SUPPORTING LOCAL INITIATIVES IN THE FIGHT AGAINST **DESERTIFICATION**

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Desertification Working Group

1 Created on January 1, 2011, GIZ brings together accumulated experience of DED, GTZ and InWEnt. Part of the texts and models contained in this publication were developed for the First Edition of the Supporting Local Initiatives in the Fight against Desertification Project.

Photograph: Nova Esperança/PE

Presentation

The Brazil office of the Inter-American Institute for Cooperation on Agriculture – IICA, proudly presents results of the Local Initiatives in the Fight against Desertification, implemented with the Ministry of Environment (Ministério do Meio Ambiente – MMA), in the scope of the Technical Cooperation Project for supporting implementation of the National Action Program for the Fight against Desertification and Mitigation of the Effects of Droughts – PAN Brasil.

This document reflects the scope of the Technical Cooperation Project, which has among its immediate objectives strengthening of technical and operational capacity in institutions and organizations with activities in Areas Susceptible to Desertification (ASDs) in Brazil for knowledge expansion and diffusion, sustainable management techniques and practices for natural resources and for living in harmony with the semi-arid.

In this context, by means of the Call for Proposals for Interest Manifestation in a Bidding Process aimed at non-profit organizations in ASDs, local projects were selected to emphasize sustainability, capacity building and diffusion of information and practices in the fight against desertification and recovery of degraded areas.

These projects reflected an effort made by proposing organizations to establish links between the fight against desertification and practices carried out in their work with grassroots communities.

The entire selection, monitoring and evaluation process had participation of this initiative's partners, which are MMA, IICA, the Brazilian Semi-arid Network (Articulação no Semiárido Brasileiro – ASA) and the German Technical Cooperation Agency (GIZ).

The success of initiatives of this nature is an outcome of engagement on the part of local various communities and sharing of experiences, kno-

wledge and practices for more harmonious living with the environment, in such a manner that focusing them on the fight against desertification will result in a vast array of new possibilities.

This publication provides a brief summary of activities, challenges and results of these projects, an initiative carried out in agreement with the Technical Cooperation Project guidelines and in perfect alignment with themes IICA works with and with MMA principles.

With this, diffusion of actions of this scope is intended to provide orientation and guidance for future projects of a similar nature, with contributions to sustainable development and effective improvement in the quality of life of people inhabiting ASDs in Brazil.

Gertjan B. Beekman
Coordinator – Natural Resources and
Adaptation to Climate Change - IICA

IICA Preface

As a technical cooperation organization, the Inter-American Institute for Cooperation on Agriculture (IICA) works with topics related with the fight against desertification, socio-environmental projects and sustainable use of natural resources, seeking to set the groundwork for better quality of life and to provide sustainable development for rural communities.

Desertification is a phenomenon characterized by intense ecosystem degradation, with reduction and/or loss of production capacity, due to anthropic activities. According to the United Nations Convention to Combat Desertification (UNCCD), desertification is "land degradation in arid, sem-iarid and dry sub-humid areas, resulting from a series of factors, among which are climate change and human activities."

In Brazil, ASDs cover an area of 1,340,863 square kilometers, involving 1488 municipalities (27% of all Brazilian municipalities) and a population of approximately 32 million people, which corresponds to17% of Brazil's population and 85% of the citizens classified as poor in the country. Thus, the population concentrated in these regions is among the poorest in the country and the most affected by desertification and drought situations.

This scenario of poverty is reflected in increased pressure on natural resource stocks. The population affected by environmental, political, economic and social conditions, in its struggle for survival, generates a vicious cycle of ecological destruction.

If the problems affecting ASDs are many, so are the possibilities for recovery of these areas, be they emanating from government or having civil society as their origin. The degradation scenario can be transformed as long as activities leading to acknowledgement of the value of these ecosystems are developed, with appropriate management techniques resulting in reduced pressure on natural resources and incentives for environmental conservation.

From this perspective, it is with great satisfaction that I present one more product of the technical cooperation between IICA and its partners, in hopes that this will make an important contribution to the process of transformation in ASD, centered on the search for eradication of poverty and inequalities, under the paradigm of ethical sustainable development.

Manuel Rodolfo Otero
IICA Representative, Brazil

Photograph: Centro de Estudos, Pesquisa e Assessoria Comunitária - CEPAC/CE

Photograph: Nova Esperança/PE

DCD/MMA Preface

During the time Brazil was a colony, since the first European forays into semi-arid and dry sub-humid spaces of this country's territory, its original inhabitants, so-called indigenous people, lived in harmony with the inland region, especially the Caatinga. This way of life was replaced by foreign manners of natural environment exploitation, with the arrival of Portuguese settlers, in addition to successive waves of colonizers and immigrants, each with distinct customs from different times and cultures.

Thus, the way of life, by means of peaceful co-existence with nature, of millennial civilizations in those areas, whose relationship with their environment had grown stronger over the years, was suddenly extinguished, with some cultural absorption and very few surviving communities. Specific manners of relating with the environment, taking from it means for subsistence, in a balanced relationship of thousands of years, became lost during the historic colonization process in Brazil.

Only the extreme wealth and vigor of biodiversity in these semi-arid areas can explain how, for five centuries, millions of human beings lacking in knowledge about the environment in the region were sustained by its natural resources. Furthermore, a closer look at history will show that the rest of the country developed at a slower pace due to several factors, and that in the early days of the nation, this development was sustained largely by the wealth of Brazil´s eastern capital cities. This did not take place without severe impacts on environment and, in these circumstances, desertification processes compromise environmental services, biodiversity, soils and production systems in areas susceptible to desertification.

Historical repetition of climate aggressions that affected the structure of economies in semi-arid regions and chronic government interventions indicate that the country has not yet reached its fundamental objectives. This leaves two possibilities: either communities in areas susceptible to

desertification are in a one-way process of exhausting possibilities of living in the region or possible alternatives for families to live with dignity in these regions have not been explored.

In Brazil, areas susceptible to desertification that have already been identified according to criteria of the United Nations Convention to Combat Desertification (UNCCD) cover approximately 1.3 million square kilometers in states of the Northeast, in addition to Minas Gerais and Espírito Santo, and account for 16% of the national territory, 27% of all municipalities and 32 million inhabitants. Most of the country's citizens who are considered poor live there.

Currently, in these areas, government interventions in environmental policies should take into account not only natural dimensions, but also human dimensions, including immediate needs and emerging opportunities in the context of relationships between society and nature. In fact, in actions in the scope of programs, considering comprehension of environmental and political factors that increased vulnerability of economic capacity in those regions, the main role of government should be to catalyze and ensure changes, particularly in semi-arid and subhumid dry spaces of the country, in which areas susceptible to desertification are located.

The efforts of the project Supporting Local Initiatives in the Fight against Desertification show clearly that there are sustainable forms of living in harmony, capable of maintaining economy and many of the inhabitants in systems for production and distribution of goods and services, with social dignity.. This publication contains proposals about viable use of semi-arid spaces and their natural resources in such a manner that environmental services are maintained and biodiversity is conserved, promoting harmonious living that is effective in the fight against desertification and that ensures regional development based on a history of wealth practically unknown to Brazilians from other regions.

Development of the Brazilian Northeast has a relationship of dependence on natural resources from semi-arid areas, including the base of its energy matrix, with forest biomass accounting for 30%. Additionally, there are foragers for extensive livestock activities, wild collection as a source of income and slash-and-fallow systems, combining soil use with alternate rest periods, during which forest resources play an important role in recovery of soil properties. Distance from sustainable systems that made

possible sustainable and harmonious living has worsened aggravated the desertification process in the region.

This effort, which involves the Ministry of Environment (MMA), the Brazilian Semi-arid Network (ASA), German Cooperation, represented by GIZ, and the Inter-American Institute for Cooperation on Agriculture (IICA) – in the project Supporting Local Initiatives in the Fight against Desertification, demonstrates viability of natural resource use for sustainable and harmonious living in semi-arid zones. It presents alternatives for a strategy of providing credit and promoting development, and identifies the need for appropriate regulatory mechanisms for this socio-environmental scenario that pave the way for food, water and energy security, while maintaining environmental services, conserving biodiversity and promoting local development.

The results of this initiative with projects supporting local initiatives make it possible to foresee solutions with synergetic and multiplicative effects, capable of stimulating sustainable development of areas susceptible to desertification. This provides a vision of a future with healthy and harmonious living with climatic phenomena and transformation of an impoverished reality of the more fragile parts of those communities.

This action between MMA and IICA supports projects with solid foundations and verifiable technical, scientific and socio-environmental impacts, taking into account structuring initiatives for creation of technologies in favor of harmonious living, in addition to development of sustainable opportunities. A critical mass of knowledge makers is reached, making it possible to live with semi-arid conditions, and paving the way for a prospective development scenario with productive inclusion that is not only sustainable, but also has possible repercussions at high levels of well-being, with effective impacts on quality of life indicators for the country.

The project Supporting Local Initiatives in the Fight against Desertification, object of this publication, contains effective results that provide an outlook on this shift of scenarios, in order to meet the strong desire to prosper on the part of those who stay on the land, and the permanent desire to return of those who leave in search of better conditions for their lives, particularly during droughts. The MMA-IICA partnership, in this new edition, reveals real experiences in which desertification processes were stopped and reversed, with environmental adaptation and recovery mea-

sures in favor social and productive inclusion, in addition to sustainable rural development.

Francisco Carneiro Barreto Campello – Director
Fight against Desertification Department

SEDR/MMA Prologue

After decades of economic hardships, Brazil has, for the past few years, created favorable circumstances to promote development on its most vulnerable regions from a social and environmental standpoint. In addition to global warming, there were important adjustments that made government programs for social protection more effective. Notably, actions have greater differential impact where climate is a determining factor for living in areas with natural phenomena, which shows that giving priority to public policies in favor of sustainable development is pertinent.

Qualification of environmental programs has resulted in more than integration of social interests with actions in defense of environment. In fact, the paradigm that is emerging in this millennium is of systematized socio-environmental knowledge as a part of civilization processes. What this means is that the better way of doing things, integrating use of natural resources and well-being of the population, takes place with comprehension of tradition knowledge, and incorporation of good practices and environmentally sound technological innovations. It also requires participative integration of the most interested parties, local inhabitants, particularly in semi-arid and dry sub-humid areas of the country, where Areas Susceptible to Desertification (ASDs) are located.

At the international level, this comprehension was expressed by the United Nations Convention to Combat Desertification (UNCCD), upon inserting the topic in the global environmental agenda, which Brazil takes part in. Affirmation of the national policy dimension comes in answers to responsibilities taken on in the Convention - in which the institutional, multiple representation of the National Commission to Combat Desertification (CNCD) stands out. These responses are aligned with fundamental objectives in Brazil, in the scope of the Federal Constitution, and lead to strategic objectives at the Federal Government level for ASDs.

Nations that adopted the three Rio de Janeiro conferences share the view that decisions expressed in the final document of the United Nations Conference on Sustainable Development, called Rio+20: The Future We Want, reinforced the role of International Cooperation in "resolving persistent challenges related with sustainable development for all, in particular in developing countries."

Renewing political commitments based on principles reaffirmed in that document, the Secretariat of Wild Collection and Sustainable Rural Development (Secretaria de Extrativismo e Desenvolvimento Rural Sustentável – SEDR), by means of the Ministry of Environment (MMA), hails the new edition of the project Supporting Local Initiatives in the Fight against Desertification which, in an exemplary manner, in the scope of cooperation with the Inter-American Institute for Cooperation on Agriculture (IICA), in an attempt to stop and reverse the scenario of environmental degradation in ASDs.

This initiative expresses, with a higher purpose of reaffirmed optimism, a change in perceptions, by public figures, of the potential for development found in ASDs, in addition to acknowledgement of the value of their wealth and facing their challenges.

Paulo Guilherme Francisco Cabral
Secretary of Wild Collection and Sustainable
Rural Development (SEDR)

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Photograph: Instituto de Permacultura em Terras Secas – IPÊTERRAS/BA

1

Introduction

DESERTIFICATION, along with climate change, loss of biodiversity and problems involving water resources are becoming apparent as serious environmental problems at a global scale in current times, with severe economic and social consequences affecting, directly and indirectly, the lives of millions of people. During the United Nations Conference for Environment and Development, held in 1992 in Rio de Janeiro, the international community acknowledged the gravity of the situation and agreed to create a specific Convention to address this problem (GIZ, 2008).

After two years of discussion and efforts to come up with a document, on June 17, 1994, the text for the United Nations Convention to Combat Desertification (UNCCD) was concluded, leading to the decision to celebrate, on that date, the World Day to Combat Desertification and Drought. So far, 193 countries have come together. Brazil became a member in October, 1994 and National Congress ratified the agreement on June 12, 1997.

The UNCCD considers desertification to be a land degradation process that takes place in regions with arid, semi-arid or dry sub-humid climates, resulting from a series of factors, including climate variations and human activities. Land degradation corresponds to reduced or lost fertility and nutrient content, affecting biological or economic productivity of soils. (UNCCD, 1994)

In Brazil the Ministry of Environment (MMA), particularly the Secretariat of Wild Collection and Sustainable Rural Development's Department of Combating Desertification (DCD/SEDR), is the UNCCD Technical Focal Point, which means that it is the national institution in charge of measures to combat desertification and mitigate effects of droughts, in a coordinated manner that is agreed on with different government and civil society organizations.

Since 2004, Brazil has implemented the UNCCD by means of the National Action Plan to Combat Desertification and Mitigate Effects of the Drought (PAN Brasil) and support for 11 states in the focal area of activity in development of their respective State Programs to Combat Desertification (PAE), instruments aimed at sustainable development, promoting actions that inhibit the main agents in desertification processes, such as: deforestation for energy generation; extensive livestock (over-pasturing); mining, especially due to high demand for forest biomass in transformation and irrigation processes that result in saline soils without proper drainage.

This desertification and drought scenario constitutes an enormous challenge for government and necessarily means addressing the problem on different fronts, making it necessary to establish partnerships at regional, national and local levels, in order to build upon the capacity of the wide diversity of social stakeholders.

In this context, MMA, by means of its Secretariat of Wild Collection and Sustainable Rural Development, sought to establish a partnership with the Inter-American Institute for Cooperation on Agriculture, formalized with the Ministry of Foreign Affairs' Brazilian Cooperation Agency (Agência Brasileira de Cooperação do Ministério das Relações Exteriores – ABC/MRE), through the International Technical Cooperation Project "Supporting Implementation of the National Program to Combat Desertification and Mitigate Effects of the Drought – PAN Brasil (PCT BRA/IICA/05/004)".

Among the immediate objectives of the Cooperation Project, one that stands out is establishment of mechanisms to strengthen technical and operational capacities of institutions and organizations with activities in areas susceptible to desertification, increasing use and diffusion of general and technical knowledge, as well as good practices.

Thus, considering that the PAN Brasil implementation process involves a high percentage of community organizations with related activities, the project at hand has among its goals to support local initiatives that encourage development of actions to combat desertification with visible practical results. In order to achieve this, the Second Call for Proposals (Manifestation of Interest Number 001/2008) was made public under the name "Fund to Support Local Initiatives in the Fight against Desertification". Local projects aimed at non-profit organizations with activities in ASDs were selected and contracted.

This Call for Proposals gave continuity to the First Funding Cycle of the Fund to Support Community-Based Experiences in the Fight against Desertification, started in 2007 by the German Cooperation for Sustainable Development, represented by the GIZ, in partnership with SEDR/MMA, ASA and support from IICA. This initiative supported implementation of thirteen projects with results that served to adjust definitions of topics and selection of projects in the Second Funding Cycle.

The Second Call for Proposals, based on the guidelines established in the first cycle, had a simplified format, with the purpose of encouraging involvement by a larger number of institutions with projects to combat desertification related with good practices already under development in grassroots communities.

In order to implement the Fund for the second cycle, the previously established partnership involving SEDR/MMA, IICA, German Cooperation for Sustainable Development, represented by GIZ and ASA, was maintained. Together, these institutions constituted the Steering Committee, responsible for the entire process, from evaluation and selection to monitoring and preparation of proposals for continuity.

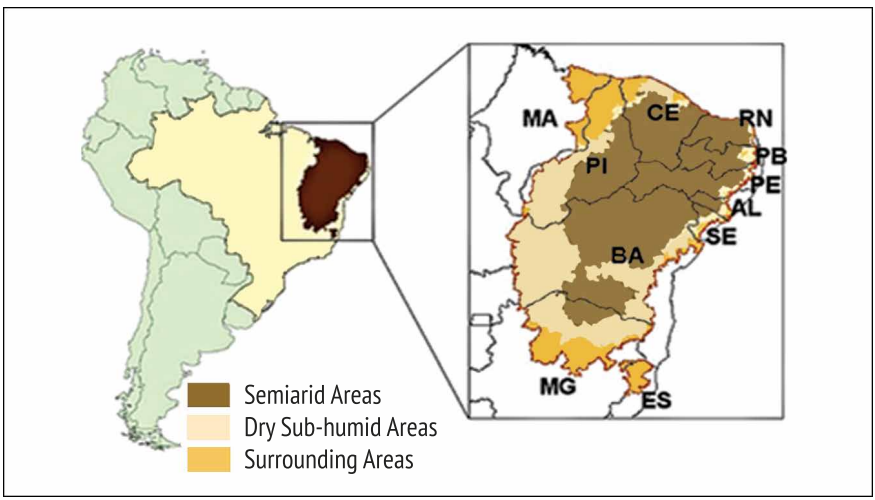
2

Characterization of Areas of Influence of Local Initiatives in the Fight against Desertification

The definition of ASDs in PAN Brasil, in addition to UNCCD parameters, was based on other criteria, considering areas called ASD surroundings, i.e. areas affected by environmental degradation processes similar to those observed in areas in which the Aridity Index (calculated by the ratio of rainfall to potential evapotranspiration) is at the limit established by the convention (between 0.21 and 0.65). With these parameters, the area subject to desertification in Brazil is the semi-arid and dry sub-humid part of all nine states in the Northeast, in addition to northern Minas Gerais and Espírito Santo.

In Brazil, ASDs currently cover the semi-arid and dry sub-humid tropics and surrounding areas, totaling approximately 1,340,000 square kilometers, with 1,448 municipalities and 32 million people. Of this total, 180 thousand square kilometers are in profound or very profound desertification stages, concentrated mainly in states of the Northeast, with 55% of their territory affected by different degrees of environmental deterioration. (MMA, 2004)

Figure 01 – Map of Areas Susceptible to Desertification (ASDs)



Source: PAN-Brasil (BRASIL/ MMA, 2004)

The second cycle of the "Fund to Support Local Initiatives in the Fight against Desertification", in the scope of the Technical Cooperation Project, selected proposals from ASDs related with one or more of the following pre-established themes.

Themes

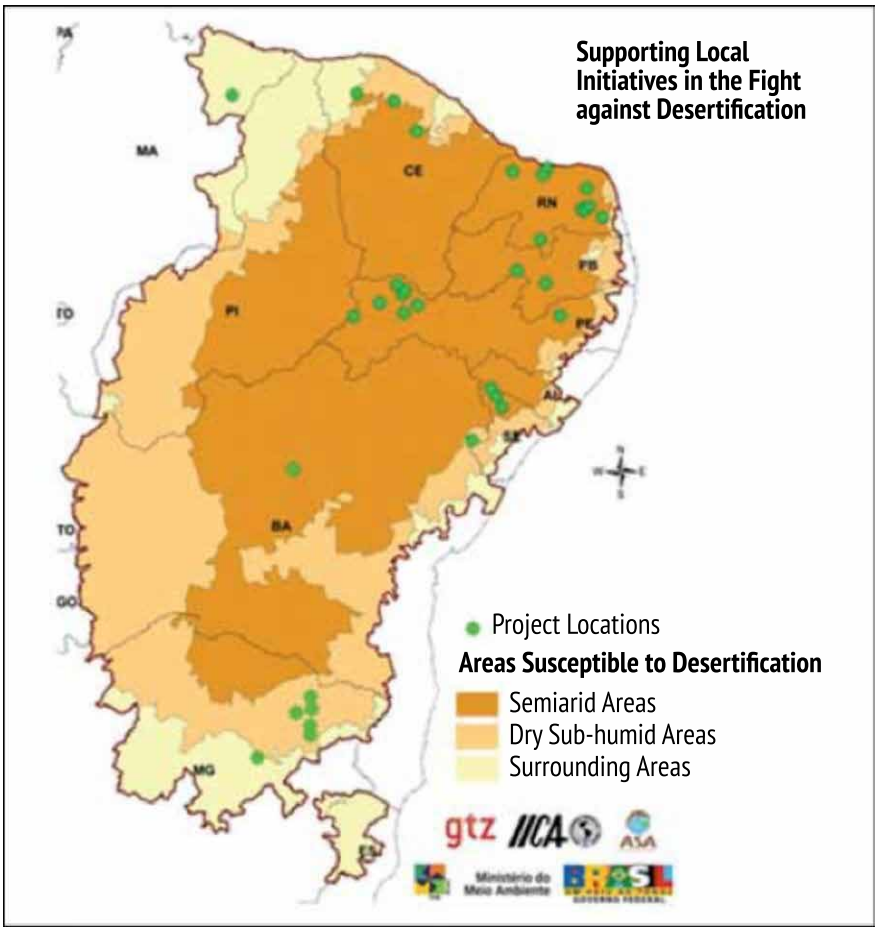
1. Sustainable Use and democratic management of natural resources;
2. Recovery of degraded areas (soil and Caatinga plant life);
3. Combating poverty, productive arrangements and sustainable increase in production capacity;
4. Sustainable use of energy matrix / new energy sources;
5. Sensibility and capacity building for farmers and/or local communities to combat desertification;
6. Integration of the fight against desertification in relevant spatial or sectorial arrangements (e.g. territories, micro-basins, consortia of municipalities, councils);
7. Capacity building, education and combating desertification;
8. Communication and diffusion of information regarding the fight against desertification.

Twenty two projects with local initiatives in the fight against desertification were selected, among which eighteen were contracted in the scope of MMA/IICA Cooperation, two withdrawals and four with technical and financial resources from GIZ. These projects also had technical monitoring from ASA, a member of the action's Steering Committee.

The Cooperation Project assigned financial resources to the second cycle of the Fund in the amount of R$ 414,683.70 (four hundred fourteen thousand six hundred eighty three Brazilian Reais and seventy cents) and GIZ made available R$ 70,031.00 (seventy thousand and thirty one Brazilian Reais), totaling R$ 484,714.70 (four hundred eighty four thousand seven hundred and fourteen Brazilian Reais and seventy cents), which made it possible for selected institutions to implement activities planned for their respective projects. The average amount assigned to each project was R$ 22,000 (twenty two thousand Brazilian Reais).

The resources made available for each project were significant in comparison with results achieved by local communities in the fight against desertification. The following map represents the areas of activity of these projects.

Figure 02 – Map with Locations of Initiatives



Source: PAN-Brasil (BRASIL/MMA,2004).

Selected proposals were submitted by civil society organizations from the states of Maranhão, Ceará, Rio Grande do Norte, Sergipe, Bahia, Pernambuco, Minas Gerais and Paraíba, as shown in Tables 1 and 2, with detailed information about each project.

Table 1 – Projects implemented in the scope of MMA/IICA Cooperation

STATE	Municipality	Institution	Project Title	Main Objectives
BA	Irecê	Institute of Permaculture on Dry Lands (Instituto de Permacultura em Terras Secas – IPÊTERRAS)	Awareness building for farmers in Irecê region about agroenvironmental problems, including threats of desertification	Awareness and capacity builiding for farmer families in the fight against desertification and agroecology
CE	Canindé	Center for Studies, Research and Community Assistance (Centro de Estudos, Pesquisa e Assessoria Comunitária – CEPAC)	Environmental Education: Preserving Life and Nature in the Ceará Semiarid Region	Environmental education and seedling nursery
CE	Irauçuba	Communication and Culture (Comunicação e Cultura)	Coalition of School Newspapers against Desertification	Contextualized education / communication
CE	Alcântaras	Center for Ecology and Social Integration Foundation (Fundação Centro de Ecologia e Integração Social – Fundação CIS)	São Bento Demonstrative Unit for Harmonious Living with the Drought and Combating Desertification	Implementation of a demonstrative unit for living in harmony with droughts and combating desertification
CE	Canindé	Flower of the Earth – Assisance, Projects and Research (Flor da Terra – Assessoria Projetos e Pesquisa)	Iguaçu Honey – Canindé, Ceará Sertão	Implementation of five agroforestry fields, with native and fruit trees in the municipality of Santa Filomena, Pernambuco
MA	Mata Roma	Center for Rights of Populations in the Carajás Region (Centro dos Direitos das Populações da Região de Carajás)	Environmental Education in Lower Paranaíba for Young Quilombolas: Agroecological Ciranda	Provide capacity building for 60 women and 40 young adults with principles of self-management and strengthening of economic and solidary initiatives and combating desertification

STATE	Municipality	Institution	Project Title	Main Objectives
MG	Minas Novas	Quilombola de Quilombo Association (Associação Quilombola de Quilombo – ASPOQUI)	Environmental Conservation and Income Generation for Quilombola Young Adults and Women in Minas Novas	Building consciousness among participants regarding the importance of conservation of native woods, particularly native palm trees and other local plants that can become a source of income and food for over 150 families in these communities, for use in several activities
MG	Medina	Medina Rural Workers Union (Sindicato dos Trabalhadores Rurais de Medina)	Water, Conservation and Community Management in the Mid Jequitinhonha, Minas Gerais	Carry out consciousness and awareness bulding and mobilization in rural communities in each muicipality (Medina, Cachoeira de Pajeú, Comercinho, Ponto dos Volantes, Itaobim and Pedra Azul) regarding spring preservation and conservation
PB	Serra Branca	Unite, Feel, Think and Act (USPAR – Unir, Sentir, Pensar e Agir)	Native beekeeping as an alternative for development in Cariri	Project cancelled as per request from institution
PB	Teixeira	Center for Popular Education and Social Qualification (Centro de Educação Popular e Formação Social – CEPFS)	Living in Harmony with Semiarid Reality – Alternative Forms of Fighting Desertification	Involve farmers in discussions with practical and educational activities regarding the topics and forms of controlling desertification, with the purpose of supporting construction of a proposal for sustainable development in the region
PE	Ouricuri	Agrovila Nova Esperança Association of Rural Workers (Associação dos Trabalhadores e Trabalhadoras Rurais da Agrovila Nova Esperança)	New Hope Project: Mobilizing People to Combat Desertification	Promote construction of agroecological knowledge and training for farmers, Young adults and children, by means of meetings, seminars, seedling nursery implementation and agroforestry systems, creating conditions for contribution to the process of combating desertification
PE	Brejo da Madre de Deus	Council for Sustainable Development of Brejo da Madre de Deus (Conselho de Desenvolvimento Sustentável de Brejo da Madre de Deus – CONDESB)	Capacity Building in the Fight against Desertification for Recovery of Riparian Woods around Açudinho River Springs, Brejo da Madre de Deus, Pernambuco	Recovery of riparian woods along the Açudinho river, municipality of Brejo da Madre de Deus, Pernambuco

STATE	Municipality	Institution	Project Title	Main Objectives
PE	Exu, Granito, Serrita, Moreilândia, Parnamirim	Sustainability and Sertão Integration Environmentalist Organization (Organização Ambientalista de Sustentabilidade e Integração do Sertão – OASIS do Brígida)	Investing in Associativism and Agroecology along Brígida River Margins	Raise organizational level of family farmers to find alternatives for harmonious living in the semiarid in an organized and conscious manner, with environmental revitalization and promotion of sustainable development as main activities
RN	Barcelona, São Paulo do Potengi	Lagoa de Velhos Beekeeper Association, Rio Grande do Norte (Associação dos Apicultores de Lagoa de Velhos/RN – APILAVE)	Capacity Building, Education and Fighting Desertification in Areas at Risk in the Potengi Region	Promote capacity building for educators with educational activities based on principles of agroecology, aiming at combating degraded areas and desertification areas with implementation of seedling nursery, installation of beehouses for native beekeeping.
RN	João Câmara, Macau, Pendências, Lagoa Salgada, Lagoa de Velhos, Jardim do Seridó	Beehive Group of Project, Assistance and Services (Grupo Colméia de Projetos, Assessoria e Serviços)	Education and Income Generation to Combat Desertification in Rio Grande do Norte	Promote capacity building for educators with educational activities based on principles of agroecology, aiming at combating degraded areas and desertification areas with implementation of seedling nursery, installation of beehouses for native beekeeping.
RN	Mossoró	Center for Family Farming Development Support (Centro de Apoio ao Desenvolvimento da Agricultura Familiar – TERRA VIVA)	Producing in the Caatinga	Capacity buiding in beekeeping and seedling production focusing on sustainable management of natural resources as a strategy to combat desertification
SE	Poço Verde	Multiple Studies, Ecological and Arts Society (Sociedade de Estudos Múltiplos, Ecológica e de Artes – SOCIEDADE SEMEAR)	There is Life in the Desert	Training local multipliers and developing an action plan for the fight agains desertification
SE	Alto Sertão Sergipano	Biodiversity and Environment Conservation Organization (BIOTERRA – Org. para conservação da biodiversidade e meio ambiente)	Minimizing effects of desertification with socioenvironmental inclusion of charcoal workers in upper Sergipe Sertão – Sweet Woods Project	Project cancelled as per request from institution

Table 2: Projects implemented with technical and financial resources from GIZ

STATE	Municipality	Institution	Project Title	Main Objectives
CE	Irauçuba	Cactos Institute (Instituto Cactos)	Municipal Action Plan to Combat Desertification – PAM/IRAUÇUBA (Irauçuba Desertification Nucleus)	Institutional strengthening at the local level to combat desertification
CE	Irauçuba	Cactos Institute (Instituto Cactos)	School and Life in the Semiarid: A Proposal for Education	Education for harmonious living with the Brazilian Semiarid / training for educators
PE	Granito	Foundation for Sustainable Development of Araripe (Fundação para o Desenvolvimento Sustentável do Araripe – Fundação Araripe)	Initiatives to Prevent Desertification Project: Multiple and Sustainable Use of Agrobiodiversity, Biodiversity and Other Natural Resources in Granito Municipality, Pernambuco	Capacity-building workshops for farmer families
PE	Santa Filomena	Nucleus of Popular Educators in the Pernambuco Sertão (Núcleo de Educadores Populares do Sertão de Pernambuco)	Agroforestry: learning to take care of gardens and nature	Implementation of five agroforestry fields, with native and fruit trees, in the municipality of Santa Filomena, Pernambuco

The projects in each state provided a summary of the main socioenvironmental aspects involved in their respective areas of influence, with implementation of good practices.

Maranhão/MA

Soil in this region is acidic, made up of arenitic rocks. In this region the population is concentrated in rural areas and agriculture is an important economic activity, with traditional slash-and-burn practices; few cultivation years and shrub-type fallow. Fertilization is natural, with ashes from fires. Manioc, rice, corn, beans and garden varieties are produced. Systems are diversified and complex, with associated and successive crops. In the Lower Parnaíba microregion there is removal of native forest species for expansion of soy projects, sugarcane for agroindustry and eucalyptus for charcoal to burn in kilns.

Source: MANIFESTATION OF INTEREST 001/2008 by Center for Rights of Populations in the Carajás Region.

Ceará/CE

In the state of Ceará, natural environment has suffered profound alterations, due to historic expansion of agricultural activities, plant and tree extraction and, more recently, industrial activities. Among the most affected resources, plant life, soils and water stand out.

Regarding environmental matters, the greatest problems found are related with the progressive process of natural resource degradation, caused by the high rate of soil erosion, pollution of waterways, uncontrolled deforestation, constant forest fires, destruction of riparian woods, unprotected springs, inappropriate disposal of domestic waste, unplanned rural roads and improper use of farming machinery, leading to compacted soil.

Source: Project proposal submitted by CEPAC.

Rio Grande do Norte/RN

In the western part of Rio Grande do Norte, many factors have contributed to soil and natural resource degradation. The current situation Brazil is found in as an agro-exporter and holder of mineral reserves has brought enormous pressure on nature: uncontrolled deforestation for production of charcoal and implementation of melon, watermelon and banana monocultures; livestock in numbers that are incompatible with the forager support capacity; use of firewood for gypsum and ceramics production; uncontrolled forest fires started by farmers, extraction of stakes and fenceposts, etc.

Source: Project proposal submitted by TERRA VIVA.

Paraíba/PB

Some of the main factors contributing to the region's classification as an ASD are mentioned next. Land tenure problems, characterized by economic diferences; those of social and cultural origin, with deep-rooted land use habits as the greatest obstacle; those of political character, involving lack of knowledge about the subject and even lack of a strategic government plan for controlling desertification; and those of environmentalnature, with irrational soil and plant life use, leading to intensification of erosion processes, aggravated by climate characteristics and variations (poor distribution of rainfall, high temperatures and dry winds). These factors have provoked, mainly, deterioration of physical, chemical and biological or economic soil properties. These factors originate from a conventional development model, wtih vertical knowledge transmission, i.e. farmers are mere receivers of knowledge from, for example, research institutions.

Source: Project proposal submitted by CEPFS.

Pernambuco/PE

The development model implemented in the region is based on subsistence farming with outdated technologies, livestock and gypsite exploitation. All of these activities contribute directly to deforestation and soil impoverishment. With this reality and constant natural catastrophes, both forecast and already in effect, at national and international levels, due to this accelerated desertification process, communities are in great need for changes in habits and attitudes, establishing a new relationship with the environment (a relationship that requires new knowledge and rescuing of previous knowledge and practices, in which old and new come together for construction of knowledge in favor of better survival conditions), respecting biodiversity, conserving and preserving natural resources and attempting to recover part of what is being destroyed.

Source: Project proposal submitted by OASIS do Brígida.

Sergipe/SE

The region is located in the semiarid and facest risk of desertification, with consequences that include natural ecosystem degradation. On some occasions, droughts in western parts of the state last nearly a year. According to some specialists, desertification may be a response to generalized ecosystem deterioration, caused by adverse climate conditions, associated with abusive exploitation of natural resources. Destruction of plant life and consequent increases in temperature accelerate water evaporation processes, leaving soils dry, impermeable and improductive.

Source: Project proposal submitted by SEMEAR.

Bahia/BA

The environmental situation in the region is catastrophic: deforestation for intensive monocultures, use of pesticides, forest fires, mechanization with tractors and irrigation with salt water continue to destroy soils in the region, leading to erosion and consequently to desertification and loss of biodiversity. Of more concern and also resulting from these processes is the loss of soil fertility, which results in impoverishment of small farmers and food security of local families.

Source: Project proposal submitted by Ipêterras.

Minas Gerais/MG

The institution's strategy is to strengthen actions to combat desertification in the Middle Jequitinhonha territory, expanding the proposal to other rural workers' unions from various municipalities also facing problems related towater scarcity anddeforestation, among others. Since there is already demand for activities with regard to these matters, the idea is to join forces and transfer more awareness and practical activities to rural communities. In order to achieve this, partnerships with these rural workers' unions are necessary, particularly with the Vale do Jequitinhonha Institute of Agricultural Workers (Instituto dos Trabalhadores e Trabalhadoras na Agricultura do Vale do Jequitinhonha – ITAVALE), with regional activities and a team capable of carrying out these activities with teams in the Rural Workers' Unions.

Source: Project proposal submitted by Medina Rural Workers Union.

Photograph: Conselho de Desenvolvimento Sustentável de Brejo da Madre de Deus – CONDESB/ PE

3

Management and Monitoring

3.1 Project Monitoring

THE STEERING COMMITTEE of the Second Cycle of the Supporting Local Initiatives in the Fight against Desertification Fund, composed of representatives from the Ministry of Environment's Fight against Desertification Department, Inter-American Institute for Cooperation on Agriculture, German Technical Cooperation and Coordination in the Brazilian Semi-arid, prepared a specific methodology for monitoring project implementation.

The premise adopted was that experiences accrued by non- governmental institutions that have developed practices and technologies for harmonious living with the Semi-arid in Brazil over generations constitute a wealth of knowledge with regard to combating desertification. By making this knowledge more widely known and shared, implementation of the National Action Plan to Combat Desertification (PAN Brasil) will be supported in a more effective manner at local levels, integrated with practices already employed at the grassroots level.

The main objective of the monitoring instrument was to create a database with information and perceptions focusing on experiences and practices of organizations responsible for project implementation. Efforts were made toward more in-depth identification and analysis of some elements of success in these experiences in their specific areas, aiming at future multiplication, with necessary adjustments, in other contexts of Areas Susceptible to Desertification (ASD).

The Project Steering Committee held meetings in Brasilia and established a calendar for technical field monitoring, by means of visits by technical experts. In order to do this, focal points were chosen in the Steering Committee, as follows: three MMA technical experts, one ASA representative and two GIZ representatives. Each focal point was responsible for scheduling and organizing visits under their responsibility, with an average duration of two days each.

The methodology employed for project evaluation was developed in two stages: project coordinators filled out two forms (described later in this document) and a group activity with project participants and beneficiaries. During the activity, the positive and negative aspects of the project were identified and discussed.

During visits, projects reflected an effort on the part of proposing organizations to link the fight against desertification with practices already under way in grassroots communities. With no exceptions, projects that were visited met proposed objectives and some managed to accomplish more than what was planned by means of other partnerships.

During the entire period of project development, a communication system was instituted containing reports, via e-mail and telephone, to clear up doubts organizations had and orient activities in the field. Organizations also had access to a direct communication channel with the team in charge of managing project implementation.

3.2 Project Monitoring Instruments

a) Progress report

Progress reports sought to emphasize activities and resources. Also included were some points about adjustments needed and other issues raised on the part of institutions, in addition to requests to include attachments with documents and products of relevant interest for monitoring purposes, such as attendance lists and photographs of activities, materials produced, among others (Annex I).

b) Monitoring Visits

To meet the aforementioned work schedule, technical visits were made with the main purpose of verifying experiences in loco, starting dialogs with communities and partners involved and to perform activities aimed at collection of information that served as the basis for preparation of the final report with results achieved by projects with regard to strengthening technical and operational capacities in institutions and organizations in ASDs.

Field visits to monitor projects had the following specific objectives:

- Comparing activities and goals set forth in the project with actual activities undertaken and goals met;
- Identify results (beneficiaries, topics, contents, products);
- Identify and discuss positive aspects (including new opportunities);
- Identify and discuss negative aspects (difficulties and obstacles found);
- Identify and discuss the meaning of the project to combat desertification;
- Identify and discuss lessons learned;
- Evaluate the Supporting Local Initiatives in the Fight against Desertification Fund.

Templates of forms used in projects as research instruments:

Form 1 – Information about each activity

Activities and goals as planned in project	
Activities undertaken and goals met	
Results	People benefitted
	Topics, contents, products
Positive aspects	
Negative aspects	
	Difficulties, obstacles
Main causes of local desertification	
Meaning of project to combat desertification	
Lessons learned	
Evaluation of Supporting Local Initaitives in the Fight against Desertification Fund	

Form 2 – Overall project information

Positive aspects	
Negative aspects	
	Difficulties, obstacles
Main causes of local desertification	
Meaning of project to combat desertification	
Lessons learned	
Evaluation of Supporting Local Initaitives in the Fight against Desertification Fund	
Prospects for continuity	
Potential for replication	

c) Final Report

The final report, a product developed by organizations responsible for project implementation, was the last monitoring product for initiatives. All selected projects were the result of efforts by proponent organizations to relate the fight against desertification with practices already under way in their work with grassroots communities (Annex II).

3.3 Visited Community Initiatives

Due to the innovative nature of the Fund carried forth by the MMA Fight Against Desertification Department and partner institutions, with experimental characteristics, monitoring visits to projects under development were made. This task was fruitful at both levels. A summary of some technical visits is presented next, two of which were contracted in the scope of the partnership with GIZ:

1. Technical Monitoring Visit to Brejo da Madre de Deus, Pernambuco

Project Information	
CONTRACT NUMBER	208040
ORGANIZATION	Council for Sustainable Development of Brejo da Madre de Deus - CONDESB
PROJECT TITLE	Capacity Building in Fight against Desertification for Recovery of Riparian Woods on the Açudinho River, Brejo da Madre de Deus, Pernambuco
OBJECTIVE	Coordination and implementation services for community project in municipality of Brejo da Madre de Deus for recovery of riparian woods along the Açudinho River
PROJECT LOCATION	Municipality of Brejo da Madre de Deus, Pernambuco
PERSON IN CHARGE OF TECHNICAL VISIT	Jonair Mongin

2. Technical Monitoring Visit to Lagoa dos Velhos, Rio Grande do Norte

Project Information	
CONTRACT NUMBER	208049
ORGANIZATION	Lagoa de Velhos Beekeeper Association, Rio Grande do Norte (Associação dos Apicultores de Lagoa de Velhos/RN – APILAVE)
PROJECT TITLE	Capacity Building, Education and Fighting Desertification in Areas at Risk in the Potengi Region
OBJECTIVE	Community project coordination and implementation services in the municipality of Potengi, Rio Grande do Norte
PROJECT LOCATION	Lagoa de Velhos, Rio Grande do Norte
PERSON IN CHARGE OF TECHNICAL VISIT	Marco Bueno
VISIT OF PERIOD	Dec. 11-13, 2009

3. Monitoring Technical Visit: Canindé/CE

Project Information	
CONTRACT NUMBER	Nº 208038
ORGANIZATION	Flower of the Earth – Assisance, Projects and Research (Flor da Terra – Assessoria Projetos e Pesquisa)
PROJECT TITLE	Iguaçu Honey – Canindé, Ceará Sertão
OBJECTIVE	Community project coordination and implementation services in municipality of Canindé, Ceará
PROJECT LOCATION	Canindé, Ceará
PERSON IN CHARGE OF TECHNICAL VISIT	Daniela de Freitas Fenerich Russo
VISIT OF PERIOD	Nov. 9-14, 2009

4. Monitoring Technical Visit: Mata Roma/MA

Project Information	
CONTRACT NUMBER	208042
ORGANIZATION	Center for Rights of Populations in the Carajás Region (Centro dos Direitos das Populações da Região de Carajás)
PROJECT TITLE	Environmental Education in Lower Paranaíba for Young Quilombolas: Agroecological Ciranda
OBJECTIVE	Community project coordination and implementation services in municipality of Mata Roma, Maranhão
PROJECT LOCATION	Mata Roma, Maranhão
PERSON IN CHARGE OF TECHNICAL VISIT	Marco Bueno

5. Monitoring Technical Visit: Poço Redondo/SE

Project Information	
CONTRACT NUMBER	208037
ORGANIZATION	Multiple Studies, Ecological and Arts Society (Sociedade de Estudos Múltiplos, Ecológica e de Artes – SOCIEDADE SEMEAR)
PROJECT TITLE	There is Still Life in the Desert
OBJECTIVE	Identify young adults with potential to become local multipliers of knowledge and activities in Poço Redondo municipality seat neighborhood and give rise to community organization principles for problem resolution with regards to desertification, encouraging community self-management, acknowledgement of the value of participative processes and local knowledge
PROJECT LOCATION	Municipality of Poço Redondo, Sergipe
PERSON IN CHARGE OF TECHNICAL VISIT	Jonair Mongin

6. Monitoring Technical Visit: Irecê/BA

Projetct Information	
CONTRACT NUMBER	208044
ORGANIZATION	Institute of Permaculture on Dry Lands (Instituto de Permacultura em Terras Secas – IPÊTERRAS)
PROJECT TITLE	Awareness building for farmers in Irecê region about agroenvironmental problems, including threats of desertification
OBJECTIVE	Community project coordination and implementation services in municipality of Irecê, Bahia
PROJECT LOCATION	Irecê, Bahia
PERSON IN CHARGE OF TECHNICAL VISIT	Jonair Mongin

7. Monitoring Technical Visit: Irauçuba/CE

Projetct Information	
CONTRACT NUMBER	208047
ORGANIZATION	Communication and Culture (Comunicação e Cultura)
PROJECT TITLE	Coalition of School Newspapers against Desertification
OBJECTIVE	Contextualized education / communication
PROJECT LOCATION	Irauçuba, Ceará
PERSON IN CHARGE OF TECHNICAL VISIT	Daniela de Freitas Fenerich Russo

8. Technical Monitoring Visit to Project in partnership with GIZ

Projetct Information	
CONTRACT NUMBER	GTZ (no number)
ORGANIZATION	Cactos Institute (Instituto Cactos)
PROJECT TITLE	Municipal Action Plan to Combat Desertification – PAM/ IRAUÇUBA (Irauçuba Desertification Nucleus)
OBJECTIVE	Local institutional strengthening to combat desertification
PROJECT LOCATION	Irauçuba, Ceará
PERSON IN CHARGE OF TECHNICAL VISIT	Daniela de Freitas Fenerich Russo

9. Technical Monitoring Visit to Projects in partnership with GIZ

Projetct Information	
CONTRACT NUMBER	GTZ (no number)
ORGANIZATION	Cactos Institute (Instituto Cactos)
PROJECT TITLE	School and Life in the Semiarid: A Proposal for Education
OBJECTIVE	Education for harmonious lving with the Brazilian Semiarid / training for educators
PROJECT LOCATION	Irauçuba, Ceará
PERSON IN CHARGE OF TECHNICAL VISIT	Daniela de Freitas Fenerich Russo

Photograph: Associação Quilombola de Quilombola – ASPOQUI/ MG

4

Projects Managed by IICA

4.1 Maranhão

4.1.1 Environmental Education in Lower Paranaíba for Young Quilombolas: Agroecological Ciranda

Technical Data

Project Title:

Environmental Education in Lower Paranaíba for Young Quilombolas: Agroecological Ciranda.

Implementing Institution:

Center for Rights of People in the Carajás Region.

Partner institutions:

Association for Preservation of Riacho Estrela and Environment, Forum in Defense of the Lower Parnaíba, Rural Workers Union, Catholic Church, Carajás Forum, Quilombola communities: Murici, Areal, Onça, Santa Rosa, Bom Sucesso, Cajueiro, Guadalupe, Caridade, Primeiros Campos, Tabatinga, Cidade Nova, Anajá, Ananás, Centro dos Jonas, Mucuin, Olho d'Água and Muquém.

Person in charge and contact information:

Edmilson Carlos Pinheiro

E-mail: forumcarajas@forumcarajas.org.br

Implementation period:

Oct. 8, 2008 – Dec. 6, 2009

Area of influence:

Municipality of Mata Roma, State of Maranhão, neighboring municipalities of Chapadinha, Anapurus, Urbano Santos and Brejo. Belongs to meso-region of Eastern Maranhão and micro-region Chapadinha and Lower Partnaíba.

Activities:

- Promoting capacity building for young quilombola leaders in agroecological topics aimed at conservation of riparian woods;
- Promoting environmental recovery of ecosystems and initiatives for reforestation of Estrela stream springs;
- Producing and disseminating knowledge and information about exploration and expansion of soy in Maranhão Cerrado areas, in addition to coordination of groups and organizations in the region.

Results:

- Information disseminated to participants with regard to origins of desertification processes and participative pro-activity in activities with conservation as the objective;
- Transmission of importance of environment for quality of life in communities and the role of young adults in changing behaviors for a more balanced environment;
- Greater appreciation of popular knowledge and its contributions to environmental conservation and increased self-esteem with awakened collective feelings for conservation of water sources, in addition to sustainable agriculture.

Challenges:

- Because of rainfall problems in the region, there was great difficulty in following schedules and timetables as initially proposed;
- High levels of illiteracy made it difficult to engage and develop strategies for participation of local population.
- Deforestation of range areas created difficulties mainly with regard to involvement of public organizations active in social, environmental and economic areas for activities with the community.

Among the many activities of Environmental Education and Combating Desertification undertaken in this project, some experiences aimed at sustainability are worthy of note.

The Arts and Environment workshop strengthened local culture with dissemination of information related with health and environment and showed the importance of proper waste disposal.

The Agroecology workshop made it possible to identify threatened species in riparian woods and species fit for eating that can be used by family farmers, as well as comprehension of processes that lead to desertification.

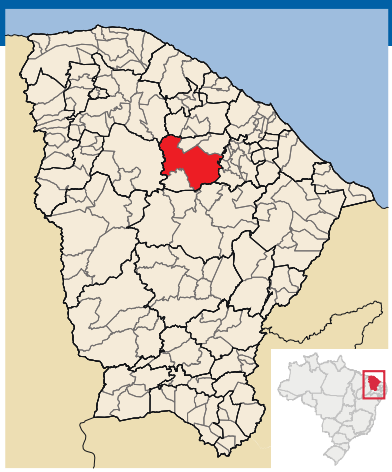
The Agroforestry Systems workshop started with information about reforestation of riparian woods and use of medicinal and fruit species, in addition to explanations about management of agroforestry systems, presenting different techniques that encourage farmers not to use pesticides in their crops and reduce use of fire.

In the handicrafts workshop, recycling, painting and collage techniques were learned, in addition to use of seeds and fibers to create handicrafts.

Photograph 01 – Plant nursery construction

Photograph 02 – Open air workshop.

4.2 Ceará



4.2.1 Environmental Education: Preserving Life and Nature in the Ceará Semi-arid Region

Technical Data

Project title:

Environmental Education: Preserving Life and Nature in the Ceará Semi-arid Region.

Implementing institution:

Center for Studies, Research and Community Assistance.

Partner institutions:

Associations in Rural Settlements of Canindé, Town Hall –through the Secretariat for Agriculture and Social Action, Family Farmer Union (SINTRAF).

Person in charge and contact information:

Francisco de Assis Faustino de Sousa
E-mail: assisfaustino@yahoo.com.br
Elane Maria de Castro Coutinho
E-mail: elaneccoutinho@bol.com.br

Implementation period:

Oct. 6, 2008 – Dec. 4, 2009

Area of influence:

Settlements in: Nojosa, Rancho Primavera, Tiracanga, Logadouro I and II, Cachimba Nova, Grossos, Armadores and 1° de Maio; located in the municipality of Canindé.

Activities:

- Workshops and meetings in settlements for sensibility building, mobilization, dissemination and project implementation;
- Environmental Education Course, addressing concepts such as environmental degradation, soil conservation techniques, causes of pollution and planning in settlements;
- Construction and implementation of plant nursery for production of native seedlings, with seed selection and purchase of raw materials and inputs;
- Visits to settlements and seedling nurseries for technical orientation and technical monitoring of actions undertaken.

Results:

- Sensibility building, mobilization, implementation and good dissemination of the project were achieved in communities, local government, social movements and unions, government organizations and organized civil society;
- Implementation of nursery for production of seedlings from 1,000 to 5,000 with effective participation by settlers with seed collection and desire to start reforestation of degraded areas in their settlements;
- Broad discussion of topics and courses for environmental education, soil and water management and conservation, the latter as an extra activity in the project as per request from workshops in settlements, which demonstrates the interest participants showed in the project.

Challenges:

- The rainy period in the state made it difficult to reach some locations at the start of the project, causing delays;
- Lack of support for project and its activities from local government, Brazilian Institute of Environment and Renewable Natural Resources (*Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* – IBAMA) and National Colonization and Agrarian Reform Institute (*Instituto Nacional de Colonização e Reforma Agrária* – INCRA);
- Insufficient resources to meet the level of demand.

Among the many activities of Environmental Education and Combating Desertification undertaken in this project, some experiences aimed at sustainability are worthy of note.

Workshops held in settlements led to discussions about the topic, with good involvement and interest on the part of local population. Furthermore, concrete actions were identified for soil management and conservation.

Lectures and practical courses in environmental education and soil and water management were offered and provided better information and knowledge for settlers.

With construction and implementation of the seedling nursery, it was possible to create awareness among participants about the importance of environmental conservation in the fight against desertification.

Although it is a small area in a region that suffered and continues to suffer from a process of environmental degradation that has lasted decades, due to traditional agro-pastoral processes and natural erosion, the project had a significant impact on settlements and some people may become multipliers of the ideas.

Photograph 01 – Environmental education course

Photograph 02 – Soil and water management and conservation course

4.2.2 Coalition of School Newspapers against Desertification

Technical Data

Project title:

Coalition of School Newspapers against Desertification.

Implementing institution:

Communication and Culture.

Partner institutions:

Municipal Secretariat of Education; Secretariat of Environment, Water Resources and Livestock, Cactus Institute and Sertão Institute.

Person in charge and contact information:

Daniel Raviolo

E-mail: comcultura@comcultura.org.br

Implementation period:

Oct. 8, 2008 – Dec. 15, 2009

Area of influence:

Municipality of Irauçuba

Activities:

- Capacity building for pedagogical coordinators of 14 schools for publication of school newspapers, bringing together literacy and desertification topics.
- Monitoring and continued discussions about desertification;

- Capacity building for students and teachers in electronic layouts;
- Publication of 29 issues of school newspapers, in numbers equal to number of students in each school, in addition to extra copies to be distributed in communities;
- Capacity building for use of these newspapers as self-produced didactic materials;
- Editing and printing of Didactic Material Irauçube Under Threat of Desertification, with 8 pages and 5,000 copies.

Results:

- The approach of the topic of desertification as content to sustain specific literacy activities in schools became concrete, arousing interest from local government (Municipal Secretariat of Education);
- 2,643 students and their teachers in 14 schools had access to a consistent approach to desertification as a topic;
- Family members of these students had access to content about desertification in municipalities – many for the first time;
- Strengthening of the local partner NGO (Cactus Institute) that leads the Irauçuba Forum of Solidary and Sustainable Living with the Semi-arid. Partnership with the NGO Cactus.

Challenges:

- Lack of motivation in some teachers and schools to participate in new projects;
- Secretariat of Education structure, with no common agenda for people working in environmental issues and those working with literacy.

The institution worked with environmental education for young adults and children in participating schools, with educational materials and capacity-building for educators. All of this was related to the topic of combating desertification.

The main cause of desertification in the municipality is the practice of over-pasturing, dating back many years in the region and with profound impacts on soil degradation, possibly leading to desertification.

The experience in the municipality, along with others that may be undertaken in the future, made it possible to improve the proposal for greater approximation in schools' literacy missions, and their informative and educational role related with the topic of combating desertification.

The project will constitute a first step in organic incorporation in school systems of this mobilization, in which it is currently absent. The fact that the Secretariat of Education and the Secretariat of Environment, Water Resources and Livestock were partners in this project facilitates this integration.

IRAUÇUBA AMEAÇADA PELA DESERTIFICAÇÃO

Como assim, Irauçuba ameaçada de desertificação? E o que é mesmo desertificação? Nesta Folha Educativa, dirigida aos educadores do município e ao público em geral, iremos apresentar informações sobre esse tema. Só com uma mudança de atitude da população e políticas públicas adequadas será possível enfrentar a situação que descrevemos a seguir.

O que é desertificação?

Chama-se desertificação a perda da capacidade de produção da terra nas regiões áridas, semiáridas e subúmidas secas.

Não se deve confundir a desertificação com a seca. Há terras desertificadas que não produzem, ou produzem muito pouco, mesmo tendo água. Veremos a seguir como as chuvas podem até agravar o problema, por incrível que pareça.

A desertificação acontece em ambientes frágeis, mas é a ação do homem que quase sempre rompe o equilíbrio da natureza e dá início ao processo (isto é conhecido como ação antrópica).

Irauçuba e a desertificação

O povoado que deu origem ao atual município de Irauçuba se chamou Cacimba do Meio até 1859. Nesse ano, um movimento comandado pelo Juiz de Itapajé mudou a antiga denominação para a atual. Na língua Tupi-Guarani, "ira" significa mel, e, por extensão, doce. Já "assauba" indica "bom sentimento", por extensão, amizade, amor. As traduções possíveis para o português são várias, combinando esses dois termos e suas extensões. Em 1934 o lugarejo foi elevado à categoria de distrito de Itapajé, de qual foi separada em 1957, formando um novo município.

Durante grande parte dos séculos XIX e XX as porções rurais de Irauçuba foram ocupadas pela pecuária intensiva, com predomínio de bovinos e caprinos. O relevo plano e a boa qualidade das pastagens naturais transformaram a região em um pólo regional, recebendo rebanhos vindos de outros municípios. Por causa do sobrepastoreio, os solos frágeis dessas áreas sofreram um processo de compactação, perdendo a capacidade de reprodução da cobertura vegetal.

Na agricultura predominam as parcelas pequenas e muito pequenas, ocupadas com culturas de subsistência, como milho e feijão. O sistema tradicional de exploração da terra é itinerante (ocupa-se uma parcela até esgotamento, depois se passa para uma parcela contígua), causando prejuízo ao meio ambiente. Somada a isso temos o desmatamento, seja para ampliar as áreas de cultivo ou pastagem, ou para a produção de lenha ou carvão.

Irauçuba em números

Área: 1.461,22 km².
População: 22.978 habitantes (IBGE,estimativa 2008)
População rural: 65% (censo 1991)
Densidade demográfica: 15,7 habitantes por km²
PIB per capita: R$ 2.361 (IBGE 2005)

A densidade demográfica do município é muito alta em relação à qualidade dos solos e ao clima. Essa combinação faz com que o produto interno bruto per capita (isto é, a riqueza que é gerada anualmente por habitante) seja em Irauçuba apenas de R$ 2.361, contra uma média nacional de R$ 12.688 (IBGE, dados de 2005 e 2006).

Figure 02 – Sample newspaper

Photograph 02 – Capacity building for teachers

Photograph 03 – Handing out newspapers to teachers

4.2.3 São Bento Demonstrative Unit for Harmonious Living with the Drought and Combating Desertification

Technical Data

Project title:

São Bento Demonstrative Unit for Harmonious Living with the Drought and Combating Desertification.

Project title:

São Bento Demonstrative Unit for Harmonious Living with Drought and Combating Desertification.

Implementing institution:

Center for Ecology and Social Integratio Foundation (*Fundação Centro de Ecologia e Integração Social – Fundação CIS*).

Partner institutions:

Representatives from Municipal Environmental Defense Council (COMDEMA), Road Transportation Workers Union, Alcantara Town Hall, São Bento Farm Community Association.

Person in charge and contact information:

Benedito Francisco Moreira Lourenço
E-mail: fsisocial@bol.com.br

Implementation period:

Oct. 08, 2008 – Mar. 3, 2010

Area of influence:

Comunidade Sítio São Bento, distrito de Alcântara.

Activities:

- Agroecology and harmonious living in the semi-arid course, with theory and practice about soil studies and management, hydro-environmental practices and technologies, among others;
- Installation of ten agroecological gardens, with each family making an area available according to their reality for installation of production units and planting a variety of seeds and seedlings;
- Reforestation of springs due to the importance of this recovery for the entire community. The area was reforested with local seedlings;
- Environmental education workshop discussing concepts of environmental education, problems garbage cause in cities and awareness raising regarding waste and its disposal.

Results:

- Understandng of the important role of hydro-environmental technologies by means of awareness raising and mobilization for installation of technologies in hydro-environmental and soil conservation activities;
- Innovative experience in harmonious living in the semi-arid by means of involvement of beneficiaries, mainly participation of women involved, with or without husbands present;
- Greater mobilization in participative family processes. There was great mobilization for project continuity and other community activities.

Challenges:

- Centralizing leaders in communities, generating inhibited participation by community for reasons of delays due to organization processes;
- Tradition of little or no participation in communities – a significant number of people in the location does not participate in any community activity;
- Difficulty in acquisition of materials needed for hydro-environmental activities in the project.

The traditional agriculture model is one of the main factors contributing to local desertification, , doing harm to resilience of ecosystems and production units and leading to erosion, loss of soils and degradation of

areas with impoverishment. The reality of environmental degradation is visible, especially in micro-basins of São Bento and Belém streams, which are the planning micro-units with which the institution works.

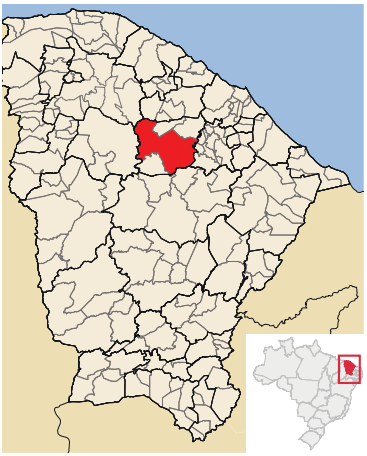
Local people face difficulties with subsistence of their families, which results in migration to other states in search of better living conditions. Those who stay behind make use of the last existing natural resources, such as rocks sold to construction companies for urban paving and wood for charcoal production.

The project aimed at becoming a reference in the region, with a program for living in harmony with drought and overcoming desertification. Its purposes were met with local mobilization activities, presentation and dissemination of project actions.

CIS Foundation negotiations with the Secretariat of Water Resources – by means of its Ceará State Superintendency of Water Works – are now under way, in addition to a technical cooperation agreement to make possible continuity of project activities in the São Bento farm and expansion of activities to the Belém stream micro-basin, in perspectives of improving the effects in these micro-basins.

Photograph 01 – Agroecological gardens

Photograph 02 – Collective activity for construction of succession dam



4.2.4 Iguaçu Honey Canindé, Ceará Sertão

Technical Data

Project title:

Iguaçu Honey – Canindé Sertão of Ceará.

Implementing institution:

Flower of the Earth – Assisance, Projects and Research (*Flor da Terra – Assessoria Projetos e Pesquisa*).

Partner institutions:

Brazilian Support Service for Small and Micro Businesses, Ceará State Government, Municipal Governments, State Secretariats, Community Associoations in the Region, State Technical Assistance Company (EMATER/CE).

Person in charge and contact information:

Tereza Cândida Diniz Gonçalves
E-mail: flordaterrace@uol.com.br

Implementation period:

Oct. 6, 2008 – Nov. 4, 2009

Area of influence:

Beekeepers in the municipality of Canindé, including: Iguaçu, São Luis, Barra Nova, Lajes and Cacimba Nova.

Activities:

- Good Production Practices Courses in beekeeping activities for honey, with topics such as: management for honey collection and extraction; hygiene; climate conditions; hive choice, handling and transportation; bottling; humidity and HMF levels; honey storage and expedition;
- Environmental management course, with contents such as: nature and society; introduction to environmental management; social responsibility; social and environmental interests; local and global impact activities; global environmental issues;
- Seedling production and planting, with conscience building regarding importance of trees; collection and identification of forest species found in community; identification and use of importance of each forest species and assessment of seeds available in the community;
- Acquisition of beehives for beekeepers to use this practice for complementary income, producing high-quality honey, in addition to awareness about the importance of environmental conservation as a condition for the practice to succeed (manual).

Results:

- Reinforced awareness of the need to reforest the region, providing food for bees and avoiding migration during droughts, in addition to lower loss of production due to invasions in hives;
- Creation of a beekeeper association, generating better coordination among local associations and a greater impulse toward associative organization;
- Dissemination of conservation culture for native plant life as a means to expand biodiversity and restore riparian woods;
- Definition of a planting plan, according to community needs and demands , observing flower and honey types, in addition to diversification of honey products.

Challenges:

- Some kinds of seeds were not collected for planting, making it difficult to diversify types of trees planted;
- Low educational level of beekeepers, which limits product diversification;
- Low mobilization of beekeepers to participate collectively in fairs and sell their products;
- Some farmers in the region still use fire to prepare their lands for planting, generating conflicts with beekeepers;

- Lack of interest and initial lack of motivation caused by insufficient awareness of the importance of trees on rural properties and in the environment of micro-basins as a whole.

Ceará is one of the Brazilian states most affected by desertification processes, having, according to PAE/CE reports, nearly all of its area affected (92% of its territory has desertified macro-environments), with evidence that possibilities for expansion of desertification are particularly notable in sertão regions of Inhamuns, Irauçuba and Center-North, in addition to Jaguaribe.

With regard to social causes, education stands out as a factor of great relevance in this process, since in all municipalities education was detected to be insufficient, with low levels of schooling. This is an alarming reality, since formal education is inarguably important for environmental conservation and dissemination of conservation practices that contribute to slowing down desertification.

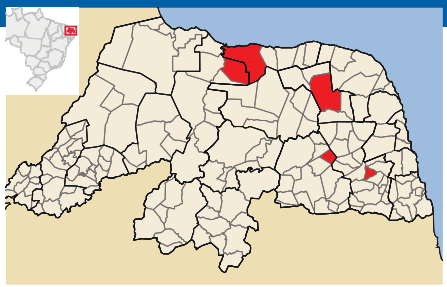
Beekeeping is relevant because it contributes to an increase in income for families in remote rural areas, complementing their main activities, in addition to contributing to recovery of degraded forest areas, employment generation and maintenance of population in rural areas.

Support for the Iguaçu Honey project made it possible to resume activities, with consequent increase in honey production at better levels of quality. Internal organization in the Honey Outpost (with support from São José project) was another result, with insertion of beekeepers in honey markets. With implementation of the Honey House with Federal Inspection Seal in the Iguaçu community, the project opens new horizons, with consolidation of production, integration of producer groups and, above all, improved quality for products, making it possible to sell them in markets without need for middlemen.

Photograph 01 – Beehive delivery

Photograph 02 – Group meeting

4.3 Rio Grande do Norte



4.3.1 Education and Income Generation to Combat Desertification in Rio Grande do Norte

Technical Data

Project title:

Education and Income Generation to Combat Desertification in Rio Grande do Norte.

Implementing institution:

Beehive Group, Project, Assistance and Services (*Grupo Colméia de Projetos, Assessoria e Serviços*).

Partner institutions:

Federal University of Rio Grande do Norte and Bee Network.

Person in charge and contact information:

Sonia Maria da Silva

E-mail: colmeiasbrasil@yahoo.com.br

Implementation period:

Oct. 6, 2008 – Feb. 4, 2010

Area of influence:

João Câmara, Macau, Pendências, Lagoa Salgada, Lagoa de Velhos and Jardim do Seridó.

Activities:

- Course bout native bees, covering topics such as: where to find native bees, what species are threatened with extinction, proper management;
- Assembly of native bee houses, with technical visits for observation and information about adequate maintenance;
- Assembly of a native plant nursery with information about garden maintenance and observation visits;
- Course about systems for identification and classification of native flora with lessons learned about classification of flora and their importance for the environment.

Results:

- The project made it possible for some families to start subsistence activities;
- Mobilization of stakeholders involved in the project made it possible for certain communities to take on responsibility for keeping project results alive;
- Cultural appreciation led farmers to acknowledge the value of their land, roots and work.

Challenges:

- The need for natural resources such as water made it difficult to keep plants alive;
- The low level of education, information and understanding regarding desertification processes;
- Non-existent initiatives for protection of the few and nearly extinct environmental protection areas.

Land degradation may be a result of poor use – in addition to accelerated deforestation, the lack of appropriate public policies, dry semi-arid and dry sub-humid soils – with inherent climate change resulting from several human activities.

Unregulated extraction of firewood, low levels of rainfall and low-fertility shallow soils have led to degradation and desertification in these areas. Extensive livestock breeding is also worthy of note, with strong pressure on native plant life in the semi-arid. These areas are known to be more susceptible to desertification, both due to elimination of native plant cover and to soil compacting due to excessive livestock trampling, hindering the plant life cycles that keep the land healthy.

The experience acquired with implementation of this project made it possible to transmit information about degradation processes and desertification areas to local communities, in particular rural communities and settlements, in such a manner that they could understand and take action for their own well-being.

It was also possible to build capacities in grassroots groups, aiming at autonomous and solidary insertion in markets, with products from family units, both agricultural and non-agricultural, since those involved gained necessary knowledge about organization of production chains, the logic of price definition and the need for organization to enter markets, among other issues.

Photograph 01 – Capacity building in beekeeping activities

Photograph 02 – Native bee house assembled by the project

4.3.2 Capacity Building, Education and Fighting Desertification in Areas at Risk in Potengi Region

Technical Data

Project title:

Capacity Building, Education and Fighting Desertification in Areas at Risk in the Potengi Region.

Implementing institution:

Lagoa de Velhos Beekeeper Association, Rio Grande do Norte (*Associação dos Apicultores de Lagoa de Velhos/RN – APILAVE*).

Partner institutions:

Potengi Agrarian Reform Settlement Project Beneficiary Association, Lagoa dos Velhos Municipal Government, Associations and Union.

Person in charge and contact information:

José Valceí de Souza
E-mail: valceisouza@hotmail.com

Implementation period:

May 27, 2009 – Feb. 2, 2012

Area of influence:

Potengi region: Lagoa de Velhos, Barcelona, São Paulo do Potengi
Trairi region: Senador Eloi de Souza, Serra Caiada.

Activities:

- Construction of native bee conservation unit and courses with topics such as: native beekeeping, use of productive capacity, global warming, sustainability and responsibility for natural resources;
- Assembly of seedling production and distribution unit, in addition to capacity building under the topic: education and the fight against desertification in areas at risk of the Potengi region and sustainable Caatinga management, use of bees' productive capacity;
- Revitalization of organic gardens with community engagement and courses monitored directly by an association instructor and local and regional partners.

Results:

- The project had good relations with local government and communications with other segments;
- Beekeepers are more aware and in command of management techniques to strengthen beekeeping and native beekeeping;
- Strengthened garden project for production of vegetables for school lunches and launching of a campaign to exclude wood extractors, who sell firewood for making bricks and tiles.

Challenges:

- The local ceramics industry – the owner of the company is the Mayor of the town, which makes environmental agreements difficult due to financial interests;
- Soils in the region are at advanced levels of degradation and low in fertility.

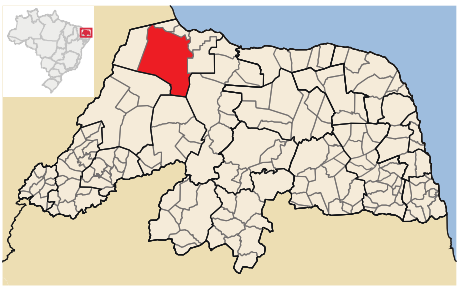
The main cause of desertification in the region is uncontrolled deforestation of the Caatinga for firewood in red ceramics production, due to two main factors: lack of professional qualification, generating high unemployment rates, and the lack of alternatives that can generate other sources of income for farmers who cut down trees for a living, with no alternatives for crops – so they could become farmers instead of woodcutters.

The demonstrative character of the project will enable better identification and proposition of ways to guide development of inclusive public policies. The project can serve as a model for other communities that have not yet become aware of the importance of their own sustainability to be able to locate resources for self-management and make use of this project's experience.

Following a process constructed from joining together social stakeholders and innovative proposals resulting from project implementation, a committee was established to discuss possible continuity with government authorities. It is important to know that new proposals will continue to be submitted to different calls for proposals for this group in need of strength to move forward. It is certain that practical experience has contributed to knowledge, which is of great assistance in construction of new proposals, in addition to generating better insertion in local governments, that have already shown interest in assisting and giving continuity to some project activities.

Photograph 01 – Practical course in community covered by the project.

Photograph 02 – Queen bee in a Janadaira beehive.



4.3.3 Producing in the Caatinga

Technical Data

Project title:

Producing in the Caatinga

Implementing institution:

Center for Support of Family Farming Development (*Centro de Apoio ao Desenvolvimento da Agricultura Familiar – TERRA VIVA*).

Partner institutions:

EMATER, Xique Xique Network, Pardal Network/ European Union and Sowing Agroecology –Pardal Network/ European Union.

Person in charge and contact information:

Marcírio de Lemos

E-mail: terraviva@terravivarn.org.br

Implementation period:

Oct. 8, 2008 – Sep. 6, 2009

Area of influence:

Mossoró, Apodi, Grossos and 13 other municipalitiesin the region, in addition to Mulunguzinho and neighboring settlements.

Activities:

- Family mobilization for participation in capacity-building activities such as lectures on topics such as: project introduction (objectives, resources and partners involved); discussions about development models; economic analysis and reflection about environmental and human health in charcoal production;

- Capacity building in beekeeping with the following content: importance of beekeeping for the semi-arid; social organization of bees; ways to capture hives; installation of bee houses; importance of flowers; management of bee plants; family multiplication;
- Capacity building in Caatinga management with the following topics: characterization of the semi-arid; global warming and desertification in the semi-arid; water cycle; plant succession in the Caatinga; sustainable Caatinga management: thinning, lowering and enriching for stake production;
- Implementation of bee houses with choice of location, hive extraction, use of proper clothing, hive revision, honey collection and processing.

Results:

- Group of people made aware of the need to manage the Caatinga, with interest and participation in theoretical and practical activities;
- Capacity building in management and beekeeping: new knowledge was transmitted to families, in particular about sustainable management of the Caatinga;
- Practical experimentation: implementation of management area served to demonstrate theories in a practical manner and families were able to see results first hand;
- Capacity building for living in harmony with the semi-arid and fighting desertification, with awareness building about the importance of the topic and perception of the situation in the settlement.

Challenges:

- Settler family involvement was not as high as expected. The project did not reach all families, in spite of mobilization efforts. Only one group of families participated;
- Only one demonstrative unit was implemented. The demonstrative area was granted to a single family, which could discourage others from implementing management in their areas;
- Income from agriculture and livestock in the community is not sufficient for family maintenance, which leads families to continue using native plants for income generation in an unsustainable manner.

Historically, the adopted production model triggered desertification at a municipal level and this model was responsible for most destruction of native plant life, with associated production of firewood and charcoal for local ceramic industries. With the end of cotton plantations, extensive cattle herding and deforestation for firewood became the main fac-

tors generating desertification in the context of this project's activities, in addition to adverse climate and lack of policies aimed at construction of a new vision that living in harmony with the semi-arid is necessary. In order to achieve this, adoption of new, more appropriate, agricultural practices must be encouraged (small animals, beekeeping, soil and water conservation and recovery and Caatinga management, among others).

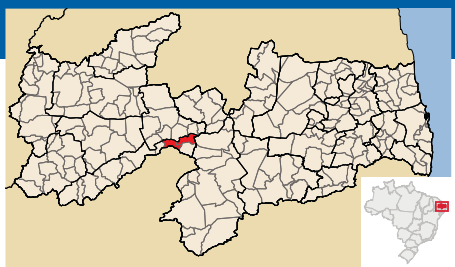
This project implemented an experimental demonstrative unit aimed at natural resource use and conservation, by means of adoption of a native plant life management technique. The goal was to create environmental awareness and show that it is possible to use native plant life for economic purposes without destroying it. Management provides environmental gains (plant life conservation, soil improvement, conservation of native animals), economic gains (firewood, stakes, higher support production of foragers and flowers, increased honey production, among others) and, lastly, social gains (families gain new environmental awareness).

In the future, Caatinga management can be a technique employed on all rural properties, with environmental and economic gains, improving living conditions for families and conserving the environment. Furthermore, implementation of management does not require large sums of resources as initial investments.

Photograph 01 – Seedling production in Mulunguzinho Settlement Project (TERRA VIVA, 2010)

Photograph 02 – Technical visit to Caatinga managementarea in Mulunuguzinho Settlement Project (TERRA VIVA, 2010)

4.4 Paraíba



4.4.1 Living in Harmony with Semi-arid Reality – Alternative Forms of Fighting Desertification

Technical Data

Project title:

Living in Harmony with Semi-arid Reality – Alternative Forms of Fighting Desertification.

Implementing institution:

Center for Popular Education and Social Qualification (*Centro de Educação Popular e Formação Social – CEPFS*).

Partner institutions:

Community-based organizations (associations), Teixeira Municipality Union of Community Associations (UNACT), Cacimbas and Region Community Association Central (CAMEC) and Cáritas.

Person in charge and contact information:

José Rego Neto

E-mail: cepfs@uol.com.br

Implementation period:

Oct. 6, 2008 – Dec. 4, 2009

Area of influence:

Serra do Teixeira Micro-region (communities in municipalities of Teixeira and Cacimbas).

Activities:

- Community workshop on environment and gender, with appreciation of nature as an approach and topics: AIR – temperature changes caused by humans through pollution; WATER – water resource management for families and communities; EARTH – fires destroy soil life; FIRE – origin, use and development; additionally, family participation in environmental conservation;
- Exchange visit regarding Community Seed Bank (CSB) for future implementation. Topics covered include what are CSBs; their importance for strengthening family farming; how communities should implement a CSB; relationship between CSB and desertification; CSB management; links between CSB and other community projects;
- Exchange visits about beekeeping for future implementation. Topics: what is beekeeping; the importance of beekeeping for the environment; how beekeeping can contribute to combat desertification; beekeeping as a complementary source of income; beekeeping as part of a systemic process of strengthening family farming.

Results:

- The qualification process is becoming an important space for interaction and learning among families and communities;
- Development of practical activities from optimization of existing natural resources in the region has provided and strengthened development of the region on sustainable bases;
- Partnerships are an important strategy in a context of integrated development, contributing effectively toactivities for development of the region.

Challenges:

- On average, rural properties were very small, making proper management somewhat more difficult;
- Many families do not have good sociocultural levels, which made discussions, learning opportunities and behavior adjustments difficult;
- Lack of awareness on the part of traditional political figures hindered acknowledgement the value of actions to control desertification as generators and facilitators for development.

One of the main factors conditioning desertification processes in the region is intense pressure from human activities on ecosystems that are already considered fragile, with low regeneration capacity. In this regard, it can be seen that the most frequent causes of desertification in the region are associated mainly with inappropriate use of soil and water in development of farming activities, poorly planned irrigation and uncontrolled deforestation.

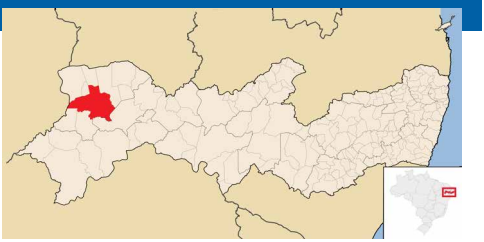
Deforestation, in addition to compromising biodiversity, leaves soil exposed to erosion, and is a result of economic activities for both rainfed and irrigated farming or use of wood as a source of energy (firewood and charcoal).

From a social and political point of view, one factor that influences certain aspects the desertification process in the region is a lack of engagement and responsibility on the part of government authorities. Particularly in small municipalities, there is little or no awareness or willingness to discuss the problems and put into effect alternative policies to deal with desertification.

The experiences in this project can provide an important references at the regional level in a context of activities that enable the fight against desertification. The objective is to allow these activities to contribute to development of a project that considers alternative forms of combating desertification, based on family protagonism, acknowledgement of the value of popular knowledge and use of natural resource available in the region.

4.5 Pernambuco

4.5.1 New Hope Project: Mobilizing People to Combat Desertification



Technical Data

Project title:

New Hope Project: Mobilizing People to Combat Desertification.

Implementing institution:

Agrovila Nova Esperança Association of Rural Workers (*Associação dos Trabalhadores e Trabalhadoras Rurais da Agrovila Nova Esperança*).

Partner institutions:

CAATINGA, CAATMA – Center for Coordination of Araripe Women, FETAPE, Sabiá Center, Dom Helder Câmara Deacon and Project.

Person in charge and contact information:

Luciana Mendes da Costa Ferraz
E-mail: belcaatma@bol.com.br

Implementation period:

Oct. 8, 2008 – May 31, 2010

Area of influence:

Agrovila Nova Esperança.

Activities:

- Workshop with Rural Workers Unions, rural leaders and local government about desertification, for mapping of areas to implement activities, with contents such as: discussion about desertification, with participation of the national focal point in combating desertification from civil society, including a technical visit;
- Exchanges of information about agroecological production systems. Farmer families were introduced to and discussed agroecological practices, their advantages for environment and their contributions to the fight against desertification;
- Implementation of seedling nurseries for use in agroforestry systems and recovery of degraded areas;
- Production of a booklet about agroforestry systems in rain-fed farming areas. The booklet was produced with widespread participation of farmer families who provided opinions about content and format.

Results:

- Community bees for implementation of agroforestry systems and seedling nurseries made the community more aware and prepared to continue the project;
- Participation by other associations in the project made dissemination of proposals possible for other communities and municipalities;
- Rescuing some forgotten culture, since the project taught children and young adults about care for the environment.

Challenges:

- Insufficient rainfall for implementation of agroforestry systems and seedling nurseries, with effects on activity implementation;
- Insufficient reservoirs for rainwater collection, making nursery implementation a challenge, dependent on sufficient rainfall.

Among the many factors leading to desertification in the region, forest fires and deforestation stand out, in addition to firewood extraction for the gypsum industry, extensive livestock, mechanization and rare and poorly distributed rainfall.

With contextualized education and organization of the association, the Agrovila Nova Esperança community is currently a reference for other associations, schools, social movements and organizations in favor of family farming, government and non-governmental organizations and even public policies.

The project provides expansion and consolidation of the proposal for agriculture on more sustainable bases, to promote improved income and generate inclusion and participation in the task of combating desertification in the Araripe region.

After the first experiences, exchanges took place, in the form of field days and awareness-building processes for involved families, in which participants became multipliers of these activities in the fight against desertification. Families that come to know the project are invited to become multiplying agents.

Photograph 01 – Participant capacity building

Photograph 02 – Agroforestry technical visit

4.5.2 Capacity Building to Combat Desertification with Recovery of Riparian Woods on Springs of Açudinho River, Brejo da Madre de Deus, Pernambuco

Technical Data

Project title:

Recovery of Riparian Woods on Springs of Açudinho River, Brejo da Madre de Deus, Pernambuco.

Implementing institution:

Council for Sustainable Development of Brejo da Madre de Deus (*Conselho de Desenvolvimento Sustentável de Brejo da Madre de Deus – CONDESB*).

Partner institutions:

IPA, Rural Workers Union, Menonite Association of Social Assistance (AMAS) and Municipal Secretariat of Agriculture.

Person in charge and contact information:

Elizabeth Szilassy
E-mail: bethamas@gmail.com

Implementation period:

Oct. 8, 2008 – Dec. 6, 2009

Area of influence:

Springs of the Açudinho River (swamp region: communities of São Gonçalo, Navalha, Teixeira and Santa Rosa) in the municipality of Brejo da Madre de Deus.

Activities:

- GPS assessment of springs, photographic records and native plant life sample collection for future identification and revitalization;
- Collection of plant seeds and seedlings from 12 species transported, delivered and planted;
- Application of appropriate technologies for seedling plantation, by means of construction of fences (with stakes, wire and staples) for communities involved in the project;
- Capacity building with planting of forest seedlings around river springs, along with brochures handed out;
- Creation of communications material: brochures and banners..

Results:

- Dissemination of information by means of trained multipliers. As activities started in the São Gonçalo community, farmers in other communities became interested in the project;
- Good level of participation and diffusion of knowledge on the part of the community.

Challenges:

- Difficult access to the region led to delays, even after rainy periods;
- Excessive number of activities by the implementing institution (CONDESB) led to delays in project implementation.

The riparian region of the Açudinho river, especially the Açudinho farm, once cut by a perennial river, now has a temporary river, with degraded and unproductive margins, due to inappropriate crop farming for carrots, not using proper soil conservation and conservation techniques, leading to economic, environmental and social losses.

The Sustainable Development Council was founded in 2000 in the Sustainable Local Development Project of the Rural Union Movement/Rural Workers Union/Pernambuco Federation of Agriculture Workers FETAPE/Confederation of Agricultural Workers CONTAG.

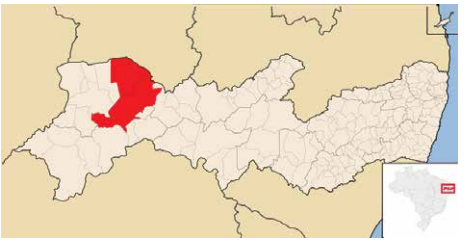
The project aimed at mobilization of all sectors of the municipality connected with the countryside, including government and organized civil society (associations, cooperatives, churches, NGOs) with the purpose of creating a forum for discussions and decisions regarding local development, taking into account development of the agricultural sector, with sustainability needed for a safe future for coming generations.

The Council is currently concerned with the community directly affected and adjacent communities, since causes are clear to the Council but not clear enough to these affected communities. Even though they are affected profoundly and have the causes in front of them, effective actions are necessary to awaken them to the problem and to work with them in activities to reverse this situation, returning the area to its fertile and productive state, avoiding environmental losses.

With existing capacity-building and natural resource management activities made available by the project, involvement of all partners was possible, according to their possibilities. A community bee was held, raising local consciousness regarding the need to reverse the current trends, making the region capable of generating necessary wealth for its people avoiding losses for their descendants and the environment.

Photograph 01 – Assessment of springs for future revitalization.

Photograph 02 – Community bee for seedling plantation.



4.5.3 Investing in Associativism and Agroecology

Technical Data

Project title:

Investing in Associativism and Agroecology.

Implementing institution:

Sustainability and Sertão Integration Environmentalist Organization (*Organização Ambientalista de Sustentabilidade e Integração do Sertão – OASIS do Brígida*).

Partner institutions:

Partnerships with several civil society organizations and public institutions with activities in the region.

Person in charge and contact information:

Antonia Lucia Ferreira da Trindade

E-mail: oasis.do.brigida@hotmail.com

Implementation period:

Nov. 20, 2008 – Sep. 8, 2009

Area of influence:

Municipalities of Exu, Granito, Serrita, Moreilândia and Parnamirim in the Brígida river basin.

Activities:

- Workshop using the booklet on Agroecology along the Brígida River, containing: agroecological production; biogeo production and use and neem use;
- Workshop using booklet about Associativism and Shared Management, containing: formulation of basic associative concepts (objectives and purposes); shared management and strategic planning; coordination and participation in social spaces;
- Exchange activity with participants about experiences in organic garden production.

Results:

- Social organization along the Brígida River (associations), facilitating coordination of and understanding by participants in a collective space, with agroecological production initiatives at the regional level.
- In spite of a lack of regional technical assistance, many family farmers felt motivated to change forms of production and consumption toward agroecological products.

Challenges:

- Fragile or inexistent mechanisms for mobilization and implementation of environmental public policies, as well as a lack of social control of use of resources of the Municipal Environment Fund;
- Limited education levels among association members and management areas of associations with direct impacts on organizational qualities, and, consequently, on possibilities for planning and execution of collective activities aimed at promoting sustainable development;
- Lack of a Water Basins Committee is a bottleneck from a perspective of revitalization and recovery of a water basin, since activities are not effective due to lack of support and encouragement.

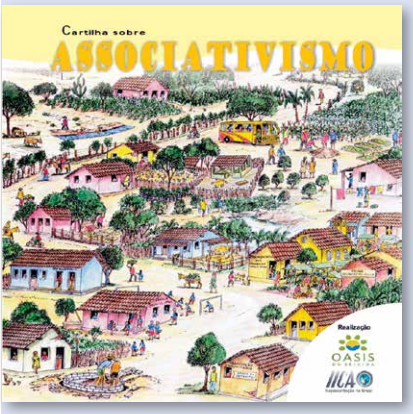
As causes for desertification along the Brígida River, the following stand out: use of traditional farming practices and techniques with heavy losses for landscapes, soil, fauna and flora of the region, with negative impacts on quality of life in the Sertão; monoculture and extensive livestock at small and medium scales; lack of technical assistance for farming activities and product diversification, from a standpoint of promoting sustainable development; low education levels among family farmers and little acknowledgement of the value of participation in collective decision spaces. New knowledge is rejected, and old practices with aggressions against the environment persist, with little social coexistence.

Another problem is lack of active engagement by government agencies in charge of providing orientation and environmental monitoring, in addition to inexistent environmental public policies aimed at combating desertification in the region.

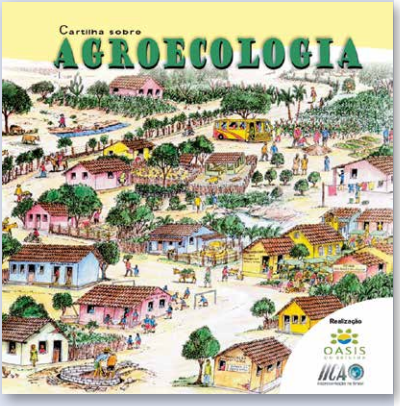
Generally speaking, it may be said that the experience acquired with implementation of this project brings out a regional concern about the "FUTURE" in collective spaces, with direct connection to changes in attitudes and thoughts, for greater social responsibility.

The need for organizational strengthening is observed in each beneficiary community, creating a new collective awareness of revitalization and search for improved quality of life in the sertão. Thus, this experience means a possibility for inter-municipal integration in search of common solutions for collective problems, with possible actions that depend on efforts from government and civil society. This will enable a change in local reality and construction of a new image in the fight against desertification in the region.

For continuity of the activities, permanent construction of proposals for activities is sought in collective spaces, with participation of different stakeholders and in partnership with government and civil society.

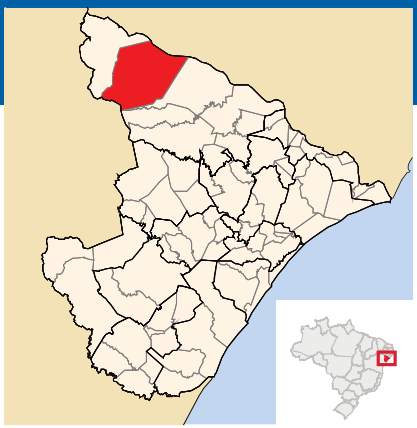


Photograph 01 – Booklet about associations



Photograph 02 – Booklet about agroecology

4.6 Sergipe



4.6.1 There is Life in the Desert

Technical Data

Project title:

There is Life in the Desert.

Implementing institution:

Multiple Studies, Ecological and Arts Society (*Sociedade de Estudos Múltiplos, Ecológica e de Artes – SOCIEDADE SEMEAR*).

Partner institutions:

Sergipe State Government – Secretariat of Planning and Secretariat of Environment and Water Resources; Poço Redondo Municipal Government; Northeastern Roots Cultural Association

Dom Helder Câmara Project; Agricultural Technical School Do José Brandão de Castro; Coordination in the Brazilian Semi-arid Network – ASA; Petrobras – An Eye on the Environment Program.

Person in charge and contact information:

Danielle Rodrigues Dutra

E-mail: sociedadesemear@infonet.com.br

Implementation period:

Dec. 8, 2008 – Dec. 16, 2009

Area of influence:

Poço Redondo Municipality.

Activities:

- Qualification and capacity-building activities for young adults, with contents such as: project introduction and explanation about concepts of desertification and environment;
- Mobilization of government agencies and organizations with activities in the municipality for a course with contents discussed in expanded meetings about the topic: Desertification and Development of an Action Plan;
- Course to discuss contents discussed in expanded meetings about desertification and development of an action plan, with contents such as: environment, ecosystems and biodiversities, degradation of natural resources, sustainability, citizenship, desertification.

Results:

- Young adults that participated in the Course for Development of an Action Plan received contents well, expressing the need to combat desertification at the local level, since it is already at advanced stages;
- Many mobilization activities took place with visits to busier locations, brochures were handed out with information about the project and posters were put up at the main points in town.

Challenges:

- The greatest challenge was not to have the same participantsin all activities, since unforeseen events such as festivities in the town and others lowered attendance levels for some project activities;
- Difficulty in assimilating the proposal on the part of community agents and multipliers, leading to limitations in transmission of acquired knowledge.

Poço Redondo is located in the semi-arid in an at-risk area for desertification, with consequent degradation of a natural ecosystem. According to some specialists, desertification may be considered an answer to generalized deterioration of ecosystems, caused by adverse climate conditions, associated with abusive exploitation of natural resources.

Desertification is known to provoke loss of farmland, in addition to affecting the supply of important biological resources that influence waterway processes, affecting climate conditions. The Caatinga, a plant formation typical of the municipality, is an ecosystem in urgent need of

legal protection. Presence of different types of plants increases water infiltration in soils. Leaves that fall on a daily basis decompose and become humus, which, along with water, complete a vital cycle for maintenance of life on Earth. (Menezes, 1999)

In the period between 2006 and 2007, Petrobrás, along with the Semear Society, prepared the Community Agenda 21 for São José neighborhood, in Poço Redondo. By means of the An Eye on the Environment Program, 17 young adults were trained to carry out the Socio-environmental Diagnosis of the São José neighborhood. These young adults have potential for involvement in other community groups and bring about changes in behavior, habits and views, using local language in alliance with techniques learned, for the fight against desertification in the municipality.

Social stakeholders in the municipality are environmentally engaged, but in need of opportunities to put their abilities to use. Contents used in this project focused on interpretation and comprehension of Caatinga biome dynamics, using this to read landscapes with participative methods and technical visits. Implementation of this project made possible strengthening of environmental actions already implemented in the municipality, strengthening the discussion in search of solutions in the fight against desertification at the municipal level.

Photograph 01 – Capacity building and selection of community multiplying agents

Photograph 02 – Young adults engaged in activities

4.7 Bahia

4.7.1 Agroforestry to Combat Desertification

Technical Data

Project title:

Agroforestry to Combat Desertification.

Implementing institution:

Institute of Permaculture on Drylands (*Instituto de Permacultura em Terras Secas – IPÊTERRAS*).

Partner institutions:

Irecê region Agroforests to Combat Desertification Workgroup (GTACD), composed of representatives from: IPÊTERRAS, PASCUA, Children's Pastoral, Mocozeiro Beekeepers Association. Small farmer associations from: Rodagem de Lapão, Lagoa do Zeca de Canarana and Curralinho de São Grabriel, Morro de Higino da Jussara Women's Association, ESAGRI– Irecê Region Agriculture Achool, Farming Technical School of Cananara.

Person in charge and contact information:

Marilza Pereira da Silva
E-mail: ongipeterras@yahoo.com.br

Implementation period:

Oct. 8, 2008 – Dec. 6, 2009

Area of influence:

Irecê Region.

Activities:

- Community bee for exchange of experiences in Ipêterras, for implementation of agroforestry techniques in pre-selected areas, with contents such as: agroforestry, soil recovery and conservation, living in harmony with the semi-arid and product processing;
- Community bee for implementation of agroforestry fields in pre-selected areas, with lectures about agroforestry to combat desertification, plans of area to be implemented and implementation of Agroforestry Systems;
- Visit to Morro Higino de Jussara community, with awareness-building lecture on desertification, explanation about Ipêterras and GTACD activities and alternatives and means to combat desertification;
- First Regional Seed Exchange Meeting held, with contents such as: lectures on permaculture, quality of life and food quality; presentations from poetry, handicraft and organic food groups from family farming.

Results:

- Lessons learned during visits to different locations and communities, promoting shifts in views about agricultural practices and management in drylands and overall environment;
- Partnerships established to facilitate engagement and dissemination of GTACD activities;
- Agroforestry practices and forms of working sustainably in the Caatinga biome learned;
- Involvement of children and young adults in agroforestry activities, in community bees. With participation children learn to take care, participate, see, develop and convince adults to join in the effort.

Challenges:

- Lack of orientation for farmers to improve production. Use of inappropriate practices in management of natural resources already present in agriculture;
- Project implemented at the wrong time for regional climate conditions for planted fields. Crops did not grow properly due to a lack of rain, and much work was lost in these areas;
- Uncontrolled exploitation of natural resources. Soils are exhausted, water is scarce, rainfall patterns change, rivers, lakes and dams become polluted.

In the municipality of Irecê, as in the entire territory, factors leading to desertification originate mainly from intensive monocultures, irrigation with pesticides and uncontrolled use of water resources (underground water).

An alarming problem resulting from these processes is loss of soil fertility, impoverishing small farmers and affecting their food security. Farmers in the region suffered with technological packages from banks and federal government in the 1970s and 1980s, under the dogmas of the so-called "Green Revolution" (very ironic term). Models were imposed top-down, with no regard for local realities of small farmers and climate conditions in the semi-arid.

As a consequence, in addition to debts incurred by many farmers since then, old techniques of diversified plantation have been forgotten. Customs of storing and exchanging quality seeds have been lost, along with planting of umbuzeiros, umburanas, aroeiras and the capacity to manage land in the semi-arid appropriately.

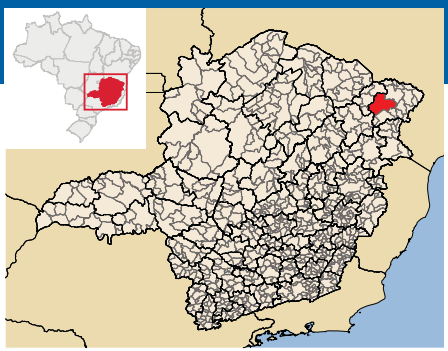
A growth in rural exodus from the region is also observed, especially migration to Minas Gerais and São Paulo, to pick coffee and cut sugarcane. Young adults are growing increasingly distant from agriculture and communities are "aging". Only retired folks and recipients of social benefits such as the Bolsa Família stay behind.

Creation of the Agroforests to Combat Desertification Work Group (GTA-CD) was an excellent strategy to give continuity to the activities and self--management of involved communities. At the regional level, more visibility and respect were achieved. There is concern for continuing actions developed over the past years, and the group acts as a spokesperson for communities.

Photograph 01 – Community bee for eschanges in Ipêterras

Photograph 02 – Meeting for exchanges of seeds

4.8 Minas Gerais



4.8.1 Water, Conservation and Community Management in the Mid Jequitinhonha, Minas Gerais

Technical Data

Project title:

Water, Conservation and Community Management in the Mid Jequitinhonha, Minas Gerais.

Implementing institution:

Medina Rural Workers Union.

Partner institutions:

Federal University of Lavras (UFLA), Padre Justino Project Study Center, Lavras/MG, Vale do Jequitinhonha Institute of Agriculture Workers (ITAVALE), Ecumenic Services Coordination (CESE), local partners.

Person in charge and contact information:

Márcio Pereira Silva

E-mail: itavale2004@yahoo.com.br

Implementation period:

Oct. 8, 2008 – Dec. 6, 2009

Area of influence:

Municipalities in the MiddleJequitinhonha: Medina, Ponto dos Volantes, Itaobim, Cachoeira de Pajeú, Pedra Azul and Comercinho.

Activities:

- Environmental Education course, held in Cachoeira de Pajeú and Ponto dos Volantes, Minas Gerais, with the following topics: theoretical and practical knowledge held by farmers and technical experts involved in relationships with the environment at the local, national and global levels; situation of natural phenomena and means of conservation used in rural communities;
- Fruit and native seedling course, held in Itaobim, Minas Gerais, with technical experts from EFA Bontempo, with techniques to generate native and fruit seedlings, with participation by farmers and young adults from many municipalities and communities;
- Community bee to fence in springs, with topics such as: the importance and care in fencing in springs, making it possible for all inhabitants to adopt the procedure;
- Development of booklets about systematization of work experiences in Medina springs.

Results:

- Good acceptance by farmers to implement activities in communities. Farmers know about difficulties in access to water, and are therefore willing to collaborate;
- The experience is becoming better known in the region, with greater outreach;
- Booklets produced help to disseminate the experience and are used to encourage reading and generate more detailed knowledge about the experience.

Challenges:

- Other municipalities and communities in the region need initiatives of this kind, since there is strong interest in participating in courses, seminars and other activities. Unfortunately, not all people can be reached by a single project;
- Deadline for implementation had to be delayed, since organizations involved participate in other activities and could not meet the proposed work schedule in a satisfactory manner;
- The action has not yet managed to create awareness among local government organizations, despite having invited them. Some refuse to take part.

Long periods of drought and soil degradation by mining companies in the Middle Jequitinhonha have made water scarce and compromised subsistence conditions for families in rural communities. Municipal government

solutions (water trucks, pumps) are insufficient and generally speaking, not satisfactory. In this critical situation, ITAVALE and the Medina Rural Workers Union became privileged speakers for complaints and consequently became pioneers in facing water problems. This has fed environmental discussions both for awareness among rural workers in dealing with environments and control of illegal mining activities.

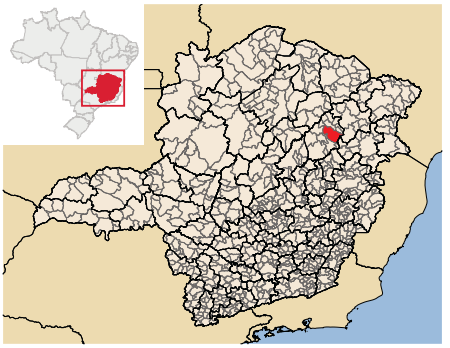
Some traditions already in use in the region cause problems related to desertification, such as: fires to clear land for planting crops; pollution of rivers and streams with removal of sand and clearing of riparian woods and lack of protection for springs, leading to trampling by livestock and clogging of springs, all with grave environmental consequences.

Implementation of this project had positive results, since due to the work carried out over the years, it is visible that springs have been fenced in and farmers claim water has been available year-round, no longer does it dry up as it did before.

Farmers also see in this work the possibility to become better acquainted with the location where they live and to be able to live in harmony with plants and animals. The experience is also visible in discussion spaces such as forums, seminars, workshops and courses, with good results.

Photograph 01 – Environmental Education Course

Photograph 02 – Seedling plantation in settlement



4.8.2 Environmental Conservation and Income Generation for Quilombola Young Adults and Women in Minas Novas

Technical Data

Project title:

Biojewels – Environmental Conservation and Income Generation for Quilombola Young Adults and Women in Minas Novas.

Implementing institution:

Quilombola de Quilombo Association (*Associação Quilombola de Quilombo – ASPOQUI*).

Partner institutions:

CMDRS, Salesian Social Promotion Network, SENAR, BNB, Banco do Brasil, Local Government, Minas Novas Rural Workers Union, PPP-ECOS/ISPN/PNUD/UNOPS, ASCOPI, AMPLIAR.

Person in charge and contact information:

Itamar Alves de Souza
E-mail: iascultura@yahoo.com.br

Implementation period:

Oct. 8, 2008 – Dec. 6, 2009

Area of influence:

Communities in the Alagadiço region, municipality of Minas Novas, Minas Gerais.

Activities:

- Awareness raising and environmental recovery in degraded areas, with construction of plant nurseries and workshops with partners aimed at the topics of humans and their environment, seeking to discuss issues regarding monocultures that are harmful to small farmers;
- Event with municipal schools, local government, social networks, focusing on education and environment;
- Construction of tanks for fish farming with technologies of rainwater use (during rainy season);
- Workshops for handicrafts and jewelry for participation in fairs to market their products.

Results:

- The experience is becoming better known in the region, with greater outreach;
- Project booklets help to disseminate the experience and are used to encourage reading and generate more detailed knowledge about the experience.

Challenges:

- Other municipalities and communities in the region need similar initiatives, since there is strong interest in participating in courses, seminars and other activities. Unfortunately, not all people can be reached by a single project;
- Deadline for implementation had to be delayed, since organizations involved participate in other activities and could not meet the proposed work schedule in a satisfactory manner;
- The action has not yet managed to create awareness in local government organizations, despite having invited them. Some refuse to take part.

The main problem faced was convincing people in the region, particularly farmers, about the importance of conservation of native woods and conscious use of natural resources. Even within the association itself (ASPOQUI) some members still insist on planting eucalyptus for easy and quick money, instead of producing food and other activities, such as fish farming, which has shown positive results in the region.

Activities contributed significantly to awareness on the part of family farmers and young adults about the importance of producing healthy food and investing in fish farming rather than clearing native plant cover to plant eucalyptus.

Courses were offered, lectures, and partnerships were sought with other organizations with environmental activities, active in construction of small

dams, tanks and lakes for fish and water supply, plate cisterns and planting native species in degraded areas.

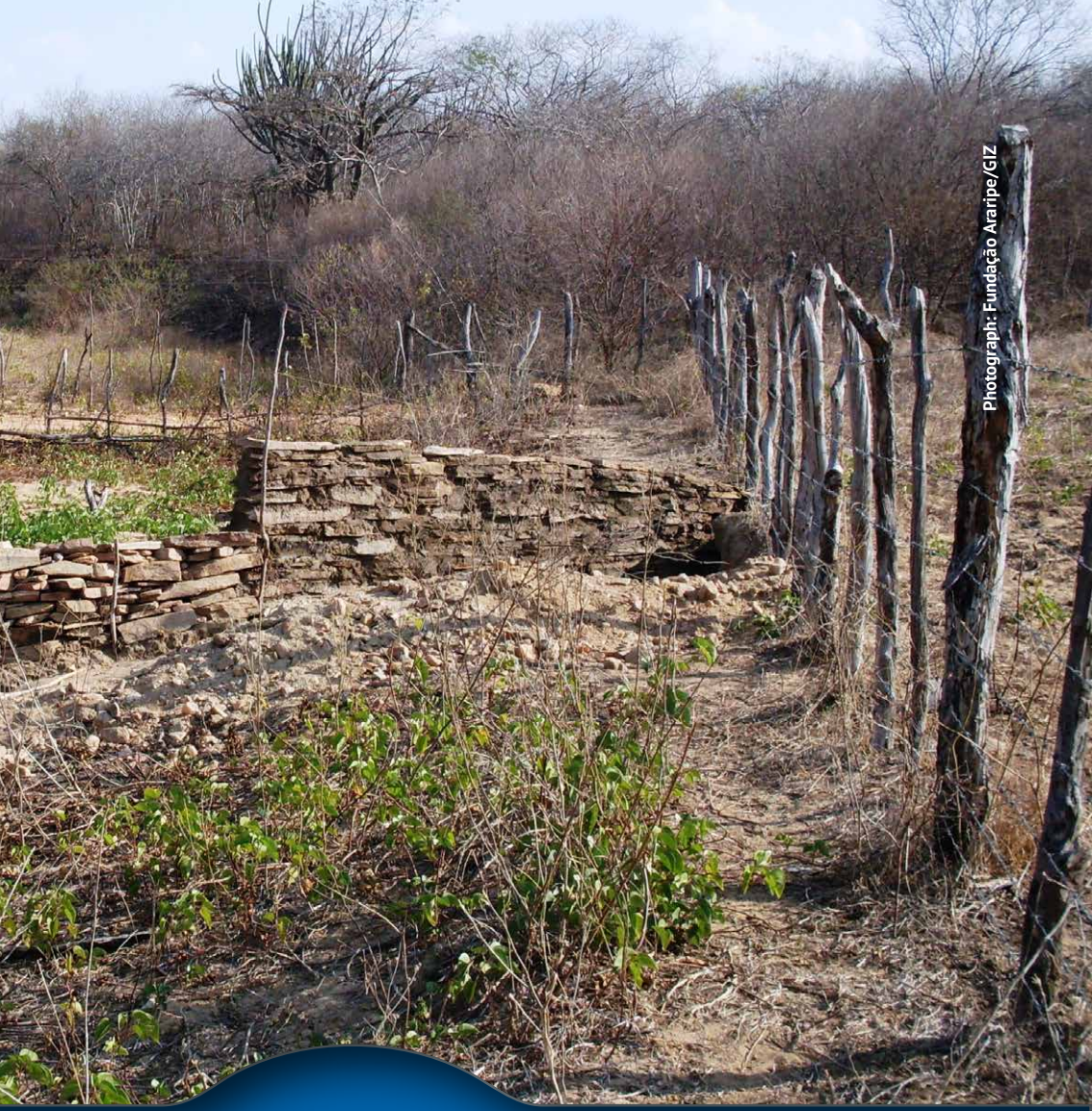
A project of this nature leads to conclusions that, even in the face of adversity, participation by society is necessary, as well as effective support from government in providing financial resources for activities developed by people who still appreciate this planet. All of these actions, together, add up to awareness and concrete results often dreamed of in plans about how to make a better world.

The region has undergone improvements in this regard for production allied with conservation. It is known that this is a lengthy process and requires patience of all: society, governments and NGOs.

Photograph 01 – Biojewelry course

Photograph 02 – Project participants

Photograph: Associação dos Trabalhadores e Trabalhadoras Rurais da Agrovila Nova Esperança/PE



Photograph: Fundação Araripe/GIZ

5

Projects Managed by GIZ

5.1 Pernambuco

5.1.1 Initiatives to Prevent Desertification Project: Multiple and Sustainable Use of Agrobiodiversity, Biodiversity and Other Natural Resources in Granito Municipality, Pernambuco

Technical Data

Project title:

Initiatives to Prevent Desertification Project: Multiple and Sustainable Use of Agrobiodiversity, Biodiversity and Other Natural Resources in Granito Municipality, Pernambuco.

Implementing institution:

Foundation for Sustainable Development of Araripe (*Fundação para o Desenvolvimento Sustentável do Araripe – Fundação Araripe*).

Partner institutions:

Brígida Oasis; Local Association and Granito muicipal government.

Person in charge and contact information:

Geraldo Leal Junior
Francisco das Chagas Vieira Sales
E-mail: franciscoef@yahoo.com.br

Implementation period:

2008/2009

Area of influence:

Assentamento Casa de Pedra, município de Granito/PE.

Activities:

- Initial and final seminars for presentation and conclusion of activities, respectively;
- Socio-environmental diagnosis using Rapid Participative Diagnosis methodology with semi-structured interviews with farmer families;
- Multiple Use Sustainable Forest Management workshops: emphasis on native beekeeping and cattle, goat and sheep breeders – Silvipastoral;
- Workshop for construction and management of underground dams, with loose stone entry barrier.

Results:

- Expressive mobilization and awareness in settler family farmers (Casa de Pedra Settlement and neighboring communities) and support instiutions, located in municipality of Granito, Pernambuco, with regards to development and dissemination of sustainable techniques for conservation and sustainable use of natural resources in prevention and combating desertification;
- Diffusion of conservation, use and harmonious living alternatives for droughts with farmers, in workshops;
- Appropriation by farmers and settlers of technologies for livestock breeding (cattle, goats and sheep) and native bees, with native sustainable Caatinga pastures;
- Appropriation by farmers and settlers of appropriate technologies for soil and water conservation in the semi-arid.
- Apropriação pelos produtores rurais e assentados quanto a tecnologias adequadas para o semiárido para a conservação do solo e da água.

Challenges:

- Difficulty mobilizing the community due to fatigue and lack of favorable results from many initiatives undertaken in the past;
- Difficulty inherent to learning processes – many farmers are reluctant to adopt new techniques and change traditional land use forms;
- Difficulty in involving young adults in rural activities.

The Casa de Pedra Settlement is located in the municipality of Granito, Pernambuco, 20 kilometers from the seat of the municipality, inhabited by 39 families and has an area of 1,639.5 hectares, 325.9 of which are Legal

Reserves, and a collective space. Community activities take place in this area, including livestock breeding (cattle, goats and sheep).

With this scenario in mind, a project was developed to contribute to making the Casa de Pedra Rural Settlement a Demonstrative Unit in the fight against desertification, as a rural initiative for sustainable local development and strengthening and reproduction of family faring, with increased food, water and energy security, for better quality of life for settlers.

All of these actions had specific activities for adaptation and combating erosion processes for mitigation of desertification factors. Actions developed by the Araripe Foundation were structured in such a manner that sustainable development can be promoted along with maintenance and improvement in environmental quality, in a balanced fashion, emphasizing the fight against desertification and living in harmony with droughts. These initiatives provided, in a participative manner, appropriation of appropriate technologies for the semi-arid regarding soil, water and plant conservation by farmers and settlers. Alternatives for conservation and sustainable use of the Caatinga, were disseminated as means of combating desertification and living in harmony with droughts, during workshops.

Therefore, the Multiple and Sustainable Use of Agrobiodiversity, Bioviersity and other Natural Resources in the Municipality of Granito, Pernambuco promoted changes in the manner rural communities in the Casa de Pedra and neighboring communities farm the land and breed their livestock, respecting soil and climatic conditions and preventing erosion and desertification. In sum, they work in favor of the community and environment with maintenance of natural resources, ensuring plant succession and the potential of the area for economic activities.

Photograph 01 – Collective practice for spatial perception of the community

Photograph 02 – Construction of dry stone dam

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5.1.2 Taking Care of Gardens and Nature

Technical Data

Project Title:

Taking Care of Gardens and Nature.

Implementing institution:

Nucleus of Popular Educators in the Pernambuco Sertão.

Partner institutions:

Secretariat of Education and Rural Communities.

Person in charge and contact information:

Manoel Ireno de Sousa

E-mail: manelito.nepsyahoo.com.br

Implementation period:

Oct. 6, 2008 – Feb. 4, 2010

Area of influence:

Santa Filomena and Dormentes, Pernambuco.

Activities:

Distribution of fruit and medicinal plants;

- Community Meetings;
- Workshops for natural defensive manipulation;
- Exchanges of experiences among communities involved in the project;
- Workshop on agroforestry management and organic production;
- Systematization workshop.

Results:

- Self-affirmation of values in communities;
- Better organic production;
- Better participation of students and teachers in project activities;
- Implementation of agroecological fair;
- Implementation of productive gardens;
- Better coordination among involved communities;
- Higher self-esteem in students and education professionals;
- Handicraft production with recycled materials, emphasizing environmental conservation;
- Greater approximation between schools and families of students, as well as the wholecommunity;
- Acknowledgement of the value of all professionals involved in education processes.

Challenges:

- Climatic characteristics of the semi-arid (periods of rainfall and drought, concentrated, poorly distributed, reduced and variable rains) with negative consequences for production systems and value chains;
- Comprehension of climate variability;
- Impacts on water supply for human consumption and farming (rural, agroindustrial) and services;
- Clean development mechanism and perspectives for the semi-arid: emissions, sequestering, carbon market and other opportunities, vulnerability, risk, mitigation and adaptation to climate change;
- Large deforestation and fires in the region;
- Low productivity in family farming activities;
- Lack of public policies aimed at combating desertification.

Photograph 01 – GAPA course

Photograph 02 – Organic garden

5.2 Ceará

5.2.1 Municipal Action Plan to Combat Desertification - PAM

Technical Data

Project titleo:

Municipal Action Plan to Combat Desertification – PAM/IRAUÇUBA (Irauçuba Desertification Nucleus).

Implementing institution:

Cactos Institute (*Instituto Cactos*).

Partner institutions:

Irauçuba Municipal Government, Ceará.

Person in charge and contact information:

Francisco Gilvane Mota
E-mail: 6ilv4n3@gmail.com or institutocactos@gmail.com

Implementation period:

Jun. 26, 2009 – Nov. 20, 2009

Area of influence:

Entire area of Irauçuba, Ceará.

Activities:

- Meeting of the Irauçuba Forum for Solidary and Sustainable Living with the Semi-arid for revalidation of Municipal Policy to Combat Desertification;
- Technical analysis by Permanent Group to Combat Desertification – GPCD/PE;
- PAM sent to city council for approval following transformation into juridical document by legal assistants of the local government;
- Graphical layout of PAM/IRAUÇUBA;
- Constitution of permanent group to combat desertification – GPCD/IRAUÇUBA;

- Thematic seminar about desertification in Irauçuba for launch of PAM/IRAUÇUBA.

Results:

- Awareness raised in civil society about the desertification problems affecting the region;
- Dialog with Municipal Council in search of acknowledgement of society's demand for instruments that can minimize effects of desertification in the municipality, considering it is willing to discuss the problem internally and accept suggestions, approving Law 645/2009, with measures to face desertification;
- A public policy with civil society as its origin, with municipal administration, via secretaries and Mayor, paid attention to society and acknowledged a document constructed in a participative manner, with the possibility of making it a municipal management policy. Society approved the bill created from PAM/Irauçuba, which later became Law 645/2009, of June 17, 2009, which sets forth the Municipal Policy to Combat and Prevent Desertification and Mitigation of the Effects of Droughts, creates the Municipal Fund to Combat Desertification and other points. This document will inform management plans of the Irauçuba municipality.

Challenges:

- No significant difficulties were found. This pioneering effort resulted in creation of legislation and included a fund to support actions to combat desertification. The cornerstone has been set, understood here as putting into effect public policies for facing desertification, an initiative from society, in partnership with local government. It is up to society, nevertheless, to make sure that current and future governments uphold activities foreseen in these policies. Otherwise, the law will become a paper with no value. The greatest challenge lies ahead.

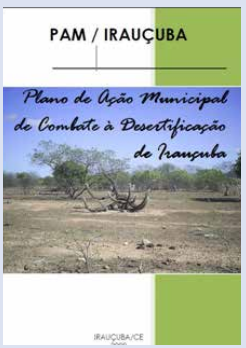
Making the Brazilian semi-arid viable is a great challenge. Although at high risk, the economy of the semi-arid is still based on agriculture. Improper use of land, in connection with natural conditions in this region, create a perfect combination for desertification. We are all but a single cell in this entire process in search of understanding and solutions to face desertification.

Irauçuba is one of the dryest areas in the Brazilian semi-arid. It is a region that, in addition to dryness from regional atmospheric circulation systems, is located leeward from the Uruburetama rock formation,

contributing to an increase in dry conditions. Annual rainfall is approximately 530 milimeters, with average annual temperatures of 26.3 degrees Celsius. High inter-annual variability in rainfall and irregular spatial distribution worsen these conditions of low levels of rain and elevated temperatures.

It is precisely the coming together of adverse environmental conditions and anthropic activities contrary to sustainability that lead to fragility in the equilibrium of the environment. This, in addition to climate variation factors, there is a process that many researchers characterize as desertification. The following are, in our opinion, the main causes of desertification in Irauçuba from an anthropic standpoint (relationship between humans and nature): extensive livestock; conventional itinerant agriculture; lack of knowledge about new agricultural practices; lack of technological knowledge aimed at agriculture and livestock; land tenure situation in the municipality; a secular culture of disregard for environment;inefficient public policies; lack of specific knowledge about desertification and wild collection of plants.

Based on these premises, it may be observed that the project for education, in alliance with a search for public policies, was a significant step forward in the struggle to minimize the effects of desertification.



Photograph 01 – PAM/Irauçuba, Ceará, enacted by Law 645/2009

Photograph 02 – Submission of PAM by Mayor to representative from MMA

5.2.2 Contextual Environmental Education, Capacity Building and Combating Desertification

Technical Data

Project title:

SCHOOL AND LIFE IN THE SEMI-ARID: A Proposal for Education.

Implementing institution:

Cactos Institute (*Instituto Cactos*).

Partner institutions:

Irauçuba Municipal Government, Ceará.

Person in charge and contact information:

Maria Cláudia Pinheiro Mota

E-mail: institutocactos@gmail.com

Implementation period:

Jun. 27, 2009 – Nov. 28, 2009

Area of influence:

Entire territory of Irauçuba, Ceará municipality.

E-mail: iascultura@yahoo.com.br

Activities:

- Official Launch Event for School and Life in the Semi-arid Project [Irauçuba Municipal Government/Secretariat of Education];
- Workshops with topics proposed in a participative manner during a diagnosis carried out in collaboration with Brasil Caritas in the Municipality of Irauçuba. Part I: Methodology for knowledge production; Part II: The Brazilian semi-arid; Part III: Desertification; Part IV: Access to water in the semi-arid;

Part V: Estates and possibilities for farming in the semi-arid; Part VI: Social technologies fit for the semi-arid; Part VII: Cultural diversity in the semi-arid context and Part VIII: Public policies and popular organization;

- Certificates issued for participants.

Results:

- Results of this process were immediate with regards to creating awareness in civil society about the problem of desertification in the region. Consciousness, however, will come gradually in the short, middle and long run, considering that customs always change according to the manner in which people were educated. Making use of an educational setting to reflect on practices that have led to environmental degradation and low quality of life was the starting point for changes in these practices, attitudes and customs that may lead to reversal in destruction patterns left in the form of desertification on our land, which is already fragile due to its natural climate. It is believed that the education project left, first and foremost, a legacy of awareness about the need for new socio-environmental relations.

Challenges:

- Extensive area of Irauçuba municipality (1,451 square kilometers);
- In principle, uncertainty in establishing partnerships with local government in a transition period, because of elections;
- Resources available for the project were not sufficient to reach all 350 teachers, so a pilot version was implemented for 160 educators.

This project took place in the form of workshops, in eight parts, by topics, with duration of 20 hours each, using a technical and pedagogical approach for 160 Irauçuba educators. To hold workshops, the current administrative organization of the municipality was used – six local development areas, divided among the seat and four districts (seat and Coité, Boa Vista do Caxitoré, Missi, Juá). Topics are described next, and were listed in a participative manner during a diagnosis carried out by Brazil Caritas in Irauçuba..

PART I: METHODOLOGY FOR KNOWLEDGE PRODUCTION;

PART II: THE BRAZILIAN SEMI-ARID;

PART III: DESERTIFICATION;

PART IV: ACCESS TO WATER IN THE SEMI-ARID;

PART V: LARGE ESTATES AND POSSIBILITIES FOR FARMING IN THE SEMI-ARID;

PART VI: SOCIAL TECHNOLOGIES FIT FOR THE SEMI-ARID;

PART VII: CULTURAL DIVERSITY IN THE SEMI-ARID CONTEXT;

PART VIII: PUBLIC POLICIES AND POPULAR ORGANIZATION.

Modular workshops took place every two months. Between each part educators worked with their students in an integrated manner with school curriculum materials, in an interdisciplinary effort to transmit information acquired during the course, and in accordance with pedagogical projects developed in workshops for each school. During this time, schools received support, supervision and monitoring from a pedagogical team, chosen for these functions with the objective of maximizing efficiency of activities. In addition to engaging students intellectually, SCHOOLS worked in a trans--disciplinary fashion, with PROJECT PEDAGOGY, aiming at interventions in the context of interest for schools.

Photograph 01 – Culminating points

Photograph 02 – Field activities

Photograph: Associação Quilombola de Quilombo – ASPOQUIV/MG

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Conclusions and Recommendations

One of the greatest challenges faced by Brazil with regards to desertification processes is meeting a complex agenda that necessarily requires implementation of the National Action Plan to Combat Desertification – PAN Brasil, with a credit and development strategy that corresponds to socio-environmental reality and makes it possible to promote sustainable development in ASDs.

Desertification is defined as land degradation in arid, semi-arid and dry sub-humid areas, resulting from factors such as climate change and human intervention. The risk of desertification is substantial and clear, affecting soil fertility and, consequently, leading to loss of productivity, environmental quality and biodiversity. These losses contribute to food, water and energy insecurity, creating a scenario of socio-environmental and economic tension. Desertification brings with it enormous human and economic costs.

Reversing this trend of land degradation in ASDs demands initiatives that propose technical solutions for protection and management of this environment, creating material, human, financial and normative conditions for society and government to become structured and develop their tasks and competencies with more efficiency. In order to achieve this, interventions must be aligned and seek greater cooperation and synergy among those in charge of and engaged in the fight against desertification.

Fighting desertification can and should be a collective process, in which government and society mutually assist each other, by means of searching for common objectives and sharing of knowledge, obligations, experiences and responsibilities.

Affected communities hold endogenous knowledge of the ecosystems they live in and depend on for subsistence and, throughout their historical relationship with their environment, they have developed their own conceptions and practices to live in harmony with semi-aridity. Experiences

accrued by non-governmental organizations in semi-arid areas, as well as those susceptible to desertification, constitute a wealth of knowledge capable of contributing to sustainable development at the local level.

From this perspective, it is possible to state that implementation of projects in the Second Cycle of the Supporting Local Initiatives in the Fight against Desertification had visible practical results. The results found in this book demonstrate how much grassroots initiatives can contribute to reversal of the desertification processes.

Upon a closer look at the very small amounts granted to each project, between eighteen and twenty three thousand Brazilian Reais, it becomes visible that considerable difference can be made with very little financial investment, especially when environmental conservation and good practices are combined. This is a simple, efficient and long-lasting formula that can be replicated for construction of a better society for everyone.

The Beehive Group of Projects, Assistance and Services, responsible for implementation of the project Education and Income Generation to Combat Desertification in Rio Grande do Norte, has a clear idea of the importance of the experience acquired with the initiative and translates these lessons learned about the problem of desertification at the local level clearly, as follows:

> [...] With implementation of this project, we were able to make people aware of desertification, which has turned out to be a serious environmental, social and economic problem for people living in countless regions of the world. In this project this awareness was raised in the Northeast.
>
> [...] Lessons learned during project implementation included: empowerment of people regarding causes and effects of desertification (in our state), the importance of native bees to minimize this process, the role of native flora as an alternative to fight desertification processes, marketing in a more solidary and fair manner, in addition to making it possible for people in the field to acquire new knowledge to improve their lives.
>
> [...] Based on these ideas the objective is to strengthen activities of collective social subjects who accepted the challenge to develop and move forward with this construction of knowledge aimed at transformation of a reality in which social exclusion still meets the eye (adapted from Final Report of project Education and Income Generation to Combat Desertification in Rio Grande do Norte, 2010).

Projects selected to take part in the Fund reflect the efforts of proposing organizations to relate the fight against desertification with practices and management techniques already being carried out in grassroots communities.

Despite normal and expected difficulties in communication and interaction among stakeholders in different segments of society, gains were significant and made possible strategic contributions for technical cooperation related with this fundamental support for development of public policies, not only due to provision of political, social and cultural inclusion, but also because they contribute to establishment of pacts between civil society and government.

IICA, as an international technical cooperation organization, had the strategic role of complementing and providing inputs to the counterpart country in order to expand social agreements, establish and consolidate partnerships for effective meeting of the national agenda to cobat desertification. In order to achieve this, the accumulated experience held by IICA was of great importance, with regard to the topic of desertification and its capacity to bring technical, operational and financial inputs for proposed results (external fundraising and partnerships).

This experience is inserted in and contains alternatives for the effort underway by the MMA in definition of a strategy for development and credit that ensures sustainable land production and management alternatives that can provide food, water and energy security and define normative guidelines for sustainable use of natural resources in the socio-environmental reality of semi-arid zones.

Thus, it is recommended that results and positive impacts presented in this publication be replicated and disseminated to different social stakeholders and locations that need support to rescue local knowledge and strengthen technical and operational capacities of institutions and organizations active in semi-arid areas.

It is fundamental that successful experiences and knowledge be used as references to make possible a shift in mentality and posture with regards to environmental issues in order to produce solutions for social and environmental transformation. The fight against desertification will become effective once practices of living in harmony with semi-aridity and

sustainable management of natural resources are part of everyday life, institutionalized in credit and normative instruments, adapted to local socio-environmental conditions. This will make it possible to promote development in areas susceptible to desertification, adding value to natural heritage and its proper use by a conscious and engaged population.

References presented in these small projects reflect the importance of natural resource management to live in harmony with semi-aridity and to combat desertification, as well as the need for adjustments in current normative and credit instruments, in order for these references to gain scale in semi-arid areas. Thus, chains of prejudice can be broken and sustainable use of natural resources can be shown to guarantee maintenance of environmental services, promote local development in an inclusive manner and leverage efforts for conservation of biodiversity.

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Photograph: Instituto de Permacultura em Terras Secas - IPÊTERRAS/BA

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Annexes

ANNEX I

Progress Report Template

NATIONAL ACTION PLAN TO COMBAT DESERTIFICATION AND MITIGATE EFFECTS OF DROUGHTS – PAN Brasil

SUPPORTING LOCAL INITIATIVES IN THE FIGHT AGAINST DESERTIFICATION FUND 2008 CYCLE

Progress Report Template

Project Name: _____
_____

Implementing Institution:_____
Person in charge of project:_____
_____

Starting date: __/__/__
Progress report date : __/__/__

Guidelines:
To fill out this report, you should complete 5 tasks.
For the first two, we ask that, based on the Work Plan or Activity Schedule contained in your Project, tables be prepared based on the examples below.
Task 3 is a reflection, so provide us with lessons learned thanks to the project so far. Please feel free to add other reflections that may enrich the content of this part.
Task 4 is the timetable and the last asks that documents and products of relevant interest be added for our monitoring.

Table A – Progress report
Include activities in the sequential order in which they were planned or took place.

	Planned Activities/ Goals	Actual Activities/ Goals	Details	
	Activity as planned in Project	*Did the activity go as planned? Were there any changes in the activity or timetable?*	*Beneficiaries/ participants (number and type)*	*Topics and contents discussed, products developed*
1	Example 1: Degraded area recovery course	Example 1: 16-hour degraded area recovery course offered (originally planned for 12 hours)	Example 1: 35 family farmers trained	Example 1: • Content: The importance of soil management, degraded land indicators and recovery techniques for Caatinga areas (water management and reforestation). • Products: 30-page booklet
2	Example 2: Nursery construction	Example 2: Implemented as planned	Example 2: 2 professionals and 5 volunteers hired	Example 2: • Contents: Professionals taught sustainale construction techniques to volunteers (details of techniques) • Products: 50m² nursery built
3 (...)				

Table B – Financial and partnership report
Follow sequence and numbers from Table A.

	Associated costs (BRL)	Associated partnerships
	Identify resource assignment for each activity	*Identify partners involved in each activity*
1	Example 1: BRL 2,600.00	Example 1: Rural Workers Union, State University
2	Example 2: BRL 4,500.00	Example 2: Rural Workers Union, Local Government, Church
3(...)		

3. Reflections about lessons learned

What are the main problems and/or challenges faced by the Project so far?
What measures were taken to overcome these problems and/or challenges?
To what extent have activities so far contributed to Project objectives and goals?
List all activities implemented so far to combat desertification in your region. Which have been the most relevant?

4. Implementation timetable

Will the Project be implemented as planned or are there visible changes needed? In case of alterations, be it in the timetable or planned activities, please specify these changes and the reason for them.

5. Annexes

Please include documents and products of interest as annexes for Project monitoring, such as:
Photographs and/or audiovisual material;
Copies of attendance sheets for events and meetings held;
Copies of materials produced;
Others

ANNEX II

Final Project Report Template

BRAZIL/GERMANY TECHNICAL COOPERATION PROGRAM

NATIONAL ACTION PLAN TO COMBAT DESERTIFCIATION AND
MITIGATE EFFECTS OF DROUGHTS CA - PAN-Brasil

Supporting Local Initiatives in the Fight against Desertification Project

Progress Report Template

Project name: _____
_____

Implementing institution:_____
Person in charge of Project:_____
_____

Starting Date: __/__/__

Progress report date: __/__/__

Guidelines:
To fill out this report, you should complete 5 tasks.
For the first two, we ask that, based on the Work Plan or Activity Schedule contained in your Project, tables be prepared based on the examples below.
Task 3 is a reflection, so provide us with lessons learned thanks to the project so far. Please feel free to add other reflections that may enrich the content of this part.
Task 4 is the timetable and the last asks that documents and products of relevant interest be added for our monitoring.


PART A

Table 1 – Progress Report complement

This table was started in your Project's Progress Report. We would like you to complement it with activities implemented since then, keeping the same sequence.

	Planned Activities/ Goals	**Actual Activities/Goals**	**Details**	
	Activity as planned in Project	*Did the activity go as planned? Were there any changes in the activity or timetable?*	*Beneficiaries/ participants (number and type)*	*Topics and contents discussed, products developed*
1	Example 1: Degraded area recovery course	Example 1: 16-hour degraded area recovery course offered (originally planned for 12 hours)	Example 1: 35 family farmers trained	Example 1: • Content: The importance of soil management, degraded land indicators and recovery techniques for Caatinga areas (water management and reforestation). • Products: 30-page booklet
2	Example 2: Nursery construction	Example 2: Implemented as planned	Example 2: 2 professionals and 5 volunteers hired	Example 2: • Contents: Professionals taught sustainale construction techniques to volunteers (details of techniques) • Products: 50m² nursery built
3 (...)				

Table 2 – Financial and Partnership report complement.

Follow the same sequence and numbers from Table 1.

	Associated costs (BRL)	**Associated partnerships**
	Identify resource assignment for each activity	*Identify partners involved in each activity*
1	Example 1: BRL 2,600.00	Example 1: Rural Workers Union, State University
2	Example 2: BRL 4,500.00	Example 2: Rural Workers Union, Local Government, Church
3(...)		

PART B

Reflections about lessons learned

This report is a systematized product of knowledge generated by your project, and can be of assistance to other organizations that can learn from your experiences.

However, considering the short duration, only immediate effects are visible, in addition, of course to potentialities and obstacles for continuity.

On this regard, it is necessary to point out the contribution to combating desertification from another perspective, focusing on lessons learned with project implementation from the standpoint of the organization, persons involved directly or indirectly, and local socio-environmental and production systems.

Focusing on lessons learned means to pay attention not only to results and activities, but to consider the whole diversity of lessons the experience in this project generated – everything is of value!

LESSONS LEARNED MAY BE FOUND IN INNOVATIVE APPROACHES, OR ON A PARTICULR MANNER OF DOING BUSINESS AS USUAL.

THEY MAY BE FOUND IN A METHODOLOGY DEVELOPED OR ADAPTED BY THE ORGANIZATION OR IN A SIMPLE IDEA THE GROUP HAD DURING PROJECT IMPLEMENTATION TO DEAL WITH AN OBSTACLE – THESE ARE ALL LESSONS!

And keep in mind: successes do not teach as much as when things do not go as planned! Many of the most interesting lessons are acquired from failures or outcomes that do not correspond to our original expectations.

Therefore, we would like to encourage you to take this opportunity to share difficulties and what they taught you.

Activity 1. Context analysis

The context, composed of historical, environmental, social, political and economic aspects, is a key factor for success or failure in these experiences.

It may be said that the factors are "on the outside" and cannot be controlled by the Project, but exert influence on it all the same, be it positive or negative. They may be legal frameworks, stakeholders or specific institutions, traditions or even a geographic situation or climate event in the location.

In order to analyze the context for your Project, we ask that you:

a) Identify opportunities (positive aspects) and threats (negative aspects) of the context for your reality, as well as how and why these factors affected the Project or may affect it in the future.

Use the following table as a model. It may be filled out with other information if the group wishes to add more details:

Positive Aspects	How they affected or may affect your project in the	Negative Aspects	How they affected or may affect your project in the future
1.	1.	1.	1.
2.	2.	2.	2.
3. (...)	3. (...)	3. (...)	3. (...)

Tip to fill out this table in a participative manner with people involved in the Project: Index cards or cardboard can be used, on which each person can write down 2 or more ideas about positive and negative aspects and how they affected the Project. With the entire group, establish which are, in fact, the most important factors, by seeing which ideas appear more often.

Activity 2. Our experience and the fight against desertification

Please answer the following questions based on the experience and new outlook brought about by the Project:

a) a) What are the main factors, in your opinion, that lead to desertification at the local level (project or municipality)?

b) How can your experience contribute with strategies to combat desertification at a local/ regional level? What meaning can this experience take on at the regional level?

c) How is continuity of Project activities being dealt with? Are there other actions by civil society or government in which your experience could be inserted?

Please list the persons involved in the Projet who participated in activities listed in Part B of this Report:

Activity 1. -

Activity 2. -

Activity 3. -

PART C – Evaluation

1) What is your evaluation of this Supporting Local Initiatives in the Fight against Desertification Project? Regarding your expectations, how did communication and assistance processes work during Project implementation?
2) What is your opinion of the relationship between your institution and the Program to Combat Desertification / PAN Brasil (MMA) and the ASA Working Group to Combat Desertification (GTCD)? Do you have complaints or suggestions?
3) We would like to repeat what was done in the first cycle of the Supporting Local Initiatives project and hold a meeting for exchange of experiences once all activities have ended, promoted by the Project, including other institutions. What is your institution's opinion of this initiative and what suggestions do you have for the event?

PART D – Annexes

Please include in this Final Report any documents and products that have not yet been submitted with the Progress Report, such as:

- Photographs and/or audiovisual material;
- Copies of attendance sheets and minutes of events and meetings held;
- Copies of materials produced;
- Others.

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