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NATIONAL REPORT

SENEGAL AND THE CHALLENGE OF SUSTAINABLE DEVELOPMENT

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SUMMARY

LIST OF ABBREVIATIONS

SENEGAL AND THE CHALLENGE OF SUSTAINABLE DEVELOPMENT

1. Introduction

The importance of sustainable development¹ is an increasingly unavoidable reality, expressing the deep-seated desire of existing populations to satisfy their fundamental needs in a world of peace, solidarity and equality, as well as demanding respect for their freedom, basic human rights, the environment and the needs of future generations.

Given these ambitions and aspirations, there is no need to emphasise the complexity of sustainable development, which, as well as respecting the environment also incorporates the further dimensions of economic, political, social and cultural sustainability². This aspect of development was recognised by the Senegalese authorities in 1984³, thus demonstrating that, politically, they were ready to take responsibility for the fundamental needs of the population.

Senegal, a country in the Sahel region faced with difficult climate conditions and limited resources, was quick to recognise the constraints and challenges it would have to confront in order to assure its population of a suitable environment for economic and social prosperity. The different orientation plans for economic and social development⁴ set up by the state on orders from the International Monetary Fund (IMF) and the initiatives taken by the civil society, different groups, associations and non-governmental organisations highlight the contributions made by a wide range of people to tackle the challenges associated with sustainable development.

In the 70s, the politics of financial reestablishment and economic adjustment came to the fore, encouraged by a series of dialogues with financial backers in a highly unfavourable international and natural background. This environment was marked by erratic movements of the dollar and interest rates, brutal rises in energy prices, the dropping off of the price of raw materials, the restriction of traditional markets and recurrent drought making the economy particularly vulnerable.

The vulnerability of Senegal's economy was increased at the beginning of the 1980's as resources from exports and outside contributions were not being put to productive use, consumption was increasing thereby hindering the creation of domestic savings and the potential for production was falling alarmingly following destruction of natural ecosystems.

The end of the 1980's was characterised by major transformations on the international stage, particularly the advent of the West African Economic and Monetary Union (WAEMU), the creation of the World Trade Organisation (WTO), a worldwide relaxation of restrictions and deregulation. The devaluation of the CFA (French-African financial community) franc in

¹ Bruntland defines this term as "a type of development which should meet present needs without compromising the possibilities for future generations to meet their own [...] a process of change in which the exploitation of resources, the use of new technologies and investment in development and institutional change are all in keeping with this aim and promote the current and future abilities of every man to meet his needs and ambitions".

² See "Towards a sustainable Senegal, Enda's point of view", August 1995.

³ "The essential goals of our society projects are to provide work, water and food, primary education, freedom and cultural opportunities for all" Abdou Diouf, speaking before the Economic and Social Council, 21st March 1984.

⁴ Senegal is currently putting together its 10th plan.

January 1994 within the franc zone and the accompanying reforms offered new more favourable prospects.

However, Senegal's problems throughout the 90's were still dominated by physical and structural constraints. Systemic changes for restructuring areas of competition and cooperation with a view to increased productivity led to a re-assessment of the relationship between growth and development. To this effect, as well as global productivity factors, a position of importance must also be granted to what is at stake environmentally and the fight against poverty in achieving development that is at once human and sustainable.

It is worth noting that, during these periods, documents were worked out relating to planning, programming, re-establishment and adjustment. But it was not until 1989 that a study was carried out on Senegalese society and its natural and international environment to act as a guide in the strategic decisions involved in the mid-term orientation plans.

The major trends to be brought to the fore by the year 2015 include:

- ? The continuing damage to the environment brought about by the cumulative effects of population pressure, particularly the rapidly increasing urban demand, which has raised consumption of ligneous fuels;
- ? The 100% population increase over 25 years, a rapidly growing urban population which makes up 56% of the total population, a town/countryside ratio which will reach 127% in 2015;
- ? Upholding the administration restraints in urban areas relating to spontaneous occupation and illegal trespassing;
- ? An urban environment which needs financial resources and technical solutions to meet the many demands for infrastructure and equipment;
- ? An imbalance between rapidly increasing consumption and limited levels of supply due to weakened production systems;
- ? Insufficient quantity and inefficient use of investment
- ? Inadequacy in education and work, deterioration of working conditions within the education system and growing class sizes;
- ? The risk of a breakdown in communication between the state and an increasingly disjointed society.

The 8th orientation plan from 1989-1995 was committed to five strategic guidelines defined in the prospective study to tackle the sluggish trends in the Senegalese economy. These were to:

- ? Raise, in a sustainable manner, the nation's global productivity
- ? Generate an atmosphere of responsibility and solidarity
- ? Adapt the education system, strengthen capabilities for development and improve social communication
- ? Consolidate national autonomy and take advantage of opportunities for international co-development.

The areas of action covered by the 8th plan aimed at improving living conditions focused primarily on the rural world, on promoting private initiative, helping small and medium sized businesses, making better use of human resources, regional development and extending the role of the private sector. The new strategies, therefore, emphasised the importance of reliable food and energy supplies, improving housing quality and living standards, sustainable

and continuing economic growth and employment levels, public safety and stable financial resources.

As for the 9th Economic and Social Orientation Plan (1996-2001), its aims were to realise healthy and sustainable growth. Drawing from the strategic guidelines set out in the prospective report, Senegal 2015, the 9th plan defined the following nine strategic orientations:

- ? To make regulations better suited to promoting healthy competition between different players and encouraging greater investment
- ? To improve sub-regional integration and international cooperation
- ? To develop private initiative and support the changes in the field of self-organisation
- ? To adapt the financial environment to businesses' needs and improve national saving
- ? To improve state intervention in providing basic services and infrastructure
- ? To strengthen regional development and integration
- ? To improve the education system, particularly technical training and basic education
- ? To improve and facilitate access to information and promote social communication
- ? To aim at putting human resources to better use and reversing unfavourable demographic trends.

The political will Senegal has demonstrated since independence through different economic and social development plans has been widely supported by the international community. Admittedly, the results achieved have not quite reached the level of the professed ambitions, taking into account the increased level of poverty, the continuing damage to the environment, the abuse of natural resources, the precariousness of urban and rural infrastructure (roads, sanitation network, schools, health centres, hydraulic structures, etc.) to name but a few.

However, the improved recognition of the rights of every citizen since Senegal's independence should not be underestimated. The opening up of democracy and the protection of individual freedom within the state are achievements to be consolidated and built upon. In addition, the promotion of a self-organising society, the progressive initiatives taken by the public, the setting up of associations and non governmental organisations as well as improved participation in decision making processes and the implementation of development programmes are among some of the most tangible assets for sustainable development.

Besides, throughout the opening up of its political spectrum, Senegal has been present at various sub-regional, regional and international conferences on major questions concerning development, the environment, trade, debt, health, peace, government etc. The United Nations Conference on the Environment and Development, held in June 1992 in Rio de Janeiro, presented Senegal with the chance to reaffirm its solidarity on environmental questions whilst questioning the international community about its own concerns such as the fight against desertification and poverty. Senegal's national report allowed the country to draw up a national agenda 21. Since that conference, Senegal has ratified most of the agreements set out in Rio. It has also developed several documents on national strategy and initiated programmes and projects relevant to the agreements. In particular:

- ? The National Action Plan for the Environment
- ? The National Action Programme for Fighting Desertification
- ? The National Strategy and National Action Plan for Conservation of Biodiversity
- ? Initial Communication in Climate Change

- ? The National Strategy for action against Climate Change
- ? The National Plan for the Fight against Poverty
- ? The Action Programme for Eliminating Ozone Damaging Substances
- ? The National Plan for Sanitary and Social Development
- ? The Plan of Action 1997-2000 for Women

Institutions and forums for dialogue were put in place in preparation for following up these strategies and plans of action. These were:

- ? The National Commission for Sustainable Development
- ? The Higher Council for Natural Resources and the Environment
- ? The National Committee on Climate Change

The next United Nations Conference on Sustainable Development which will take place in Johannesburg in 2002, ten years after Rio, will be an important evaluation stage for Senegal's progress, as for all the world's other countries, in the search for sustainable development conforming to the principles of Agenda 21.

2. The history of sustainable development in Senegal: sustainable development led by political, economic and environmental contingencies

It is not easy to map out the beginnings or a chronology of sustainable development in Senegal, or indeed on an international scale, principally because of the complex nature of the concept and its different dimensions. Should the point of departure be the moment at which environmental concerns began to be taken into account in the country, while bearing in mind that sustainable development covers much more than just the environment? Or should we look to the initiatives taken by various key players in development to put Agenda 21 into action, proving that the international community was ready to take responsibility for sustainable development?

2.1 The beginnings of sustainable development

Senegal was not unaffected by the global environmentalist movement in the 1970s which led to the organisation of the Stockholm Conference on the Human Environment in 1972 and the creation of the United Nations Environment Programme (UNEP) in the same year. These initiatives marked the beginnings of sustainable development on an international level, with strong environmental connotations.

The 26 principles resulting from the Stockholm conference could not but affect a country such as Senegal which is not only faced with the problems of managing their natural resources, drought and desertification but also economic and financial imbalances. It is not, therefore, surprising that Senegal adhered to several international conventions on managing natural resources before UNCED 92, such as:

- ? The African Convention for the conservation of the natural environment and natural resources passed in Algiers in 1968, ratified in 1972,
- ? The Convention on Wetlands of international importance, particularly as habitats for water birds (RAMSAR, 1971) ratified in 1977;
- ? The Convention for the protection of world, cultural and natural heritage part of the 1972 UNESCO Convention, ratified in 1975;

- ? The Convention on international trade in endangered species of wild flora and fauna (CITES), part of the 1979 Bonn Convention, ratified in 1983;
- ? The Convention of the conservation of wild life and natural environments in Europe, part of the 1979 Bern Convention, ratified in 1987.

The negotiation and ratification processes and the implementation of these agreements played a major role in making politicians, decision-makers, NGOs and the scientific community aware of what was at stake as regards the management of natural resources and biodiversity in the economic and social development of the country. Furthermore, the projects initiated as part of these agreements provided content for the different development plans and helped to strengthen national capacities for managing natural resources.

Environmental Development Action in the Third World (Enda-tm)⁵ – an international non-profit making organisation – was also founded as part of this movement in 1972 in Dakar. Enda was one of first non-government institutions created in Africa working in the fields of development and the environment. Their work is mostly with grassroots groups on research into and the implementation of an alternative system of development, which means:

- ? Defining and implementing a system of development which serves the greatest number of the poorest people
- ? The fight against poverty
- ? Increased involvement in international debates to ensure that third-world positions are heard and taken into account.

Enda has made a significant contribution to current thinking about sustainable development in the Third World, particularly in Senegal, through development action carried out with grassroots groups based on research, training and education. Through these programmes, a team, based on voluntary participation, of leading intellectuals and managers from various governmental and non-governmental organisations has been mobilised to contribute to all stages of decision-making and action. Think tanks, work groups and networks have been set up to outline positions and approach strategies, based on the experiences and participation of local populations.

Beyond the international movement, the beginnings of sustainable development in Senegal must be seen in connection with several major concerns such as the sustainability of natural resources and economic growth, the fight against poverty and sustainable human development. These concerns are some of the permanent challenges facing the Senegalese economy. The state and civil society have played a major role in drawing up and implementing public policies as well as running sustainable development programmes and projects.

2.2 The State's Role

Senegal's Public Authorities have helped to formalise sustainable development and put plans into operation. Following the orientation policy for economic and social development, efforts have been made to take responsibility for the different facets of sustainable development. A few years ago, the wide spread realisation that natural resources were being poorly managed and that damage to the environment was continuing made people begin to think more about

⁵ See www.enda.sn

the sustainability of development programmes. Even though management of natural resources and the fight against drought and desertification were the bases for public policies on matters concerning sustainable development, it is worth noting that it was not until the 9th plan that a strategic approach to sustainable development was really integrated into the programme's logic.

2.2.1 Sustainability of natural resources and environmental concerns in development planning

The successive droughts during the 1970s and their effects on the population (famine, mass exoduses, the growth of shanty towns, etc.) made public authorities aware that drastic measures were needed to stop the continuing damage to natural resources. Various programmes, therefore, were set up with the aid of development partners to help the populations deal with the ecological crisis. In tackling the problems associated with managing the environment and natural resources, the public authorities mostly intervened with forestry activities.

The intervention strategies⁶ have undergone several major changes since the 1960s, from a methodological point of view, putting greater emphasis on the participation of the populations themselves. Intervention under state control, which was widespread in the 1960s, came to be replaced by a community approach, adopted by many projects at the beginning of the 1980s, which aimed at making local populations aware of their responsibilities by contract. The beginning of the 1990s saw the adoption of the participative approach, which recognised the essential role played by all participants and community organisations in managing natural resources and fighting against desertification.

The UNCED held in 1992 was the prelude to the adoption of a new decentralised and participative approach to questions of natural resource management and the fight against desertification. This approach attempts to bring together the different expectations of all the different participants (the local authorities, community organisations, the private sector, NGOs, the state, volunteer groups, etc.) and to combine their efforts to create a group dynamic based on active teamwork.

The redevelopment of the intervention strategies was followed by institutional and legal transformations to help implement the public policies. As well as the ministerial department in charge of the environment, which was created in 1978, various national departments and national research centres are working on improving the management of natural resources and fighting against desertification.

The Department for water, forests, hunting and soil conservation are in charge of ground conservation, reforestation and managing fauna and fishing on the continent. Other structures are involved in the planning, implementation and coordination of management policies (CONSERE, the Centre for ecological monitoring, the departments for rural expansion, cattle rearing, agriculture, national parks and national meteorology). The results were used by research centres such as ORSTOM, Cheikh Anta Diop University in Dakar and ISRA to help them with their research into solutions to tackle drought and desertification.

⁶ See National Action Programme for the Fight against Desertification: Experimenting with three methodological approaches (intervention under state control, a community approach and a decentralised, participative approach).

Since 1960, Senegal has introduced a collection of new legal rulings to promote action which protects the environment and prevents conflicts linked to access to or control of natural resources. In particular: the law on state-run property (1964) completed by including texts related to managing other natural resources, the forestry code, the environment code, the water code, the hunting and fauna management code and the mining code.

In the 9th plan, the emphasis was put on improving coordination and the way in which internal and external resources were put to use in support of national development initiatives. The environment was taken to be an essential element in achieving a sustainable development based on the principles of managing natural resources, waste management, environmental education and the implementation of environmental action plans and schemes for different levels of intervention.

Managing the environment is a multi-sector activity made up of different basic activities such as agriculture, cattle breeding, fishing, mining, energy and industry, tourism, urban activities, health and sanitation and transport.

The analysis of these different sectors within the framework of PNAE (National Environmental Action Plan) has led to the definition of different strategies and sector plans which take the environmental dimension into account.

2.2.2 Economic sustainability and the fight against poverty

As well as the ecological crisis, the laws passed since the end of the 1970s were heavily influenced by the structural imbalances in the Senegalese economy. The continuing efforts to achieve a lasting economic growth on which to base improvements in the population's living conditions led the Senegalese authorities, under orders from the World Bank and the International Monetary Fund, to move towards stabilisation policies and programmes for structural adjustment.

These policies and programmes, which were supposed to lead to macroeconomic improvements, failed to live up to expectations. The slowing down of economic growth caused the Senegalese State to announce an emergency plan in 1993. Although a positive economic growth of 2.9% in real terms and more than 5% on average between 1995 and 2000 was resumed following the devaluation of the FCFA in January 1994, this growth was achieved at the expense of education, health, basic social infrastructures, investment and employment. Poverty in rural and urban areas had increased dramatically.

Following initiatives and reflection on the social side of adjustment programmes, institutions such as Bretton Woods and the United Nations decided to place poverty as the central concern for political intervention in development. Action in Senegal was initiated by implementing specific programmes to counteract poverty centred around health, education, basic infrastructure etc. A plan of action for fighting poverty, formulated in 1997, was put into place. The aim to reduce poverty by half by the year 2015 required the establishment of a social and economic policy directed towards sustainable human development. The global strategy for fighting poverty, which was in the process of being worked out, was in keeping with this aim for redistributive growth and meeting basic needs.

2.2.3 National Agenda 21: an attempt to define a system of intervention in matters of sustainable development

The national Agenda 21⁷ drawn up in 1992 as part of the movement in preparation for the UNCED, Rio 92, drew on the prospective study Senegal 2015 which relieved the sluggish tendencies of the Senegalese economy. The major challenges in achieving sustainable development were defined according to the following major lines:

- ? Controlling demographic growth and urbanisation as well as slowing down migratory movement;
- ? Meeting food and energy needs;
- ? Putting an end to the destruction of natural habitats and resources;
- ? Meeting water needs;
- ? Achieving an adequate level of employment;
- ? Repaying debt.

Seen in this light, an understanding of sustainable development in Senegal must take into account the rural nature of the economy and the instability of resources, the increase of poverty, the fragility of natural habitats and the instability of ecological and economic trends.

Several recommendations and projects were proposed in the following areas:

- ? The fight against desertification (deforestation, soil erosion, improving the productivity of ecosystems, restoring an ecological equilibrium, salinisation, soil acidity, deterioration of biological diversity);
- ? Lasting water management (providing sufficient quantities of drinking water, managing water resources, maximising the use of existing water resources, suppressing financial constraints, planning and managing water resources);
- ? Building and improving quality of life by managing natural resources, fighting against pollution, ending the destruction of natural habitats and resources;
- ? Transport and energy security (modifying and managing transport needs, developing efficient transport, improving vehicles and fuels, controlling the environmental effects of investment into the transport sector, improving the use of transport and the maintenance of infrastructure and vehicles, improving production efficiency and consumption of energy products, particularly wood);
- ? Maintaining economic growth and rising levels of employment (policies on prices and wages, giving producers access to credit, promoting agricultural inputs, introducing economic incentives, developing human resources, creating and promoting eco-industries or eco-businesses);
- ? Repaying national debt and maintaining a stable economy (resolving debt-related problems and additional financial resources, securing investments and contributions);
- ? Meeting food needs (improving production and increasing efficient use of natural resources in agriculture, forestry and pastoral activities, soil restoration and conservation, exploiting water, improving cultural techniques and methods for treating and conserving food, introducing security stocks, meeting water needs);
- ? Rehabilitating and protecting marine areas (fighting against coastal erosion, destruction of in-shore lakes and lagoons and the mangrove, maintaining protected areas, fighting against marine pollution);

⁷ Ref. National Report, towards a sustainable development, UNCED, Rio 92

- ? Sensible and long-term waste management (preventing pollution, sanitation, dealing with dangerous waste materials).

About 13 projects were defined as part of Agenda 21 which were linked by the major themes raised at the UNCED 92. These were:

- ? Rehabilitation and protection of the coast
- ? Managing hydraulic resources
- ? An adjustment programme for the agricultural sector
- ? An action programme for the tropical forest
- ? Building a dam from Saint Louis in Northern Senegal to Bakel
- ? Developing and managing the southern forests
- ? Conservation of biodiversity and developing / promoting biotechnologies
- ? Developing and promoting renewable energy sources in rural areas
- ? Creating an energy saving programme
- ? National action plan for the environment
- ? Soil conservation and restoration
- ? Developing and building the country's research capacities and facilities
- ? Putting into effect the action plan for the left bank of the river Senegal

2.3 Civil Society's role

The unexpected droughts in Senegal and in other countries in the Sahel during the 1970s played a significant part in raising national and international awareness on the country's ecological and social crisis. It was at this point that civil society began to form itself into groups and associations and several NGOs were set up who, with the support of Northern NGOs, invested primarily in helping the disaster victims but also in reforestation projects and integrated development projects which involved the populations concerned.

As well as drought and desertification related activities, or more precisely the protection of the environment and managing natural resources, these civil groups also invested in several other areas of sustainable development such as education, health, agriculture, demographics, the fight against poverty, defence of human rights, in particular the rights of women and children, promoting peace and democracy, etc.

Admittedly, all these initiatives concern selective ground work, often dispersed and insufficiently coordinated and their durability remains to be seen. All the same, it is important to note that the fights against desertification and against poverty were two areas of interest in which civil society groups presented themselves in partnership with public authorities. Enda is still one of the only NGOs to have based their method of approach on research, action and training, allowing them to formulate an integrated framework of sustainable development adapted to the needs of grassroots groups in a multi-sector programme suited to society's needs.

2.3.1 Civil Society and fighting against desertification

Civil society also made a significant contribution to action in the fight against drought and desertification through development projects integrating regeneration of natural habitats, awareness programmes, information and basic training for participants.

In this way NGOs acquired a valuable capital of experiences in matters such as:

- ? Creating discussion forums on environmental and development issues;
- ? Planning and programming capacities, installing and managing projects, follow-up and evaluation work;
- ? Community development and mass organisation

In addition, farming organisations, which constitute the most dynamic element of the associative movement, were strengthened and diversified. They are multiform – both in terms of structure and in their areas of intervention. Several initiatives were taken, particularly concerned with developing the most underprivileged areas, fighting against soil salinisation and silt build up in the valleys. These initiatives were taken alongside those of the NGOs, environmental protection agencies, sporting and cultural associations and organisations for women.

The NGOs intervention strategies and the associative movements have undergone an evolution since the 1970s from a community approach to a decentralised, participative approach. This evolution was made possible by support from Northern NGOs and donors, following the evaluation of past experiences. Looking at the limitations of former experiments, it became clear that the populations concerned had to be involved throughout the process of sustainable development. The NGOs and the associative movement made every effort to progressively adapt themselves to this participatory approach.

The new laws affecting local communities were in keeping with this idea. They helped to reinforce the prerogatives of local communities in managing natural resources.

2.3.2 Civil Society and fighting poverty

The formation of NGOs and associative movements in the 1970s and 1980-90 is proof of the heavy involvement of civil society in taking responsibility for the population's problems. Although their actions were initially focused on questions relation to the environment, they did not lose sight of improving living conditions. Therefore several smaller integrated development projects were set up with the aim of ensuring a reliable food supply and improving provisions of water, energy, health and education, to name but a few.

It should be recognised, however, that since the 80s, civil society has been faced with real problems of poverty due to the disastrous social effects of the structural readjustment programmes. Therefore, national authorities, under pressure from the civil society, have committed themselves to a negotiation process to develop social programmes to overcome the growing impoverishment of the population. These programmes received support from branches of the United Nations, in particular UNDP, OMS, FAO, UNESCO to name but a few, as well as from bilateral cooperation.

The participatory process advocated by these programmes as well as the development of micro-enterprises affecting basic populations, are an important part of the intervention by civil society. Several NGOs and farming organisations integrated the fight against poverty into their intervention strategies, which often differed from the public authorities' or donators' approaches. The main strategy was to promote revenue generating activities, financing and flexible credit systems, as well as improving access to basic social infrastructure.

2.4 The role of the market

Although it was the ecological and economic crises that dominated Senegal's social and economic development history over the last three decades, the workings of the national and international markets played an significant role in aggravating the situation and further emphasising the importance of sustainable development.

In terms of energy, Senegal was dependent on imports of petroleum products. The RENES programme in 1981 (Energy Redeployment in Senegal) was put into place following the second oil crisis which caused massive increases in the price of petroleum fuels. The priorities of this programme were redefined in line with the new industrial policy launched in February 1986 and the Structural Adjustment Plan (1989). The RENES 2000 programme (an updating of RENES 1981-90) placed the emphasis on:

- ? Preserving the environment through reducing the consumption of ligneous fuels and improving the use of forestry for energy needs;
- ? The redeployment of energy development in favour of national fossil resources and hydroelectricity;
- ? Rehabilitating and modernising energy infrastructure;
- ? Promoting a policy to make energy prices more attractive for businesses;
- ? Improving access to modern energy sources, particularly in rural areas.

Evidently, fluctuations in price in world markets had a direct influence on external equilibriums but they could also disrupt the development of all other forms of energy, as well as the whole national economic system.

Senegal suffered greatly from the deterioration of trading terms on agricultural products (groundnut products), from the rise in cost of other goods and services (electricity, water) linked to the increased cost of petroleum products and the increased debt service due to fluctuations in the exchange rate of the dollar.

As for the domestic market, it is worth noting that the price structure for charcoal shows that the price for this particular fuel remained low because of a low forestry tax. This pricing policy contributed to the rise in charcoal consumption and increased destruction of forests. Following the devaluation of the FCFA, the price of charcoal rose significantly (by 60%) which led to a drop in consumption.

3. The current state of sustainable development: Political will faced with continuing deterioration.

The heavy setbacks to the Senegalese economy such as drought and desertification over the last few decades as well as the mismanagement of certain policies (agricultural and industrial) have been a major handicap in achieving sustainable development. These setbacks have led to severe soil erosion, unstable living conditions, a drop in the land's productivity and a decline in forest areas and biodiversity. There are, in addition, the problems of pollution, the sharply rising sea-level and the exhaustion of water and sea resources.

As well as these physical constraints, the socio-economic situation in the country is hardly optimistic and is putting the development of the country at risk.

3.1 A heavy demographic profile

The country's demographic profile is characterised by:

- ? Rapid population growth due to lowered mortality rates and higher, more stable birth rates. The inter-census growth rate (1976-1988) was 2.7% per year. The population was estimated at 9,037,906 inhabitants in 1998;
- ? A rapidly growing population with an uneven geographical distribution – highly concentrated in the western and central areas of the country where ground and water problems are most acute. Regional density varies from 50 to 3400 inhabitants per km² whilst the areas with hydraulic potential are very scarcely populated – 7 to 30 inhabitants per km²;
- ? Rapid urbanisation marked by a strong concentration in Dakar and its suburbs where the density is 3400 inhabitants per km². In 1997 Dakar was home to 26% of the population and this figure is estimated to rise to 29% by the year 2005. The urbanisation rate was 43% in 1997 – the urban population has grown by 4.6% per year since 1979;
- ? A young population with more than 56% of the population under the age of 20;
- ? An increased fertility level, although the growth rate is slowing slightly, and raised levels of infant and juvenile mortality. The mortality rate is currently at 18 in every 1000, the infant-juvenile mortality rate has risen to 131 in every 1000 and child mortality is at 68 in every 1000.
- ? Increasing domestic and international migratory flux.

The estimated population for the year 2016 is based on hypotheses of lowered fertility rates, mortality rates and birth rates and limited international migration. The demographic objectives foresee a lowered natural growth rate from 2.6% in the year 2000 to 2.2% in 2015. Senegal's demographic profile in the year 2015 is thought to be the following:

- ? A 100% population increase since 1988 with the population reaching 16 million;
- ? A tripled urban population reaching 9 million inhabitants;
- ? A small increase in the rural populations to 7 million inhabitants;
- ? A significantly higher town-countryside ration at 127%;
- ? A high percentage of young people, making up between 54% and 56% of the total population;
- ? The geographic distribution of the population will continue to be heavily weighted towards the west, particularly in the Dakar region where the population will increase to 5 million;
- ? Population density will be on average 82 inhabitants per km² with 9000 per km² in the Dakar region.

This profile will depend on various socio-economic factors, particularly the average income, education and health strategies, housing and environmental policies, employment levels and social security.

3.2 A worrying health situation and a health policy aimed at the most vulnerable groups

The health policy has been an essential part of national development since 1960 with the introduction of health decentralisation policy. Strategies concerning health and sector reforms

have been a major part of health policy since 1989. These have focused on primary health care and involving local populations in the management of health projects and programmes. The main target for these programmes has been the most vulnerable groups, particularly women and children.

Despite the measures agreed to by the state to increase the health budget over the last ten years (5% per year since 1990 with a view to allocating an average of 9% of the national budget as recommended by the WHO), social health indicators remain worrying. Admittedly, health has improved since 1960 with a drop in gross mortality rates. However, health service coverage deteriorated between 1983 and 1993 and the infrastructure and health personal coverage levels are still lower than those recommended by the WHO.

The National Plan for Health Development (NPHD, 1998-2007) is devoted to the new orientation in state policy during the coming years with the priority for the next five years being reducing infant and maternal mortality. The maternal mortality rate for the period from 1979-1992 was 510 mothers dying for every 100,000 successful births. It was 450 in urban areas in 950 in rural zones.

The Integrated Development Health Programme (IDHP) should promote better use of information systems to improve management, the introduction of contracts particularly among local communities, strengthening personnel, and improving health programmes and coordination.

Moreover, the health system is facing serious problems with increasing outbreaks of endemic diseases (malaria, AIDS), and malnutrition particularly among vulnerable groups (women, children and the unemployed).

3.3 Disparities in the education system

Progress has been made in education in the last few years with the introduction of several important programmes. The percentage of children in full time education has risen from 50% in 1993 to 62% today.

Preschool education has increased noticeably during this time, largely due to support from the private sector.

As for elementary education, there are significant regional disparities in the schooling, particularly concerning type of instruction available in different regions and housing areas. In certain areas (Dakar and Ziguinchor) more than 9 children in 10 are in full time education, whereas the rate is less than one child in two in regions such as Diourbel and Kaolack. The gross number of children in education is now 73% of boys and 58% of girls compared to 68% of boys and 56% of girls in 1997/98, which shows that girls are suffering from limited access to education. The school-age population is higher for girls than for boys at every level of education.

The gross number of children in middle education is at 22% compared to 20% in 97/98 and 21% in 96/97. Inequalities remain between regions and the sexes. Girls make up 39% of all pupils; 85% of classes and 86% of pupils are concentrated in urban areas.

In 1998/99 the number of pupils in secondary education was 9% of the population of that age group. This represents only 6% of girls compared to 6.7% in 95/96. Technical education makes up for 7% of the total of which 36% are girls.

A major characteristic of higher education is disruption in teaching, particularly at the Université Cheikh Anta Diop. About a third of students are those who have just passed the baccalaureat (A-Level equivalent). The number of girls in higher education remains low (27% in faculties and 20% in university institutions) and the teaching body is only 14% female.

Illiteracy affects about 60% of the population of people under 20 and 67% of 15 to 49 year olds.

The main aims of the Ten-Year Education and Training Programme (PDEF, 1998-2008) are: the fight to overcome illiteracy; making primary education more widespread and progressively improving its quality; improving levels of secondary and higher education in terms of financial capabilities, quality objectives and private sector contributions; restructuring technical and professional education, taking into account the demands of the employment market; and gradually reducing regional disparities.

The implementation of this programme involved a decentralised management of the sector with a view to encouraging participation in the education system by local communities.

The PDEF is designed to take into account the trends and disparities in the education system marked by inadequate levels of training and employment, the growing number of pupils, and disparities between regions and the sexes. There is a risk that these setbacks will bring about a drop in the number of children in full time education, and an increase in illiteracy levels and a deterioration of studying and working conditions. The increase in young unemployed graduates, the difficulties involved in making up for gaps in schooling, a lack of organisation and the failure to capitalise on the possibilities of the informal sector are all threats to political, social and economic stability.

3.4 The gradual decline in employment offers despite a growing demand

The general census of job seekers in 1999 (RGDE 99) registered 157,063 jobseekers. It also showed regional inequalities with Dakar having the highest percentage (21%) and inequality between the sexes (36% female). Around 56% of job seekers are aged between 15 and 35 whereas 39% are between 35 and 60. Almost 57% of job seekers are not qualified and only 6% have had professional training.

The number of permanent jobs on offer is dropping and the unemployment rate in Dakar, according to the survey on household spending in the capital, is estimated at 13%.

3.5 Worsening poverty

Poverty in Senegal is characterised by the following:

- ? A very high level of poverty with 65% of the population and 58% of households below the poverty threshold;
- ? A HDI (Human Development Indicator) of 41.6% according to the 2000 UNDP report placing Senegal as one of the world's 20 poorest countries – 154th out of 174 countries;

- ? Marked inequality of consumption with the richest 20% making up 47% of national consumption whereas the 80% of the poor only consume 7%;
- ? Unequal poverty distribution with concentrations in rural areas (80% of the poor live in rural zones). Poverty is more pronounced in regions with little agricultural diversity that are less affected by emigration (around 83%).
- ? Public social spending does not always benefit the poor (20% of the poorest households only receive 6% of public spending whereas the richest 20% benefit from 34%);
- ? The fiscal structure is not geared towards helping the poor. Income and property taxes made up 21% of public revenue in 1999 compared to 23% in 1998, 21% in 1994 and 23% in 1993. The tax on goods and services made up 52% of public revenue in 1999 compared to 46% in 1998, 43% in 1994 and 45% in 1993.

To counteract this situation a Plan to Fight Poverty (PFP) was set up in 1997 to work alongside the existing programmes on health, education, basic infrastructure etc. These efforts did not succeed in turning around the tendency towards poverty, bearing in mind the weight of national debt which stands in the way of all plans to allocate sufficient amounts of public resources to benefit social sectors.

The introduction of a Global Framework Strategy for Fighting Poverty (GFSFP) was in keeping with a policy of redistributing growth and satisfying basic needs. It highlights the need to mobilise political decision makers, national players and development partnerships to help fight poverty and exclusion through an improved link between the reduction of poverty and the macro-economic programme, drawing support from existing programmes.

3.6 The difficulties in achieving macro-economic equality

Senegal's economic performance since the end of the 70s has been marked by a slowing down of economic growth and a contracting economy since 1993. The economic gains following devaluation in 1994 in the context of continual reduction in public financial deficit, balance of payments and controlling inflation, were not enough to improve living conditions for most of the population or to reduce poverty. The gains are still very fragile and are being drawn down by sub-sectors which provide few employment opportunities.

Poor levels of investment, and uninspiring achievements in agriculture and industry help to explain the weak economic performance and its limited benefit to the poorest populations.

With the GDP per capita currently at \$600 linked to an insufficient level of investment and poor global productivity, it would need another 40 years at the current rate of growth to double it.

Outstanding debt made up 67% of GDP in 1999 compared to 77% in 1996 and 66% in 1994. The debt service in 1999 accounted for 9% of export revenue and 17% of budget revenue, compared to 16% and 30% in 1996 and 41% and 47% in 1994. The weight of the debt is a major obstacle to tackling poverty. In addition, the economy's poor level of self-financing must be taken into account with regard to the precarious financial situation of several financial institutions whose ratio for covering medium and long term financial investments by medium and long term financial assets is not always respected.

3.7 Continued destruction of natural resources and the environment

Covering an area of approximately 200,000 km² and located in the southern part of the Senegal-Mauritanian sedimentary basin, between 12° and 16°30 north, Senegal is a flat country mostly made up of plains and plateaux. The climate is characterised by a hot, rainy season and a dry season. The level of rainfall has dropped considerably over the last 40 years and ranges from 1000 mm per year in the South to less than 300 mm per year in the North.

Vegetation is divided into several different zones – shrubs and trees which grow on the steppes in the Sahel region, shrubs and trees in the savannah in the Sahel-Sudanese region and sparse forests in the Guinean region. As well as these zones there are also the typical areas of protected forest and mangroves.

In 1980, natural forest covered around 8 million hectares of the country. In a ten year period around 7.4% was destroyed leaving only 7.5 millions hectares in 1990. This destruction is linked to drought, the extension of cultivated zones (forest clearing, bush fires etc.), intensive cattle rearing and the overexploitation of forest resources for producing coal. The deforestation rate was estimated at 80,000 ha per year of which 30,000 hectares is due to energy production.

The soil has been continually eroded because of the combined effects of climate factors, decreased forest covering, insufficient and inappropriate use of fertilizers, salinisation and acidification in the coastal zones. This process has been made worse by the extension of commercial cultivation zones and the more widespread practice of non-environmentally friendly methods (not leaving fields to lie fallow, failing to enrich the soil, etc.).

Water resources have also diminished in most of the eco-geographic zones. This damage is not just the result of lowered levels of rainfall but is also caused by over-exploitation for domestic consumption and developing activities linked to production (agriculture, cattle rearing) in the forestry-pastoral zone, the Niayes, and the groundnut basin. Marine intrusion and chemical and microbiological pollutants in run-off waters are major concerns for water resources.

Natural fauna is also declining following the destruction of their habitats. Small animals have almost disappeared and large wild animals are only found in protected zones.

The coastal zones have suffered an unrestrained exploitation of existing resources (wood from the mangroves, sea resources, salt, sand, etc.). The high population density and the development of economic activities in the coastal areas have meant that the ecosystems have been put under continually increasing pressure and the communities living in these coastal zones have suffered from growing levels of poverty.

3.8 Uncertainties in the Agricultural sector

The primary sector, despite its importance, only contributes 18% of GDP because of poor yields in agriculture, climate risks and weak global productivity. Agricultural production only covers 52% of basic food needs and investment is concentrated in irrigated cultivation zones at the expense of the pluvial cultivation zones where poverty is most severe.

Agriculture's dependence on erratic rainfall causes a high degree of uncertainty in the industry which prevents broad investment in rural activities and is unfavourable to agricultural production. The figures for cereals in 1999/2000 shows a deficit of about

400,000 tonnes in whole-grain cereals or 463,000 tonnes in equivalent consumable produce. The gains recorded in several crops are more an indication of increased area rather than a rise in yields.

The New Agricultural Policy (NAP), adopted in 1984 as part of the application of the Medium and Long Term Structural Adjustment Programme (MLTSAP), has shown its limitations particularly in dealing with the threat to food self-sufficiency and rural credit. It was replaced in 1994 by the Declaration of Agricultural Development Policy (DADP) and in April 1995, new orientations were defined in the Letter for Agricultural Development Policy (LADP) signed after discussions with development partners. The objectives assigned to the agricultural sector relate to: sustained agricultural growth at a rate of 4% per year; an improvement in food security; growth of revenue in rural areas and job creation. To achieve these goals, strategies have been set aimed at promoting countryside agriculture through making use of the many farming families and an entrepreneurial system of agriculture; limiting the state's role in creating a clean and encouraging environment. Therefore, the priorities consist in:

- ? Controlling the use of water
- ? Regenerating the soil
- ? Selecting crop varieties that are resistant to drought
- ? Intensifying agriculture
- ? Introducing regulations to govern the use of fertilizers

Horticulture, which makes up a major sector, is facing difficulties linked to the raised price of production factors. A Programme for Investment in the Agricultural Sector (PIAS) was set up including a section devoted to horticulture. In addition the Project for the Promotion of Agricultural Exports (PPAE) has divisions to promote and diversify exports; to rehabilitate and create basic infrastructure for exports; and to support professional organisations of producers and exporters.

The growth in cattle rearing remains low with a growth rate of 3% in real terms which is suffering from the instability of land-policy and mismanagement of natural habitats which affects the pastures. Cattle rearing is facing three major constraints:

- ? Food and genetic constraints (heavy dependence on pastures and water plans, raised prices on agro-industrial derivatives, poor meat and dairy yields);
- ? Institutional constraints (under-investment, poorly performing credit producers);
- ? Structural constraints (insufficient distribution and commercialisation circuits).

Sub-sector reflationary measures rely on the introduction of mechanisms to accelerate animal production and making producers more aware of their responsibilities. A three-year public investment plan (PTIP, 1998-2000) was initiated to remove the obstacles to developing intensive cattle rearing.

3.9 A difficult energy transition

Quantitative as well as qualitative deficiencies in the provision of electric energy are a major setback to the economic development of the country. Only 25% of the population have access to electricity.

Senegal has very few energy resources. The energy sector is doubly dependent, particularly on oil imports for providing most of the modern energy with regard to regional needs for realising hydroelectric projects (OMVS dam project in Manantali).

Biomass (wood and charcoal) make up the country's main source of energy, consumed mostly by households, meeting 92% of needs. The rapidly decreasing forest coverage now only makes up 45% of the territory.

The country has very few crude oil reserves and gas valued at 16 Gm³ since the discovery of a deposit in 1993 and another in 1997. Gas production was 50Mm³ in 1995. The deposit at Dôme Flore located across 60 km in Casamance in the far South of the country, has promising potential with 14 to 54 million TOE of light oil and 100 million tonnes of heavy oil considered to be in-exploitable. Searches for more oil are being undertaken and several drillings have been carried out across the country. Despite several oil and gas resources, the majority of the oil used is imported. This accounts for over 90% of total commercial energy needs and almost all electricity production. The transport and electricity sectors use 40% and 30% respectively.

The potential hydroelectric resources valued at 1400 MW from the two main rivers – the Senegal and the Gambia – has not as yet been exploited. A capacity of 280 MW of essentially thermal energy has been installed to produce 1080 GWh of electricity. Consumption of electricity has grown moderately at around 3% per year since 1980. 25% of the country now has access to electricity – 50% of urban areas and only 5% of rural areas. The new directive plan aims to raise these figures to 70% for urban zones by the year 2005 and 40% in rural areas over the same period.

Solar and wind energy is relatively important. According to statistics, the annual sunshine and radiation figures are on average 2000 kWh/m²/year of horizontal global radiation and 3000 h of sunshine per year. The distribution of solar equipment has rapidly expanded with a total power of 1000 KWc already installed in 1999.

Senegal has significant peat resources – the deposit at Niayes is valued at 52 Mm³. These deposits are not currently profitable for producing electricity, but could be used as a substitute for charcoal (in the form of dried peat charcoal).

The figures for final energy consumption for the period 1988-1992 is as follows:

Table 1: Final energy consumption (Ktoe)

Energy Source	1988	1989	1990	1991	1992	%
Firewood	569	580	581	602	613	39
Charcoal	181	194	207	221	234	14
Agricultural waste	17	18	18	19	22	1
Electricity	180	176	190	192	213	12
Petroleum products	511	526	552	541	566	34
Total	1337	1376	1430	1446	1505	100

Source: Energy Department/Enda

This is distributed across the different sectors as follows: households (58%), transport (20%), industry (17%) and the tertiary sector (5%).

Table 2: Final energy consumption by sectors (thousands of TOE)

Sector	1988	1989	1990	1991	1992	%
Industry and Fishing	191	231	243	236	264	17
Transport	304	313	323	315	310	21
Household	802	832	864	895	931	62
Total	1337	1376	1430	1446	1505	100

Source: Energy Department/Enda

The energy statistics for 1998 show raw primary consumption at 2.28 million TOE – 57% from biomass, 38% from oil, 4% from steam and less than 1% from natural gas. Converted energy represents 1.07 million TOE. Final consumption is 1.5 million TOE – 46% wood-energy, 40.6% petroleum products and 6.6% electricity.

The development prospects for the sector aim to: eliminate existing inefficiencies within the energy sector; reduce the supply cost for the consumer; and encourage financing for the development of the energy sector. It was for these reasons that the Commission for Regulating the Energy Sector (CRES) and the Senegalese Agency for Rural Electricity (SARE) were set up to promote the installation of electricity in rural areas – currently only 7% of these areas have access to electricity.

In the areas of New and Renewable Energy Sources (NRE), the aim has been to create an environment which encourages the development and involvement of the private sector, a wide distribution of thermal and photovoltaic systems for community infrastructures, the development of wind systems for water extraction and platforms for producing biogas. As for domestic fuels, the Programme for Sustainable and Participative Management of Traditional Energy (PROGEDE) launched in 1998 aims to: diversify domestic fuels; encourage sensible energy use by widely distributing improved burners; promote sustainable exploitation of ligneous areas by the participative development of forests and making rural communities, particularly women, aware of their responsibilities.

3.10 An industrial system in need of restructuring and new investment

Agro-industry, chemical industry, mines, textiles and energy dominate the industrial sector. According to the census in 1993/94, there are about 452 industrial businesses in Senegal. The sector contributes 18.5% of GDP. Existing industry is not producing goods in increasing demand and is not conducive to entering into new markets. Moreover, the insufficiency and the quality of road and port infrastructure put a serious strain on transport costs and do not encourage integration into internal or regional markets.

The New Industrial Policy adopted in 1986 aimed to rebuild competition between businesses in the industrial sector and to reduce imbalances in allocation of resources. On top of this policy, all extra costs should be removed and the institutional environment and the provision of technical production factors should be improved.

The new strategy put into effect as part of the Programme for Adjustment and Competitiveness in the Private Sector (PACPS) was based on making the functioning of the work market more flexible, strengthening internal competition, removing obstacle and improving the statutory and legal framework as well as introducing investment incentives. Among the many action priorities are the following:

- ? Restructuring national industry
- ? Distributing new technologies
- ? Capacity building
- ? Setting up industrial information systems

3.11 A strategic approach to sustainable development

A strategic approach to sustainable development was defined as part of the National Environmental Action Plan (NEAP) drawn up in 1997 which provides a strategic framework for planning and managing natural resources and the environment with a view to sustainability and in connection with other national planning exercises. It is founded on the general structure of the national economy as characterised in the 9th Plan by a series of constraints and macroeconomic inflexibility. Therefore, the social and ecological costs of programmes currently being carried out, increasing revenues, particularly among the most underprivileged layers of society and promoting sensible use of natural resources all need to be taken into account when introducing a policy for sustainable development.

The NEAP's priorities consisted of:

- ? Ensuring a healthy management of environmental resources for sustainable development (improved management of natural resources through a full understanding of the relevant facts for good development planning, improving waste management of solids, liquids and gases);
- ? Improving the quality of state intervention in providing services and basic infrastructure (economic and socio-cultural spaces, plotting or land regrouping operations of human establishments, sanitation infrastructure, networks for distributing primary-need goods);
- ? Applying international agreements through efficient policies to provide impetus, coordination and follow-up / evaluation of their work;
- ? Improve regional development and integration (integrated regional development plans, strengthening institutions and local communities).

The support measures for the sustainable development strategy fall into seven major objectives: the fight against poverty; policies on population and management of the environment; women, young people and the environment; health and the environment; information, education and communication in relation to the environment; decentralised management of the environment and funding for local initiatives; the environment and sub-regional and regional cooperation.

4. Action for sustainable development: developing a partnership with civil society

Senegal was quick to realise the place of civil society in development actions from the number of independent organisations that had been set up. It was in this way that discussion with the main players in civil society and their involvement in the definition and

implementation of policies, plans, programmes and projects was set up as a form of public governing. This public governing is in keeping with the state's intention to progressively disengage the production sectors as well as giving the main agents in society greater responsibility and maintaining their legislative role. However, the rush of this disengagement, the lack of preparation by the agents involved and various climate and economic constraints sometimes prevented the agents from taking charge of their new responsibilities.

The situation in sustainable development, which is no more brilliant, is characterised by accelerated damage to all socio-economic sectors, resulting from poor understanding of the workings of evolution and change as well as insufficient financial resources to have a noticeable impact on the negative tendencies. Studies⁸ have shown that the determining factors in the growth of the Senegalese economy concern structural and institutional reforms, public and private investment and human capital. The electoral cycle, the overvalued exchange rate and erratic rainfall have all taken their toll on economic growth. The accompanying investigation into private and public decision makers has brought the following factors to the fore: the lack of a coherent political vision among the public decision makers, the private decision makers' weak support for state policy, the nature of the education system, socio-cultural factors, the agricultural crisis, degeneration of ecosystems, weighty and incompetent bureaucracy, corruption and poor investment prospects. Looking at these factors, the path towards sustainable growth remains a long one.

Nevertheless, as difficult as this situation may be, it should not overshadow the areas of success that have resulted from a fruitful partnership between those involved on the public and social side. Sustainable development cannot simply decree itself, nor is it a matter of rhetoric in speeches and plans, but it comes from concrete action everyday, working with the populations who are actually living the problems and as part of a long-term vision. The various national action plans or strategic documents on the agreements reached at Rio (on climate change, desertification, biodiversity) are proof of the wave of inertia among politicians and the international community faced with the problems of the survival of populations.

In contrast with this inertia, it is important to form a basic understanding of sustainable development based on experiences and initiatives developed on the ground, which can provide useful information on how to positively sustain Agenda 21. Among these experiences it is worth noting:

- ? Protection and reforestation: reproducing the Thiambène Till experiment;
- ? The programme for sustainable and participative management of traditional energy and substitution;
- ? The natural reserve at Popenguine: a sustainable development experiment based on conservation of biodiversity;
- ? The "Town Project" in Pikine: A participative strategic planning process in Senegal

4.1 Analysis of experiments in sustainable development

The successful experiments are often characterised by a close connection between theory and practice (in drawing up and implementing the programmes, in agreements and application...), and by research involving the key decision makers (scientists...) and agents involved.

⁸ A. Diagne and G. Daffé, ed., forthcoming collected works

Globally, a series of projects to combat desertification, to rehabilitate damaged areas, and to improve living conditions for local populations have been developed based on a participative step towards sustainable development.

The problems related to and consequences of environmental damage and poverty vary according to the geographical location of the region. But over the last few decades, local populations have realised that they cannot hope for a strong society and healthy economy without overcoming these problems. Environmental damage, particularly desertification, is usually caused by pressure from demographic growth, over-exploitation of arable land, water and wind erosion, exploitation of fire wood, badly managed water resources etc.

For far too long, development projects aimed at tackling these problems concerning environmental damage were carried out without involving the populations concerned and without taking into account their ways of managing natural resources. The successive failures of a number of projects and the continued worsening of the situation have clearly shown that these problems cannot be efficiently solved without fully involving the communities concerned.

Certain projects, however, did succeed, generally because the organisations in charge had taken the trouble to consult communities in question and to work with them to find solutions that took their individual priorities into account. These successes helped to strengthen the growing realisation that the populations concerned had to be fully involved in all efforts to resolve their own problems.

The concept of participation is now well known, but its application still needs to be perfected so that the communities concerned are more involved in the decision making process and not simply asked to accept what they are told. For all the experiments mentioned in this study, involving the community has had a remarkable effect, characterised by a greater awareness among the local populations of their responsibilities, the continuation of the activities and reproduction of the programmes.

4.1.1 Making local populations aware of their responsibilities

Case studies have shown that important progress has been made in Senegal towards improving the management of natural resources and building communities' capacities to manage their land. It was in this way, as part of the drawing up and application of national development strategies, that the local population was involved in carrying out the "town project" in Pikine, initiated as part of the movement towards a new national policy for decentralisation, in creating a natural reserve at Popenguine and in developing agro-forestry in the rural community at Sakal.

The progress achieved in democratisation and decentralisation in Senegal has enabled work to be carried out at a local level. And thanks to the support of the NGO Enda Tiers Monde, the Pikine town council along with local agents were able to develop a municipal strategy for management and planning which would allow improvements to the environment and to the town's economic and social situation. This project gave local citizens the opportunity to voice their needs and points of view and brought solutions to their problems. But the main achievement of this project was that it set up a dialogue between the population, the administration and the politicians which was accepted by all parties concerned.

Women's participation in managing the natural reserved at Popenguine was an unheard of experiment in Senegal. This initiative, supported by the Management of National Parks, put much emphasis on involving local populations in managing natural resources. It succeeded in making the women aware of the need to call up community support. Organised into economic groups, they were then given responsibility for supervising the Natural Reserve.

The Green Senegal project took its inspiration from the work carried out by Sérigne Samb, described as a leader in agro-forestry development in the area. He succeeded in reconstituting the biotope over an area of 52 hectares by a programme of protection followed by assisted regeneration. After the awareness raising phases and the training of the local agents in matters of environmental protection, the GREEN programme's approach was to make those that would benefit from the project aware of their own responsibilities in achieving a strong structure equipped with enough know-how to ensure the continuation of its activities.

4.1.2 The continuation of activities

The steps taken by the three experiments to ensure the continuation of activities all ended in structures being put in place which were capable of meeting the needs and the ambitions of the populations in terms of improving living conditions and, at the same time, to ensure improved management of natural resources.

4.1.3 The Reproduction of the programmes

These experiments show encouraging results in terms of the link between involving populations with increased responsibilities and the continuation of the activities. But it remains difficult to judge these experiences on a deeper level. However, to attain improvements in reducing poverty, in sensible use of resources, in sustainable social, economic and environmental development, these experiments could be introduced in zones – particularly poor urban and rural areas, which are directly or indirectly affected by damage to natural resources – where the population and the government are ready to put development programmes or strategies into place.

Globally, it is difficult to achieve full participation because the participative approach is a complicated exercise. Its success has also been varied according to different programmes. However, despite these differences, the foundations for participation are progressively being laid throughout the country. Key players and agents who, up until now, had little or no involvement in the debate over questions of the environment and development, are joining the process as campaigns for information and awareness continue. In this way, the relative process of sustainable development is beginning to federate a number of important stakeholders from local populations.

4.2 Case studies

4.2.1 Case Study 1: Protection and reforestation: reproduction of the Thiambène Till experiment

This programme was part of the implementation of the programmes and strategies related to applying chapters 12 and 15 of Agenda 21.

Context and justification

The advancement of the desert in the regions of Saint-Louis and Louga, deforestation, erosion, destruction of pastures and the decline in biodiversity have all made the authorities, partnerships and development agents aware of the need to give greater attention to the problems of restoring ecosystems through integrating trees into the system of agricultural production. The results of the evaluation study carried out on the research, in collaboration with decentralised state structures and NGOs, has identified successful experiments classified as pockets of success. The case of Thiambène Till in the rural community of Sakal in relation to biodiversity in arid zones is the perfect example.

Aware of the scale of the damage caused by the natural disasters listed above and human activity, Sérigne Samb, a leader in development of agro-forestry in the region, was able to reconstitute the biotope over an area of 52 hectares by implementing a protection programme followed by assisted regeneration. The density of his protected area increased from 10 trees/ha to 1250 trees/ha. The benefits of his work (protection and reforestation) include the reconstitution of the herbaceous covering, the re-launch of traditional cattle rearing and increased soil fertility – all the results of an integrated system of managing natural resources.

The groundnut basin is characterised by a system of farming which is meant to satisfy the family's food needs. The main crops were millet, sorghum and maize.

The state's groundnut subsidy in the 60s led to an increase in cultivated areas and the development of mechanisation. Pressure on natural resources was therefore increased which disrupted the natural equilibrium.

The significant drop in rainfall during the 70s and demographic growth had negative effects on agricultural production. The most obvious signs of this were the poor provision of production factors following the end of the Agricultural Programme (1979/1980), the lack of suitable credit for input, inadequate distribution of crop varieties in particular groundnuts and millet following the downward turn in rainfall, a drop in soil fertility, exhaustion of ligneous resources, over-exploitation of rural areas marked by the fact that fields were no longer being left fallow for long periods and occupation of nearly all the agricultural space. (Figures from the ISRA's Five-Year Plan 1990 – 1995).

The producers, faced with this situation, developed two different strategies:

- ? A strategy for food security by returning to cereal culture at production systems level;
- ? A financial risk-limitation strategy for cash crops (groundnuts).

There currently exists a duality between food-producing crops (millet, sorghum) and cash crops (groundnuts, niébé) at the farm level.

Examining the situation shows that the central problem is the destruction of natural resources, firstly the causes followed by the serious effects linked to this phenomenon. In fact, the arrival of drought in the area, combined with a long period of groundnut monoculture and human activities led to intense exploitation of natural resources. As a result, soil fertility levels dropped which in turn caused production systems to become more fragile thereby starting a massive population exodus. The resulting drop in production from these phenomena explains the food-producing deficit which brought about the decline in living

standards and it is the need to remedy this situation which justifies the interventions of this project.

The intervention area for the project covers the Diourbel regions: 3 Rural Communities (44 villages); Fatick: Loul Séssène Rural Community (5 villages including Ndof); Louga: the areas of Rao and Sakal (10 villages) all situated in the old groundnut basin.

The prevailing climate is sudano-sahélien characterised by a long dry season. Rainfall, irregularly distributed, varies considerably from year to year.

Vegetation, made up of prickly shrubs, baobabs and tamarind trees, has been severely affected by the drought and human activities. There are almost no protected forests which means that the ecosystems are extremely fragile.

The lack of water, the difficulties involved in dividing it between human, animal and vegetable needs and poor management when it does exist create permanent tensions between users which is harmful for production systems.

Because of the intense exploitation of natural resources, the soil quality in this area of the groundnut basin has been severely damaged. Monoculture continues to raise acid levels in the soil causing lower yields which fail to meet the needs of the population (only 60%). The food-producing deficit has given rise to increased poverty and a mass population exodus towards cities such as Dakar and Touba. The increasing lack of employment outside farming leaves people with few alternatives for sustainable human development. Even within agricultural production, access to the land and to employment is not easy, particularly for women.

Such situations result in conditions of inequality, discrimination and an increase in vulnerable groups.

Faced with a situation with so few sustainable development prospects, GREEN SENEGAL opted for a targeted and integrated approach-programme, aimed at taking greater responsibility for natural resources in order to deal with the poverty explosion. The programme, which was inspired by the experiment carried out into distributing and spreading the pockets of success in arid zones, aims to raise awareness among key players in the field of rural and urban environmental protection by exchanging information, education and communication in order to bring about a change in behaviour and an understanding of the need for effective management.

The Project's Objectives:

The project's aims were to contribute to more efficient management of natural resources with a view to sustainability as part of the fight against poverty.

The specific objectives were to:

- Build the populations capacities to manage their natural resources (1);
- Meet a higher percentage of food needs owing to increased production and consumption of agricultural produce (2);

- Help to increase the soil productivity and limit destruction of natural resources by promoting appropriate practices and skills (3);
- Promote efficient exchange of information and experiences between the groups (4).

Specific Objective 1: Building technical capacities

Results 1: 11 training session will be organised to benefit the people affected by the project

Activity 1.1: Training topics

- Training on nursery techniques for forest and fruit trees;
- Training on planting techniques for forest and fruit trees;
- Training on agro-forestry techniques;
- Training on techniques for natural crop protection;
- Training on techniques for water and soil conservation;
- Training on animal feeding techniques;
- Training on haymaking techniques;
- Training on compost techniques;
- Training on techniques for building improved stoves;
- Training on grafting techniques;
- Training on sowing techniques.

Specific Objective 2: meet a higher percentage of food needs

Results 2.2: The consumption of cereals rose by 20% in the 60 target villages

Activity 2.1: Crop diversification and increasing production

- Production of millet, niébé, groundnut and manioc seeds
- Construction of compost ditches to serve as demonstrations in the intervention sites
- Fertilising the soil with improved compost.

Results 2.2: Yields increased by 20% at the end of the first year

Activity 2.2: applying agro-forestry techniques in the fields

Results 2.3: Farmers' incomes rose by 30%

Activity 2.3: Promoting investment and savings among the members of the groups

Specific Objective 3: increase the soil productivity and limit destruction of natural resources

Results 3.1: 25% of the groups use at least one techniques adapted from agricultural management and 50% of the people trained use a natural resource management technique

Activity 3.1: managing natural resources

- Planting village nurseries
 - Installing demonstration plots in each village with quickset hedges, windbreaks and animal feed gardens
 - Installing village woods in each village with the help of private initiative

Results 3.2: A framework for sustainable management, protection and rehabilitation of the natural environment of the area was put in place

Activity 3.2: reforestation / agro-forestry

- Planting fruit trees at concession level in the 24 villages
- Alignment planting along the main roads in the villages (Delonix regia and Terminalia mantali).

Specific Objective 4: promote efficient exchange of information and experiences between the groups (4).

Result 4.1

Activity 4.1: Creating a functional exchange network

- Visits to exchange thoughts and experiences;

- Organising meetings between farmers, NGOs and partnerships
- Providing technical support to those benefiting from the project for carrying out and evaluating their activities

Results obtained

The reforestation plan

In this part of the project a programme was put in place to meet the specific needs of each of the populations worked out according to a study of the area which served as a preliminary to the environmental audit. The main technologies developed in each village were: village woods, quickset hedges, windbreaks, fruit trees in the concessions and alignment planting along the main roads in the villages.

In the first year, five main nurseries were created in the following places:

- ? 3 in Bambey (50,000 plants)
- ? 1 in Ndof (25,000 plants)
- ? 1 in Mpal (25,000 plants)

Different species (local and exotic) were grown with a view to promoting biodiversity and popularising agro-forestry technologies. This allowed 9 hectares in Bambey, 7 in Mpal and 4 in Ndof to be reforested.

The new political orientation, which incorporates the local communities' desire to increase the protected areas, led GREEN to increase its production of plants for this year from 100,000 to 300,000 plants. This increase enabled the development of extremely important natural regeneration in the protected areas.

Capacity Building

This was one of the most important aspects of the project as a whole. The results obtained are proof of the attention, the enthusiasm and the receptiveness shown by the population in general but by the groups in particular. Capacity building comes before all other activities carried out as part of the project with a view to effectively managing, suitably adapting and mastering the techniques involved in each of the actions undertaken.

All the training sessions carried out to this effect show the degree to which the populations themselves were involved in the project, their comprehension of essential skills and the achievements obtained, particularly concerning seed multiplication. Certain training sessions required the help of external expertise. For example a Zoo technician was commissioned to take the training sessions on ovine and bovine feed and haymaking training.

Summary of training given

In Mpal

Activity	Date	Place	Beneficiaries			Carried out by
			M	W	Total	
Training in nursery techniques	3 rd to 5 th June	Mpal	37	31	68	GREEN Agent
Training in bovine and ovine feed	10 th -11 th August	Mpal	101	76	59	236
Training in planting techniques	17 th August 2000	Mpal	17	13	30	GREEN Agent
Haymaking training	27 th October 2000	Mpal	22	9	31	Consultant farmer and Green

In Ndof

Activity	Date	Place	Beneficiaries				Carried out by
			M	W	Children	Total	
Training in nursery techniques	30 th May 2000	Ndof	20	06	04	30	GREEN Agent
Training in bovine and ovine feed	7 th -8 th August	Ndof	27	06	-	33	Consultant zootechnician
Training in planting techniques	5 th -9 th September 2000	Ndof	24	28	12	64	GREEN Agent
Training in haymaking techniques	23 rd October 2000	Ndof	13	01	-	14	Consultant farmer and GREEN Agent

In Bambej

Activity	Date	Place	Beneficiaries				Carried out by
			M	W	Children	Total	
Training in nursery techniques	30 th May 2000	Lambaye B Garage	20	06	04	30	GREEN Agent
Training in planting techniques	7 th -8 th August 2000	Lambaye B Garage	27	06	-	33	Consultant zootechnician
Training in agro-forestry techniques	5 th -9 th September 2000	Lambaye B Garage	24	28	12	64	GREEN Agent
Training in haymaking techniques	23 rd October 2000	Lambaye B Garage	13	01	-	14	Consultant farmer and GREEN Agent

Training in techniques for making improved stoves	December 2000	Lambaye B Garage	03	22	-	25	Consultant
Training in seed production techniques	November 2000	Lambaye B Garage	25	05	-	30	Consultant and GREEN agents
Training in crop protection techniques	November 2000	Lambaye B Garage	25	05	-	30	Consultant and GREEN agents
Training in compost techniques	January 2000	Lambaye B Garage	55	48	12	115	GREEN agents
Training in market gardening techniques	October 2000	Lambaye B Garage	05	08	-	13	GREEN agents

The seed multiplication plan

An important aspect of seed production was started in the more isolated villages, particularly in Bambey, located right at the heart of the groundnut basin. The only way of achieving food security and continuing the fight against poverty in the chosen areas is by reconstituting the seed capital which is the main obstacle standing in the way of farmers' autonomy. The following results were obtained in this field, which should be valued in terms of production as well as quality.

Niébe Production: sample analysis

Production Locality	Ndary Diop	Thialle 1	Thialle 2	K O Kane 1	KO Kane 2	K O Kane 3	K O Kane 4	Thialle 3	Thialle 4
Product Quality	280 kg	131 kg	40 kg	200 kg	840 kg	480 kg	400 kg	124 kg	56.7kg
Variety	Mouride	Mouride	Mouride	Mougne	Mouride	Mouride	Mourgne	Mouride	Mougne
Specific purity %	98.7	98.5	98.2	98.1	98.6	98.9	98.5	98.2	98.6
Germination rate %	89	83	88	91	87	93	87	85	86

Niébe Production: sample analysis

	Thiallé	Mérina Diop	Keur O. Kane	Keur Seck (1)	Keur Seck (2)
Production (kg)	2000	2400	1400	3800	2500
Specific Purity %	98	99	98	99	99
Germination rate %	99	91	88	87	93

Groundnut Production: sample analysis

Product Locality	Ndary Diop	Thiallé	Kewré	Keur O Kane	BG Mbaye Fall	BG GIE Diambar	M. Diop	K. Seck	Lamb	Thiepe	Ngouye Lamb	Ngandial
Flower 11 (kg)	520	760	760	2130	540	420	844	1406	2261	400	1406	647
Variety purity	99%	99%	98%	99%	99%	99%	98%	99%	99%	98%	99%	99%
Foreign bodies	1.7 %	1.4%	1.8%	2.0%	1.9%	1.5%	1.0%	0.9%	1.7%	1.6%	0.8%	1.3%
Parasite infection rate	1.0%	0.8%	0.9%	0.8%	1.1%	1.0%	1.3%	0.8%	0.9%	1.7%	1.0%	1.0%
Germination test	97%	98%	97%	99%	98%	99%	98%	97%	96%	98%	99%	97%

The countryside production figures were the following:

- ? **89 tonnes of millet**
- ? **30 tonnes of niébé**
- ? **12 tonnes of groundnuts**

This whole production was bought and redistributed to the producers in the form of inputs for the current agricultural campaign.

Revenue generating activities

These are an accompanying section of the project aimed at encouraging the populations towards preservation work, protecting the environment and efficiently managing natural resources. The chosen activities were small businesses and bovine and ovine feed. In total, 6,000,000 francs were injected into the project in the form of revolving credit under the principle of joint and several guarantee to help all the beneficiaries settle their repayments within the allotted time. A committee for managing and evaluating credit was set up in each site to assist the project. With these precautions in place, a 100% collection rate was achieved in each rotation. After one year the current profit is around 1,000,000 F Cfa.

Impact of the project in different areas

The initial trends after one year of activity show that progress had been made by the project in several different areas: in terms of organisation, capacity building and in economic and social terms.

Organisational impact

As the long-term hope for the project is to strive towards actual autonomy for the communities concerned, a major concern for those involved during the project's conception phase was to put in place a structure that was well equipped with technical and practical

know-how. This step, which was seen as an essential base for the continuity of the project, resulted in the installation of an entity capable of meeting the communities' desires in terms of improving living conditions as well as over-seeing improved management of natural resources. To achieve this, various commissions were established to assist the relay structures already in place.

- ? Reforestation commission
- ? Credit commission
- ? Organisation / awareness commission
- ? Conflict-managing commission

The work carried out by these commissions (particularly reforestation and credit), which were made wholly made up of the communities concerned, offers hope that they will be able to take charge of their own concerns. Because everyone involved learned new roles and responsibilities and all the activities of the groups were carried out openly and efficiently, there was a real feeling of satisfaction among those involved which suggests the freeing-up of this structure as well as its continuation.

Impact on capacity building

The activities carried out as part of the project by a dynamic partnership with the ability to stir people into action allowed GREEN to prepare the ground for endogenous development, taking into the account the environmental dimension of the area in question. On top of concrete actions such as reforestation, environmental education and awareness raising, the essential process of capacity building was set in action by a series of themed training sessions such as:

- ? Nursery training
- ? Haymaking training
- ? Ovine and bovine feed training
- ? Planting training

The training/action duality that governs this step of the projects and the results of the training sessions are important factors in managing natural resources in the villages.

The visits to exchange experiences between the villages set up a network of tight relations based on:

- ? Good neighbourly relations
- ? Relationships based on solidarity and mutual cooperation
- ? Increased awareness of the need to restore and preserve the environment

They also brought the different areas of the project together as a coherent whole.

Economic and social impacts

The overall sum of six million FCFA was taken up in the form of revolving credit to benefit the communities concerned (men and women). As well as providing them with a refundable rotation fund after the first six months of the projects, this action showed some convincing results (an almost 100% collection rate).

The analyses of the provisional running accounts of each beneficiary provide support for similar programmes. But the success of the activity is confirmed if you ask those who benefited from the first rotation as, according to them, the main impact was providing them with the financial resources to get them going.

In addition, the system of credit brought considerable buying power and extra resources into each home. The women are now more active in making decisions about their family's health in general but particularly for their children.

Setting up a database

This was one of the priorities set by the NGO. In fact, the database should act as a reference site which will allow them to measure the definite impact of the project in each of the different areas from the moment they leave.

A inventory of plant-life in the zone has been made by a student at the ENCR in Bambey as part of his dissertation; the state of forestry resources has been put under review as well as the regeneration tendencies and the major obstacles to plant survival. The viability of the structures put in place, the way in which they function and the difficulties encountered have attracted the attention of a student at the ENEA whose work has just been completed. As well as this there is the typology of farming in the groundnut basin, which will provide a reference for the situation, which in turn should lead to an environmental audit of the intervention zone.

This mass of information will help to refine execution strategies for the project, to correct certain problems and most of all to serve as a reference point for evaluating the project as a whole.

Follow-up evaluation

This was carried out in accordance with the initial planning. The evaluation of the plantation plots seems promising judging by the physiological state of the plants.

Awareness raising sessions were held to redefine certain points, particularly the roles and attributes of each of the people involved in the progress of the project. This was made possible by the permanent detachment of GREEN agents on the ground in each locality. Their first aim is to contribute to improving the quality of the technical assistance and the awareness raising programmes. At the same time, a regular follow up is conducted and a participative mid-term evaluation is carried out every six months.

Conclusion and Recommendations

All activities are functioning properly. The plantations were made within the given time and each village received its grant taking all necessary precautions to ensure a successful operation.

The animal feed programme and the revolving credit are currently functioning normally, as is shown by the results of the participative mid-term evaluation. The current repayment of seed credit, controlled by joint and several guarantee, has been started and is presently at 61% of the total to be repaid.

This situation is justified by the fact that some people have not yet harvested the niébé. But the beneficiaries of the scheme have assured the complete repayment. It is worth mentioning the populations' great enthusiasm towards the project. The unified dynamic of participation which characterises the project is promising for the adoption and sustainable management of the new experiments.

An inter-village discussion forum is already functional. Also, to regulate their work between the different sites, exchanges have been organised between the producers in order to help spread and popularise the results obtained from the different projects.

4.2.2 Case study 2: Programme for sustainable and participative management of traditional energy and substitution

Context

As has been the case in all countries in the Sahel, Senegal has suffered from a series of chronic drought over the last two decades which have had destructive consequences on the vegetal covering and related effects on soil protection, forestry and animal production, biodiversity conservation, destruction of traditional production systems, the energy crisis, impoverishment of rural communities and rural exodus. The combination of these natural and man-made destructive factors has led to overexploitation of the land marked by uncontrolled removal of ligneous resources.

Forest areas cover about 25% of the territory across different climate zones. They are characterised by a double Sahelian countryside with bushes and shrubs in the steppes in the North and forest in the South and Southeast. Forest areas have declined significantly because of:

- ? The climatic recession
- ? Bush fires
- ? Extensive animal rearing
- ? Competition from agricultural land

However, overexploitation of ligneous resources for the production of charcoal and firewood for energy consumption in rural and urban households is increasingly recognised as the main cause behind destruction of natural resources in Senegal.

In fact, forest areas currently provide over 90% of energy consumed by households. Domestic consumption of wood and charcoal is an important element in the scarcity of ligneous resources, which puts the environment at great risk and threatens the energy supply for domestic needs.

Faced with these facts, a inter-ministerial multidisciplinary team carried out a review of the traditional energy sector from 1993 to 1995, with the support of the World Bank as part of the "Review of Policy, programme and strategy in the traditional energy sector" (RPTES) programme in place in five sub-Saharan countries. Following their conclusions, a programme was defined for sustainable and participative management of traditional energy and substitution which aims to help protect the environment and to assure a lasting supply of domestic fuel to the population.

In order to do this, a new legislation and set of laws (law 97-07, 22 March 1996) was introduced that transferred certain competences to the Local Communities. The application of decree N° 96-1134 on the 27th December 1996 defines the precise areas to be transferred as concerns Managing the Environment and Natural Resources. This law should encourage hands-on management of natural resources by the grass roots communities to ensure sustainability.

This law states that all contrary clauses in previous regulations should become null and void or be revised to fit with the new plan of regionalisation and decentralisation. For example, the Forestry Code of 1965, revised in 1974 and again in 1993 was readapted in 1998 to fit with the new context of favouring decentralisation. This gave way to law n° 98-03 of the 8th January 1998 supporting the Forestry Code.

At regional level, discussion forums were initiated to create suitable conditions for integrated local development and to improve management of the constraints linked to the use of natural resources. Convention-types were signed between certain communities and certain state run technical services.

In this way, the different legislative texts and regulations and the various planning bodies (PAFS, PNAE, PAN/LCD) have labelled the involvement, the responsibility and the participation of local communities as essential conditions for realising sustainable development and a sensible management of natural resources and the Environment.

Meeting domestic energy needs for cooking in rural areas continues to be a difficult problem. Faced with scarcity of ligneous energy and the fight against desertification, the forestry service, along with the Energy Management, have committed themselves to setting up a programme for using substitute energies. In order to save the forest, populations in both rural areas and urban centres need to be encouraged to use substitute energies for wood and charcoal such as gas and particularly oil.

Strategies and objectives

The programme for sustainable and participative management of traditional energy and substitutes aims to help provide a regular and lasting supply of domestic fuel for households while preserving the environment and offering improved choice and comfort to the consumers. As for lasting development of natural forest formations for producing wood-energy, the programme also aims to set up wood-energy production from lasting sources, directly involving the rural populations in managing their forest resources.

PROGEDE is made up of two closely linked sections:

- ? The Supply section is entitled “**Lasting development of natural formations for producing wood-energy**”. The developments will cover an area of 300,000 ha in the Tambacounda and Kolda regions and 250 villages will be involved in the process. This section will set up a forestry inventory programme in the Tambacounda and Kolda regions to provide the necessary technical information for defining a development method and selecting development zones on top of the development process. The objectives should contribute to an improved management of the zones, particularly in areas such as:

- Evaluating the availability of dead wood on a national level in order to analyse the situation and determine the prospects for providing ligneous fuels in rural areas for subsistence needs;
- Providing technical assistance and popularisation services to the participating rural communities as well as to the NGOs to install participative management units and for exploiting/producing and selling ligneous fuels and other ligneous and non-ligneous forest products;
- Supporting the creation of rural micro-enterprises such as community carbonisation units, agro-forestry transformation units etc.

The Demand section is called **“Managing demand and promotion of substitute energies”**. It plans to:

- Assist in reorganising and modernising urban trade in coal to reach long-term provision agreements (contracts) between the rural communities and the urban producers. This should guarantee free entry into the urban markets for ligneous fuels produced by rural communities. It should also help to standardise commercial units and the cleanliness of the urban environment (coal sacs);
- Provide technical assistance (organisation, training, advice etc.) and limited financial support to diversifying the activities of urban forestry exploitation (retail sale of LPG, service-stations, retail sale of food products and transport etc.) to limit the expected friction as grass roots communities enter the wood energy network;
- To provide maintenance assistance for substitute fuel options (kerosene and LPG) and helping the distribution of improved stoves using the private sector and NGOs.

Activities

Before the rural populations could take responsibility for the forestry developments, their capacities needed to be improved. To do this:

- ? Activities aimed at building organisational and technical capacities for the grass roots populations were developed by the “Supply section”. The project supported the introduction of Village Committees for Management and Development (VCMD), particularly in the forest communities and test areas of NETEBOULOU and MISSIRA in Tambacounda and THIEWEL and SARE GARDI in Kolda.

Awareness Raising

As a whole, the awareness raising activities have been well realised by the two agencies: Tambacounda and Bakel.

To develop the different themes of the programme in the villages focusing on the test forests, several tools were used during the sessions such as maps, semi-structured interviews etc. In Tambacounda, 427 women, 205 young people and 360 men took part in these sessions.

In setting up the VCMDs, an important part of the process was making an inventory of all the female organisations near the project’s intervention sites.

In Bakel, a restructuring operation was begun in the various villages to increase their effectiveness and functionality. The inventory operation identified 27 economic interest groups and various other organisations in the area.

Training

To improve honey production in the project's intervention zones, two training sessions were organised on improving apiarian production techniques in Tambacounda (Missirah) and Kolda (Ndorna). In addition, more than twenty women were trained in market gardening and nursery techniques to develop revenue generating and forestry activities.

- ? **The forestry development actions** consisted of: the gathering of dead wood, plant production, reforestation, fighting against forest fires etc.
- ? **The actions to integrate agriculture into the developments** relied on the test programme for intensifying cereal and feed grain production and the test programme for developing winter market gardening.

The test programme for intensifying cereal and feed grain production introduced souna millet ("souna" variety), two varieties of sorghum (CE145 ad F2/20), two varieties of niébé (66/35 feed grain variety, Ndiambour (edible niébé) and TS (a mixed variety)).

The test programme for developing winter market gardening aimed to improve the forest nursery sites to develop market gardening alongside plant production to increase the income of the overall population but particularly the women. Following the identification the communities' needs and continued awareness raising, improved varieties for winter market gardening could be introduced including European type vegetables (cabbages, tomatoes, watermelons) and African type vegetable (gumbo, jaxatou).

- ? **Pastoral development actions integrated into the project** were linked to the introduction of integrated participatory planes to develop revenue-generating activities for the populations. These were mainly carried out in developments in the massif and focused on feed grain production, animal feeds, introducing new breeds of cockerel, vaccinating poultry and small ruminants and developing apiculture in the intervention zones.

The actions for conserving biodiversity, other than fighting against bush fires and improving apiarian production and guinea fowl rearing, took the form of identifying consensus sites in Tambacounda and Kolda where the need for conserving biological diversity was particularly important. Technical and socio-economic criteria were the most important factors in the participative decision. All the key players were involved in the decision process: state technical services (Niokoloko Koba Park, IREF, IRA etc.), populations (local communities, the people living in the villages and the village chiefs), the NGOs involved (AFVP etc.) and research institutions (UCAD, IRD). Following a consensus on the selection criteria, the chosen sites were the rural communities of DIALOKOTO in the Tambacounda region and LINKERING in the Kolda region.

Certain activities from the "**Demand Section**" should be mentioned such as:

- ? **The studies carried out** including:

- Studies on strategy and action for modernisation and opening up the wood-energy market to groups of young people and women;
- The study for evaluating experiences and provision costs, for promoting and distributing the improved stoves;
- The study on cost of provision, conditioning, transport and distribution of butane gas and investigations linked to:
 - ✍ Introducing kerosene
 - ✍ Developing biomass energy

? **The development of biomass energy** began in St-Louis with the Typha reed. A “carboniser” was developed in partnership with SISMAR and the biomass carbon produced was very competitive. Activities for promoting Gelfuel and renewable energy were set up in the intervention zones of the “Supply” section.

? **A permanent energy information system (PEIS)** was developed using ACCESS software. Eight modules were defined from the already existing information banks:

- Forestry resources;
- Exploiting agricultural and agro-industrial waste products;
- Ligneous fuels;
- Domestic energy demand;
- Pricing and structuring of domestic fuels;
- Potential mineral fuels in Senegal;
- Conversion parameters;
- Demographic and macro-economic context.

? **Information, Education, Communication**

Demonstration sessions took place for certain cooking equipment including portable petrol stoves. Exhibitions were held as part of public demonstrations: fairs etc.

A press campaign was launched from July to November 1999 in the local media including:

- The TV programme PASTEEF,
- The local edition of the 1 o'clock news,
- Articles in the written press,
- The opening of an index of partners and stakeholders to help with the realisation phase: craft groups, groups to promote women etc.

Conclusion

The difficulties involved in controlling forest areas prevented the execution of an accurate planning system to contain national demand for forest products within the limits of optimal supply.

However, the state’s intentions to fight against abusive exploitation of forest resources resulted in a drop in consumption from 1,500,000 quintals in 1992 to 900,000 in 1998. Planning actions and follow-up for the campaigns to prevent bush fires led to a drop in the number of recorded cases from 325 in 1996-97 to 270 in 1997-98.

This meant that the total area burnt fell from 459,297 ha to 249,480 ha.

This result has been achieved by a greater involvement of the populations in opening firebreaks, particularly in forest and pastoral areas. The “new” agro-forestry technologies have improved integration of activities in rural areas to permit a more efficient use of resources.

The implementation of this program has been met with a number of handicaps which have limited the number of objectives achieved. These handicaps have been institutional, judicial, technical and operational.

To fully achieve the expected results, it has become clear that the following conditions must be put into place:

- Perfecting the coordination of the sector policies which have a direct or indirect influence on conserving forest resources;
- Delimiting the responsibility of services and organisation operating in the areas in order to:
 - o Avoid conflicts of interest and unfair competition
 - o Reorganise the decentralisation which must accompany the programme’s approach and make the local populations aware of their responsibilities concerning management of the ground and resource conservation.
 - o Set up a framework reference programme for all intervention in the forestry sector.
 - o Establish programmes of reliable eco-geographic facts (resources and forest potential, ground occupation, human and animal populations etc.).

4.2.3 Case study 3: The natural reserve at Popenguine, an experiment in sustainable development based on conservation of biodiversity

This programme is part of the implementation of programmes and strategies related to applying chapters 15 and 24 of Agenda 21.

? Introduction

The Natural Reserve at Popenguine was classified as a protected forest for fifty years, from 1936 to 1986, making it apparently one of the oldest protected spaces. In fact, the current Natural Reserve at Popenguine has been created by substitution as part of the current stage of evolution in the conservation process carried out in that area.

In 1986, a presidential decree gave the official go ahead to the creation of the reserve to ensure the continuation of the natural living patrimony. What is unique about this reserve is that it has a continental part and a marine part, half a mile stretching out towards the sea. It is therefore both a continental and a marine reserve.

It should also be remembered that the creation of the reserve is essentially the initiative of one man, Mr Charles Rouchouse, a researcher at ORSTOM whose work on the area, insight and persistence over several years (first from 1982-1986, followed up from 1986 to 1989) convinced the technical and administrative officials to give renewed attention to the Southern part of the protected forest at Popenguine, which had been severely damaged despite its officially protected status.

This pioneering initiative acted as a local catalyst. It will be reinforced by the new ideas and approaches concerning management of protected areas adopted by the Management of National Parks, who now insist on involving the local populations in managing the conservation areas.

In the same way that the creation of the natural Reserve was mostly ascribable to the initiative of one individual, the grassroots movement, which will give a unique identity to this Reserve, has been essentially created by one woman who has taken on board the awareness raising message spread by the local conservation officials.

However, the first organisation to react following the setting up of the new Reserve was from Guéréo in 1987, thanks to the support of the good intentions of the village. The force behind continuing the movement will remain despite all setbacks.

In December 1988, at the instigation of one woman from Popenguine, Wolimata Thiaw, a General Assembly, part of the “Committee for Investment from the Women of Popenguine for Protection Nature”, was held involving 246 women from the village. Some of them (119) structured the organisation by electing an office which would support the Reserve by mobilising women into environmental action. This organisation would target themes such as nursery and reforestation techniques.

The movement was launched with the precedence of the village of Popenguine taking the leadership role; mobilisations undertaken by the unit strengthened and improved the technical skills of its members and, most importantly, maintained its voluntary status for several years with all activities offering no immediate economic profit. However, its members did not have incomes and did not ask for their work to be paid!

? **Activities**

Geographically located between Guéréo and Popenguine, the reserve (1000ha) occupies a high position covered by lateritic cuirasses which are not suited for agricultural use. This distinctive quality was the reason behind its selection as a protected forest in 1936. The lack of agricultural possibilities does not however rule out other activities in the area covered by the Reserve.

Therefore, over a 12-year period, various projects, programmes and activities were set up, initially of an environmental nature, but increasingly taking the form of more clearly defined development work. They all contributed to implementing a work ethic in keeping with the current context of mobilisation.

- ? 1987 Installation of an enclosing fence around the Reserve.

 Introduction of the Management Council for the Reserve
- ? 1988 Meeting of the Management Council (objects under discussion:
 the dyke, finishing the enclosing fence, launching a newsletter, designation of
 the Reserve...).
- ? 1989 Statutes and the creation of the Popenguine Women’s Group for
 Protecting Nature (PWGPN) to act in the natural Reserve

- Project planning: Volunteers from the Peace Corps,
- Construction of the Popenguine dyke,
- Integrated tourism,
- Construction of the information hut.
- ? 1993 Completion of the meeting room.
- Completion of the Popenguine dyke
- ? 1994 Organisation of sites and opening of pedestrian paths by the volunteers.
- Replanting of the mangrove (Somone and Nougouma).
- ? 1995 Completion of the tourist Camp
- ? 1996 Constitution of the Popenguine Women's Collective for Protecting Nature (COPRONAT)
- Signing of Protocol Agreement
- ? 1997 Beginning of "Kër Cupaam" development Programme
- ? 1998 Completion of the Guéréo dyke (by the local volunteers).

These elements have been carried out by a series of partnerships, including the former Senegalese head of state, Abdou Diouf, who lent his support to the women of Popenguine. The diversity of these partnerships is proof of the great interest aroused by the Reserve and the people involved in its rehabilitation. Among the partnerships of projects in the Reserve are: ORMSTRO, Peace Corps, USAID, JOCV, FEM, BIOSEN, African Network 2000, the French Scouts, Auteuil Apprentices etc.

Many other partnerships have an indirect involvement with Popenguine, taking more economic or socially based approaches (fishing, crafts, product transformation, health, social insertion...). This emphasises the particular polarity of Popenguine which has been based along the lines of the environment and development for the last ten years.

Results

After more than ten years, the actions taken at Popenguine have demonstrated that an impoverished area can be rehabilitated by restoring its habitats and boosting local economies.

Species of vegetation and animals (guib, hyenas, jackals, wild pigs, green monkeys, guinea-fowl...) have reappeared against all expectations. This has brought about the slow reconstitution of plant biomass which could later be used in nurseries as part of prospective plans to redevelop other damaged zones in the surrounding area.

Moreover, the creation of the Reserve has increased the responsibilities of the women involved in the community mobilisation. They have now been organised into economic interest groups, officially in charge of surveillance of the natural Reserve. The conservation actions are not only limited to the Reserve, but they also affect the waterside areas which, as a whole, make up a “Natural community space”. Indeed, the community spaces and the protected area are a whole unit. The idea not to discriminate between the Reserve and its common territories came in principle from the local communities to introduce a way of thinking about and organising an area that takes into account both conservational concerns and the integrated development of the population.

The natural community space was conceived as a space fully integrating the protected zone with the waterside areas in order to prolong the effects of conservation.

In total, it includes the eight villages located around the NRP as well as the Reserve. In this way, over a dozen years, the project progressed from work by volunteers to activities which affect the structure, the economy, the environment and the land of the local area:

- The spontaneous movement in 1988 was gradually structured into Village Groups (E.I.G.) which led to the creation of the groups which are now federated as collectives.
- The protected area is no longer in opposition with the surrounding areas despite the perimeter wall; the formation of the Natural Community Space is proof of a conservational and territorial balance without precedence in Senegal.
- Disinterested action was replaced by investment to encourage revenue-generating activities. Therefore the reappropriation of the Reserve will include projects formulated and controlled by the local populations, for their benefit and that of the environment.

In managing the Reserve, particularly the ecological and educational side, the women were supported by the young people to realise initiatives such as:

- Opening pedestrian paths in the Reserve
- Building anti-erosive mini-dykes, lining the areas most affected by erosion with stones.
- Rehabilitating the mangrove in the Somone Laguna, at the Southern border of the natural space.

This activity provides the young people with examples of the impact caused by widening conservation. Moreover, it is understood that these young volunteers represent the future of the project and, consequently, the guarantee for the continuation of the activities.

The competences granted by the Senegalese state, thanks to the Agreement Protocol, gave additional responsibilities to COPRONAT. Ecologically damaging activity (mostly plant poaching but also animal poaching) has dropped considerably in the Reserve because of the surveillance carried out by the women and the volunteers. Re-offending “poachers” were arrested and handed over to the police where they were cautioned and what they had taken was given to the Committee for Collective Management.

At the moment, visiting permits for the NRP have not yet been issued; insufficient guide training and fauna reconstitution make this step as yet unjustified.

What has been learnt

The social mobilisation achieved in Popenguine, with support from the women, has shown the remarkable force behind the project, which can be seen in the organisational and more general consequences. However, we should not lose sight of the remnants of several structural weaknesses which could affect the Collective of women's groups.

The first concerns the prominence of the PWGPN compared to the other E.I.G.s in COPRONAT. Because of its efficient organisation and financial security, the longest established group occupies a dominant position which needs to be corrected by a picking-up of the other groups.

The second lies within the PWGPN itself, most of whose technical commissions have a valuable tonus which the others are lacking owing to various conditions:

- Literacy Commission (shortage of suitable teachers);
- Development Commission (whose activities rival those of the volunteers);
- Market Gardening Commission (problems relating to land ownership).

The discovered weaknesses are linked to problems of coordination, which need to be handled in order to avoid the possible related limitations.

The originality of the management approach in the Natural Reserve at Popenguine is not so much the fact that it started as a highly damaged ecosystem, being restored by a simple protection scheme, but because it was an uncommon example of active and voluntary participation of a waterside community in realising the management of a protected area.

The involvement of women in managing a natural Reserve is an unheard of experiment in Senegal, and probably in all of Africa. The distinctive mark made by the women and the involvement of the population are the unique basis for the conservation programme in this Reserve. The movement involved eight villages around the Reserve; the majority of those involved were women, who were among the most dynamic in the community.

The initiative of these women, encouraged by the men and supported by a body of young volunteers, was well structured. The E.I.G.s formed by the women in each village are part of the new generation of organisations in rural areas born out of the disengagement of the Senegalese state. This new system consists of simple, legal and competent structures in all areas of activity, which have access to credit or direct financial assistance from outside.

The "Popenguine experiment" is already being repeated in studies devoted to this area and similar concerns.

Conclusion

After a decade of the reserve and "successful" collaboration between the administrative structure and the local population, it is still difficult to establish definitive conclusions, even if the identified trends are all in keeping with the intentions of its creator. The experiment has

revealed an extremely positive orientation both in ecological and community terms as this Reserve has benefited on the one hand from protection, which has led to promising biological improvement, and on the other hand it has encouraged a continuous collaboration with a section of the population who have seen their responsibilities rise. Environmental awareness has been vastly improved so that no conflict has ever arisen between the administrative conservational authorities and the local communities.

However, there are still certain aspects that are still not up to the initial objectives. Economic improvements, which were supposed to provide solutions for sustainable use of natural resources, have still not been fully achieved although all the necessary requirements are in place. The tourist camp, which should provide several permanent jobs, is operational in Popenguine; however, at the moment there is only one camp and the complementary activities (tourist guides, crafts...), which were supposed to accompany it, are still in their very early stages. Accordingly, the number of tourists visiting the area is still very small, which is due to the fact that the biological increase is still low; however, the future still looks extremely encouraging.

In the areas around the Reserve, the mobilisation of the communities, initiated by the women, produced some of the effects that had not been anticipated by Rouchouse in 1986. Through an entirely experimental process, achievements were made which reconciled the communities' desire to protect their natural surroundings (environment) and to preserve their ways of life (development). These were greatly admired by the Senegalese people who are becoming more aware of environmental issues.

The experiment, however, is not complete; it has only been running for a decade, which is very little time to achieve a real turn around. The steps taken and the experiences gained need to be reinforced in order to ensure that the ecological and economic gains are both lucrative and well distributed. It is therefore not yet possible to judge this experiment on the grounds of whether it would be a suitable example to inspire other local communities.

4.2.4 Case Study 4: The Pikine “Town Project”, a process of participative and strategic planning

This programme was part of the implementation of the programmes and strategies related to applying chapter 7 of Agenda 21.

History, objectives and strategies

New forms of collaboration between town authorities and the civil society are currently being tested in different parts of the African continent, for example in the town of Pikine, a settlement of over one million people located in the suburbs of Dakar (Senegal) where a strategic, participative planning process was set up known as “The Town Project” of Pikine.

The project was born following a request from the Mayor of Pikine to Enda Ecopop to help the town draw up and implement a development plan. The project was started in the context of the new policy of decentralisation, introduced by the Senegalese government in 1996, which gave new roles and structures to municipal administrations. The Pikine town council was given greater responsibilities for managing all aspects of the town, which was subdivided into 16 equal districts, each with its own administration and mayor.

From a general point of view, the “Town Project” is a process of discussion and participative planning between all the players involved in local development: politicians, town council members, non-governmental organisations, associations and the private sector. The objective of this participative process is in keeping with the local action plans in Agenda 21. Its aim is to initiate a process of local urban transformation to improve the environment and living conditions in Pikine, putting emphasis on sensible governing and a healthy dialogue between the citizens and the political leaders.

The main aim of the “Town Project” was to help the town of Pikine to draw up a strategy for town planning and management which reflected the needs of the population. More precisely, the project aimed to establish a series of strategic plans on a local level to create a framework for local, participative development management and achieve more efficient coordination of activities between the different areas of Pikine and the local authorities. The ultimate goal was to be able to provide these local institutions with suitable negotiation tools and directive plans supported by financial and technical partnerships, and to thereby assure that the concrete progress achieved is repeated in other areas and levels of the town.

The project was drawn up following a discussion process between Enda Ecopop and the Pikine town council based around four points: (a) to provide the players concerned with a forum for dialogue, negotiation and decision making; (b) to undertake action in the local areas as well as at municipal level; (c) to emphasise equally all the different sectors (environment, health and education, trade etc.); (d) to adopt a process geared towards learning and experimentation.

Implementation and the results achieved

Although two years of a project is a relatively short time to evaluate and analyse the chosen process, the experiment at Pikine has already cleared several major hurdles and achieved some positive results. Evidently there are considerable difficulties involved in completing a participative planning strategy for a town of over a million inhabitants. The official launch of the process took the form of a series of preparatory meetings and a workshop involving representatives from all the different groups of stakeholders. This was followed by a year of discussion, diagnosis and planning by the stakeholders and the resource people who were involved in the project on a voluntary basis.

Three different steps were taken to encourage discussion and exchange of ideas and used to facilitate the collection of the necessary facts and information and to work out the development plans. The first stage was to set up forums for discussion in each of the 16 districts of the town where, for two days, the main players met to discuss questions about the local environment, economic and social development as well as questions on education, culture and sporting activities. The second stage was to create Local Follow-up Committees (LFC) to draw up a plan of action based on the recommendations made, to encourage the execution of the activities and to improve relations and exchange between the town administration and the population. The third stage was to establish five Specialised Themed Commissions (STC) at a local level, to provide a framework for thought and advice on the environment, socio-economic development, sensible government, public-spirit, communication and exchange of information as well as developing the education sector, culture and sporting activities.

This preparatory process was characterised by the active involvement of ENDA who drew support from local leaders, youth associations and women's groups to get the process up and running and to achieve the required momentum. The private sector were poorly represented at this stage, which can be attributed to the fact that it is only a small sector in the area and often lacked the necessary resources to become involved in the process voluntarily. The experiment also showed the obstacle posed by the electoral system. Because of electoral considerations, political pressure was put on the start of the programme which rushed all preparation for the launch of the process.

In general, the installation of a triple mechanism to facilitate information collection and planning showed positive results. The discussion forums gave the citizens the opportunity to voice their needs and points of view and to bring solutions to their problems. However, the most striking element of the factors is still that, for the first time, the population, the administration and the politicians could engage in a discussion that was accepted by all the parties concerned. The situation was slightly different as far as the functioning of the local follow-up committees was concerned.

Actions plans could only be formulated in 10 of the 16 town districts. The reasons given for this involved the inability of the municipal agents to guide the process and, occasionally, the presence of conflicts between the committee members and the local authorities, including the politicians. In the initial phase, there was some confusion over the civic role of the representatives and the grass roots community organisations in the planning process, and to what extent they could get involved in municipal management. But it is important to note that the majority of the town's districts benefited from this phase of open and constructive dialogue, which gradually transformed the role of the LFCs from areas for discussion to organisations with a wider range of responsibilities. As for the Specialised Themed Commissions, the experiment attracted the active involvement of over one hundred people from state technical services, research centres, NGOs and grass roots community organisations. In these commissions, the elected consultants were generally absent.

Alongside the work of the committees and commissions, two training seminars were organised with groups of stakeholders to increase levels of dialogue and develop negotiation skills. The first session was about local government and civic participation for the benefit of municipal employees and leaders; the second was based on female leadership and the local mobilisation of female politicians and leaders of community associations. This capacity building exercise had a positive effect in helping to carry out follow-up work in the town, such as awareness raising among the communities participating in the process, the start of a hygiene and sanitation campaign as well as institutional regrouping, for example the reconstruction and creation of local collectives and associations.

As for managing the "Town Project", an institutional platform was created with a pilot committee, chaired by the mayor, involving municipal consultants and civil servants, a technical commission and a technical support unit. However, this platform did not function as had been expected. In fact, the pilot committee only met occasionally, the other two sections never met and so a proposition was made to give Enda – involved from the beginning to help the project – the task of "moving things along". The local administration's failure to take up the project at the moment could place limitations on the long-term viability of the project.

A similar situation was also discovered in the financial management of the "Town Project". Although a system of co-financing was initially negotiated with the municipal administration,

the mayor did not hold up his end of the bargain and so Enda TM were forced to pre-finance the execution of the activities with funds received from international partnerships just in order to keep the process going.

Impact

Clearly it is difficult to measure the impact after just two years, and this can only be based on indications reflecting the progress made or the barriers encountered by the project. The main instrument of evaluation for the “Town Project” is the participative systematic auto-evaluation, which was undertaken after each operational phase of the project (conception, mobilisation, discussion forums and carrying out the action plans). Similarly, external evaluations were made by consultant and researchers as well as a series of ad hoc brainstorming sessions and discussion between Enda TM and the local stakeholders.

The general picture to come out of the analysis of classic evaluation indicators, such as the number of people involved or the quality of documents produced, as well as the feedback received from systematic and non-systematic evaluations, shows that impact has been made in five main areas:

Firstly, the “Town Project” in Pikine has generated a collection of facts and information concerning planning, as well as a survey and analysis of suggestions for municipal development. This has helped to build a common vision of local development, shared by all the different players in Pikine.

The second impact concerns the clear signs that an extremely active civil society is emerging and assuming a role that is already well enough developed to assist local administration in decision making processes and the implementation of projects. However, questions have been raised such as: how far can this development be sustained, given the limited time and resources available to the civic stakeholders involved on a voluntary basis? How much time will be needed to transform this planning into immediate results which will benefit the population and thereby ensure lasting investment in the process?

The third impact concerns the adoption of new methods of dialogue between the different players, principally the recreation of dialogue and relations between the politicians and those involved on a municipal level. However, this progress remains dependent on the constant work to mobilise and attract different players, carried out by Enda Ecopop. Also, the dialogue created conflicts among the associations and between the associations and the politicians, which were sometimes difficult to overcome.

The fourth point to mention is the positive impact recorded on practices of local management. The “Town Project” created a platform which gave citizens the opportunity to contribute to the management of their local area. As for the Mayors of the town districts, they increased their management skills and their abilities to work with different local representatives.

Overall, the project helped to reshape local leadership. Members of grass roots community organisations now have increased responsibilities, resource people have been identified following a discussion process and the grass roots community organisations – by participating in local committees – have changed their role from merely carrying out orders to becoming partners in planning activities.

What has been learnt

The decentralisation policy of the Senegalese government and relative political stability have had a positive influence on the initiation and the advancement of the project. Without this general political context, such an experiment could never have been undertaken at this level. The presence of a neutral and impartial NGO to assist the project was also a positive element in implementing the project, as it was accepted by all the parties concerned and because of its ability to mobilise a wide range of local players.

The level of involvement in the project by the political players, on both a municipal level and in the local areas, was an obvious key to the advancement and viability of the project. Because the local politicians took an increasingly narrowed view of the nature of the project, thinking more in technical than political terms, too much responsibility was left with Enda Ecopop. In addition, rivalries and confusion among the political representatives about the decision making mechanisms increased this transfer of responsibility.

Other factors which limited the advancement of the project were noticed, such as the wide range of intervention and the weak capabilities of different local players, which sometimes led to difficulties for those in charge of initiating the project in targeting the growing needs of the different areas.

Finally, the difficulties involved in the short term management of the populations' expectations with such a long planning process presented a serious challenge to the viability of the project. The population's intention to commit themselves to a more extensive negotiation and planning process will be limited if tangible results are not soon achieved in the local areas.

After two years, the "Town Project" has taken root – at least partly – in the processes of municipal management and planning. In order for the experiment to be developed beyond this first stage, three main lines of action have been identified:

The politicians must commit themselves in a constructive way to the project in order to carry out the commonly accepted plans. Human and financial investments linked to the "Town Project" must be confirmed by the municipal policy.

It is necessary to carry out community projects to benefit the populations concerned in the different regions of Pikine. Action plans have been drawn up and expectations have been expressed for improving the environment and the economic and social situation.

To build on the local integration of the project, the population must become better informed on the objectives and the nature of the "Town Project". To achieve this, a communication strategy must be adopted in order to raise awareness, to have a greater effect on the communities and to make the needs of the citizens themselves the main object of interest for the project's development.

Conclusion

The launch and implementation of the "Town Project" was an important and innovative factor in the current Senegalese context, particularly given the new government policies of democratisation and decentralisation of the society. The creation of local partnerships to

facilitate exchange and planning to benefit a community of one million inhabitants – targeting different sectors and working through two levels of local government (the municipality and the town districts) – was a unique experiment.

This experiment was also designed to go beyond the level of technical planning and to become a learning process and a lesson in democracy. After two years, the project has shown encouraging results in terms of the citizens' participation and their relations with local authorities. But the experiment has also shown the difficulties involved in trying to change mentalities and attitudes of the players – particularly the advisors – who found it extremely difficult to adapt to a new style of public management.

The challenges for the “Town Project” are now to follow up on the expectations, to analyse all the information gathered and finalise a framework for strategic planning, to realise tangible results in the area and to encourage the political authorities to accept their role in helping the advancement of the project. Otherwise, the enthusiasm shown may drop off and the population will lose all motivation and abstain once more from political processes.

5. General Conclusion

It is important to state that the rhetoric of sustainable development, which has been around for several decades, is now being replaced in some areas by multiform actions and initiatives which are meeting the basic needs of the populations. The adaptation of sustainable development by the stakeholders from civil society in all its different organisational forms is an encouraging sign for lasting improvement in their living conditions.

However, it must not be forgotten that the route towards achieving sustainable development is a long and exacting process due to the number of challenges to be overcome. Senegal's situation is very similar to that in other Sahelian countries. Continued damage to the country's economic situation linked not only to numerous physical, climate and environmental factors but also to misguided political decisions and the inequality of international relationships and world markets, has exposed the limits of a welfare state.

The social and economic development plans introduced since independence; as well as the different adjustment, stabilisation and reform programmes initiated with the WMF and the WB are clear indicators of the state's political will as well as proof of the efforts made over the last 40 years. Even if the constraints to development have been identified, development approaches have often gone wrong because the basic ambitions of the populations have not been sufficiently taken into account and they have not been involved in the development process.

The Stockholm Conference in 1972 and in Rio in 1992 were important landmarks for recognising the environmental issues involved in implementing Agenda 21. They provided an unheard of opportunity for the poorer countries and countries in the Sahel region such as Senegal, which had suffered several years of drought, destruction of their natural resources and basic deterioration of the production systems, to reconsider their development policies in order to face the challenges of economic growth and sustainable human development.

Moreover, the premises of a wide spread and continued worsening of the situation since 1990 also served as a trigger for the birth of a civil society which has continued to strengthen faced with the gradual slackening of the state. This civil society, which was once mocked by the

state and ignored by financial backers, is attracting more and more interest because it is presenting itself as a force of change, of negotiation, of social motivation and a political critic. Its growth has been supported by institutional reforms but also by the process of democratisation, decentralisation and participative approaches.

This highly profitable partnership between politicians, financial backers and the civil society can only be beneficial for the population and sustainable development. Several experiments carried out as part of this partnership through actions to conserve biodiversity, municipal management, reforestation and participative management of traditional energies to name but a few show that sustainable development should not be merely a political vision but should also be a major concern for grass root players. These experiments, although targeted at environmental issues, aim eventually to fight against poverty in rural and urban areas through multiform actions to improve production, generate income, improve education, health, capacity building etc. Therefore, the fight against poverty remains the major aim for sustainable development which cannot allow itself to be compartmentalised, even in the most underprivileged areas.