young
children does have some fields of his own, but also depends on the jobs the
women’s association gives him. They will pay him for repairing machines or
working on the association’s field. Without that, his family would not be able to
survive. Since this young man owns fields, he has got a lot of hey and other
animal food, but no resources to buy animals.

One woman with whom I talked, said:

The women work much more then the men. But it’s the men who
will earn more. Since Independence I’m the president of the
women’s association and many people come to ask my advice
concerning women’s questions. But till now I’ve never managed to
earn my own salary. Since my husband has left for Dakar, where
he lives with another woman, I only have my sons to help me. The
government does not help us, neither with the work equipment nor
with the machines necessary for cultivation.

Members of her family live at Dakar, Kaolack, Louga and Touba. They try their
best to help the family at Ndienne. Her women’s association has tried to cultivate
vegetables on their fields, but without success, since they would have to use
water of the wells, which would be too expensive. Her association receives
credits of about 600 000 FCFA annually – a sum they divide if they want to use it
individually. For farmers or women’s organisations it is possible to access credit,
but the interest rates of regional credit agencies, working on the basis of
mutuality, are, especially in the beginning very high – up to 20%. The groups or
individuals always have to prove their ability to repay their debts, which diminishes their access possibilities.

Many people in the RC of Ndienne Lagane practice extensive stockbreeding. Although 5 vaccination points exist, many animals die of diseases due to the lack of prophylaxis and nutritious food. In the LDP, it is stressed that intensive stockbreeding should be promoted to help fighting diseases and theft of stock. Since the land used for agriculture has been extended during the last years, some conflicts between herders and farmers can be noticed. The herders say that the cattle trails are not respected by the farmers, whereas the farmers complain that cattle enter their fields. Generally the interests of the herders are not taken into account by the RCI as much as the farmers’ interests. But the council at Ndienne did put into place a conflict regulation committee. In the RC of Dya, no animals are allowed in the agricultural zones before the end of January, so as to ensure that all field work will be concluded till then. At Ngoth almost everyone has some livestock, which proves to be a good way of minimising risk, especially since animals are not expensive to keep.

3.1.2. The Senegal River valley

Of the various headstreams of the river Senegal, the Falame, Bafing and Bakoye are the most important. The Falame and Bafing rivers rise in the Fouta Djallon plateau in Guinea, while the Bakoye rises in western Mali. The Bafing and Bakoye meet at Bafoulabe in Mali to form the river Senegal. From there onward the Senegal-Mauritania border lies on the right (Northern) bank of the river, so that the river belongs to Senegal. Mauritania, however, has been permitted to use the river. Below Danaga, at Richard-Toll, the Senegal enters its delta.

Traditionally, livelihoods in Northern Senegal were based on pastoralism and seasonal transhumance. But the creation of boreholes in the 1950s led to an increasing sedentarisation of the population. In the 1960s, the first irrigation schemes lead to a shift from pastoralism to rice cultivation and to competition for valuable irrigated land (Cotula, 2006:24, 38).

The valley is a region with low rainfall. Before the construction of the Manatali- and the Diama dams, the annual floods of the river were necessary to survive. Towards the end of the rainy season, the river flooded the middle valley - a 600 km long alluvial plain, 10-30 km wide - and left fertile soil behind. The valley’s agricultural production followed the river’s rhythm: rain-fed cropping on the upland and flood- recession farming and grazing in the lowlands. Though the productivity per hectare rarely exceeded 1 t per year, the low work and capital input had made this exploitation system profitable. Most development projects, from colonial times onwards, did not take this traditional system into account, but focused on rice-growing.
In 1972, the Senegal River Basin Authority (Organisation pour la Mise en Valeur du Fleuve Sénégal (OMVS)), counting as its members the states Senegal, Mali and Mauritania, was established. The OMVS stated as its aims the provision of a secure and steadily improving livelihood for the inhabitants of the River Basin, to safeguard the ecological balance of the River Basin and to make the economies of the member states less vulnerable to climatic conditions and external factors (Adams, 2000:5). Consequently, three dams were built in the 1980s; the dam of Diama blocking the remounting sea water, the Manantali- Dam in Mali creating a big reservoir for hydro-electric use, and a smaller dam in Mauritania as a reservoir for drinking water (SOFRECO, 2007:2). The exploitation of the River Senegal and the dam construction have to integrate diverse objectives: allowing for irrigation agriculture and navigation on the river throughout the year, provision of hydro-energy and drinking water for the cities nearby. After dam construction, smaller artificial floods covering about 100 000 hectares of land were planned for 15 years, until irrigated agriculture would take over (Degeorges 2006:635). In the OMVS’ Charta, measures allowing for after-flood farming, the prevention of inundations and the just distribution of the water resources are stressed (OMVS, 2002:7).

In the 1970s, the SAED, a semi-state agency charged with the Basin’s exploitation, had begun working with small-scale irrigated perimeters on village level.

The advantage of the agricultural region of the River Valley, compared to the Peanut Basin, lies in the fact that irrigation allows for farming throughout the year and for a diversification of crops. But many factors hinder the exploitation of the valley to the benefit of the local population.

When, under structural adjustment policies, subsidies for farmers were cut, tougher conditions for obtaining credits were introduced and flood recession land was used for irrigation farming, many farmers did not have the necessary resources to continue farming on their plots. From the late 1970s onwards, there was a speculative land rush by Dakar functionaries, Mouride marabouts, members of the “local elite”, merchants and SAED technicians, all eager to make a profit before salinisation set in. Furthermore, during the first years, the artificial flooding did not take place and in other years it had been released several times, so that the seeds planted drowned (Adams, 2000:11). Available pasture land has been significantly reduced and the flood duration is often not sufficient to allow for the deposition of nutrient rich sediment on the floodplains (Degeorges, 2006:636). Irrigation has been possible since 1981, but only in certain regions of the River valley does one find irrigated land parcels, mostly in the western regions of the valley and in the Delta. The stretches of the River Valley where little income possibilities exist, are thus also those lacking irrigation schemes.

Another problem farmers in the valley face, is the unequal land distribution. Since customary land rights are not legally protected in Senegal, decisions on land distribution are difficult. In the Senegal River valley, the land where irrigation infrastructure should be installed was withdrawn from the original holders without
compensation. But usually the original owners could obtain irrigated parcels after the construction work had been finished. The allocation of land rights for the irrigated plots is made on the basis of the following criteria: pre-existing land rights, labour or cash contribution for the construction of the irrigation scheme, household size, the capacity to cultivate the land and local residence (Cotula, 2006:23). Since the creation of the SAED, form the 1960s until the 1980s, the cultivable land in the valley was distributed by the SAED; today, the RC took over this task. When there are, for instance, three people working in agriculture in the household, the CR will give the family three hectares, if there are 5 people working, they will have 5 hectares. Private companies can easily access to 100-300 thousand hectares.

One of the negative consequences of the private investment in the construction of irrigation schemes is that the investor does own the infrastructure, but only has precarious user rights on the land. The land can for instance be withdrawn by the Rural Councils in case they estimate it under-exploited. In most cases, land transactions on irrigated plots are not allowed – whether rentals or sales. Nevertheless, land rentals and similar practices regarding the reimbursement of rural credit are common (Cotula, 2006:38p.). Mamadou Thien of the SAED explained to me that irrigated agriculture in the River valley poses problems especially for younger people and women, since they often cannot access irrigated land. The land in the valley is usually inherited from the father, and sons will distribute the land among themselves, so that nothing much is left for each one. It became clear by the end of the 1980s, that the only way poor farmers could live from irrigated farming was to become labourers on other’s farms (Adams, 2000:9pp).

The dam’s construction had negative consequences not only for agriculture, but also for the natural resources of the Valley. To realize the projects of irrigated and mechanized farming, deforestation in these zones had been necessary. Both soil erosion and salinisation increased due to the deforestation. Mr Touré of the SAED told me, that young trees were planted in other zones to compensate for the deforestation. The SAED also tried to plant live hedges in the irrigated zones, but this sometimes proved difficult due to the salinisation of the soil.

Since the construction of a canal, which moved the river mouth closer to St. Louis, the sea water reaches far into the river, up to 80 km at high sea water level. The fields along the lower course of the river have been given up due to the high salinisation. Around St. Louis no sweet water sources can be found anymore, so that the drinking water comes from zones about 40-50 km away.

Furthermore, the Senegal River used to provide nutrients to the coastal fisheries. Its annual floods used to recharge the groundwater table of the downstream
areas, and supported extensive fish habitats. The dams affected these vital functions, and reduced fish stock significantly. The promotion of the cultivation of rice instead of other subsistence crops like sorghum and the reduction of fish consumption also have negative impacts on the diet of the local population.

Due to the still dike water of the irrigation system and increased insect populations, one can note a proliferation of certain illnesses like malaria, schistosomiasis and bilharzias. Before, people extracted water for daily use from the river, but now they take water from the dikes, which should not be used as drinking water. The SAED is attempting to install a system for the cleaning and filtration of river water and thus the provision of drinking water, but these plans have not yet advanced much.

By the early 1990s, the management of the River Basin was at a crisis, having achieved neither its social nor economic aims. According to Adams, Senegal River development schemes have not brought about development, but rather the destruction of production systems which provided a minimum of food security (Adams, 2000:14pp.).

Mr Schorlemer, advisor of the Biodiversity project, believes that the different objectives of the dam construction cannot be realized simultaneously. When the dimensions of the Manatali dam and its costs were calculated, wrong figures were used, so that it has not proven to be profitable. According to Mr Schorlemer irrigated farming is not profitable for most small-scale farmers. They possess only few hectares and lack the capital for further necessary investment. On the other hand, private companies or farmers with more resources can gain a lot through the exploitation of irrigated plots. Farmers, who are used to the minimisation of risk and not to the maximisation of profit will only slowly adapt to big scale irrigated agriculture, he said. This may also be the reason why in 1989, 40% of the irrigated area was still not cultivated.

Mr Touré of the SAED admits that the river valley has experienced several inundations in the last years. He further explains that when there is heavy rainfall, the dam water cannot be released fast enough so that some regions have experienced flooding. In 2003, a whole village near Podor was inundated and was transferred to another zone, further away from the river banks.

Another problem is the commercialisation of the farmers’ harvest. They have nowhere to stock their harvest and if they try to sell it all at once, prices will

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9 Since the dam construction, fish production in the Senegal River and estuary has dropped by 90%, a system which prior to the dams produced an average of 46 700 t of fresh fish per year (Degeorges, 2006:643p).

10 The Biodiversity Project is a joint project of the governments of Senegal and Mauritania financed by the Netherlands, with the objective to collect data on biodiversity in the river valley and to advice the governments on strategies to protect biodiversity.
decline. The Senegalese consume about 600,000 t of rice every year. The rice harvested in the valley could provide about 150,000 tons, but, according to Mr Touré, there have been problems in the commercialisation of the local rice. The Senegalese were not accustomed to the local rice which tastes a little different than the imported one, since it is fresh.

Apart from environmental problems due to dam construction and irrigated agriculture, rural habitants of the River Valley also note effects of climate change.

As the table above shows, rainfall in the Sahel region, and also in the river valley, has not decreased since 2000. The landscape has become a little greener and some species have reappeared which have not been seen for a long time, Mr Schorlemer of the biodiversity project believes. Instead of decreasing, the stock of trees has actually increased during the last few years. But the level of rainfall has not come close the level of the 1950s or 1960s either. Another recent tendency is the increase in rainfall during less time which means that the dry season is prolonged. This represents a risk for farmers who cultivate during the rainy season and then face a long period without harvest and income.

The village Ndiol, where I conducted a part of my field research, is situated at the road leading from St. Louis to Matam in the river's delta. The village has a primary school and a health post. Inhabitants do not have running water nor electricity in their households. The village belongs to the RC of Roos Mbethio, which counts 131 villages and is geographically wide spread.

The habitants of the village Ndiol with whom I spoke said that they will stay in their village, since there they are able to make a living, even if with difficulty, out of agricultural activities. They have fields of rice, corn and onions and smaller plots for vegetables like eggplant, cucumber and tomatoes.
Their main problems are the high costs of irrigated agriculture (fees for the use of the irrigation system, the costs for fertilizer, seeds and the rental of machines), and - what they believe to be an unfair distribution of cultivable land. The farmers I spoke with owned the land they cultivated, but complained that they actually needed more. One farmer, the vice president of the local farmers’ organization, told me:

*Our family will stay here. We have no other choice than doing irrigated farming. If we wouldn’t cultivate, we wouldn’t do anything. But they should give us back all our land. It is the land of our grandfather, but they diminished its surface. There are also habitants of other villages who have their fields here. The SAED and the RCI organized that and, as a consequence, we have less land. If you are five people in the household [counting the children], you are entitled to one hectare of land – this is not much. We have enough water, that’s true, but we lack the necessary resources to buy fertilizer and seeds. And we would also need products to fight against the weeds on our fields. (...) These weeds continue to spread each year; if it goes on like that, I might loose my field.*

The farmers in the valley are able to cultivate throughout the year, but this practice degrades the soil, since it does not allow for fallow land. Since the farmers have access to water, the main reason for declining harvests is the diminishing soil fertility and the increasing salinisation of the soil. Changing the crops on the fields each season helps to enrich the soil, one farmer told me. Some of the farmers do not possess horses or donkeys, so that they work on their fields by hand. Only for some main tasks, like digging and preparing the soil, do they rent machines.

One farmer complained:

*If you don’t work the soil and use a lot of fertilizer, the soil is dead. But on my field, there hasn’t been an appropriate machine since 1981. One cannot do it with animals here, since the soil is too heavy, loamy. But still, I will stay here until I die.*

He believes that the construction of the dams along the river Senegal has not improved the farmers’ situation, since now diseases proliferate due to standing water in the dikes and insects and weeds tend to increase. More fertilizer and capital to pay for the water infrastructure is needed now; in the old system the soil was more fertile and the water came and went naturally. Another farmer mentioned the same problems. But he believes that the irrigation system improved their situation, since now they can rely on sufficient water throughout the year and agriculture becomes less hazardous.

**3.2. Environmental degradation and the situation in the cities**
About two fifths of the Senegalese population lives at Dakar and a quarter in the urban region around Dakar, Pikine and Rufisque. Those who come from the villages often live in these cities’ suburbs in miserable conditions. People will migrate to the periphery of cities like Dakar, Kaolack or St. Louis, even in the zones which are regularly inundated. The problems in St. Louis include the inadequate management of household waste, wastewater and rain- and river water. These difficulties have been exacerbated by rapid urban growth, which has made people cluster in areas at risk of flooding. Settlement of watersheds and valley bottoms has greatly altered drainage patterns and destabilized slopes, increasing the risks of flooding and landslides (Diagne 2007:552, 556p).

But most problems are noticed at Dakar, where most rural migrants live. Its habitants face many problems, among these unemployment, problems with basic infrastructure like housing, health and education services, provision of electricity and water. At Dakar people struggle with a major garbage problem, since the garbage has not been collected regularly for some years already.

According to Mrs Willems of VECO, in suburbs with high population density like Pikine, there is a Cholera outbreak almost every year since people lack access to clean drinking water.

Mr Mansour Tall of the UN Habitat program explained to me possible future scenarios when, in less than 10 years, the majority of the Senegalese would no longer live in rural areas, but in the cities. The informal suburbs and the informal economic sector will continue to grow, which will be accompanied by problems like insecurity, health and hygiene problems. Senegal will be increasingly dependent on the outside world to be able to feed its population. If no sustainable agricultural sector will be developed now, Senegal will be in great difficulties, he believes.

### 3.3. Rural Exodus and Migration

#### 3.3.1. Rural exodus in the Peanut Basin

The two rural communities in the Peanut Basin where I conducted my field research show different out-migration patterns. Whereas the village of Ngoth in the region of Kaolack experiences considerable seasonal migration of young men to the cities, at Ndienne Lagane quite a lot of people have left for Touba, Dakar or Europe for several years.

In the LDP of the RC of Dya, to which the village Ngoth belongs, one can read that the rural exodus concerns mainly young men. About 75% of all young men leave for the bigger towns or cities during the dry season to come back and work on the fields in the rainy season (numbers of 2003). Ndienne is more developed in terms of infrastructure than other villages in the Peanut Basin. Therefore, habitants of Ndienne have the necessary resources to migrate.
I got to know one family living in Ngoth of which two men were working abroad in Spain and came back for holidays while I was there. They and their families live in one of the biggest houses of the village and could afford a car – I believe the only one in the village. They were working in Spain for some years already and although the family still had some fields, they were not living on agriculture anymore. Whereas this family is a quite exceptional case among the habitants of Ngoth, only three of my interviewees at Ndienne have no family members who have migrated to cities like Touba or Dakar, to fertile regions like the Casamance or to Europe. Most often, the migrants try to support their families who are still living in the village. Touba is the capital of the Mouride brotherhood, which might explain why many of the habitants of this village have left for Touba\textsuperscript{11}. Of those family members of my interviewees who have migrated, seven went to Dakar, six went to Touba, four to Europe and four to the Casamance region, two to Kaolack and two to other cities.

One member of the RCI said that of the habitants in Ndienne about 40 have left for Europe, South Africa and Ivory Coast. They do come back to visit their families, but will not return for good. The people do leave for environmental reasons, he believes. The main problems encountered in the village are drought and poor soil fertility. The rainfall has declined from 500-600 mm/year in the years 1950s and 1960s to about 300-400 mm/year.

One man living in Ndienne told me that he would like to leave for the Casamance, Mauritania or Europe, to look for work or to trade. Some members of his family already live in the Casamance, which would facilitate his departure. Another young man said that everybody in the village would like to leave, but that they encounter problems obtaining the necessary documents and visa. He criticized that the government only helps its employees but not the farmers or tradesmen. If everybody left the village, this would not be good for the village he said. Its habitants are the ones who can help develop the village, so they shouldn’t be forced to leave. Another farmer also explained that he would not leave his village as long as the situation allowed him to stay. But if he does no earn enough to live on, he will have to. One woman agreed and said that the out-migration caused problems for the people staying at Ndienne, since they are sometimes not enough people to work in the fields – especially during planting and harvest time.

A young man told me that he does not want to leave his village, because he sees himself as a “development agent” – as someone who knows about funding possibilities and who is involved in local politics and development projects. But cousins of his are working in Italy and Spain. He has got some stock, but finds it difficult to feed his animals since the prices for animal fodder have increased by about 50% recently. A young stockbreeder gave me similar reasons why he

\textsuperscript{11} Over the past decades, Mouride networks have spread from the rural areas to the towns and even to European countries (Riccio, 2001:586).
would not leave the village. He is involved in development activities and social projects with other young people and would not want to give that up. But members of his family live in Dakar, Casamance and Touba to trade or farm. His stock lacks veterinary service and pasture land and he complained that in the village, farmers are privileged and their interests are given priority.

Another young man I spoke with has left Ndienne for Dakar and works there as a craftsman. He could not live on agriculture anymore. He knew some people in Dakar who helped him find work and a place to sleep.

3.3.2. Migrants at Kaolack

In the town of Kaolack, I spoke with nine people coming from villages nearby or other regions to work and live in Kaolack. They have different professions now: one is working in a hostel, one repairs and sells bikes, one works as a carpenter, two work as craftsmen, one has a small shop, one works as a consultant for development projects, one for a construction company and one sells his paintings in the streets. One of my interview partners comes from Guinea Conakry, four from villages in the region Kaolack and four from other regions (region of Kolda in the Casamance and one from the region of Louga).

They mentioned as their problems in their home villages: Lack of water (5 interviewees), lack of fertilizer and seed (4), Lack of infrastructure (3) and general lack of resources (3), poor soil fertility (2), lack of food (2), deforestation (1), lack of animal fodder (1) and commercialisation problems (1) (see table in the annex). Those coming from the region of Kolda did not mention lack of rain and poor soil quality, since this region is still relatively fertile, but told me about the lack of inputs and agricultural equipment. Since the migrants’ living circumstances are more heterogeneous than those of village habitants, I will give some more details about their reasons to migrate and their life in the city.

The painter, one of the craftsmen and the electrician told me that they would not want to go back to their home villages since they wished a different life - a life in the city while pursuing their profession. But the others would all like to go back to their village and work as farmers again. They try to make a living for their families by working in the city, but maybe will go back if the situation in their villages improves or once they have enough resources to restart agriculture.

One older man coming from a village about 10 km from Kaolack and coming to town to work every day said that more than 50 people have left his native village. They are now working in Kaolack or other urban areas. He works in the construction sector – one of the few sectors where employment possibilities are quite good. If he had the possibility he would go to Europe to look for better paid work there.
A young electrician working in Kaolack in the hostel of his uncle has tried to find work in his profession for five years but had not succeeded. If he had the resources, he would like to leave Kaolack for a bigger city, since he regards the work in the hostel as something temporary and not profitable. He comes from a village near Kaolack where his parents still farm. He himself would like to be a farmer, if this could provide him and his family with enough income to live on.

The young man coming from Guinea Conakry told me that quite a few people from Guinea come to Senegal to cultivate peanut here. They buy or rent the land and farming seems to be more profitable in Senegal since fertilizer is available more easily than in Guinea.

One middle-aged man came to the town to be able to visit school, since his father did not have the money for school fees and books. In town, he lived in the house of his uncle who is a teacher. Afterwards he went to a technical university. Now he works as a consultant for infrastructure and development projects. He founded a farmers’ organisation in his village, some of whose members have also left for the cities by now. With the help of the association, the farmers can access seed and credits of the CNCR. They mostly grow millet, since one does not need much seed for one field. It is similar with corn, sorghum and watermelons, whereas the cultivation of peanut is more expensive.

Another young man, working as a joiner in Kaolack, told me that he has done nothing else since leaving the village. He has learned the profession for seven years and now he is his own boss. He sends some of his income to his parents. His dream is to leave for Europe, but he knows that it takes a lot of money to buy a visa. He believes that if employment possibilities and the chance to make a living from one’s work existed in the rural regions, people would stay there. But he does not think that the situation will become any better in the near future.

A farmer from the region of Kolda came to Kaolack to work as a woodcarver there. He sells his wooden chairs and masks in a so-called craft village, which is open to visitors and tourists. But not many tourists come nowadays, he said; some years ago there were more tourists buying his craft. But still, the money he earns now is more than he had earned with his agricultural activities. He told me, that he “has been born as a farmer”, but, when he didn’t have the resources to work as a farmer, had to look for something else.

Only two of my interviewees migrated for other reasons than the unfavourable environment limiting their possibilities to gain their living from agriculture or stock breeding. One of these two is an artist coming from Mali who now sells his paintings at Kaolack. He always wanted to be an artist, but also told me that he would like to combine being an artist and a farmer. The other, an older man, had left his village to study the Koran and wanted to continue his studies at Dakar, but then couldn’t since his father did not approve of that. Now he sells craftwork in the artist’s village at Kaolack.
3.3.3. Rural Exodus in the River Valley

The region of the river valley has long suffered from the lack of initiative in the sector of public infrastructure. The increasing degradation of natural resources and the ongoing isolation of this region contribute to the difficult situation of the farmers not being able to satisfy their needs. To assure their subsistence, many families count on migration as a strategy to diversify their income sources (Lanly, 1998:2). Mr de Boeck of the IOM confirmed that especially the Northern regions of Senegal are touched by desertification and the lack of rainfall. Most Senegalese migrants come from these regions (region of St. Louis and the Northern stretch of the region of Tambacounda); and leave for Mauritania, Morocco or Europe. Their motivation is the lack of employment, especially in the sectors of agriculture and fishing - domains most influenced by environmental degradation and, concerning fishing, also by the competition on international markets.

Already in pre-colonial times, members of the ethnic group of the Soninké migrated from the River valley - especially from its eastern part near Matam and Bakel - to other Sahel countries as tradesmen. With French colonisation and them overtaking the Sahel trade, many former tradesmen were forced to settle down and engage in agriculture. When monetarism was introduced in rural areas, some farmers opted for (seasonal) work migration to guarantee their survival. Most of them went to peanut plantations in the central regions of Senegal and in Gambia. Some forty years ago, migration on a long-term basis to Ivory Coast or France started to surpass seasonal migration. Migration to France had been facilitated by its favourable immigration legislation and the establishment of the first migrants’ networks (Lanly 1998:3).

In the region of the river valley one can distinguish between migratory movements depending on the region of origin. In the region between St. Louis and Bakel, migrants move locally, then regionally then usually internationally towards Europe. From the department of Dagana, people usually leave for St. Louis and Dakar or for Mauritania. The habitants of Podor often migrate to other West African countries like Gambia and Ivory Coast (Ba, 1998:95pp).

From the 1960s onwards, the region of the valley has not only undergone emigration, but also immigration of people leaving the regions of Kaolack and Fatick to work in irrigated agriculture in the river valley. Some of the migrants to the valley own fields, others work for private companies or other farmers, who live in the cities and employ others to work on their fields.

A young man, son of the village chief, to whom I spoke at Ndiol, told me about his experience working for the private company GDS:

*When I was still working for the GDS, what I did for 5 years, I earned almost nothing. It [monthly pay] lasted me for 15 days*
maybe, with a family to support. I worked there every day from the morning till evening, it tired me. After these 5 years I have sold my two cows and with that money I could start cultivating my own fields. Now I've got 2 fields, where I cultivate rice, onions, tomatoes and corn. I will change the crop every season, every 3 to 5 months. But this degrades the soil, when you cultivate it during the whole year. I would need one more field at least to keep some as fallow land. When I asked the RCI for more fields, they have done nothing, only said that they will try to do something for me. The RCI or the SAED, whom ever you ask, they will never do anything. Actually I have got enough land, if only the costs [for infrastructure, seed and fertilizer] weren't so high. It's better to have my own fields than to work on the fields of someone like the GDS and to earn nothing.

The big private companies employ, along with local workers, people coming from other regions looking for work. Most of the enterprises only produce for export. It is them who benefit from the agricultural situation in the country and not the small-scale farmers, Mrs Diop of the environmental department at St Louis believes.

The people of the village Ndiol with whom I spoke, do not feel the need to leave, although their situation is not easy. Still, they are able to survive on what they gain. In other regions, where no irrigation infrastructure exists, the rural exodus is comparable to other zones of Senegal.

3.3.4. St. Louis

In the city of St. Louis, I only conducted three interviews with migrants - two men and one woman - coming from rural areas and now living in St. Louis. Since St. Louis receives many tourists, quite a few income possibilities are available to those coming from the villages. Many work as artists or tradesmen selling gifts and traditional craft. One young man who now works in a small shop selling African paintings originally came from a rural area of Guinea Bissau.

A woman I interviewed had moved to St. Louis since her husband lives there. She comes from the region of Thiès. Both her husband and the other members of her family still living near Thiès are farmers. The fields of her husband are situated close to St. Louis so that he can farm while staying most time in St. Louis. Her aunt and her sister live in the United States.

Another young man with whom I spoke comes from the region of Louga in the “old” Peanut Basin, a region strongly effected by drought and soil degradation. He said that for his family, agriculture could not provide for a living anymore. They now live in the house of his grandmother in St. Louis. He will soon finish school and then he would like to leave the country, believing the problems experienced by farmers in his village are the same everywhere in Senegal. He
does not want to study since this would take too much time; he needs to earn money soon. His parents try to earn a living in St. Louis by engaging in the retail trade, since they do not have much capital they could invest.

3.4. Existing engagement to alleviate environmental degradation and decrease migration

3.4.1. The protection of natural resources at the local level

In the following sections I will have a look at local strategies to protect natural resources. First, I will analyze local social structures to be able to make clear which dynamics influence local decision-making and agricultural practices.

Most of the interviewees working for NGO or international organisations are sceptical towards the advantages of political decentralisation. Although decentralisation means a formal democratisation and it is desirable that decisions affecting lives in the localities should be made at the local level, it is believed that the Rural Councils often do not represent the villages’ populations adequately. The project of decentralising decision-making does not come from the population itself, but was, as a reform, developed for them, my interviewees criticize. Furthermore, women are often underrepresented in the RCI, since it is necessary to be member of a party to be able to be elected. Few women are party members, as many families believe it is sufficient if the men are.

The possibilities of control by and through the population should be reinforced. The local development should consist of a utilization of the local resources using local expertise, one ENDA employee believes. Local development should first of all be based on the development of the agricultural sector and, by this, the economic development of the localities.

While these voices are rather critical, an employee of the German development cooperation said, that the commitment of the local populations towards their problems and solution strategies seems to have increased with decentralisation. Madame Diop of AFARD believes that women’s organisations are now more visible in the public debates than they were in the past. Although they have more voice, they still do not possess many resources. And as long as they do not have any resources, the voice does not help them much. She explained:

*We talk a lot about good governance, but how will that help us? To find a solution for our problems, we do not need to look at the state. (...) We should focus on networks of the population and promote small and middle-sized enterprises and farmers’ associations. We must regard the growth of the agricultural production as our objective – also to create equilibrium between urban and rural areas.*
According to Papa Demba Fall, NGO’s had for a long time the role of intermediaries between governments of the North and the habitants of Senegal’s rural regions. The NGO’s say that they contribute to local development. Papa Demba Fall however doubts their effectiveness, claiming that many take a big part of the money for themselves. Sometimes it is difficult to work with farmers’ organisations who have just participated in a NGO project, Papa Maisar Fall, who works as a farmers’ consultant, said. People get used to NGO and “projects” coming to their villages offering support and will forget about their own capacities. The projects and experts which have accompanied the decentralisation process come with pre-defined strategies and objectives without asking the farmers and their families themselves. They do talk about participation, but in fact it is just someone giving something, Mr Fall believes. For a long time already, farmer’s organisations have asked state institutions to take account of their experiences and opinions. But today, it is difficult to see how the State, after the liberalisation process, can influence the situation in the rural areas at all. Mr Maisar Fall wants to make farmers believe that, besides environmental degradation and economic problems, they have the force to find a way out of their situation. The most important problem, namely availability and access to resources, is in his opinion the most difficult to solve. Mr Maisar Fall, together with farmer’s organisations, wants to reconstruct rural development starting at family level. Families of the same village should form associations, talk about and plan the use of resources. The management of natural resources needs to start at family level, since it is the family who has land and depends on the use of the natural resources. Another advantage of this approach is that women and children would also be members of the association, not only the men – who are often regarded as the only “farmers”.

Some of the ideas concerning food security developed during the time of the droughts are now revitalized by ENDA. There are different problems to tackle when one wants to promote rural development, Mr Seck believes. ENDA works on renewable energies, on reforestation, on cereal bancs - which help people to have seed for the next planting season and food during the dry season - and on micro-credit systems.

The NGO SOS Sahel is engaged in activities alleviating environmental degradation. They work on soil regeneration and the preservation of certain tree species by delimiting areas where the village habitants are not allowed to cut trees, and by establishing tree nurseries. In protected zones like so-called village woods people are even able to grow vegetables, since there, the soil is very fertile. For rural people and their livestock, field trees represent a useful resource; they nourish, provide medicine, shelter and fuel. Additionally, they provide shade for the soil, and protect it against wind and water. Hedges can serve as windbreaks, slowing down soil erosion. In the Peanut Basin, live hedges are common, which have the additional advantage of providing fuel wood. Dead or scrub hedges are more common in sylvo-pastoral regions, where the herdors use thorny branches to protect their crops from animals.
Dune stabilization interventions along the Senegalese coastline between Dakar and St. Louis, installed both by state services and farmers’ organisations, represent an effort with considerable impact. Plantations of mostly non-indigenous trees serve as wind breaks and measure of soil stabilization along much of the coast. These are highly productive areas which can produce three or four harvests of onion, carrots and other vegetables each year. Following this forestation, emigration of the local population from these areas has also diminished (Centre de Suivie Ecologique 2000). The NGO SOS Sahel also works with farmers’ groups in this coastal region of Ndiaye. As water can be used for free in the Ndiaye region, it is often wasted and might soon become a sparse resource. Ground water can already be found at about 3-5 metres depth which means that each farmer can have his/her own well. Another danger is the rising sea water level leading to an increasing salinisation of the soil. Some farmers also use too much fertilizer and harvest too soon after having applied it, as noted by Sarah Trottier of SOS Sahel. Since the use of compost as fertilizer needs some investments at the beginning, many farmers cannot afford it.

According to Mrs Willems of VECO, the problems of environmental degradation and rural exodus could be alleviated or even solved by a combination of factors. It needs the political will of the government and more resources to be able to support farmers and their organisations. Farmers need to be better organized and trained in techniques of cultivation, processing and commercialisation. The protection of the environment is something which needs to be more enforced, both by farmers and state employees, she believes.

One can conclude that not all social groups are included in planning the use and protection of natural resources at the local level. Many useful strategies have been forgotten and need to be re-vitalized. Useful initiatives do exist on the NGO side as well as on the level of the Rural Councils. But as long as the government continues to favour big producers of export crops and does not grant the RCI necessary resources to fight desertification, local actors will continue to struggle in their effort to influence positive change.

3.4.2 The State’s engagement in promoting agricultural development and alleviating environmental degradation

It has been more than ten years since the entry into force of the United Nations Convention to Combat Desertification (UNCCD). However, the Convention is still not implemented adequately and is not taken much into account in the international development environment. But the Convention is important since it is the only binding agreement for sustainable land use in the current international political context and it contains the link between poverty reduction and the protection of the environment. The UNCCD underlines that successful programmes to combat desertification must originate at the local level and benefit from the experiences and knowledge of those populations depending on dryland
ecosystems. National Action Programmes for Climate Adaptation are a possibility to build on previous experiences and lessons. Many reports of African countries mention constraints hindering the implementation of the Convention, such as insufficient human and technical resources, lack of statistical data on climate and low awareness of the process of climate change among the populations (FES 2007:36pp).

In its development programmes, the Senegalese government proclaims to be developing the agricultural sector and the national resources on which it depends. The strategic measures which will be introduced by the Senegalese National Strategy for the Implementation of the UN Convention on Climate Change touch different sectors: water resources, fishing and tourism in the coastal region, public transport and infrastructure, agriculture and forestry, energy and industry.

According to the National Strategy Paper, with regard to the management of water resources, data on the different water resources and their use are to be established, and a committee composed of the different actors involved are to be set in place. New methods and installations for collecting rain water and the recycling of used water are also to be implemented. At the coasts, reforestation programmes are to rehabilitate the coast line and protect from the danger of erosion - one of the negative consequences of climate change and rising sea water levels. The population in the zones threatened by flooding will be resettled in other regions. The urban transport system should be improved, especially the public transport. The agricultural production should be improved by new seed types, which are more resistant to drought, and by ameliorated irrigation systems. The management of the wood resources should also be improved, so as to diminish irregular cutting of wood for the fabrication of charcoal. Renewable energies are to be attributed special attention, as well as the utilization of energy from biomass, as one can read in the National Strategy’s paper (Direction de l’Environnement, 1999:6-9).

Mr de Boeck of the IOM also told me about programmes for the artificial creation of rain, tested in Morocco, Mauritania and Senegal. Clouds are bombarded with fine particles in a very intense manner, thus making them burst to create rain. The disadvantage of this technique is that, even if rain is created, the wind might blow clouds to other regions, making it rain where it should not and vice versa. In Senegal, there has been a positive impact of this program in 2006, but not in 2007. The government is still looking for other solutions, but has not yet found any sustainable solution to resist desertification.

The following section explores the agricultural policies of the government and provides recommendations to ameliorate the farmers’ situation.

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12 The debate during an international conference on the Convention stressed the necessity of addressing desertification in the countries of the North just as in the countries of the South. “If not, there will be a forced migration towards Europe” (FES, 2007:29).
In 2005, 15% of the state’s budget was allocated to the agricultural sector. From 2004 to 2005, the agricultural production experienced a decrease of about 30% and the imports of cereals still satisfy 50% of the demand. The cereal production has decreased approximately 1% each year since 1990, according to the Poverty Reduction Strategy Paper. This is due to the vulnerability of this sector to environmental changes and also to the delay in structural reforms and in the development of irrigated agriculture. The main problems are: the weak revenues of the farmers leading to the decrease of the use of inputs, the saturation and degradation of the cultivable land, the transfer of knowledge and technology often not adapted to local realities and needs, difficult access to credits, lack of seed of good quality and rural exodus with the consequent lack of work force. Together with the weak organisation of the commercialisation chain, these factors are contributing to rural poverty (PRSP 2006:30).

To address these problems, the government has passed a new agro-pastoral law in 2004. A transition from extensive agriculture to intensive, diversified and sustainable agriculture will be promoted. A non-agricultural work sector in rural areas will be developed, including tourism and enterprises for food processing. To support farmers’ access to water, irrigation systems should be expanded and adapted to local needs. In the sector of stock-breeding, intensive stock-breeding and better veterinarian support will be promoted, according to the country’s PRSP.

Notably, 17% of the active population engage in the fishing sector, which has faced strong fluctuations in fish stocks over the last few years. Among the objectives in this sector is the restoration of the fish stock, the modernisation and professionalisation of the traditional fishing techniques, the satisfaction of the national demand in fish and the reinforcement of financing possibilities in this sector (PRSP, 2006:33p).

Although these measures seem useful, until now it remains unclear whether they will be implemented in a useful manner. In the past, policies of the Senegalese government often have not been able to achieve their aims. A CNCR study conducted in 2006 shows that the fertilizer subsidized by the government does not suffice, and that the seed subsidies rather benefit private companies like the SONACOS rather than small farmers. The SONACOS had been able to sell seed to the farmers at the double of the price it had bought it. Often seed and fertilizer sold by the SONACOS arrive too late to be used profitably. Some of the seeds were not usable for cultivating – an analysis showed a rate of 2% fertility of the seed (CNCR, 2006:5). The CNCR criticized especially the government’s perspective, which defines objectives of production, considers the provision of seed and fertilizer, but neglects completely the commercialisation of the harvests.

Marius Dia of the CNCR, who criticized the state’s non-reaction to the threatening famine in 2007/2008, told me that in his opinion, the government
should predict similar situations and not only react when it is too late. Mrs Gueye of the state environmental department told me that the state did give food aid – in February and March 2008 - to the farmers considering that the rainfall in 2007 was not sufficient. The government also helps farmers to stay in their villages by providing needed support, she said. But Mr Tall of the UNDP Habitat program was pessimistic. In earlier days the difficult period before the next harvest lasted about two months; now this period lasts longer. The rural people thus have nothing to eat and no resources, which forces them to leave for the cities, he said. Even State employees like Mr Sall of the Ecological Survey Centre criticize the national agricultural policies for only implementing programmes on a short-term basis, often in reaction to emergencies such as in 2008.

Mr Seck of ENDA supports Mr. Tall’s contention that the agricultural policies of the government are not supporting small-scale farmers sufficiently. Before, the whole cultivation and commercialisation process had been organised better, so that the farmers knew whom to address and how much they would be able to gain. Now, the state gives the farmers cheques – documents which say that the farmers will receive a certain amount for their harvest. But in 2006, for instance, the government was late in paying them and the farmers were left without any resources. Papa Maisar Fall agrees that the disengagement of the state has created chaos and left many farmers without knowing what to grow and how to sell their harvest. The Senegalese government publicly talks about family agriculture but in reality only believes in farming on a large scale, Mr Fall criticized.

Mrs Willems of VECO explained why Senegal’s history of state driven peanut growing still has its repercussions today. The Peanut industry had been previously very organized by the State. Today, many farmers do not know how markets function, cannot calculate their risks and often believe that the cultivation of peanut is the least risky option.

Papa Demba Fall, member of the IFAN, explained to me that in the North-Eastern regions of Senegal, it is very difficult to ameliorate the situation of the farmers, since they have suffered a lot from the national agricultural policies. These in turn have been the consequence of international politics and reforms imposed on the Senegal. The national agricultural policies are neither coherent nor are they accompanied by a transfer of resources to the technical services assisting the farmers. The government launches programs to encourage the cultivation of melons, manioc or niébé beans, but it is still necessary to continue promoting subsistence crops on which the farmers could live. At the national level, one notes a lack of information and advice offered to farmers. The national politics do not take into account local development processes. Instead, they focus on projects like the promotion of bio petrol, but this will not lead to local development, says Mr Fall. The national politics face difficulties in earning the farmer’s confidence. “For the farmers, the government is absent”, he said.
In Mr Schorlemer's opinion, no real agricultural policies exist in Senegal; the government is engaged in infrastructure and industrialisation policies, but not in agriculture. Even if farmers protest, this does not interest the government much, as long as there are no protests in Dakar, he told me. Mr Tall of the UNDP habitat program agrees. In his opinion, no policies promoting a return to agriculture exist. In other countries, he said, politicians are conscious about the fact that a country cannot function without a profitable and working agricultural sector. But the main problem remains the access and availability of water, without which there can be no agriculture. There have been several attempts of the Senegalese government to solve farmers’ problems. They have, for instance, tried to uncover natural valleys, depressions where water will gather and stay for a certain time after rainfall. Until today, this project had no effects. Another project is the construction of a canal leading from the River Senegal to the centre of the country. But this plan has also not advanced until today.

Not only water, but also energy is a great problem in rural areas. If rural people had access to cheap energy, the access to water would also be facilitated since it would be less costly to pump water to the surface. During a seminar on renewable energy, some participants doubted that the installation of solar panels would be affordable for rural people. Although electricity would be cheaper in the end, the installations of panels, which would make a household autarkic, costs about 700 000 FCFA. Other problems are the possibility that the panels might be stolen, especially when they are installed in unpopulated zones, and sandstorms which might destroy them.

3.4.3. The State’s strategies to decrease migration

The Senegalese government stresses that it does not wish to stop all migration abroad, but that it wants to use migrants and their resources optimally for the development of Senegal. The amount of remittances show that migration is an important factor which should be integrated in development strategies, the government believes. But President Wade proclaimed “zero tolerance” towards any clandestine migration. He notes problems like the inequalities caused by the international market relations and the lack of technical and scientific resources which impede the country’s development and proclaims the fight against illegal migration as useful for development.

A recent program developed by the Senegalese government, the REVA (Returning to Agriculture) plan, has the objective of increasing agricultural production and allowing people stay in rural areas. Publicly, it is presented as a project with the objectives of fighting against clandestine migration, professionalizing farming and creating jobs. The program privileges returned migrants, but does not exclude other groups of society, such as the youth or women’s associations. Fields of 5-100 hectares, as well as seed, fertiliser and agricultural materiel will be distributed among project participants. Vegetable

13 http://www.lesoleil.sn/article.php3?id_article=12290
growing and stock-breeding is also promoted. The fields will be equipped with water retention basins, water drilling points, water dikes and tractors. Technical staff and a credit system will also support the farmers. Besides making people return to agriculture, this program also aims at promoting private initiative in the field of small-scale agriculture. It will be accompanied by the creation of processing and packaging enterprises. The first local projects began in June 2008.

Some young migrants who have recently been repatriated from Spain rejected the offer of the Minister to insert them in the program. They said that Senegalese agriculture cannot be developed since the harvest of the farmers continues to perish as no purchasers can be found. The minister hopes that the first projects will be successful enough to be able to convince the young migrants to join. The CNCR criticizes the plan as unrealistic. The objectives of this program were not achievable and its measures partly superfluous, partly badly planned and too expensive. Future developments in these projects will show whether this initiative proves to be useful in promoting people’s return to the villages and to agriculture.

3.5. Policy remarks

3.5.1. Policy remarks regarding agricultural development and the protection of natural resources

The questions to be tackled in the field of agricultural development include facilitated access to water and land, the devolution of public resources to the local level, promotion of small scale agriculture and other income generating activities in rural areas, and the effective regeneration and protection of natural resources.

In dry regions, such as the Senegal, land and water are scarce and valuable resources, around which intensive competition takes place. The government increasingly looks to agribusiness for promoting the productive use of irrigated plots and expanding the irrigation infrastructure. This situation not only raises distributive issues, fostering marginalisation and social exclusion, but also concerns the tenure security of the users of land and water (Cotula 2006:72). This creates important challenges for development programs and policies. The following steps would be useful to facilitate users’ access to water and land resources:

1. Programmes to develop water infrastructure would be useful both for farming and herding, but only when taking into account prior property rights. Full consultation of local resource users – both resident and non-resident - is required to ensure that local land tenure issues are taken into account. Where pre-existing land rights are lost or eroded as a consequence of a water programme, compensation must be granted.
2. At the policy level, there is the need for better coordination between water and land policies and legislation. Till today, government agencies and legislation tend to work in sectional manner, which makes it more difficult to tackle issues which involve both land and water.

3. Regarding resource management, a tension exists between centralised management and decentralisation. On paper, decentralisation seems to respond to differentiated local needs and to promote people’s participation in decision-making. However, this requires the devolution of decision-making power and adequate resources for local and regional Councils. Furthermore, power imbalance is as real at the local level as it is at national level.

4. Taking a human-rights approach would help bridge the gap between local problems and the (international) policy arena. A rights-based approach needs effective mechanisms for accountability and redress.

5. Land and water users must be given greater control over the management of the resources. The conditions and restrictions connected to land and water use – for instance forbidden land rentals – should be replaced by more flexible mechanisms, which facilitate meeting the conditions even in times of bad harvest or drought (Cotula 2006:73pp.).

Concerning the mismanagement of the dams along the river Senegal, Lautze and Kirshen suggest that stakeholders should be integrated into water management decision-making processes and that they should be informed about the health and livelihood effects of the dam management. Furthermore, an early-warning system for flood releases should be established so that, even if the participation of rural populations is not integrated into water management, these populations are informed about flow alterations ahead of time (Lautze, Kirshen, 2007:203).

Mr Tall of the UNDP habitat program told me that, due to the fact that farmers in the River valley often lack resources to finance the irrigation and pumping system, a focus should be placed upon the public promotion of small scale and labour intensive (irrigated) agriculture. The development of stock breeding in this area could also be profitable. Factories for milk transformation should also be established in that zone to be able to sell products with added value at a higher price. Policies promoting other income generating activities besides agriculture should also be promoted, Mr Tall believes. In other countries, traditional handcraft - like colouring tissue, wax production, production of tools - is much more common than in Senegal. This could be production not only aiming at tourism, but satisfying the national demand. In Senegal, the rural world is focused on agriculture and once agriculture faces a crisis, the whole country faces it, Mr Tall said. Mr Dia of the CNCR believes that the role of the State should be to guarantee a favourable environment for agricultural production. The government’s role is to assure that the farmers have access to fertilizer and seed at good quality and price, he told me.
Sarah Trottier of the NGO SOS Sahel shares Mr Dia’s opinion on the State’s engagement. Senegal does not need a “strong state” in the sense of Statism, but a political frame promoting the farmers’ activities. Unfortunately the farmers’ movement is still organised in a hierarchical manner so that only some leaders might benefit from the government’s support and will have some voice in agricultural planning. The farmers need to be trained and informed and in politics there should be a focus on a higher production, which will not be detrimental to natural resources. If the productivity increased, some products of Senegalese agriculture could be exported to other countries in the region. The River Valley, which possesses a high potential of vegetable and rice cultivation, measures for the conservation and the commercialisation of the harvests have to be found.

While the interviewees cited above believe in Senegal’s development starting with the promotion of the agricultural sector, Mr Schorlemer of the Biodiversity project does not think that this is possible in the world of today. Production costs in West Africa are high, which means that the national products will not easily be sold on the international market, he said. For vegetables like tomatoes, there is a small chance to sell them on the European market since in Senegal they will be ripe only shortly before harvest time in Spain or South Africa. The private company GDS benefits from this export possibility, but this strategy needs careful planning. Apart from that, Senegal faces many disadvantages in production: the rainfall is insufficient and a well-working commercialisation system has not yet been installed. But Senegal could still at least live on its own production, especially in terms of rice and vegetables, if all land apt for irrigation would be exploited, he said. In my opinion, in this debate around development policies, one needs to decide what kind of development one wishes to promote. In the case of Senegal, the country’s independence from food imports would already represent a big step towards its stronger economic position on the world market.

3.5.2. Policy remarks regarding migration

The following remarks concern policy at both the international and national level. A single country cannot tackle the question of migration on its own. The interdependence of a country’s development and migration is complex and the consequences wished will not always be achievable on a short-term basis, as we will see in the following.

Immigration is increasingly perceived as a threat to economic growth and the welfare state by the societies of developed countries, Haas writes. The EU Commission, for instance, proposed in 2002 to link EU development aid to the willingness of governments to readmit irregular migrants originating from their own and third countries. The increasing militarization of border patrols at crossing points like the Strait of Gibraltar has not decreased migration, but only decreased legal migration. Consequently, the financial and human costs and risks of migration have increased. Some scholars and politicians therefore argue that migration could only be stopped by promoting social and economic development
in the sending countries. At first sight, such prepositions seem laudable, but they imply, first, that migration is undesirable, and secondly that development in sending countries will actually decrease migration. However there is no empirical evidence that aid and trade policies have had any significant effect on reducing people’s propensity to migrate. It is not the poorest groups of society who migrate; migrants are the “less-poor” of society. Through development programs and remittances the living standard of some less advantaged groups might rise which will make their migration rather more than less possible, Haas believes (2007:828p). In recent years, there has been a remarkable resurgence of interest in “temporary” migration as a perceived solution to migration dilemmas. Various bodies – the European Commission, the World Bank and others – have suggested to boost temporary migration, in particular of low-skilled migrants, as a kind of optimum strategy to reconcile the interests of the migrants and the countries involved. Return migration should be facilitated through assisted return and reintegration programmes. Sending countries would benefit from this temporary migration, it is believed, since the migrants’ human and financial resources would contribute to development. But this approach ignores the fact that temporary migration almost inevitably goes along with settlement of at least some of these migrants and that the enforcement of the return policies might prove to be very difficult. As long as global disparities in life perspectives and the demand for migrant labour at both the upper and the lower ends of the labour market of wealthy countries persist, restrictive immigration policies will have a limited and largely damaging effect (Haas 2007:829p).

Mr de Boeck of the IOM believes that the Senegalese government fears a high immigration rate. They have seen what has happened in Ivory Coast and try to close their borders out of fear of socio-cultural or economic conflicts which might accompany immigration, Mr de Boeck said. These factors, together with the problem of “unproductively” invested remittances, show that migration is no way to develop the country, he told me. Europe today absorbs either low-skilled workers in those sectors where they are needed or highly qualified personnel in a very specific manner\textsuperscript{14}. This practice leaves the sending countries without their work force and their qualified people, Mr de Boeck said. Non-regulated migration will contribute to the destabilisation of the relatively weak African economies. Consequently, it is necessary to encourage people to come back after one or two years, to share their knowledge and competences, and to promote constructive dialogue between all the countries involved (see also Lanly, 1998:1; Riccio, 2001:585).

Mr de Boeck of the IOM told me that concerning the politics of the European Union regarding (im)migration one can distinguish between the prevention of migration through an increase of repression, the promotion of economic growth

\textsuperscript{14} One example for the absorption of low-skilled workers is the programme started by the Senegalese and the Spanish governments in which visas are given to Senegalese workers. The migrant workers are needed in certain sectors of the Spanish economy like fruit harvesting or other manual work. These visas will be temporary and the migrants are expected to return afterwards.
and employment possibilities in the emigration countries and the facilitation of legal ways of migration. The European Union should continue to act along these three lines, he believes. A certain level of management is necessary, according to de Boeck, so as to impede migration of all those people seeing it as the only solution to survive. The borders cannot simply be opened to irregular migration since if this was the case, half of Senegal’s population would leave. That is why sensitization and information of potential migrants regarding all aspects of irregular and legal migration and possibilities to invest in the home country are necessary. At the level of governments, the African Union, NEPAD and the commissions of the UN, this sensitization has already taken place and the actors are conscious of the problematic. But this discussion on the question of migration is still a very young process; an Action Plan exists but has not yet been approved by the governments of the North and South. According to de Boeck the perspective on (irregular) migration has focused on short term strategies for too long; what is needed is a long-time perspective. One further problem that needs to be tackled according to de Boeck is the Euro-Centrism of the European Union. They still focus on their own position and neglect the problem of intercontinental migration. Notwithstanding their official references to development objectives, receiving countries have not so far shown any serious commitment to a genuine policy that addresses the linkages between migration and development beyond the narrow perspective of stimulating the return of unwanted migrants.\footnote{The French-Senegalese co-development programme for instance has started to promote the voluntary return of Senegalese by providing assistance to migrant workers for reinsertion, in the form of credit funds, training programs and so on.}

A declaration released during a meeting of a European delegation and the Senegalese Ministry of the Interior in 2007 reaffirmed the cooperation of the two sides with the objective of decreasing irregular migration. The minister of the Interior asked the European countries to allow for more short term work visa for Senegalese people\footnote{In January 2008 Spain and Senegal, for instance, signed a contract allowing for about 4000 short-term visa.}. Concerning the measures to be taken, both sides spoke the same language and stressed job-creation - especially for young people-, the development of the agricultural sector and the creation of small enterprises (SOFRECO, 2007).

The African Gender Forum, which discussed Migration, Gender and Diaspora in December 2007, urged the governments of migrant sending and receiving countries to collaborate with the IOM on the adoption and implementation of migration policies. The sending countries’ governments should furthermore integrate migration policies in their PRSPs, foster dialogue with the Diaspora and promote work opportunities and investment possibilities for the migrants in the sending countries. Countries of the North and South should promote possibilities of circular migration within Africa and between African and other receiving countries (African Gender Forum 2007).

Apart from migration policies which need to be discussed on international level, the agricultural and economic policies of the countries of the North also need to be addressed when discussing migration motives. Many reasons push African
people to migrate, but among the most important are the effects of the European Agricultural policies. Europe subsidizes its own farmers and stock breeders and exports its excess to African countries\(^{17}\). This practice destroys the agricultural production of African countries. The protectionist trade policies of the rich countries prevent migrant-sending countries from exporting agricultural and industrial products. A more fruitful option than boosting free trade and foreign direct investment would therefore be the opening of the markets of the countries of the North to imports from Africa (Haas 2007:932pp).

Market deregulation does not only open African markets to industrial products, but also to agricultural commodities. The excess production of international agribusiness will often be able to undercut local production costs and by this imported food will increasingly replace locally produced food (Amanor 2005:3). The effects of these policies of course touch most countries of the South, but their effects can also be traced in Senegal. At the largest consumption goods market in West Africa, the Sandaga market at Dakar, for instance, one can find fruit and vegetables from South European countries at less than half the price local products cost.

Road building and infrastructure development do not guarantee improved conditions for agriculture if access to markets, information and transport is unequally distributed within society. According to Amanor, the current combination of liberalised international trade and companies’ monopoly control over internal trade increase the vulnerability of African farmers (2005:4).

A strategy to make African economies less vulnerable to world market conditions and price fluctuations is regional economic integration, Mr Sall of the State Ecological Survey Centre believes. The development of Senegal should be promoted in the national interest, which in the end is in the interest of Europe. If there is equilibrium between the countries of the North and the South, there would be less migration, he explained. If a regional West African market existed, potential problems following the Economic Partnership Agreement (EPA) implementation would not arise, Mr Seck of ENDA argues.

Regional integration is indispensable for Senegal’s development, Mrs Trottier of SOS Sahel agrees. In this world, countries cannot easily absorb economic shocks if they are not members of some wider structure. Today, developments like increasing oil prices have heavy repercussions on Senegal’s economy. West African countries could easily trade amongst each other with those products they produce with surplus. Without this regional integration, the EPA would be a disaster for Senegal’s economy and others in the sub-region, she said. Mrs Trottier favours specific protectionist measures to protect the national market and

\(^{17}\) The EU spent, for instance, 1,1 bio Euro on development aid for 77 poor ACP States in 2002, compared to 47,6 bio Euro in support to its own agricultural sector.
the promotion of national production\textsuperscript{18}. The most important objective in African countries is to achieve food security, which is endangered by the EPA.

Barbaka Gueye of the CECI believes that the countries of the North should export their products at prices which do not include subsidies and which would thus be, more or less, at the same level as those of national production in Senegal. On a national level, the focus should be on agriculture. If the agricultural sector was developed, most young people would stay in the villages. Europe should not only direct its own development aid towards the agricultural sector, but also encourage the Senegalese State do the same. As soon as agriculture provides sufficient basic food for the population, one can think about the development of other sectors like education and health. Mr Gueye believes it to be obvious, that Europe and North America defend their interests; the problem is rather that most African governments do not know what their own interests are. Europe and North America do not understand that their model of development is not the only one existing: “It seems that they want to impose their model on the whole world. But this only means that the others lack political imagination”, he told me.

According to Marius Dia of the CNCR people will continue to leave Senegal as long as the situation in the rural areas does not change. Mr Dia also explained some of the (colonial) roots of Senegal’s dependency on the countries of the North, stating:

\textit{Whatever might be the repressive system put into place by the Europeans, as long as the African countries are in this situation, they will leave, risking their lives. Europe has developed itself thanks to us (...) Europe has to bear a big part of the responsibility for the situation we find ourselves in now. It is necessary that people realize that. They have also imposed the peanut cultivation on us; we’ve not done it before. The French wanted peanut to be grown here to be able to export it to Europe to solve their own problems. They have brought the rice to have a new market for it and till now we don’t cultivate millet anymore. So as long as the economic situation is not solved so that young people will be satisfied with staying in their villages and be farmers, people will leave. (...) In a country like the Senegal one should do everything so that farmers and farmer’s children will be satisfied to be who they are. How can we achieve that? He should be able to feed his family, buy clothes, send the children to school and to treat them when they’re sick. This revalorisation of the farmer’s identity starts with giving him a certain human dignity

\textsuperscript{18} Senegal imports for instance tomato sauce, while enough tomatoes could be grown in the regions of Ndiaye and in the River valley to satisfy the national demand.
Mr Dia also explained that Europe has protected its markets for decades, even centuries, before opening its markets. Now, Europe demands other countries to act the same way but without giving them the time to develop themselves, their internal market and production.

The sociologist Abdou Salam Fall agrees that the main problem Senegal faces today is its economic dependency on the countries of the North:

Emmanuel Seck of ENDA believes that Africa should stop looking at Europe and at what Europe could do for them, but start to count on their own resources. In a certain way, Africa needs Europe, but Europe also needs Africa, so there should be collaboration, but without dependence, he said. Development aid will not solve our problems, since it trickles away at the level of states and governments and people will not feel the impact of aid, he explained.

Mr Seck also problematized the relation between the State and the NGO support. There are a lot of useful development initiatives, but they are not shared and not visible to most rural people, he said. NGO should act complementarily to state’s actions; there should not be any competition between them. People affected by climate changed induced environmental degradation need to know about adaptation strategies. They have developed their knowledge for many years, now it needs to be combined with so-called modern knowledge to reinforce agricultural policies and strategies. People know how to cultivate, but do not yet know how to transform their products and how to organise their markets. To support and finance data collection and implementation of these initiatives would be a useful type of development aid by the countries of the North.

To add, Mr. Secks states that it should not be forgotten that an increasing migration has always been part of economic development processes – especially during an initial period. Migration most often constitutes one of the effects of economic restructuring and development because of the accompanying disruptions and factor movements between sectors and from rural to urban areas (Haas, 2007:828).

4. CONCLUSIONS AND FUTURE RESEARCH

We have seen that Senegalese farmers in the regions my field research focused on face several problems. Among these are problems arising from environmental degradation, but also problems of organisation and inadequate agricultural policies. The most common environmental problems are lack of water, poor soil fertility, salinisation of both soil and water and soil erosion.

In the River valley, where sufficient water is accessible, problems like high saline groundwater tables, delays in delivery of inputs, poor maintenance and high costs of infrastructure lead to a situation in which irrigation has not fulfilled the
hopes of many farmers. The construction of large-scale irrigation networks proved to be more expensive than planned and the rice harvest of the valley could not compete with imported rice. Artificial floods have been inadequate in both magnitude and duration to adequately sustain the traditional floodplain production systems and thus to benefit the majority of adversely impacted people downstream. Nevertheless, where irrigated agriculture is possible and profitable also for small-scale holders, it offers alternatives to migration.

In the Peanut Basin farmers are faced with decreasing soil fertility, lack of rainfall and no possibility to irrigate their fields. This situation leads to an increasing rural exodus which in turn aggravates the living situation in Senegal’s cities – especially in the fields of employment, public infrastructure, waste management and housing.

Future research needs to be done to elucidate the linkage between cultural, economic and environmental factors leading to the people’s decision to migrate. One needs to focus on the search of alternatives to migration and on the question whether these would be acceptable for farmers and their families. One should also try to clarify the distinction between purely environmental reasons for migration and those of the farmers’ problems which arise due to inadequate agricultural policies. Still, some assumptions can already be made on the basis of this field work. I assume that about 2/3 of my migrant interview partners had to leave their home villages due to environmental degradation and the following problems of survival. They should be regarded as environmentally forced migrants (Renaud et al. 2007:29). Those living in more fertile regions, might have had the possibility to develop strategies to make a living in their home regions, but decided to leave since they preferred other activities or wanted a higher living standard. The reasons why they left is partly environmental and natural, but also man-made and politically addressable - like the lack of resources, land and seed of good quality. Since it proves difficult to separate these problems analytically, I would conclude that environmental degradation, whether man-made or not, does play a crucial role, together with other related factors, in the farmer’s decision to leave.

Some of the environmental factors influencing migration can be addressed politically - on both national and international level. As my interview partners said, small-scale agriculture must move into the focus of national politics again, access to land and seed should be guaranteed and access to water facilitated wherever possible. Banks and other credit institutions should be encouraged to prolong the repay periods due to the variability of harvests. Stock-breeding should be promoted as well, since enough land and also water is available in the central regions.

Trade and economic integration within West Africa are important steps towards less economic vulnerability and more independence from international price fluctuations. If these steps are not taken, rural exodus and also international
migration will continue to increase. Climate change induced environmental problems are also likely to worsen, amounting to less harvest, less pasture land and less fishing grounds.

One of the most important findings of this research, as I perceive it, is the fact that all of my migrant interview partners, except for three, said that they would like to return to their home villages if it was possible. Some also said that they will return when they have accumulated enough resources to start farming again. Those who still live in their villages said, without exception, that they would like to stay as long as they could earn a living, but would leave when this was no longer possible. This also means that good conditions in the agriculture and stock-breeding sector could alleviate forced rural exodus and even migration. My interview partners did not agree on the question whether national development should start with the development of the agricultural sector, or whether the secondary and tertiary sectors needs to be promoted just as much. The most urgent problem is obviously the situation in rural and agricultural regions, but maybe this is not an “either-or” question and national development should regard all these sectors and mentioned aspects.

The environmental degradation and desertification in Senegal may be permanent. The level of soil fertility and availability of water common in the 1950s or 1960s for instance may never be reached again and will perhaps worsen. While the situation in the River Valley might improve once more land is irrigated and equitable land distribution mechanisms are implemented, the situation in the Peanut Basin will probably continue to degrade. Here, other activities - like stock-breeding, trade and manufacturing businesses - are needed to offer rural people the possibility of earning their living in rural areas.
5. REFERENCES


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Annex

Table 1

Main environmental problems encountered by my interviewees -(non)migrants

<table>
<thead>
<tr>
<th>Number of interviewees Mentioning problem</th>
<th>Lack of water</th>
<th>Poor soil fertility</th>
<th>Lack of seed and fertilizer</th>
<th>Lack of equipment and infrastructure</th>
<th>Lack of resources in general</th>
<th>Lack of animals and animal food</th>
<th>Lack of cultivable / pasture land</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Peanut Basin</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Region of St. Louis</td>
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<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Migrants Kaolack</td>
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<td>4</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Migrants St. Louis</td>
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<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>16</td>
<td>17</td>
<td>15</td>
<td>14</td>
<td>7</td>
<td>6</td>
<td>31</td>
</tr>
</tbody>
</table>

Interview material

Interviews with migrants and habitants of the rural communities affected by environmental degradation and migration
migrants: nine at Kaolack,
three at St. Louis,
non-migrants: 15 at the villages of Ndienne Lagane and Ngoth (RC of Dya) in the Peanut Basin,
four at Ndiol (RC of Ross Mbethio) in the River Delta
plus informal conversations with village habitants

Expert Interviews conducted

Association des Femmes Africaines pour la Recherche en Développement (AFARD), Dakar, Mrs Diop
Centre de Suivie Ecologique, Dakar, Mr Moussa Sall
Centre Canadien des Etudes sur le développement (CECI), NGO, Dakar, Mr Barbaka Gueye
Conseil National de Concertation des Ruraux (CNCR), Dakar, Mr Marius Dia
Direction de l’Environnement – changements climatiques, State service, Dakar, Mrs Gueye
Direction de l'Environnement – regional state service, St. Louis, Mrs Diop
Environnement et Développement en Afrique (ENDA), NGO, Dakar, Mr Emmanuel Seck
Institut Fondamentale d’Afrique Noire, Université Cheikh Anta Diop, Dakar, Mr Papa Demba Fall, sociologist
Institut Fondamentale d’Afrique Noire, Université Cheikh Anta Diop, Dakar, Mr Abdou Salam Fall, sociologist
International Organisation on Migration (IOM), Dakar, Mr Laurent de Boeck
Projet Biodiversité, GTZ, St. Louis, Mr Ditmar Schorlemer
Société d’Aménagement et d’Exploitation de Delta (SAED), St. Louis, Mr Mamadou Thien
Société d’Aménagement et d’Exploitation de Delta (SAED), St. Louis, Mr Touré
SOS Sahel, NGO, Dakar, Mrs Sarah Trottier
UNDP – Habitat Programme, Dakar, Mr Mansour Tall
Union des Collectivités de Tegune (UCT) and others, Kaolack, Papa Maisar Fall
VREDERSEILANDEN / Ile de Paix (VECO), NGO, Dakar, Mrs Roos Willems

And the discussion during the Conference on Renewable Energies, Dakar

Acronyms

ACP- African, Carribean and Pacific
AFARD- Association des Femmes Africaines pour la Recherche en Développement (Association of African Women for Research on Development)
ANCAR – Agence Nationale de Conseil Agricole et Rural (National Agency for Rural and Agricultural Advice)
APROFES – Association pour la Promotion de la Femme Sénégalaise (Association for the Promotion of the Senegalese Woman)
CECI- Centre Canadien des Etudes sur le Développement (Canadian Centre of Research on Development)
CERP – Centre d’Expansion Rural Polyvalent (Multidisciplinary Centre of Rural Expansion)
CLCOP – Cadre local de Concertation des OP (Local Concertation Structure of Farmers’ Organisations)
CNCAS – Caisse Nationale de Credit Agricole Senegalaise (National Agricultural Credit Bank)
CNCR – Conseil national de Concertation et de Coopération des Ruraux (National Council for Farmer’s Cooperation)
DER – Direction de l’Expansion Rurale, coordinating the CERP (Directory of Rural Expension)
FAO- Food and Agriculture Organization
FES – Friedrich Ebert Stiftung (Foundation Friedrich Ebert)
GDS – Grandes Domaines du Sénégal (private agricultural company)
GTZ – Gesellschaft für technische Zusammenarbeit (Society for Technical Cooperation)
IFAN- Institut Fondamentale d’Afrique Noire, Université Cheikh Anta Diop (Fondamental Institute of Central Africa)
IIED – International Institute for Environment and Development
LDP - Local Development Plan
NEPAD- New Partnership for Africa’s Development
OMVS - Organisation pour la mise en ouvre du fleuve Sénégal (Senegal River Basin Authority)
OP – organisation paysanne (Farmers’ Organization)
PRSP- Poverty Reduction Strategy Paper
RC – Rural Community
RCI – Rural Council
SAED – Société d’aménagement et d’exploitation du Delta (Society for the Management and Exploitation of the Delta)
SOCAS - Société de Conserves Alimentaires au Sénégal (private food processing company)
SOFRECO – Société Française pour la Réalisation d’études et du Conseil
SONACOS – Société Nationale..?
UNCCD - United Nations Convention to Combat Desertification
UNDP – United Nations Development Program
VECO - VREDERSEILANDEN / Ile de Paix / VE