

SUMMARY

According to the United Nations Convention to Combat Desertification —UNCCD, areas susceptible desertification in Brazil are located in the Northeast Region, particularly in the Semiarid. The Brazilian semiarid represents 18% of the national territory and shelters 29% of the Country's population. It encompasses an area of 858,000 square kilometers, representing about 57% of the Northeast territory, being designated as the Drought Polygon (where occasional droughts happen) estimated in 1,083,790.7 square kilometers. Approximately 18.5 million people live in this region, being 8.6 million in the rural area, characterized by high vulnerability, since they are among the poorest in the Country, with quality of life indexes much lower than the national average.

Far from being characterized as a homogeneous space, the semiarid may be presented as a "great mosaic". This natural diversity maintains managing practices in its territory marked by "old" and "modern" social relations, which include and exclude, by traditional economic activities, the little insertion into the market, with little use of technology in contrast to up-to-date technology resulting from the irrigated agriculture and the tourism sector. In both situations the environmental consequences may be serious if the activities are led in such a manner that they are environmentally inadequate. In the traditional agriculture, based on policulture (mainly corn and beans) and grazing (cattle, sheep and caprine herds), the vulnerability to droughts is higher and the situation becomes worse when it focuses on small farmers or on land-less workers.

The environmental impacts may be seen by the destruction of biodiversity (flora and fauna), the decrease in water resource availability, the silting of rivers and reservoirs and the physical and chemical loss in soils. All of these factors reduce the capacity to produce of the land, reducing agricultural productivity and, therefore, resulting in damaging consequences on the population.

The economic losses caused by desertification are also of great importance to Brazil since, according to the Ministry of the Environment's diagnosis, these may add up to US\$ 300 million per year. The recuperation costs of the most affected areas reach US\$ 3.9 billion in a period of 20 years.

The social damages may be characterized by important changes that the increasing loss in production capacity of the soil provoke. It is necessary to have public policy strategies with an integrated focus of goals, simultaneously encompassing socio-economic, political-institutional, cultural and environmental aspects.

By analyzing development policies adopted by different spheres of government in semiarid dominions, since 1994, it becomes apparent that sustainability presupposals are present in a list of plans, programs and projects which maintain mutual interdependencies with the desertification phenomenon. With the elaboration of the Brazilian Agenda 21, the Commission for Sustainable Development Policies and the National Agenda 21 – CPDS was created, being chosen six central themes: natural resource management; agricultural sustainability; city sustainability; infra-structure and integration in regional sustainability; reduction of inequalities in order to build sustainability and science and technology sustainability.

Even before the signing of the Convention by the Federal Government, Brazil initiated its implementation. The elaboration of the National Plan for Desertification Combat began through the Ministry of the Environment in February of 1995. The mechanism used to promote the implementation of the National Plan for Desertification Combat and the Convention was the international agreement with the United National Development Program – UNDP. This arrangement guaranteed at the first moment, agility, independence and the possibility of maintaining a specific team for the implementation of actions to combat desertification in the Country. After this strategic definition, an internal awareness effort of the Ministry of the Environment began, involving all secretariats and organizations connected in the process of elaboration in the National Policy and the National Plan to Combat Desertification.

As part of the implementation strategy of the Convention, a divulging network was created with the activities being developed by the participating institutions in all of the Northeast Region in the Federal range. The actions taken place resulted in a number of outcomes, among them are the approval of the National Environment Council – CONAMA, the Directives for the National Plan to Control Desertification.

The process of implementation of the Convention counts with the participation of other important international and national partners, such as FAO, the UNDP/UNSO office in New York, the Convention Secretariat, GTZ, the Bank of the Northeast, the Ministry of Education, SUDENE, the Research Center of the Semiarid Tropic of EMBRAPA and the Joaquim Nabuco Foundation. In the past years, the process of implementation of the Convention obtained essential support from the World Mechanism, which facilitated the obtaining of funds, in 2002, for the elaboration of the National Action Program – PAN, from the Holland Cooperation which made available, through the National Environment Fund – FNMA, funds for the Public Notice no. 8/2001 for desertification combat. Support was also obtained from the Ministry of Science and Technology – MCT which made available the inclusion of desertification in the range of thematic areas of the Water Resource Sectorial Fund - CT-HIDRO, in organized civil society and of several NGO´s, emphasizing the Semiarid Articulation – ASA, which gathers several NGO´s in an active group towards the various areas of desertification combat, which also gave place to the One Million Cisterns Program, during COP III. Besides these, it is important to mention the important effort by the Northeastern states in the elaboration of their state policies towards desertification combat and the implementation of several other related actions. We should emphasize also the actions implemented by SUDENE and the Bank of the Northeast, in the financing of environmentally sustainable projects.

The governmental concern towards desertification combat, although initially timid, is starting to grow, becoming more prominent than the drought effect mitigation and surviving in the semiarid, and the special attention given to counties with a low IDH (Human development index) and actions related to the building of constructions to make water more available to the needy communities of the Northeast.

The results of the present implementation stage of the Convention and the National Plan point to the necessity of new strategies and actions, taking advantage of a new moment of greater awareness of the necessity to lead to the right direction in

environmental concerns, of a greater involvement of society in the environmental actions, of the growing effectiveness of implementation instruments in the Brazilian environmental policy, in order to guarantee a set which is consistent and effective towards short, medium and long term goals. We should understand that the joint leading of actions to control desertification and combat the drought effects; the focalization of desertification impacts in the economy, on the environment (soil, water and biodiversity) and in society and the coordination of actions to combat desertification accomplished by the various actors in this area, are all welcome in the implementation of the Convention.

III. STRATEGIES AND PRIORITIES ESTABLISHED IN THE STRUCTURE OF SUSTAINABLE DEVELOPMENT PLANS AND POLICIES

III.1. Introduction

The federalism in Brazil has assumed differentiated profiles related to the historical stages and the economic and societal transformation movements. The concept of federalism implies notions such as political-administrative decentralization and public managerial democracy. The 1988 Constitution represents, in this way, an important milestone, containing strong decentralization principles in various policies, including environmental. This way the Government has tried to lead the environmental concerns in a more decentralized and participatory manner, applying the concept, and believing this is the way to find solutions in the fastest and most economical way to environmental problems. It is the competency, responsibility and legal attribution of the central governments, the State members and the counties to the political and environmental management, and it is a desired goal to effectively implant the capillary environmental management, which corresponds to the ecological awareness of all of society, each one exercising the part of the responsibility. Brazil has obtained much success in the environmental problem solving adopting decentralization as a strategic form for the effective participation of society for problem solving.

A well succeeded example of this practice are the recent River Basin Committees, organizations which are inserted in the National Water Resource Management System, composed by representatives of the Government (Federal, State and County), the water users and the civil water resource entities that act in the river basin. Such Committees have the competency of promoting debates which are related to water resources in the basin, arbitrating first instance conflicts related to water resources, approving the basin Water Resource Plan, accompanying the execution, establishing the charge mechanisms for water use charge, suggesting the values to be charged for water use and establishing criteria for division of construction costs among multiple users in the watershed.

Taking the example of what happens in the water resource area, the National Environment Policy, established by Law no. 6938, of August 31st 1981, constituted the National Environmental System – SISNAMA, whose composition reflects the decentralization so desired, by its structuring of Sectional organizations, that act at state, local and county level.

This huge legal apparatus and the development of a consistent institutional base has served as base for the implementation of the National Environment Policy, putting Brazil in the defensive position for treating world environmental concerns.

In terms of the legal concern, be it directly through essentially environmental law, or through the insertion of sustainable development precepts in sectorial policies, there are a few laws that should be emphasized which are mentioned below. It is important to mention also that the 1988 Federal Constitution, treated in several of its articles, environmental concerns. The main legal provisions valid in the Country are the following:

- **Federal Constitution, Art. 225** – Everyone has the right to an ecologically balanced environment, a common use good of the people an essential to a healthy quality of life, so that it is the duty of the Public Power and collectivity to defend it and preserve it for present and future generations.

§ 1st – In order to assure effectiveness of this right, it is the responsibility of the Public Power to:

IV – it is required, by law, for any construction or activity which may potentially cause significant degradation to the **environment**, that a previous study of the environmental impact, which will become public, be done;

V – control the production, the commercialization and use of techniques, methods and substances which may present risks to life, quality of life and **environment**;

§ 3rd – The behaviors and activities which are harmful to the **environment**, by either law-breakers, individual or corporate persons, are subject to penal or administrative sanctions, independent of the obligation to repair the damages caused.

§ 4th – The Brazilian Amazon Forest, the "Mata Atlântica", the "Serra do Mar" , the "Pantanal Mato-Grossense", and the Coastal Zone are a national patrimony, and their use has to be according to the law, under the conditions assured in the **environment** preservation, including the use of natural resources.

- **LAW No. 6938**, of August 31, 1981 – Decrees the National Environment Policy, its goals and mechanisms for formulation and application and gives other measures;
- **LAW No. 9433**, of January 8, 1997 – Establishes the National Water Resource Policy, creating the National Water Resource Management System, regulates the paragraph XIX of art. 21 of the Federal Constitution and alters the art. 1st of Law no. 8001, of March 13, 1990, which modified the Law no. 7990, of December 28, 1989.
- **LAW No. 9605**, of February 12, 1998 – Establishes penal and administrative sanctions resulting from behaviors and activities which are harmful to the environment and gives other measures.
- **LAW No. 9795**, of April 27, 1999 – Establishes environmental education, institutes the National Environmental Education Policy and gives other measures.

In what refers to the institutional base development, the efforts towards the promotion of sustainable development in Brazil were institutionalized due to the promulgation of the National Environment Policy which has as goal the preservation, improvement and recuperation of environmental quality which propitiates life, leading to the security of conditions towards social-economic development, to the interests of national security and the protection of the human life dignity (Law no. 6938, 1981). This Policy instituted the National Environment System – SISNAMA, which is constituted by a consulting and deliberate council, the National Environment Council – CONAMA, by a central organization, the Ministry of the Environment – MMA, by an executing

organization, IBAMA and by sectorial and local organizations. These efforts made possible the creation, in 1985, of the Ministry of the Urban Development and Environment – MDU of which are a part of CONAMA and the Special Environment Secretariat – SEMA. With the creation of the Brazilian Environment and Renewable Natural Resources Institute – IBAMA in 1989, several organizations such as the Special Environment Secretariat – SEMA, the Rubber Development Superintendency – SUDHEVEA, the Brazilian Forest Development Institute – IBDF and the Fishery Development Superintendency – SUDEPE were joined in one. At that time, the National Environment Fund – FNMA, was also instituted. With the creation of the Environment Secretariat of the Presidency of the Republic – SEMAM-PR, in 1990, IBAMA became connected to it. Finally in 1992, the efforts towards the institutionalizing of the environment concern in Brazil, led to the creation of the Ministry of the Environment – MMA, which inherited the attributions of SEMAM-PR.

III.2. National Development Plan

III.2.1. The Strategy for National Conservation

Global policy has had vital impact on the administration of Brazilian Public Policy to the process of development.

Creating awareness has been an important factor in environmental conservation, with the bottom line being the preservation of life. This developed gradually through many conferences and meetings that worked for a solution for the growing environmental problem of the planet. The developed countries of the North have worked this theme since the 1960's. The first international conference on environmental concerns that included industrialized and non-industrialized countries occurred in Stockholm in 1972. It initiated a theme that would be the basis of future discussion: How can economic development be encouraged without endangering the environment? In almost two decades after that Conference, there has been a gradual change of perception of the world in relation to environmental problems, which led to the creation of the World Environment and Development Commission by the United Nations General Assembly (Resolution 38/161). In the following decade, in 1992, a Conference was held in Rio de Janeiro called the United Nations Conference on Environment and Development (Rio 92), whose commission was presided by the Norwegian first-minister, Gro Brundtland. In 1987, Our Common Future paper was published, which elaborated on the concept of sustainable development, which would be attained by the reinstating of growth and better distribution to its beneficiaries, by the rationalization of electric energy use and attending basic necessities of the population, and one of its important results is the editing of a document which became known as the Agenda 21, this document consecrates the higher principles to obtaining sustainable development, and "reflects a global consensus and a political compromise in the highest level with respect to development and environmental cooperation."

Based on this awareness movement and global environment policy the Country has reoriented its action mechanisms towards the exercise of activities which contribute to a sustainable development, which takes into consideration the equity and income generation, conservation of natural resources, poverty combat and special attention to low IDH counties, standings which are contemplated in the United Nations Convention for Desertification Combat.

For this reason, in the year of 2000 the Advance Brazil Program was created, based on a Government Program presented in the elections of 1998 and in the study of National Axes of Integration and Development, regional orientation given by various criteria such as: river basins, vegetation, land, culture, etc.. for the implementation of public policies. The Advance Brazil is composed of 392 Programs of which 52 are considered strategic. The strategic programs received in 2001 a total of R\$ 67.2 billion, of which 83% were destined for the social area. Besides these programs, integrated action plans were developed to solve complex problems. These plans have as goal the coordination of efforts and county, state, federal and society resources. The Alvorada Project is an example of an integrated action plan with a clear repercussion towards desertification combat, due to its application to social conditions found in the semiarid northeast region, and it will be described in the next item. The Advance Brazil Program is composed of priority projects whose actions and budgets are defined in the PPA – Government Plurianual Plan, and reevaluated in the macro-goals of the presidency, including among others the combat against inequality and poverty.

As a result, the Federal Government has assured financial resources for priority programs and projects and it is important to emphasize a pro-income policy, both regionally and individually. Considering the development policies adopted by the different spheres of government in the semiarid, an area susceptible to the desertification process, ever since 1994 the appearance of presupposed sustainability in a list of plans and actions which maintain interface to combat the desertification phenomenon and the mitigation of the drought effects. These programs and actions will be presented later in the document.

III.2.2. Plans and Strategies relevant to the Combat of Desertification in other areas

The development of the Brazilian semiarid region also reflects the growing concern for the environment, gradually migrating from an environmental management directed by the "economic frontier" paradigm, to a more recent one directed by the "resource management" paradigm, in accordance with the sustainable development principles. At a first moment a development policy is instituted, simultaneously to a green revolution world movement, not worried with the conservation of natural resources, and even encouraging programs and projects which contribute to the environmental degradation and the acceleration of the desertification processes. Such practices, which were common in the 70's and 80's, were strongly criticized in the discussion period which preceded Rio-92 and after the signing of the Agenda 21.

More recently, a clear evolution to a greater awareness may be observed, which gave origin to appropriate policies towards environmental concerns and programs, such as the Semiarid Proágua, for example, whose goals clearly reflect the precepts of sustainable development. The establishment of partnerships for the promotion of sustainable management has also multiplied. One example of such is establishment is the forming of the Trust ZEE Brazil, established between IBAMA, IBGE, EMBRAPA, CPRM, INPE and ANA, with the goal of dividing the whole country in ecological-economic zones. Actions such as these reflect the government's intention of adopting a natural resource management

model which focuses on partnerships between user sectors, awareness of the public and agents involved in the search for a decentralized decision process.

Some initiatives should be emphasized through programs and actions with a broad extent, implemented in the semiarid. They have interface with the principles of the United Nations Convention to Combat Desertification. These activities in such a needy universe contribute to the sustainable development of the Region, be it either for the promotion of economic development, management of the environment or of social assistance.

- The **Healthy Eating Program** of the Ministry of Health consists of a mechanism which encompasses all of the national territory in the elaboration, implementation and evaluation of the impact on activities, of nutritional conditions of the Brazilian population, in conjunction with the National Policy of Eating and Nutrition. Through this program, the **Eating Scholarship** has the goal of giving financial assistance to needy families that have less than half a salary of income (presently R\$ 90.00) per capita, for pregnant women, breastfeeding mothers and children up to six years of age, a total equivalent between R\$ 15.00 and R\$ 45.00 per month. The Federal Government has attended 5127 counties, approximately 880,000 children, pregnant women and senior citizens in the semiarid region up to December 2001. The goal is that the program attends 1,106,889 by the year of 2002.
- Within the **Ministry of Education**, 1143 counties in the dry areas have been attended by several programs being implemented such as **Youth and Adult Education Program**, the actions of the Federal Government called **Recomeço – A Quality and Solidary Alphabetizing and Study Program** whose goal is to reduce illiteracy among youth and adults. This program presently attends 2010 counties located in the Brazilian semiarid region. Besides this, is the **Every Child in School Program** which pays from R\$ 15.00 to R\$ 45.00 per month for families with an income lower than half of a minimum salary and families with children between seven and fourteen through the **School-Scholarship**. The basic goal is to require from families to keep their children in school. Through this action, 2.6 million children in the semiarid region are being attended, which means the Federal Government is paying up to R\$ 38,844,230.00.

The Federal Government Programs that allow for the economic development in the semiarid region are well integrated with the social Programs. The **Ministry of Planning, Budget and Management** is in constant search for Sustainable Management, which considers also the social, economic and environmental aspects. Within the Government Programs that work for sustainability in the semiarid, are the following: **Development of the Northeast Region, Young Entrepreneur, Strengthening of the Family Farm – PRONAF, Fruitgrowing Development – PROFRUTA, Proágua-Management, Brazilian Waters and Infrastructure Proágua**, among others, which directly or indirectly cooperate for the desertification control, poverty mitigation and drought effects.

- The **Northeast Development Program** of the Ministry of National Integration is derived from the reformulation of the **Small Rural Farmer Support Project (PAPP)**, in effect from 1986 to 1993, and which became subdivided in **Community Support Project – PAC** and **County Fund of Community Support – FUMAC**. The program prioritizes the supply of infrastructure to the poorer levels of rural communities: electrification, water supply (well, dam, fountain, supply system),

farming equipment (tractor, primary benefits) and collective use equipment (school building, health center, social center, phone system).

- The **Young Entrepreneur Program** of the Ministry of National Integration has the goal of organizing and enabling rural youth, through the Amanhã Project of CODEVASF, where more than 7000 youth have already been enabled in professional activities and environmental education. This Action has federal budget funding of R\$ 800,000.00 to be applied in the year of 2002. The Project is implemented in an area of 900,000 square kilometers and encompasses the states of Minas Gerais, Bahia, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas and Sergipe.
- The **National Agriculture Strengthening Program – PRONAF** of the Federal Government has established partnerships with the rural organized society and with financial agents with an implementation strategy. Through the action called **Budget-Insurance**, PRONAF pays R\$ 90.00 per month, for families with a family income of about R\$ 70.00 which aren't able to pay their financial debt with PRONAF due to a lost crop provoked by adverse climate conditions. For 2002 this action obtained a budget fund of R\$ 253,300,000.00.
- The **Income-Scholarship Program** has the goal of paying poor families that have suffered due to the drought in the northeast region. This program depends on the season of the year, and was instituted for six months in order to reduce the migration of millions of northeasterners to the big cities. It lasted until February of 2002 when farmers started their first harvest of the crop. This amounted to R\$ 60.00 and attended about 4,420,000 families for a total expenditure of R\$ 325,140,000.00.
- The **Fruitgrowing Development Program – PROFRUTA** of the Ministry of Agriculture, Cattle Raising and Supply has the goal of generating technology innovations which promote the increase in productivity and the competitiveness of irrigated fruitgrowing in the semiarid, through the **Technology Innovation for Irrigated Fruitgrowing in the Northeast Semiarid**. This action had a financial execution of R\$ 6,871,160.00 in 2001 and a budget fund of R\$ 3,789,000.00 for 2002.
- The **Proágua Infrastructure Program**, of the Ministry of National Integration, has as goal the improving of social-economic conditions of the northeast population by offering jobs, increasing incomes, offering social services, the rational use of natural resources and the recuperation of damaged environmental systems. This action had a financial execution of R\$ 8,032,827 and a budget fund of R\$ 20,625,480.00 for 2002.
- The **Proágua-Management Program** of the Ministry of the Environment, is being implemented by the National Water Agency (ANA), which encompasses measures of desertification combat in the semiarid through the actions of the **Bulk Water Availability Studies in the Semiarid**. In 2002, two new actions were implemented to strengthen the goal of the program in order to guarantee good quality water, of which are: **Monitoring of the Water Resources in the Semiarid** and **Encouraging of Projects for the Prevention of Drought and Flood Impacts**, with a budget of R\$ 26,188,000.00 for 2002.
- Another Program being implemented by the National Water Agency is the **Brazilian Waters Program**, through the action of the **Drought Impact Minimization and Desertification Combat Project**, which obtained budget fund of R\$ 12,839,017.00 for 2002.
- The **Expansion and Consolidation of the Scientific and Technological Knowledge Program**, developed by the Ministry of Science and Technology, with the

goal of supporting the development of the Xingó region, called the Xingó Project, through technology transfer in the areas of employment and income, environmental preservation, water and energy resources and cultural activities. The region encompasses an area of 608,000 ha, including 29 counties situated in the states of Alagoas, Bahia, Pernambuco and Sergipe, being 40,293 square kilometers in the Northeast Semi-arid. This program used about R\$ 3,506,000.00 during 1997/2001, and in 2001 had a financial realization of R\$ 1,612,193.00. For 2002 the budget fund is of R\$ 3,000,169.00.

- The **Sustainable Development Project for Agrarian Reform Settlement in the Semi-arid Northeast, Dom Helder Câmara Project – PHDC**, has the goal of promoting the sustainable development for the settling of the Agrarian reform in the semi-arid northeast and contribute to the quality of life improvement of the family-based producers and settlers of the agrarian reform. Its partners are the Ministry of the Environment, EMBRAPA, University of Pernambuco, SEBRAE, and other University and Research Centers, CONTAG, various NGO's, AS-PTA, Deaconry, Caatinga, Women of the Northeast House, IRPAA and ASA itself which encompasses a total of 600 entities. The Program has several projects with actions destined directly toward families dedicated to family-based agriculture in the semi-arid. Its goal is to invest in the next six years, about R\$ 200 million. This resources are to be applied in the areas of education, enabling, knowledge generation, credit for production and new methods and technology.

For the elaboration of this newsletter, the workgroup collected information from a few initiatives in the semi-arid. In this first effort the intention is not to include all of the initiatives happening in the northeast, which are many, but to give an initial step for the organization of this knowledge.

Certainly there is still a long way to go institutionally in order for the Country to truly incorporate the fight against desertification in its policies and sectorial programs. Even so, the first steps have already been taken as we may see in the proposal of an interdisciplinary and multi-sectorial vision, the adding-up of efforts, avoiding losses in expenditures and promoting improved coordinated actions by mega-programs of the Government. In this context we may once again mention the Alvorada Project in the social area, which includes 11 projects, involving 14 institutions and 6 ministries, known as: solidary alphabetizing, support and development of the fundamental teachings, support to the high school teaching, national school scholarship, family farming development support program, water in the school, national job offer and income program in poor areas, electric energy in small communities program, young agent, child labor eradication program and tourism infrastructure. This program is applied to counties whose IDH is lower than 0.5, which is almost all the counties in the semi-arid northeast. The greatest goal of the project is to fight against social inequality, improve quality of life of people and poorest regions of Brazil, construct a more prosperous and just Country.

Another action to be mentioned is the Extraordinary Sectorial Commission of Survival with Drought and Social Inclusion which will be treated in item four. Other efforts done by the states, by the national congress, by NGO's and research institutions, specifically in the semi-arid will also be described in the same item.

IV. INSTITUTIONAL MEASURES FOR THE IMPLEMENTATION OF THE CONVENTION

IV.1. Introduction

A survey of the susceptible and affected areas of the process was done, as a starting point in the planning of actions towards desertification combat in Brazil. The survey identified three types of susceptibility (very high, high and moderate) and four of occurrences (very serious, serious, moderate and desertification nucleus). The studies indicate that the very seriously affected area corresponds to 98,595 square kilometers, about 10% of the semiarid region, and that 81,870 square kilometers are seriously affected. It may be observed that the phenomenon affects more seriously the central region of the susceptible area, and it becomes more moderate as it goes towards the limits of the region. The susceptible and occurrence areas are presented in figures 01 and 02 below.

Population density in the areas susceptible to the desertification process in Brazil is of 20 inhab/km², which is not very high compared to the northeastern average of 28 inhab/km², however if comparing with other semiarid regions of the world, it is one of the most densely inhabited areas of the planet.

From the point-of-view of the physical characteristics of the semiarid region, about 50% of its soils are crystalline in origin, which make up for aquifers of low water retention capacity, and the other 50%, represented by sedimentary soil are characterized by a good ground water storage capacity. The land aspects reflect a climate and structure dynamic, and although there are great extensions of predominate droughts, there are also significant areas occupied by humid mountains and vales.

In terms of the surface water resources in the region, it is interesting to notice that the nationally important rivers as is the case of the São Francisco and Parnaíba, share part of their watersheds with the semiarid, and yet many of the water bodies in the region are intermittent, in other words, they only flow during the most humid seasons of the year. Even so, these water bodies have a fundamental role in the dynamic of the watershed area of the regions, since there is great use of dam construction, cisterns and other technologies adapted which allow for the accumulation and conservation of water for its use in the dry period.

Besides the accumulation of surface water in reservoirs, the use of technologies for rain water harvesting, the use of ground water, the desalination of saline water, and recuperation of small basins, through the construction of ground water dams and sediment contention, and many others have grown.

In this context, it is very clear, especially until the 80's, that the inter-regional migrations have been an alternative to the lack of sustainability for the most vulnerable population in the semiarid, being that, in the last years and the last droughts, there has been a greater flow to medium-sized cities of the northeast region. A characteristic of this problem is the unstructured family units, due to the impossibility of surviving during the drought periods, and the inefficiency of the public power actions, historically based in

emergency measures and sectorial policies. It is still necessary that the public policies be prioritized with an integrated focus on aims that are simultaneously social-economic, political-institutional, cultural and environmental with well-defined strategies that higher the standards of this region.

In terms of desertification this subject started being mentioned by NGO's and MMA through a cooperation agreement signed between UNDP in 1993 resulting in the establishment of several partnerships with user sectors with the goal of promoting development in such a way that it is environmentally sustainable.

The first initiative of national character about the subject was the National Conference and Latin American Seminary on Desertification – CONSLAD, as part of the preparation process of the Brazilian Government for the negotiation process of the United National Convention on Desertification. At this opportunity, different institutions and national and international agencies were incorporated as partners in the promotion of the even, including FAO, UNDP, BID, the CCD Secretariat and other national institutions.

Brazil signed the Convention on October 14, 1994 and it was ratified on June 12, 1997. On December 22 of the same year, the National Environment Council – CONAMA, approved the Norms of the National Desertification Control Policy, which resulted on implementation efforts of the National Desertification Combat Plan (PNCD).

IV.2. National Desertification Combat Plan (PNCD)

The national actions implemented by the Ministry of the Environment, in the beginning, had the development tied to an international agreement with the United National Development Program – UNDP, an international institution whose important role is to stimulate national government in the adoption of the subject in its public policies, stimulating the inclusion of the subject in the priorities of its national agenda. In 1993, actions against desertification were sheltered by the BRA project, a cooperation agreement with UNDP.

The preparation for the elaboration of the National Combat Desertification Plan – PNCD started in February of 1995, through an already existing project mentioned earlier which is BRA 93/036. The Ministry of the Environment adopted this possibility due to the fact in which the work would already have started with a perspective of international cooperation; and it incorporated the participation of a NGO, the Esquel Group Foundation of Brazil – FGEB, which was recommended by the Convention. The project of the Plan, structured this way, would guarantee the necessary agility in order to enable the creation of a technical group to coordinate the work, which would not happen otherwise due to the restrictions of contracts in the Brazilian public service.

The UNDP project was active until the beginning of 2000, the following points describe the strategies and results obtained, being that now in 2002, the work is being restructured with the help of the Global Mechanism and is called the National Action Program (PAN).

IV.2.1 Implementation Strategy

The implementation of the activities forecasted by PNCD inserted MMA in the environmental management context. The Ministry, following the Federal Government Norms, tried to work more in the elaboration and supervision of the environmental policies than the executor of these policies themselves.

The method used for the elaboration of the PNCD, presupposed a basic survey to local communities. Therefore, there was a lot of participation and the local demands were strongly apparent, which required immediate responses from the Ministry. At that point, there was a lack of institutional instruments and human resources at the local level in order to give support to desertification control actions by the public power and private initiative. Another evidence was the lack of capitalization of the small farmer which hindered the absorption of managerial costs and the recuperation of damaged areas.

Therefore, the strategy used was to work in two ways. The first is in terms of the fulfillment of the Desertification Convention establishments, where the local community participation should be stimulated from the beginning of the elaboration of the national programs. The second is about the fact that the policy elaboration process of desertification control has already identified the policy components to be implemented at an emergency character and this would require an immediate action by the Federal Government. These actions happened, initially, in the institutional strengthening area, from the beginning Focal Point, which was located in the Minister's Cabinet.

This way, the Ministry of the Environment, in the preparation process of the National Desertification Control Policy and the National Desertification Combat Plan, tried to develop a series of activities focused on the implementation of institutional strengthening policies of the Ministry itself, as well as the institutions and communities in the affected areas, where the county-level work should be compatible with the necessary support from the state governments.

The proposal also had as one of its components the strengthening of the Ministry of the Environment's actions along with the financial development agents and other sectorial organizations of the Federal Government which work at similar areas.

During the initial execution process, the actions forecasted in the Preparatory Assistance, were created by a Consultant Group of the PNCD, made up of various institutions of civil society, such as NGO's and labor union entities. This Group got together twice and presented various suggestions for further steps to be taken by PNCD. Besides contributing positively to the success of the field trips and local community mobilization in order to do the surveys.

The strategy was complemented with the decentralization of the priority action execution, which happened because of the incorporation of other governmental and non-governmental agencies into the process. They used their capacities and specialties in order to directly coordinate some of the forecasted actions.

After the strategic definitions mentioned above, an awareness effort within the Ministry was done. This initiative's goal was to involve all the secretariats and agencies

connected to the Ministry, in the elaboration process of the National Policy and National Desertification Combat Plan, a beginning of a future National Commission. The internal commission functioned during 1996 and 1997, although the National Commission was not formed.

A critical evaluation of the period shows that the non-existence of a National Commission may be understood as an important restriction to the project implementation process and the Convention in the country. Another consideration is that the non-institutionalizing of the subject at the junction level of the Government organizations is an instability factor for the implementation of the Convention and of the National Desertification Control Program.

However, a positive factor is the supporting technical group formation process which was present in the field trips, and guaranteed a truly interdisciplinary approach to desertification. Also the multi-institutional character which allowed for broad divulging of the subject within institutions, so to improve the environment for future partnerships.

Another point to make is the financial resources available which has always been a restricting factor for the development of actions in the PNCD. The financial resources of the project from 1995 to 1998 were of US\$ 530,110.58. In the year of 1999 and 2000, no resources were transferred to the project. In 2000 and 2001 the National Water Agency – ANA made part of its budget available for the minimization of drought and flood impacts.

Until today the financial situation of the actions for desertification combat are non-existent as a budget factor. The Federal Government actions using budget resources are destined specifically for the "Defense against erosion, droughts and floods".

The survey done in 94/96 shows the continuous increase in real terms of the total applied by the Federal Government in this area. Between 1994 and 1996, the resources identified almost tripled, at constant prices, from R\$ 35.7 million in 1994 to R\$ 97.5 million.

The available data does show if the expenditures were used for the control of erosions, droughts and floods. Experience shows, however, that the years of 1990-1993 were dry years and the years of 1994 and 1995 were characterized by more-than-normal rains, with floods in various capitals of the Northeast.

We may truly affirm, that most of the expenditures were used in the control of droughts and floods. This inference is corroborated by the number of projects dealing with erosion control, implemented by the Ministry of Agriculture, which did not add up to more than R\$ 500,000.00, according to information obtained at the National Soil and Water Conservation Program.

IV.2.2 General Results Achieved

- Norms for the National Desertification Control Policy, document approved by the National Environment Council – CONAMA, resolution 238 of December 22, 1997.

Basic Studies:

- Diagnosis – susceptibility and occurrence maps, affected area and population;
- Document with the evaluation of all of the academic production of the subject (existent studies and data on desertification in Brazil);
- Environmental Diagnosis of the areas susceptible to desertification;
- General evaluation of the Semi-arid conservation system;
- Identification and evaluation of the well-succeeded drought management experiences, management and conservation of natural resources and sustainable cattle-raising production;
- Method guide for the sustainable development in the semi-arid (Planning Manual);
- Integrated monitoring System Proposal of the desertification process.

Awareness and enabling material:

- Brazilian edition of the United Nations Convention on Fight against Desertification;
- Annals of the I Latin American Conference on Desertification – CONSLAD;
- Desertification: Characterizing and Impacts;
- Desertification Booklet;
- Folder;
- Norms for the National Desertification Control Policy;
- Edition of the Commemorative Stamp for the World Fight Against Desertification Day.

Agreements and Pacts:

- Technical Cooperation Agreement with the Bank of the Northeast, for the development of enabling and awareness actions of the technical personnel and farmers in the Sustainable Management of the Caatinga;
- Technical Cooperation Agreement with the Ministry of Education and Culture, for the distribution of awareness and enabling materials of the project, in technical schools and universities;
- Technical Cooperation Agreement with the Northeast Development Superintendency – SUDENE, for the incorporating of the desertification subject in its development projects.

Institutional and technical enabling:

- Meetings were held in the states of Bahia, Sergipe, Alagoas, Paraíba and Ceará, which counted on the participation of Environment, water Resources, Agriculture and Planning Secretariats for the formulation of a common action strategy;
- Support for the elaboration of a State Desertification Combat Plan in the states of Ceará and Bahia;
- Technical Enabling, with enabling courses for technical personnel in different states at different levels.

Other initiatives:

- Workshop on Desertification and Genre, held in Recife on September 15 and 16, 1998;
- Support for the creation of County Environment Commissions;

- Support for the creation of a Study Group on Desertification in desertification affected areas;
- Farmer Awareness actions;
- Support for alternative technology diffusion projects for survival with the drought;
- Support for the development of actions in the desertification nucleus.

IV.3. Projects directly connected to the combat of desertification

Some projects developed especially in the desertification combat range deserve special attention. Among them we might mention:

- At the **Brazilian Environment Institute – IBAMA** some divisions were involved in desertification combat jobs. The Environmental Technology Development Division/DITAM promoted in the Brazilian semiarid region, the development of actions to allow for the access and **Transfer of Environmentally Healthy Technologies**. The average volume of investment in these actions was over R\$ 61,768.00. The Sensorial Remote developed the **Application of Geotechnologies** for study, mapping and evaluation of desertification. The actions concentrated on the search for partnerships for the development and improvement of works and the analysis of the demand for geospecialized information. In 1967 desertification susceptibility and occurrence maps were elaborated. In the same year the CNIA – National Environment Information Center elaborated the **Reference Catalogue** of papers on desertification combat.
- The Desert Institute developed actions of **productive capacity recuperation in areas affected by drought and by the desertification process**, for such partnerships were established with SUDENE, the Pernambuco State Government, the Federal University of Piauí and with society. For the implementation of its actions in the year of 2001 and 2002 it received from the Government of Pernambuco R\$ 1,200,000.00 and extra-budget resources of a total of US\$ 40,000.00 from IFAD – Global Mechanism.
- The Group Esquel Foundation of Brazil – FGEB develops three areas: in partnership with UNEP/GEF, Natural Heritage Institute, the University of Chile and the Secretariat of the Environment of Mexico, the design of the project and testing of a **Desertification Index and Monitoring System**; along with ASA, the **project P1MC** which will be mentioned below and still, along with ASA, the **Desertification GT Creation** to contribute to the Rio +10 and with the elaboration of the PAN – National Action Program.
- One of the most evident results of desertification combat in Brazil, based on the CCD principles of participation of the population and local community in the conservation and sustainable management of the natural resources, and taking into account the improvement of quality of life is the Rain Water Harvesting Program – Rural Cisterns, also known as **One Million Cisterns Program – P1MC**. The program began from a demand of the northeastern NGO's to the Ministry of the Environment, during a Forum parallel to COP III, which happened in Recife – Brazil, in the year of 1999. The Program intends to guarantee 1 million more needy families in the northeast semiarid region, the overcoming of needs for drinkable water, by mainly the harvesting of rain water, besides training local people in jobs such as bricklaying and water managers.

Since it has been lead by the Semiarid Articulation – ASA, group which gathers approximately 900 entities, with most of its organizations being community-based (59%), rural labor unions (21%), entities connected to evangelical and catholic Churches (11%), NGO´s (6%) and working cooperatives (3%) and through the United Nations Children´s Fund – UNICEF, the Program has already build approximately 8000 cisterns and accomplished about 300 courses in Water Resource Management and Survival in the Semiarid – GRH´s ever since the end of the year of 2000.

IV.4. Non-Accomplished Results – The Restructuring of PAN

In spite of all the effort and results of the project, a set of important results was not met, which reinforces the implementation difficulties in public policies. Within one of the greatest obstacles is the institutionalization, the incorporating of the subject in other ministries and the impossibility of broadening the budget limit in order to cover costs with prevention, combat and recuperation of areas subject to the desertification process.

Among the non-accomplished results we may mention: the non-creation of a consulting mechanism as planned and mentioned in the strategy section; the non-effective integration of the PNCD with other regional and sub-regional programs; the non-inclusion of the PNCD as a strategic area within the MMA, the Ministry of Planning, the Ministry of Regional Integration, and other sectorial organizations.

In trying to solve these problems, the Focal Point is re-dimensioned and the activities of the PNCD are being restructured in the National Action Program – PAN. The responsibility to implement the CCD, is under the Secretariat of Water Resources of the Ministry of the Environment, who is aware of the need for a participating forum in order for the decision-making, institutionalization and incorporating of themes in the various segments. Therefore a Desertification Work Group was instituted and is being formed in the Technical Chamber of Project Accompaniment in the National Water Resource Council. The hope is that with the Work Group there will be a guarantee of a more systematic accompaniment of the Focal Point activities, a participatory and broad elaboration of the PAN and the opening of communication channels to the various actors involved in the process of implementation of the CCD, in the desertification combat and drought effect mitigation.

Other activities are collaborating for the implementation of the CCD, in combating desertification. In 2001 a financial possibility was opened for projects (Public Notice no. 8) that combat desertification in the National Environment Fund – FNMA, totalling US\$ 500,000.00 annually, which was facilitated by the Embassy of Holland. The goal is to support the infrastructure improvement for the income generating and quality of life of the population, emphasizing the diffusion of information, training and development of local policies. The financing value of the projects vary from R\$ 30,000.00 to R\$ 150,000.00.

Another financing possibility for desertification combat projects that mention science and technology and innovation is the Water Resource Sectorial Fund of the Ministry of Science and Technology, under the responsibility of the Water Resource Secretariat of MMA. The Center for Management and Strategic Studies – CGEE execution sector, has as goal to orient program and project financing in scientific research and

technological development in the water resource sector with an emphasis on the semiarid region that totals up to R\$ 28,000.00.

The Global Mechanism tried to facilitate the implementation of the PAN – National Action Program in 2002 with a financial help of US\$ 100,000.00. This mechanism, has also pleaded another opening opportunity for complementary financing of desertification combat projects with GEF.

IV.4.1 Implementation Partnerships of PAN

As seen earlier, the elaboration process of the BRA 93/036 project – Elaboration of the National Desertification Control Policy and the Implementation of Priority Actions counted on the participation of important national and international partners such as: UNDP, regional FAO, the UNDP/UNSO office in New York, the Secretary of the Convention, the GTZ, the Bank of the Northeast, the Ministry of Education, SUDENE, the Semiarid Tropic Research Center of EMBRAPA, the Joaquim Nabuco Foundation.

Besides, an important effort has been made with the Northeastern states to stimulate the elaboration of state policies and implement other actions. In this respect we may mention the financial support give to the states of Ceará and Bahia for the elaboration of their State Desertification Control Plans and the accomplishment of the first Extension Course on Desertification, with the support of the Bahia State Government. Another relevant aspect to mention was the support given by the Pernambuco State Government for the Third Conference of Parts – COP III and in the elaboration and implementation of its Desertification Combat Policy.

This way, today we may count on a series of relevant partnerships added to the participation of the Embassy of Holland through FNMA, from ASA – Semiarid Articulation, with the opening a Work Group on Desertification and a Global Mechanism, for the restructuring of PAN.

In order to elaborate this newsletter, contact was made with innumerable organizations who worked, work or will work with the development of actions in the range of the CCD. A listing of these institutions is in the reference point. This initiative is the first with the intention of gathering to form a network that may facilitate the integration of PAN with other programs and projects and the internalization of the Convention by other organizations.

The formation of the Work Group, within the National Water Resource Council – CNRH intends to be used by the Focal Point, the coordinator of PAN, as a democratizing instrument for decision-making and dissemination of CCD's precepts.

For the elaboration of this newsweek consulting was already done in a Work Group meeting.

IV.4.2 The retaking of national desertification combat actions

The results and present stage of implementation of the Convention and National Program require new strategies and actions to guarantee a set of consistent and effective results at short, medium and long range.

The results attained allow and recommend a definition of new strategies to pursue the problem. The main elements of this new strategy are:

- **Coordination of desertification control actions with drought effect combat actions** – Brazil possesses important experience in treating drought related concerns. However, this experience has had an emergency focus more than a preventive and planning focus, so that its institutional connection has been with the Civil Defense. For a consistent long range government action, the drought focus needs to be arranged in an economic and environmental priority perspective.
- **Reorientation of the responsible federal organization operation by the implementation of the Convention** – Given the necessity to incorporate the desertification theme in the national public policies, the following norms are recommended:
 - i. Knowledge of the actions developed by federal, state and county organizations, as well as by research organizations and by NGO's in the range of the CCD;
 - ii. Harmonization of public policies in a concrete partnership with NGO's;
 - iii. Institutionalizing of development programs for the desertified Nucleus, as well as training and enabling in various subjects that refer to desertification;
 - iv. Stimulation of states and counties for the implementation of their desertification combat policies;
 - v. Stimulation of the development of technology appropriate to the Semiarid Region;
 - vi. Stimulation of financing programs that collaborate with the preservation and contention of the desertification process;
 - vii. Stimulation of economic analysis of the desertification impacts;
 - viii. Effective use of the desertification combat network, for the interconnection of the various actors involved in the process;
 - ix. Promotion of the National Desertification Combat System;
 - x. Continuity of the establishment of national and international partnerships.

IV.5. Actions for the Development of the Northeast

IV.5.1. SUDENE's actions up to 1999

The droughts that took place in the 50's – low water mark in 1954 and in 1956, and great droughts in 1952 and 1958 – provoked serious losses to the northeastern economy, so that society began to demand a global action from the Federal Government which could bring permanent solutions, able to reorganize the economy of the Region. This resulted in the creation of the Northeast Development Superintendency – SUDENE, on November 15, 1959, Law no. 3692.

Presently, SUDENE is transformed into an agency of the Ministry of the Interior and is called ADENE, however we will continue to use the old name, because up to the time in which we mention it, its name was SUDENE.

The actions developed by SUDENE in relation to the Convention subjects may be divided in three components: desertification combat actions, drought effect combat actions and integrated and sustainable development actions, which will be mentioned below.

The so-called SUDENE was present in the whole negotiation process up to the time in which CCD was implemented. The initiatives developed by the institution are listed below, from the preparation paper for the Nairobi Conference to the present moment:

| |
|---|
| 1977 – First international focus about desertification in Brazil – Prof. João de Vasconcelos Sobrinho (Nairobi – Kenya). |
| 1977 – First enabling in desertification, in Recife, at SUDENE, after the Nairobi meeting. |
| 1980 – SUDENE / CNPq/FINEP/UFPI – Desert Nucleus Foundation (Research and Northeast Desertification Control Nucleus). |
| 1982 – Publication of the paper: Desertification processes, its genesis and contention – João de Vasconcelos Sobrinho – SUDENE. |
| 1986 – SUDENE/SEMA/UFPI – Elaboration of the action proposal for Northeast desertification studies involving team training, discussion of concept aspects and aim establishment. |
| 1987 – SUDENE/SEMA/Ministry of Agriculture – Seminary of Desertification in the Northeast – First moment for socialization of knowledge on desertification. |
| 1987 – SUDENE/UFPI – Installation of an experimental station for the control of desertification in Gilbués – PI. Environmental education actions in areas that are in the process of desertification. |
| 1992 – SUDENE / Desert Institute – Recuperation of desertified areas in the State of Piauí. |
| 1996 – Participation in the Latin American Conference in Buenos Aires. |
| 1998 – SUDENE/Desert Institute – Agroecological zoning in the county of Gilbués – Piauí. |
| 1998 – Study of the potentiality of the cerrados and Gurguéia Valley – Piauí. |
| 1999 – Set-up of the Climate Monitoring Program – PROCLIMA, through a pact with the Spatial Research Institute – INPE in articulation with the state meteorological nucleus. |
| 1999 – SUDENE/FUNDHAM – American Man Museum Foundation (NGO) – Support for the Seminary on desertification and sustainable development – (São Raimundo Nonato, October 22 and 23). |
| 1999 – During COP 3: support to the Parallel Forum of NGO´s; set-up of a solidary stand; exposition and publishing of the book “Widows of the Drought”; participation in the Brazilian delegation; |
| 1999 – PACTS SUDENE/DESERT INSTITUTE – in the elaboration of the contribution to the national paper – COP 4; State team enabling for the elaboration of plans and survival with drought and desertification combat and complementary Studies of agroecological zoning of Gilbués – PI. |
| 1999 – SUDENE/ Fundação Seridó (ONG) – Pact for desertification combat works, for archeology and ecotourism, in the region of Seridó in the Rio Grande do Norte State. |

IV.5.2 Drought effect combat actions

Ever since its creation, SUDENE has coordinated and executed actions of the Federal Government for the reduction of drought effects in the Brazilian Northeast and for the strengthening of the regional economy. The Extraordinary Sectorial Commission for Survival with Drought and Social Inclusion was launched last year, as described in the national projects point, however the following information will describe a little better the process of drought effect combat.

Most of the actions were done through programs created to be permanent, however they have been short-term. However, it has been through emergency programs that the affected population has been able to survive during the drought.

As the years have passed, the investment in structured actions have broadened the capacity of the Region to survive with the drought. In some areas, though, the situation is very vulnerable. The main permanent programs are the following:

- **Polonordeste** – Started in 1974. Defended the integrated rural development in polo-areas, aiming towards the traditional farming transformation to modern market economy.
- **Agro-industry Development Program in the Northeast** – Created in 1974, aimed at thrusting and diversifying the northeastern industrial agriculture complex.
- **Sertanejo Project** – Created in 1976, searched to make the rural properties water-wise and economically feasible, in counties that frequently suffered from droughts, making them resistant.
- **Prohidro** – A Strengthening of the Water Infrastructure Program in the Northeast was created in 1979 and aimed at preparing the Region, through the construction of more water points, to cope with long-period droughts which started in 1979 and ended in 1983. PROHIDRO lasted until 1984.
- **São Vicente Program** – Propagated the organization's advantages and conveniences, aimed at inducing small farmers to be associated, to increase production, productivity and income.
- **Padre Cícero Program** – Tried to offer more water and production infrastructure to the northeaster semi-arid population and allow for the survival of man with the drought.
- **Northeast Irrigation Program – PROINE** – Initiated in 1986, intended to irrigate one million hectares in the Northeast.
- **Finor Irrigation** – An integrating part of PROINE, intended to support the private irrigation to produce grains, tubercles and fruits. It didn't last, due to the lack of funding.
- **PAPP – Support to the Small Farmer Program** – Aimed at promoting actions for the rural integrated development, through community projects, allowing the access to small farmers through adequate production and technology and associateness.

The emergency actions adopted in the last 30 years consisted basically on the installation of work fronts in areas affected by drought, where farmers with no jobs or income were listed, and received a salary from the Federal Government in exchange for

work in the large construction entrepreneurs, such as dam constructions, bridges and roads. In the 80's, the emergency fronts used listed workers for small water-related constructions and other community-interest services in public areas strengthening small agglomerates to resist drought-related problems.

- **DROUGHT 1998/2000**

In June of 1998, the Federal Government initiated emergency actions to ease the strong drought consequences which started that year, by creating the Emergency Drought Effect Combat Program. The Program aimed at assisting the population in states which were affected by drought, and by following the example of the experience in 1993, management commissions were created at federal (managing), state and county levels, and were made up of representatives from the executive, legislative and judiciary branches, and of civil society, through federations and labor unions, the church and non-governmental organizations.

Among the emergency actions adopted through the Program, we may mention the following:

- **Productive Front Programs** – With the goal of protecting the population affected by drought, a minimum income program was created, in which workers listed on the productive fronts received about US\$ 44,0/month, in exchange for three days of work per week, doing jobs and services for the community, especially related to water infrastructure and sanitation. The quantity of workers assisted by the Program reached 1,192,716 in the month of December, 1998, distributed through 1385 counties, in 11 States in the working-area of SUDENE, from the State of Piauí until the North of Espírito Santo State;
- **Food Basket Distribution** – To attend the most needy population in urban and rural areas through the distribution of a food basket per month to the families affected. From May of 1998 to December of 1999, 21,203,862 baskets were distributed, guaranteeing food security to the areas affected by drought;
- **Water Supply Program** – It was developed within two lines of action: water distribution through water-tank trucks and a specific program aimed at drilling, installing and recuperating wells and the installation of desalination systems. The water distribution program through water-tank trucks was managed by the Army, using 1099 trucks in 481 counties, during the most critical phase of the drought. The well program was coordinated through a work group formed by representatives of the Ministries of Planning, Health and Environment, by accomplishing more than four thousand works and benefiting 829 counties and about 800 thousand people;
- **Alphabetizing and Enabling Program** – Besides alphabetizing youth and adults, it aimed at offering a new conception of survival with drought, giving orientation to the literate on farming techniques and information, according to the subjects of the booklets used, which approached the managing of cisterns, alternative eating in the semiarid, flock managing, native vegetation potentials, forage conservation, rain and drought in the wilderness, as well as environmental education and preventive health. Its distinctive innovation is its close partnership with state NGO's. The results are very positive, ever since it began with the alphabetization of 386,677 and the enabling of 210,881 people;

- **Ecological Fronts** – These were productive fronts aimed at environmental education and environment conservation and recuperation activities and ecotourism. It occurred basically in the National Serra da Capivara Park (PI), where, for the first time in then years, there were no fires in the dry season. It generated jobs and income for the population affected by drought, the ecological fronts contributed to the reduction of predatory actions in the local ecosystems;
- **Cultural Fronts** – Had the goal of maintaining the dynamics of the northeastern economy through handcrafts, by promoting regional culture in the main centers of the Country. After training the handcrafters, and creating workshops, the hope was to broaden the level of jobs in the affected areas, with the increase of commercialization;
- **Call-up Teleconferences** – Aimed at guaranteeing the transparency of the Program and the participation of the population. A call-up line was created – call-up drought – to clear-up any doubts and receive accusations, by a 1-800 number. Several teleconferences were also held – meetings with an exclusive channel transmission on TV – with the County and State Commissions, governmental organizations and the population in general, to evaluate and accompany the results of the Program and provide information on the actions being developed. People interested in the subject called in presenting there questions, and the answers were given immediately on-air, and the images could be seen in all of the counties involved.
- **Credit Line in the Bank of the Northeast** – Through the Bank of the Northeast, R\$ 450 million was made available to farmers, whose enterprises were located in drought-affected areas. The goal was to reduce the effects of drought by strengthening the water infrastructure, by forming strategic reserves for animal feed and by producing food for human and animal consumption. Of the total, 59% was directed towards investment actions in rural properties, and 41% in paying for activities, aiming especially at feeding flock.

A **Regional Local Sustainability Development Program** was created as a result of a vision for local development actions that are integrated and sustainable, during the drought problems of 1998/99 and especially because of a paper produced by UNDP and the Applied Economic Research Institute – IPEA – and the João Pinheiro Foundation (which made evident the low rates of human development in the Northeast Region, and particularly in the Semiarid).

The Pilot-Program, which started in September of 1999, had its basis on the implementation of a sustainable local development method, to be applied in 33 counties, in 11 States in which SUDENE works with. The method adopts procedures which are able to stimulate the participation and the cooperative engaging of the public power, of the businesses and organizations of the civil society in the elaboration of projects and county plans for the local sustainable development.

In 2001 the Ministry of Agrarian Development – MDA began coordinating the **Extraordinary Sectorial Commission of Survival with the Drought and Social Inclusion** as a strategy of the Federal Government to anticipate the seriousness of the drought. By this initiative there are emergency measures: Water-tank trucks, food baskets; transitory measures: Income scholarship, snack, vacation and other permanent measures: income insurance, school scholarship, recomeço, eating scholarship, family health, basic sanitation, basic pharmacy, combat of nutritional need. Besides these

measures there is also the area of water resources with the projects: water infrastructure actions in the semiarid, water in the school, water supply to communities and social welfare actions and social assistance: young agent, eradication of child labor, pronager, rural social welfare, continued attended benefit. The projects mentioned earlier are now gathered in order for a more direct leading to emergency situations.

Some research institutions add-up to this effort with research basis and technologies adapted to the region, among them we might mention:

- The **National Caprine Research Center** located in Sobral in the State of Ceará, which develops technology for the ecological and economic recuperation of damaged areas in the Northeastern semiarid region, based on the production of grazing animals and in the implementation of demonstrative units in partnership with farming families. It encompasses all the counties that are affected and fight for the mitigation of the desertification effects. For this program to happen, R\$ 13,650.00 are forecasted investments for 2002, and as an extra budget source is R\$ 51,000.00.
- **EMBRAPA Solos** develops alternatives for the recuperation of areas in the process of desertification or degradation, managing and recuperation of soil, encompassing all of the semiarid region. This project is being developed in partnership with society and other interested segments. The **EMBRAPA Solos** project has federal funds, totalling R\$ 22,249.32, for its implementation.
- The **Federal University of Alagoas – UFAL** is a Graduate Study and Research Institution, whose actions are directly affected by the desertification process. **UFAL** works in partnership with SUDENE, SEHRI – State Secretariat of Water Resources in the Alagoas State and with the Desertification Institute – IDESERT. Society is represented by community leadership.
- The **Federal University of Paraíba – UFPB**, which through the Department of Forestry Engineering has provided a basis for its actions in teaching, by emphasizing peculiar vulnerability in the northeastern semiarid.

IV.5.3 Actions developed by the Bank of the Northeast in relation to the PNCD

The Ministry of the Environment (MMA) and the Bank of the Northeast celebrated, on March 26, of 1998, the Technical Cooperation Term with the goal of supporting the National Desertification Combat Plan (PNCD) in Northeast Brazil.

The Bank of the Northeast, as one of the signers of the Cooperation Term, made its support real by the following actions:

- In its Education and Environmental Dissemination Programs it accomplished courses, seminaries, workshops, etc. making available about 1900 training opportunities in the environmental area, in which the desertification concern has been treated with emphasis;
- By holding seminaries in the counties of Russas (CE), João Câmara (RN), Arcoverde (PE) and Santa Luzia (PB) on the Sustainable Forestry Management subject, making evident the desertification problem in the Northeast. Each seminary counted on the participation of 50 technicians involved in activities which

may contribute to the desertification combat, as well as about 100 producers/users of forestry products;

- As a means of facilitating the dissemination of the subject, the Bank sponsored a course on the formation of Multipliers in São José do Mipibu (RN), involving 15 professionals of IBAMA, 22 employees of the Bank of the Northeast and one representative of the State Forestry Institute of Minas Gerais. In the first semester of 1999, the multiplying team of Piauí, promoted three seminaries and the Bahia team held two other events;
- The subject has also been approached internally by the Environmental Diffusion Network and the actions of the Environmental Facilitating Groups and the Organic cattle Raising, aimed at helping at the multiplying of the theme at the various operational units of the Bank;
- The Bank created the Financing for Environmental Conservation and Control Program (FNE VERDE), in the business area, by trying to set up credit instruments for the encouraging of environmental conservation enterprises, including the recuperation of damaged areas. It aims at financing, with economic incentives, environmental protection items and sustainable development activities which emphasize the sound use of the environment, making it an important instrument to combat desertification.

IV.6. Actions for the Development of the Northeast

Implementation Status of the Convention in the States

The States of the Northeast are in different stages in terms of the implementation of the activities for desertification combat. In the year of 2000 all of the states and some counties elaborated their State Policies to Combat Desertification.

However, the state initiatives are still very heterogeneous as may be seen in the table below, considering different indexes.

Implementation actions from the Convention at a sub-regional level (States)

| Areas | PI | CE | RN | PB | PE | AL | SE | BA |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| State Policy | Y | Y | Y | Y | Y | Y | Y | Y |
| State Plan | N | Y | N | N | N | N | N | N |
| State Coordination | N | Y | N | N | Y | N | N | Y |
| Institutional Connection* | SEMAR | SEMACE | IDEMA | SUDEMA | SECTMA | SERHI | ADEMA | Seplante c |
| Technical Team | N | Y | N | - | Y | N | N | N |
| Programs | N | Y | N | Y | Y | - | N | Y |
| Projects | N | Y | Y | Y | Y | Y | N | Y |
| Budget Resources | N | Y | N | N | Y | N | N | - |
| Applied Resources | N | N | N | Y | N | N | N | Y |

| | | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|---|
| Participation/ NGO | N | Y | Y | Y | Y | - | N | - |
| Participation/ Genre | N | Y | Y | N | Y | N | N | - |
| External Financing | N | N | N | N | Y | N | N | - |
| County Action | N | N | N | N | N | Y | N | - |
| Warning System | N | Y | N | N | N | N | N | N |
| Evaluation | N | N | N | N | N | N | N | N |

* Institutional Connection:

Piauí (PI) – Secretariat of the Environment and Water Resources – SEMAR

Ceará (CE) – State Environment Superintendency – SEMACE

Rio Grande do Norte (RN) – Environment Development Institute – IDEMA

Paraíba (PB) – Environment Administration Superintendency – SUDEMA

Pernambuco (PE) – Secretariat of Science, Technology and Environment – SECTMA

Alagoas (AL) – Secretariat of Water Resources and Irrigation – SERHI

Sergipe (SE) – State Environment Administration – ADEMA

Bahia (BA) – Planning, Science and Technology Secretariat – SEPLANTEC

The table above shows that the implementation of the Convention in the region of the states affected by desertification has been happening through isolated programs and projects. From the institutional point-of-view, the actions are in the initial phase, requiring decisive support from federal institutions as well as international organisms.

Especially in the State of Pernambuco, the State Desertification Control Policy was instituted and is being implemented by the State Government, which hopes to attain sustainable development in the areas which are subject to drought and desertification. With the institution of this policy, the implantation of 17 modules to combat desertification and survive with drought were made feasible in 09 counties of the semiarid in the State of Pernambuco. There are 293 plaque cisterns being constructed, 07 tubular wells being drilled, 05 amazonas wells and 382 latrines, and 28 enabling courses for teachers and 21 training courses in production techniques, with a total of 480 benefited families.

IV.7 Legal Aspects

The state policies were the signals from the states of their continued interest in the elaboration of Norms and Desertification Control Policies. The State of Pernambuco developed its Policy in 1999, while the States of Ceará, Piauí, Rio Grande do Norte and Paraíba in the year of 2000. The institutionalizing of the desertification control policy as we may have noticed in the point above with the example of Pernambuco eases the way to attain resources, cooperation and the establishment of partnerships. The county of Irauçuba of Ceará, a Desertified Nucleus, and the county of Araripina in Pernambuco, also elaborated the control policy.

Considerable effort has been made by parliament since 1999. The Federal Representative Paes Landim accompanied some international meetings, and the Federal Representatives Inácio Arruda, Wellington Dias and Waldir Pires are involved, respectively in the projects mentioned below which are going through Congress.

- Bill – Complementary 57/99 Creating a National Desertification Combat and Prevention Fund which was already approved by the Agriculture, Environment and Minorities Commission;
- Bill – 1114/99 Instituting the Permanent Semiarid Survival Program which was also approved by the Agriculture, Environment and Minority Commission;
- Bill – 2238/99 Instituting the Permanent Drought Combat Program – PRO-SECA which was approved by the Mines and Energy, Urban Development and Justice Constitution Commission.

Even though Brazil has good environmental law, apart from its extent, it involves profoundly the social, economical and cultural concerns leading to the antagonistic question – poverty x environment – which does not have effective law for solving the problem. It is necessary however, to construct legal processes which above all, consider cultural questions that involve the problem and effectively promote the development of man and the preservation of the environmental production capacity.

IV.5.2 Actions to combat drought's effects

Since its creation, SUDENE has coordinated the execution of the actions adopted by the Federal Government in order to reduce drought effects in the northeast of Brazil and to improve the economy of the region. The Extraordinary Sectoral Commission of Acquaintanceship with drought and Social Inclusion was established last year. This commission was described in national projects.

Most actions were done through permanent programs. But, emergency programs have proven to be more helpful for the survival of populations affected by drought.

Investments done through structural actions have increased the capacitation of the Region to cope with drought. However, in some areas, the situation is still vulnerable. The main permanent programs were the following:

- **Polonordeste** – Started in 1974. It defended rural integrated development of Polo- areas, aiming to transform traditional agriculture in modern market economy
- **Programa de Desenvolvimento da Agroindústria do Nordeste** - Created in 1974, to encourage and promote the diversification of industrial agriculture complex in the northeast.
- **Projeto Sertanejo** – Created in 1976, with the objective of improving rural characteristics of municipalities often affected by drought, and render them more resistant.
- **Prohidro** – A program designed to strengthen the hydric Infrastructure of the Northeast. This program was created in 1979, to prepare the Region, through construction of water stations, to cope with long periods of droughts, which started in 1979 and ended in 1983. PROHIDRO lasted till 1984.
- **Programa Sao Vicente** –It divulged the organization's advantages and facilities, it aimed to induce small rural producers associations, in order to increase production, productivity and

income

- **Programa Padre Cícero** – It aimed to give more water and productive infra-structure to the populations of the Semi-Arid northeast and to allow human survival with drought.
- **Programa de Irrigação do Nordeste – PROINE** – Started in 1986, to irrigate 1 million hectares in the Northeast.
- **Finor Irrigação** – An integrated part to the PROINE, to support private irrigation for grains and fruits production. It had a short life due to shortage of money.
- **PAPP – Programa de Apoio ao Pequeno Produtor Rural** – It promoted actions for rural integrated development, through community projects, enabling small producers to get access to production means, adequate technology and associations.

The emergent actions adopted the last 30 years resulted basically from the installations of leading works in the areas affected by droughts, where they were listed many unemployed agriculturists, who received their salary from the Federal Government in exchange to big construction works of dams, roads and bridges. In the eighties, the emergency lines units used the workers for small water works and community interest services in public areas, thus strengthening small **aglomerados** to cope with the problems of drought.

-Drought 1998/2000

In June of 1998, The Federal Government started emergency actions to mitigate severe drought consequences which started in that year, creating the Emergency Program to Combat Desertification. The program aimed to help the populations in states affected by drought, such as the example of 1993. Administrative commissions were created at federal levels, state and municipality levels. These commissions are composed of representatives from executive, legislative and juridical power and from the civil society through rural workers syndicate and federations, the church and NGOs.

Among the emergency actions adopted by the program, we mention the followings:

Productive Units Program – A minimum income program was created to help the populations afflicted by the drought. It recruited workers in productive units for a mensal salary of about US\$ 44, for 3 days of work per week, in works and necessary community services, especially in the area of water and sanitary infrastructure. The number of workers enrolled in the program reached about 1,192,716 in December of 1998, distributed in 1,385 municipalities, in 11 States, in SUDENE's area of actuation, from the State of Piauí to the North of Espírito Santo;

■

Food Distribution – 21,203,862 families were enrolled in Food Distribution program from May of 1998 to December of 1999, in an attempt to help needy people in urban and rural areas affected by the drought to have alimentation security.

Water Supply Program- It was developed in two lines of actions: water distribution by tank-wagons and specific program designed for perforation, installation and recuperation of tubular wells and desalinized installations. The national army guided the water

distribution program by using 1.099 tank-wagons, in 481 municipalities, during the most critical phase of the drought. The wells program was coordinated by a group of work composed of representatives from the Ministries of Planning, Health and Environment, more than 4 thousand works have been executed, benefiting 829 municipalities and 800 thousand persons.

Literacy and Capacitation Program– It aimed to offer education for young and adults and new conception of leading with drought, by guiding the educated ones to use agriculture techniques and information, according to the used systems, which manage cisterns, alternative alimentation in Semi-Arid areas, cattle, native vegetation potentialities, crops conservation, rainfall and drought in the wildness, environmental education and preventive health issues. An advantageous partnership was formed with the NGOs of the States. The results are very positive, education initiative has started for 386,677persons and capacitation for 210,881 persons;

Ecological Units– The productive units were designed for environmental education, conservation activities and environmental and eco-tourism recuperation. These units actuate in the National Park of Piau State, and for the first time in 10 years, there was no single record of fire incident during the drought period. The ecological units have contributed to the reduction of predatory actions in local ecosystems, in order to induce employment and income for the population affected by the drought.

Cultural Units – They aimed to maintain the Northeast economy dynamism in the artisan sector, by promoting regional culture in the main centers of the country. After the training of artisans and the creation of workshops, it was expected to widen the level of employment in the affected areas due to increasing commerce activities.

Teleconference Telecom– They aimed to guarantee the Program transparency and the participation of the population, therefore an attendance central was created – the Dial-Drought – to answer questions and receive denouncements, by offering free calls. Various teleconferences have been done too – meetings with Municipal and States Commissions, governmental organs and general population were transmitted by TV exclusive canal, to evaluate the Program results and give information on developed actions. Interested people in this subject have called and asked their questions and the answers were given to them live, and the images have been captured in all the participating municipalities.

- **The Northeast Bank' Credit Line** – The Northeast bank has provided R\$ 450 million at rural producers disposition, whose works were localized in areas affected by drought. The main objective was to mitigate drought effects by strengthening water infrastructure, building strategically animal alimentation and food production reserves for human and animal consumption. From the total amount that has been granted, 59% were used in investment actions in rural properties and 41% for cattle alimentation.

The Regional Program of Local and sustainable Development resulted from the vision of local, integrated and sustainable development actions, while unfolding the problems caused by the drought of 1998/99, and mainly from the publication of the rapport emitted by the UNDP, The Economical Research Institute-- IPEA - and João

Pinheiro Foundation (which made evident the low indices of human development as observed in the Northeast Region, and specially in the Semi-Arid Region).

The Pilot-Project started in September 1999, to implement a local sustainable development methodology, in 33 municipalities of 11 States under the actuation of SUDENE. The methodology adopts procedures capable of stimulating public power participation and cooperative involvement of enterprises and civil society's organizations and the elaboration of municipal plans and projects for local sustainable developments.

In 2001 the Ministry of Agrarian Development – MAD coordinated the **Extraordinary Sectoral Commission to Deal with Drought and Social Inclusion** as a strategy from the Federal Government to anticipate drought worsening. This initiative incorporates emergency measures: tank-wagons, food distribution; transitory measures: subsidies, packed luncheons and permanent measures: income security, scholarship, reopening of schools and enterprises, social welfare, health insurance, basic sanitation, basic pharmacy, combat to famine. In addition to these measures, we have a concentration of projects in the area of water resources: water infrastructure actions in semi-arid areas, water in schools, water supply to communities and social security actions: young agent, infant work eradication, rural providence and loan benefits. The projects mentioned previously are now gathered for a more efficient conduct in emergency situations.

Some research institutions add to this effort with their basic researches and technologies adopted in the region, among them:

- **Caprine National Research Center** localized in Sobral in the State of Ceará. It develops technologies for ecological and economical recuperation of degraded areas in the semi-arid region of the northeast. These technologies are fundamental for silvopastoril production and demonstrative units implantation in partnerships with familiar agriculturists.

It covers all the municipalities affected by desertification and which are struggling to combat desertification effects. It is expected the implementation of investments in 2002 for the amount of R\$ 13,650.00 in addition to an extra- budget of R\$ 51,000.00, In order to render feasible the actions undertaken by this program.

EMBRAPA Solos – it develops alternatives for recuperation of areas in desertification or degradation processes, management and land recuperation, covering all the semi-arid region. This project is developed in partnership with the society and the interested sectors. The project **EMBRAPA Solos** has federal resources available of R\$ 22,249.32 for its implementation.

Alagoas Federal University– A Higher Education and Research Institute, and its actions are directly related to the desertification process.

Alagoas Federal University maintains its partnerships with SUDENE, Water Resources Secretariat of Alagoas State and the Desertification Institute. The leaders of the community represent the society.

Paraíba Federal University has founded its actions in education on the Florestal Engineering Department, with particular emphasis on vulnerability issues of the semi-arid Northeast.

IV.5.3 Actions developed by the Northeast Bank in relation to the National Plan to Combat Desertification

The Ministry of Environment and the Northeast Bank celebrated in March 26 1998 the Technical Cooperation, which aim to support the National Plan to Combat Desertification in the Northeast of Brazil.

The Northeast Bank, with its signatory power of the cooperation, has accomplished its support to the NPCD through the following actions:

- Carrying out courses, seminars, work shops and etc....in its Educational and Environmental Dissemination Program, it gave about 1,900 training opportunities in the environmental area, which treated intensively the desertification question;
- Carrying out seminars in Russas municipalities (CE), João Câmara (RN), Arcoverde (PE) and Santa Luzia (PB) about Forests Sustainable management, and focusing on the desertification problem in the Northeast. Each seminary relied on the participation of 50 technicians involved in activities that can contribute to combat desertification, in addition to approximately 100 producers/users of forestal products.
- In order to disseminate rapidly the theme, The Bank sponsored the accomplishment of Multiplier Formation course in São José, Mipibu (RN), with the participation of 15 professionals from IBAMA, 22 employees from Northeast Bank and one representative from Minas Gerais Forests Institute. In the first semester of 1999, a group of multipliers from Piauí carried 3 seminars and a group from Bahia State carried 2 other events.;
- The subject was also treated internally by the Environmental Diffusion Network and by actions of Environmental Facilities Groups and Organical farming and cattle raising, aiming to make more agile themes multiplication and the divers operational Bank units;
- The Bank has created a Financing Program for Environmental Conservation and Control (FNE VERDE), in his search for credit instruments to undertake environmental conservation works, including the recuperation of degraded areas, and it looks to finance environmental protection items and sustainable development activities, especially the rational use of environment, which is a very important instrument to combat desertification..

• ***IV.6. .Actions for Development in the Northeast***

Convention implementation Status in the States

The Northeastern States are in different levels with respect to the implementation of combat desertification actions. In the year 2000, all States and some municipalities will elaborate their own politics to Combat Desertification.

The States' initiatives are still considered to be heterogeneous, as we can conclude from the table below, taking into consideration different indicators.

Actions of implementation of the Convention in sub-regional level (States)

| Themes | PI | CE | RN | PB | PE | AL | SE | BA |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Politics of State | S | S | S | S | S | S | S | S |
| Plan of State | N | S | N | N | N | N | N | N |
| State Coordination | N | S | N | N | S | N | N | S |
| Institutional *links | SEMAR | SEMACE | IDEMA | SUDEMA | SECTMA | SERHI | ADEMA | SEPLANTEC |
| Technical equip | N | S | N | - | S | N | N | N |
| Programs | N | S | N | S | S | - | N | S |
| Projects | N | S | S | S | S | S | N | S |
| Budget Resources | N | S | N | N | S | N | N | - |
| Applied Resources | N | N | N | S | N | N | N | S |
| Participation /NGO | N | S | S | S | S | - | N | - |
| Participation /Gender | N | S | S | N | S | N | N | - |
| External Finances | N | N | N | N | S | N | N | - |
| Municipal Action | N | N | N | N | N | S | N | - |
| Warning System | N | S | N | N | N | N | N | N |
| Evaluation | N | N | N | N | N | N | N | N |

* Institutional links:

Piauí (PI) – Environment and Water Resources Secretariat- *SEMAR*

Ceará (CE) – Environmental Superintendence of the State – *SEMACE*

Rio Grande do Norte (RN) – Environmental Development Institute – *IDEMA*

Paraíba (PB) –Environmental Administration Superintendence - *SUDEMA*

Pernambuco (PE) – Secretariat of Sciences, Technology and Environment – *SECTMA*

Alagoas (AL) – Water Resources and Irrigation Secretariat – *SERHI*

Sergipe (SE) – Environmental Administration of the State – *ADEMA*

Bahia (BA) – Secretariat of Planning, Sciences and Technology – *SEPLANTEC*.

The previous table shows that the implementation of the convention in the States of the region affected by desertification was done through isolated programs and projects.

Institutionally speaking, the actions are in initial phase, demanding decisive support from federal institutions and international organizations.

Especially in Pernambuco State, where Desertification Control Politic was instituted and implemented by the State Government, in the perspective of reaching sustainable development in areas susceptible to drought and desertification. With this politic, it became feasible the implementation of 17 modulus to combat desertification and leading with drought in 09 municipalities of the semi-arid Pernambucano. Presently, the following measures are being undertaken: the construction of 293 cisterns, perforation of 07 tubular wells, 05 amazonas wells and 382 water closet and the implementation of 415 aviary /vivarium and 46 apiarians, and the creation of 28 capacitation courses for professors and 21 training for producers in productive techniques, in order to benefit a total of 480 families. The investment volume undertaken was possible due to partnerships with the Federal and States Governments.

IV. 7. Legal Aspects

The States politics were a manifestation of interest in the states, in continuation to the elaboration of Directresses to Control Politcs. The State of Pernambuco developed its politics in 1999, while the states of Ceará, Piauí, Rio Grande do Norte e Paraíba did theirs in 2000. The politic of Desertification Control facilitates the obtainment of resources, cooperation and establishment of partnerships. The municipalities of Irauçuba Ceará and the municipality of Araripina in Pernambuco have also elaborated their own control poltics.

Parliamentarians have done a considerable effort since 1999. The Deputy Paes Landim participated in some international meetings, and the Deputies Inácio Arruda, Wellington Dias and Waldir Pires are involved respectively in projects described below and which are presently under discussions in the Congress.

- PL- Complementary 57/99 of the Creation of National Foundation of Combat and Prevention of Desertification, which was already approved by Agriculture, Environment and Minorities Commissions;
- PL – 1114/99 – from the Institution of Permanent Program to Cope with Semi-Arid Areas, which was already approved by Agriculture, Environment and Minorities Commissions;
- PL – 2238/99 from the Institution of Permanent Program of Combat to Drought – PRO-SECA, which was approved by the Commissions of Mines and Energy, Urban Development and Justice Constitution.

Even if Brazil had a competent environmental legislation, and independently from its scope limits, we raise serious social, economical and cultural questions that create the antagonism- poverty X Environment- and there is no legislation that can resolve this problem. It is important, however, to build legal processes which consider the cultural questions involving the problem and can effectively promote human development and the preservation of environmental productive capacity.

V. PARTICIPATIVE PROCESS IN SUPPORT TO THE PREPARATION AND IMPLEMENTATION OF ACTIONS PROGRAMS

Since 1996, the project started to have enough resources for its new task, while the term desertification was still unknown to society. Therefore two inclinations of work were established: a) Development of capacitation and sensitization process related to the subject and b) Establishment of an elaboration process of the first version of the National Plan.

In this sense, references were done in the 4 desertification centers, aiming for the following: 1) To obtain the most adequate participative methodology and apply it in the discussion phase of the National Plan; 2) To start applying practical actions in the most affected areas; 3) To establish recommendations for the combat to desertification in each center.

Therefore, a mobilization process in the desertification centers was undertaken, involving various social actors, and were created multi-institutional groups that should sensitize the local society, capacitate its members, suggest and guide specific projects. This was the case of the Desertification Group in Serido (RN) and the Environmental Forum of Sub-Middle San Francisco.

Sensitization and capacitation were applied with the use of various mechanisms. Despite the results, and in many cases, they have a subjective character, it is possible to suggest the existence of an environment more favorable to treat the issue in Brazil. Courses, commemorative events and seminaries were carried out in addition to an instructive material of sensitization, which was elaborated to allow the use of various communication vehicles in order to reach the academic public till rural producers. In this material, there is a version in Portuguese of the Convention of Combat to Desertification.

2.000 units of the institutional material have been distributed as kits about desertification, among representatives of universities and technical schools in affected areas, in addition to NGOs, public organs and community organizations. In fact, there is still a lack of special material designed for the small producer in the semi-arid areas. The first step was already made by the elaboration of a specific textbook for this public. Moreover, the material sent by the Convention and the main information about what happened in the last three years were published by a periodical from Esquel Foundation, contributing to maintain the dynamism of the disclosure process.

The commemoration of the International Day to Combat Desertification in Brazil was adopted as a reference to the introduction of some products and activities, in order to reach the nuclei and occupy a space in the media:

- 1996 – Inauguration of the Information Network Site and Desertification Documentation– REDESERT;
- 1997 – Publication of maps indicating incidences and susceptibility and the document of the National Politic to Control Desertification;
- 1998 - CD-ROM and bibliographic catalog about desertification, in addition to evaluation of technologies of acquaintanceship with drought and sustainable management in semi-arid areas;

- 1999 – Publication of folders and literatures related to gender issue and desertification during the commemorations in Brasilia, Recife, Teresina, Seridó and Sub-Middle São Francisco;
- 2001 – A letter was sent to the parliamentarians in the States susceptible to the desertification process to put at their disposal Focal Point services. The initiative was inclusively mentioned in the UNCCD bulletin.

The elaboration process, discussions and approval of National Politic to Control Desertification were also capacitation and sensitization activities, as they have involved the organizations related to the environmental question in Brazil, especially in the semi-arid northeast. The National Politic to Control Desertification was discussed in the first instant, with organizations linked to the Ministry of Environment, such as IBAMA and Water Resources Secretariat, and later on it has been represented to the National Environment Counsel.

Municipal laws which are already approved or are under discussion in relation to combat to desertification and protection of environment and the register of a higher number of researches, dissertations and thesis linked to the theme, can be connected as a repercussion indicator of the undertaken actions and some specific sectors. It is important to point out to the involving process that incorporated the elaboration of States and Municipal Politics to Combat Desertification.

The contracts and meetings carried out with the environmental sector of the 8 States affected by the phenomenon, have come out with the following products: a) Courses for technicians in Bahia State; b) Plans for the states of Ceará, Bahia and Pernambuco (Pernambuco State has anticipated the inclusion of combat to desertification in the public politics); c) Training of technicians from the Northeast Bank and IBAMA for PNUD Northeast forests Development Project.

National and regional agreements and conventions were established, having products that can be helpful to the elaboration and implementation of the National Plan: a) Agreement with IBAMA's Remote Sensing Center to develop identification methodology in the areas under the process of desertification and provide assistance to the elaboration of physical- environmental diagnostics; and b) Cooperation project with EMBRAPA-Solos to develop monitory methodology for desertificated areas in Serido (RN).

The question of gender was discussed in the International Day of Desertification Combat in 1999, and it was treated in two national workshops and one international seminary. The two national events have produced series of proposals to be incorporated by the National Plan. The international meeting held during the Third Conference of the Parts on the International Convention to Combat Desertification – COP3, has served to put through the Commission on Desertification Project which is composed of FUNDAJ, COMPLETA and GEDS with the strategic discussions of the themes developed by the Convention.

It is important to point out the actuation of REDESERT in respect to coordination and dissemination processes. REDESERT has offered in many and different aspects contributions to combat desertification during its full period functioning. The REDESERT first phase aimed to consolidate the partnerships, by promoting events and discussions in each participant institute. Moreover, necessary subsidies were put available for purchase and installation of informatics equipment and training through the convention wit FINEP.

A home page was created in each partnership and in the entity responsible. It contains bibliographic gathering and information relevant to desertification control and prevention and promotion of sustainable development in the susceptible areas. Such matter content is a visible product of the Network, indicated by the Ministry of Environment as one of the hundred Brazilian experiences in sustainable development, in the document "Sustainable Development- Brazilian Experiences". The elaboration of the electronic list of discussions { (Redesert -I) which is expected to function again} is considered to be an important disclosure of the Network activities.

It is important to distinguish the intense preparatory process that has involved the governmental sector, universities, NGOs, and OCBs in COP III. The activities and media coverage have transformed this conference into a relevant event for the implementation of the Convention in the Country, not only in sensitization terms but also by the involvement of the responsible entities.

The Civil Society Parallel Forum has gathered academic sectors, city halls, and more than 140 NGOs and OCBs in COP3. The Forum had a decisive participation in the establishment of two public acts that are capable of sensitizing the representatives in decisions concerning the allocation of more water resources in countries affected by desertification and the opening of more space in the forums for civil society. Meanwhile, the elaboration of the Semi-Arid Declaration was the final result and the most important of this mobilization. It has established a strategy to combat desertification and for sustainable development in semi-arid areas, according to civil society.

The Focal Point and the Water Resources Secretariat have received contribution from the Ministry of National Integration through SUDENE, in order to produce the National Rapport of 2000. This document is quite complete and can be used as a basis for the elaboration of this rapport.

A capacitation course was carried out in 2001 to elaborate projects to combat desertification together with **FNMA**.

Definitively we have to consider the Network use as an information and communication channel among the Focal Point, Secretariats of States, Parliamentarians and NGOs, which have facilitated the participatory process.

Today, due to the restructure of the National Plan to Combat Desertification for the National Program of Actions, the government can rely on semi-arid articulation, which possesses NGOs network of more than 600 entities that allow an effective participatory process.

VI. CONSULTIVE PROCESS IN SUPPORT TO THE PREPARATION AND IMPLEMENTATION OF NATIONAL PROGRAM ACTIONS AND PARTNERSHIP PACTS WITH COUNTRIES , INVOLVED PARTS AND OTHER INTERESTED ENTITIES

A consultive process is being established to elaborate National Plan Actions through a group from the Technical Counsel to Analyze Projects- an organ of the Water Resources National Counsel. It is an inter-ministerial group, and its first task was the elaboration of this national rapport.

The elaboration of questionnaires was substantial to the preparation of this document. These questionnaires were sent to more than fifty institutes participating in a way or other

in the semi-arid actions. One of the main objectives of the Focal Point is to get more articulation and debureaucratize the consultive process.

Brazil has relied on partners in all sectors, including international sectors. The Agriculture and Food Funds have supported the activities in the Desertification nuclei, the United Nations Organization on Desertification have also supported technically and financially the activities related to gender issue and to the financing mechanism. The Convention's Secretariat has always supported the project. The Embassy of the Netherlands has proposed to support projects to combat desertification. The Global Mechanism has supported financially the restructure of the National Program for Actions and the opening of financing with GEF.

The NGOs through Semi-Arid Actions disseminate actions and discussions on directions and Convention's decisions.

Due to the difficulty of the institutionalization process and the implementation of relevant public politics and the harmonization of the engaged actors, the partners in the implementation of the convention in Brazil have been active and/or in contact through current actions or communication means.

VII. Measures Taken or Planned Within The Structure Of The National Program Actions, Including Measures To Strengthen The Economical Environment, Conserve Natural Resources, Strengthen The Institutional Organization And Increase knowledge On Desertification And Its Control To Monitor And Evaluate Desertification And Drought

Basic studies have been published in the first version of PNCD of the National Plan and they have been detailed under the IV item. These measures have contributed and still contribute to the planning of PAN and the evaluation of the desertification situation in Brazil, some measures should be redone, reevaluated and if necessary reactivated, in this phase of PAN elaboration.

Some themes should be considered for programs and projects to Control Desertification. The Directresses' document include these projects and it is longing for the "elaboration of the national plan to coordinate and organize regional actions against desertification", It will be necessary to struggle for the following strategic components: institutional strengthening and interaction; communication strengthening and information flux on desertification; technical and managerial capacitation in water resources management in areas subject to desertification; awareness and sensitization of the actors engaged in sustainable development in areas susceptible to desertification; creation of an operational capacity to control desertification on local level; elaboration of monitorial strategies, prevention and recuperation of desertification and definition of projects and priority actions.

Initiatives to control desertification have been implemented by the states, in this respect Pernambuco State was the pioneer in Brazil.

FNMA has approved some projects, and they are presently in the implementation phase. The project of one million cisterns implemented by Semi-Arid Actions- is distinguished for its extension, organization, and transparency in the process.

All these initiatives are directly connected to the strategies defined in the Document, and definitely they will be in compliance with the National Program of Actions which should be restructured by the end of 2002.

VIII. FINANCIAL RESOURCES ALLOCATED IN THE NATIONAL BUDGET TO MOBILIZE THE IMPLEMENTATION, AND TO PROVIDE FINANCIAL ASSISTANCE AND TECHNICAL COOPERATION INCLUDING ITS ADMISSIONS. PROCESSES TO IDENTIFY ITS REQUISITIONS, FINANCING AREAS AND DEFINITION OF PRIORITIES.

Under the title "Environment- protected Brazil", the Pluriannual Plan 2000- 2007 confirms that sustainable development demands the conservation of natural resources and the improvement of environmental conditions, and what the National Axis of Integration and Development bring in this field is an important contribution: a portfolio of investments for environmental development that will sum up to R\$ 15.7 billion in eight years.

The Pluriannual Plan also confirms that the environmental preoccupation is present in all undertaken works for social development and economic infrastructure. The idea is to incorporate "environment" as a variable in the conception of projects and not only to reduce the negative effects of works under construction or already implemented.

The resources mentioned above are distributed as follow:

- 1 Water Resources - R\$ 6,3 billions
- 2 Forests - R\$ 3,3 billions;
- 3 Sustainable Development - R\$ 2,1 billions;
- 4 Environmental Quality - R\$ 1,6 billion;
- 5 Eco-tourism - R\$ 0,8 billions;
- 6 Desertification - R\$ 0,7 billions;**
- 7 Fishing Resources - R\$ 0,4 billions;
- 8 Biodiversity - R\$ 0,4 billions;
- 9 Environmental Education - R\$ 0,1 billion.

The Pluriannual Plan 2000-2007 refers to the Northeast Region, and confirms that the big challenge is to combat poverty. Unfavorable social indicators and the lack of water demand a double effort to overcome the regional inequalities. Therefore, the Federal Government is planning for public and private investments of R\$ 6,1 billion, during this period, and they are distributed in the following areas:

1. Information and knowledge - R\$ 0,4 billion;
2. Social Development - R\$ 33,0 billion;
3. Environment - R\$ 2,3 billion;
4. Economic Infrastructure - R\$ 30,4 billion.

These are some of the areas of priority In the Environmental sector:

1. Desertification Combat;
2. Recuperation of Caatinga;
3. Integrated Local Eco-tourism;
4. Eco-touristic Poles in National Parks;
5. Expansion and Preservation of Forests;
6. Exploitation of Subterranean Water Resources.

Under the title of "Environmental Management ", the General Budget of Union 2000 discusses the question in two areas: Water Resources and Environment. Referring to the actions expected in "Water Resources", the governmental proposal says " the amplification of water demand of good quality for human consumption and production

especially in the Northeast will guide the governmental action in the area of water resources.”

Referring to “Environmental” actions, the proposal says “the environmental systematic vision is present in our programs, in our rivers, in the Pantanal,... The programs aim to promote sustainable development in the basins.”

As we see, the environmental issue in Brazil and particularly in the Northeast will be dedicated only to deal with water issues. The way they are handled, instead of combating the desertification process it will on the contrary help to accelerate it.

The prevision for the year 2000 is the following:

1. Pro-water Infrastructure - R\$ 264,9 million;
2. Irrigation and Draining - R\$ 244,5 million;
3. Saint Francisco Water Transposition - R\$ 40,9 million;
4. Environmental Quality - R\$ 29,0 million;
5. Sustainable Forests - R\$ 30,2 million;
6. Others - R\$ 303,3 million.

The organized sectors of the region should not only work to conduct resources meant for water resources but also mobilize to capture resources to combat desertification and recuperate degraded areas in one of the most negatively altered ecosystems in Brazil. Some states have already headed in this direction.

IX. REVISION OF BENCHMARKS AND INDICATORS USED TO MEASURE THE PROGRESS AND AUTO-EVALUATION

Among the activities developed by the project BRA 93/036, It took great efforts to adapt to the methodology developed by the Convention’s Secretariat to evaluate the Implementation of the Convention, called Benchmarks and Indicators of Implementation.

The methodology adapted was not to be applied if not in its aspects of «Civil society Participation”. These aspects have constituted a part of the questionnaires that have been distributed among the various entities, especially those that had on going works with PNCD. UNDP and ABC have used later on these questionnaires to evaluate projects.

The National Focal Point gives importance to the reactivation of these studies in order to continue the evaluation and monitoring of the on going implementation of Desertification Combat.

X. CONCLUSION

- The efforts carried out by the Brazilian government to implement programs in the semi-arid Northeast are striking. But still there is an urgent need for organization and planning to mitigate drought effects.
- The NGOs have come to an organizational standard that makes possible the definitive partnership to help the community.
- We can conclude from this rapport that efficient actions in the implementation of the Convention in Brazil are due to the consolidation of a national consulting system of permanent character composed of the different sectors of the Government and the organized civil society.

- There is an urgent need to allocate additional financial resources, nationally and internationally, to meet all the objectives and targets established by the Convention and PAN.
- The majority of Brazilian municipalities face difficulties in executing new planning functions, development management and conduction of public politics with efficiency and social justice.
- Finally the implementation of the Convention in Brazil is on track. We still need to do more to complete the restructure of National Program for Actions and national consulting process, in order to identify new strategies for society's participation and the establishment of adequate conditions for its implementation, at institutional, human and financial levels. Efforts should continue for institutionalization processes and harmonization of public politics

- REFERENCES

- National Brazilian Rapport 2000. Water Resources Secretariat. MMA. 2000.

- Executive Summary of the National Rapport 2000. Water Resources Secretariat. MMA. 2000.

- Contribution to the National Rapport on Implementation of the World Convention to Combat Desertification. SUDENE. 2000.

- Desertification in Latin America: difficulties in implementation of public politics. Tese de Doutorado. Centro de Desenvolvimento Sustentável. Universidade de Brasília. Nádima de Macedo Paiva Nascimento. 2002.

The questionnaires and the visits done to the following institutions can serve for references:

- 1- Articulação do Semi-Árido – ASA
- 2- Fundação Grupo Esquel
- 3- Cáritas Brasileira
- 4- Projeto Dom Helder Câmara
- 5- Fundação Joaquim Nabuco
- 6- Instituto Desert
- 7- CPT Nacional – Comissão Pastoral da terra
- 8- GTZ – Cooperação Técnica Alemã
- 9- CODEVASF
- 10- ANA
- 11 - EMBRAPA Semi-Árido
- 12 – EMBRAPA Meio Norte
- 13 - EMBRAPA Solos – CNPS
- 14 – EMBRAPA Caprinos
- 15 – EMBRAPA Piauí
- 16 - Ministério do Desenvolvimento Agrário – MDA
- 17 - Ministério da Educação – MEC
- 18 – Ministério da Saúde - MS

- 19 – Ministério do Meio Ambiente – MMA
- 20 – IBAMA/MMA – Centro de Sensoriamento Remoto – CSR
- 21 – IPEA – Ministério do Planejamento, Orçamento e Gestão
- 22 – Ministério de Integração Nacional – MI
- 23 – Ministério de Ciência e Tecnologia – MCT (FINEP)
- 24 – Universidade Federal do Estado do Rio Grande do Norte
- 25 - Universidade Federal do Estado de Sergipe
- 26 - Universidade Federal do Estado da Bahia
- 27 - Universidade Federal do Estado do Ceará
- 28 - Universidade Federal do Estado do Espírito Santo
- 29 – Universidade Federal do Estado da Paraíba
- 30 - Universidade Federal do Estado de Alagoas
- 31 – Universidade Federal do Estado de Pernambuco
- 32 – Universidade Federal do Estado do Piauí
- 33 – Secretaria Estadual do Estado de Alagoas
- 34 – Secretaria Estadual do Estado da Bahia
- 35 – Secretaria Estadual do Estado do Ceará
- 36 – Secretaria Estadual do Estado do espírito Santo
- 37 – Secretaria Estadual do Estado de Minas Gerais
- 38 – Secretaria Estadual do Estado da Paraíba
- 39 – Secretaria Estadual do Estado do Piauí
- 40 – Secretaria Estadual do Estado de Pernambuco
- 41 – Secretaria Estadual do Estado do Rio Grande do Norte
- 42 – Secretaria Estadual do Estado de Sergipe
- 43 – Administração Estadual do Meio Ambiente do Estado de SE
- 44 – Secretaria dos Recursos Hídricos do Estado do Ceará
- 45 – Centro de Gestão e Estudos Estratégicos – CGEE

The following institutions have been interviewed and received the questionnaire by hand:

- 1 – ANA – Joaquim Gondim / Dalvino Troccoli
- 2 – SAÚDE – Denise Costa Coitinho / Ângela Peroco
- 3 – MDA - Reinaldo Pena Lopes
- 4 – MEC – Floriano Pesaro
- 5 – MI – Sebastião Jander de Siqueira
- 6 – MI – Demétrius
- 7 – MI – Eldan Veloso
- 8 – MEC – Regina Esteves / Rosilea Ville
- 9 – MCT/CGEE – Lélío Fellows Filho
- 10 – CODEVASF – Rui de Carvalho Junqueira
- 11 – IBAMA – Edgar Fagundes
- 12 – IBAMA – Miriam Laila Absy
- 13 – MMA – Francisca Menezes
- 14 – MCT – João Evangelista / Fernando André

E-mails have been sent to Federal Deputies in States susceptible to desertification, asking for information on law projects linked to the issue discussed in the National Congress.