

NATIONAL REPORT OF BRAZIL

(Prepared for the IDNDR Mid-term Review and the 1994 World Conference
on Natural Disaster Reduction)

SECTION A - PROFILE

1. COMPOSITION OF NATIONAL COMMITTEE

Created by Federal Decree in 1991, the Brazilian Committee of International Decade for Natural Disaster Reduction is composed of:

- Ministry of Regional Integration (2)
- Ministry of Foreign Affairs (2)
- Ministry of Health (2)
- Ministry of Education (2)
- Ministry of Mines and Energy (2)
- Ministry of Communications (2)
- Ministry of Transport (2)
- Ministry of Agriculture (2)
- Ministry of Planning (2)
- Ministry of Finance (2)
- Ministry of Social Welfare (2)
- Ministry of Environment (2)
- Ministry of Science and Technology (2)
- Armed Forces (General Staff) (2)
- Secretariat of Strategic Affairs (2)

2 - INTERNAL ORGANIZATION OF THE NATIONAL COMMITTEE

The Minister of Regional Integration is the chairman of the Committee. The Secretariat of Civil Defense acts as a Committee's Executive Secretariat.

The Committee is supported by a Consultative Council including scientists, experts and representatives of Universities, Scientific Institutions, Professional Associations and Non-Governmental Organizations.

3 - PREVAILING HAZARDS

TYPE	LOCATION	AFFECTED POPULATION
Floods	All the regions in the country	30% of the Country's total
Landfall	Several Capitals of the States and other towns	8 million people
Drought	Northeastern Region of the Country	15 million inhabitants
Storms, gales, hail rain, frost	Mainly in the Southern and Southeastern Regions of the Country	20% of the Country's total

4 - RECENT NATURAL DISASTERS

TYPE	LOCATION	AFFECTED POPULATION	LOSSES
Drought 1991/1993	Northeastern Region	11 million people	Incalculable
Flood 1992	Several regions	100 thousand people	-
Food 1993	Northern, Southern and Southeastern Regions	80 thousand people	-
Landfall 1992	Southeastern Region	2,500 families, 21died people, 60 injured people	-

5 - NATIONAL SOCIO-ECONOMIC CONDITIONS

- Population: 151 million inhabitants (1993)
- Gross National Product (GNP): US\$ 393.292 million (1991)

- Per Capita Income: US\$ 2,756.00 (1991)

6 - AVAILABILITY OF ASSISTANCE TO OTHER COUNTRIES IN THE FIELD OF NATURAL DISASTER REDUCTION

- Assistance by technical teams
- Support by high-technology Institutes
- Personnel training
- material resources including inputs for survival, food, medicines, medical material and equipment.

7 - INTERNATIONAL ASSISTANCE REQUIRED FOR NATURAL DISASTER REDUCTION

- Resources for Personnel qualification and training
- Advanced technology in some fields

SECTION B - STRATEGIES AND ACTIVITIES
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1. STEPS TOWARDS ACHIEVING THE THREE MAIN DECADE TARGETS

- a - Comprehensive national assessments of risks from natural hazards, with these assessments taken into account in development plans:
 - Careful survey, analysis and assessment on the risks from drought in the Semi-Arid of Northeastern Region, which affect a dwelling population of 20 million inhabitants.

The assessment has covered many points including social, health, physical development, and mental problems, in addition to those ones concerning economic and labor source problems. It was extensive in terms if production and undertaking losses, by analyzing the migration flow of families affected that immigrate to major South Region's urban centers, thus increasing the poverty and misery belt around the major cities as São Paulo, Rio de Janeiro, Belo Horizonte etc.

b – Mitigation plans at national and/or local levels, involving long term prevention and preparedness and community awareness: Brazil has some plans already achieved or under way at regional or local level. Only three of them are mentioned:

- Supporting program for man survival and settlement in his habitat, in areas affected by drought, in the Northeastern Region of the Country.

This support is given by contraction of productive labor, distribution of food, distribution of seeds and water supply, by road or railway.

Construction of reservoirs, wells and dams. This program has reached to more than one million families.

- Integrated program for reducing environmental risks in Cubatão, São Paulo.
- Program for reducing floods in Itajai Valley, State of Santa Catarina, Southern Region.

c – Ready access to global, regional, national and local warning systems and broad dissemination of warnings:

Brazil, through its agencies listed below, is linked to world satellite teledetection systems and also to a wide national and regional network by means of meteorologic, hydrologic, and seismologic detection instruments.

INMET - Instituto Nacional de Meteorologia (National Meteorology Institute) - headquarters in Brasilia, DF - national network.

DNAEE - Departamento Nacional de Águas e Encria Elétrica (National Department of Waters and Electric Power) - headquarters in Brasilia, DF - national network.

INPE - Instituto de Pesquisas Espaciais (Spatial Research Institute) - headquarters in São José dos Campos, State of São Paulo - national network.

FUNCEME - Fundação Cearense de Meteorologia (Meteorology Foundation of the State of Ceará) - headquarters in Fortaleza, State of Ceará - regional network covering the Northeastern Region of the Country.

SIS/UNB - Observatório Sismológico da Fundação Universidade de Brasília (Seismic Observatory of the University of Brasilia) - headquarters in Brasilia, DF - national and world network.

IBAMA - Instituto Brasileiro do Meio Ambiente (Brazilian Environment Institute) - headquarters in Brasilia, DF - national network.

INPA - Instituto de Pesquisas da Amazonia (Amazonia Research Institute) - headquarters in Manaus, State of Amazonas - regional network covering the whole North of Brazil.

All these agencies are linked to world satellite teledetection systems and transmit information automatically to several agencies and institutions throughout the country, including those ones concerning Civil Defense.

Other national, regional, and local institutions also have systems for more restricted use and actuation, such as: Ministry of Aeronautics, Ministry of Navy, State Secretariats of Agriculture etc.

2. PRESENT NATIONAL PLAN FOR NATURAL DISASTER REDUCTION

Due to its almost continental dimensions, Brazil doesn't have a national plan. A document defining the National Civil Defense Policy has been prepared and is about to be approved. It analyzes the problem involving disasters all over the Country, its interaction with development, environment and social welfare of the population. Such document defines the major guidelines to be included in the Civil Defense Master Plans for the States and municipalities. The 26 Brazilian States and the Federal District have master plans or a set of guidelines that direct the actions of the institutions and the National Civil Defense System's sectors (SINDEC), coordinated by the State Civil Defense agency.

The same situation occurs in the main municipalities in the Country.

3. LEGISLATION INTRODUCED AND ENACTED IN RELATION TO NATURAL DISASTER REDUCTION

The actions of Civil Defense in Brazil, concerning disaster reduction, are ensured by a provision existing in Federal Constitution. The National Congress is now reviewing the Constitution. The Secretariat of Civil Defense has taken the necessary steps to expand even more the citizen's rights in relation to protection against disasters.

- In 1993, it was approved the Decree that makes the organization of the National Civil Defense System up-to-date.
- In 1994, it was approved the Decree that regulates the Special Fund for Public Calamities (FUNCAP).

4. DISASTER MITIGATION ACTIVITIES COMPLETED OR UNDER WAY

- a - Identification of hazard zones: hazard assessment.

Brazil hasn't yet concluded the studies on all the main risks throughout the Country

However, a significant portion of the work is being developed in most municipalities. In this particular, it is important to emphasize that not only the Civil Defense institutions make such a work, but also almost all the National Civil Defense System's sectors, as well as the private sector, service and research enterprises.

- b - Monitoring, prediction and warning.

There isn't any national specific project for it in Brazil. A wide hydrometeorologic dissemination is made in all watersheds and dams, with a program associated to the routine of federal, state and most municipal specific agencies, in addition to those ones specifically involved in civil defense.

For instance:

- Meteorologic surveys

Monitoring of the weather and climate in Brazil. Reception and analysis of data on:

- rainfall;
- temperatures;
- air-mass;
- air pressure;
- meteorologic warning predicting climatological disasters to the states Civil Defense Bureaus;
- analysis and dissemination of water deficit or surplus for critical areas; observation of the "El Nino" phenomenon.

- Hydrologic surveys

Hydrologic monitoring of the eight main watersheds in the Country.

In addition, in critical periods the outflows of the hydroelectric plants of Parana, Sao Francisco and Paraguay river basins are also monitored, as well as the ones of the Parana River's left bank streams. All this information is systematically recorded in data banks.

During the critical flood period the Amazon River and its main tributaries are monitored as well.

- Seismologic surveys

Although there aren't any phenomena involving significantly harmful earthquakes in Brazil, there are constant seisms in many regions in the Country, some of them relatively intense.

That's why those phenomena are monitored in Brazil by the following institutions:

- Seismic Observatory of the University of Brasilia, interconnected with world systems.
- Seismic Observatory of University of São Paulo.

- Seismic Observatory of the Federal University of Rio Grande do Norte State, Northeastern Region.

- c/d – Short-term protective measures and preparedness.
Long-term preventive measures

There are many protective, preventive measures in Brazil, but due to the Country dimensions it is impossible to summarize them.

One may assert that every year these measures are more intensively developed, or not, in at least 30% of the existing municipalities, including structural and non-structural measures.

- e – Land use and risk management

The National Civil Defense System (SINDEC) has promoted the geographic space use regulation policy by considering features such as: safety against natural and human disasters on the occasion of the discussion and implementation of Municipalities Master Plans.

The priority of non-structural measures concerning prevention of disasters require an important change of attitude by municipal governments, which have been giving priority to structural measures in their management plans for many years.

The internal migrations have contributed to settle low-income populations in poverty belts in areas with an increased risk of disasters, since the land availability in safe areas is restricted and costly.

Since there are more than 5,000 municipalities in the country, the cultural change required will only occur within a very long term.

- f – Public education and information

Civil Defense in Brazil has been continuously concerned about this matter.

In this context, two major guidelines are followed:

- The first one involves diffusion by means of readers, pamphlets, press etc.
- The second one is directly applied to communities by reviving the conscience of the population's leaders and volunteers.

In spite of the efforts to extend it to the whole Country, it is still too incipient. More efficient mechanisms and strategic alternatives should be found.

5 - PLANS TO FULLY ACHIEVE DECADE TARGETS BY THE END OF 1999

Efforts to get the following points are intended to be widened:

1) To implement and improve the operation of Municipal Civil Defense Commissions (COMDEC) in the municipalities with a disaster high risk;

2) To expand the Program for human resource Development in Civil Defense by qualifying professionals and experts in all levels of the System and supporting Agencies;

3) To intensify the process involving information, awareness and participation of the population and communities in prevention actions and in the preparedness program for solving emergencies and disasters;

4) To include in the schools' curricula some matters concerning disasters reduction, human life valorization, first aid and basic cardio-respiratory revival.

5) To create five Regional University Centers for Surveys and Researches on Disasters;

6) To intensify the accomplishment or conclusion of risk studies by determining the population vulnerability in the municipalities more affected by disasters;

7) To promote the Disaster Information System development in Brazil;

8) To fully increase the Preparedness Programs for Emergencies and Disasters in most municipalities in the Country;

9) To intensify some specific programs, such as:

- Program for Reducing Vulnerabilities of the Northeast's Semi-arid to Drought;
- Program for Reducing Urban vulnerabilities to Landfalls and Floods;
- Program for Reducing Vulnerabilities to Floods and Excavations;
- Institutional Development Program;
- Program for Supporting the Protection System to the Brazilian Nuclear Program;
- Program for Controlling Hazardous Chemical Products.

SECTION C - INTERACTIONS

1 - PUBLICATIONS ON IDNDR-RELATED SUBJECTS

- National Civil Defense Policy - Author: Secretariat of Civil Defense/Ministry of Regional Integration.
- Codification of Disasters, Menaces and Risks (CODAR) - Author: Secretariat of Civil Defense/Ministry of Regional Integration.

Glossary of Civil Defense, Risk Studies and Disaster Medicine - Author: Secretariat of Civil Defense/Ministry of Regional Integration.

- Reduction of vulnerabilities to Disasters in Childhood - Authors: Dr. Antonio Luiz Coimbra de Castro, Dr. Lelio Bringel Calheiros and others - Secretariat of Civil Defense/Ministry of Regional Integration.

- Disasters Medicine - volumes 1 and 2 - Authors: Dr. Antônio Luiz Coimbra de Castro, Dr. Lelio Bringel Calheiros and others

- Secretariat of Civil Defense/Ministry of Regional Integration

- Program for Reducing Vulnerabilities to Drought in the Northeast's Semi-arid (PREVSAN) - volumes 1 and 2 - Author: Dr. Antonio Coimbra de Castro - Secretariat of Civil Defense/ministry of Regional Integration.

- Earthquake: How to proceed. Reader. Authors: Secretariat of Civil Defense/Ministry of Regional Integration and Seismic Observatory/University of Brasilia.

- Civil Defense Human Resource Development Policy - Authors: Dr. Lelio Bringel Calheiros and Dr. Antonio Luiz Coimbra de Castro - Secretariat of Civil Defense/Ministry of Regional Integration.

General Luiz Carlos Rodrigues Doria, Secretary of Civil Defense, Ministry of Regional Integration, is preparing a book, for publication, containing an analysis of the situation of disasters in Brazil and the basic lines that should determine further guidelines and strategies to be taken by Civil Defense all over the Country.

This work is mainly based on the conclusions and recommendations from the meetings of DIRDN's Technical Commissions and the guidelines presented by the American States Organization - ASO - during the Cartagena Meeting (Colombia) in March, 1994.

On October 13, 1993, the Brazilian Enterprise of Post and Telegraph (ECT) launched a commemorative postage stamp in honor of the International Day for Natural Disaster Reduction. The ceremony was held in

the ECT headquarters, Brasilia, DF, with the participation of authorities, representatives of International Organizations, entrepreneurs and diplomats.

2 - IDNDR MEETINGS AND CONFERENCES HELD OR PLANNED

A number of meetings and conferences were held in all the Country's States. Some of them are listed as follows:

- International Congress on Civil Defense, São Paulo City, State of São Paulo, november, 1991. Representatives from many countries all over the world participated in the event.
- Seminar on Floods in Southern Region of Brazil and Prata River Basin, and Analysis of Influence of "El Niño" Phenomenon - Florianopolis City, State of Santa Catarina. Many countries of the American Continent participated in the event.

ECO URBS 92 - International Seminar on Environmental Problems in Major Urban Centres, together with the United Nations Conference on Environment and Development (ECO 92) - Rio de Janeiro City, State of Rio de Janeiro.

- Regional Seminars on Risk Studies and Civil defense - Belém City, State of Pará, and Recife City, State of Pernambuco. This event was coordinated and promoted by the respective States, and supported by the Secretariat of Civil Defense, Ministry of Regional Integration.
- National Seminar on Fire in Forests - Brasilia, DF, coordinated by the Brazilian Environment Institute (IBAMA).

Brazil participated in many international meetings or conferences on the Decade:

- World Conference on the International Decade - Tokyo, Yokohama, Kagoshima, Japan, 1990.
- IDNDR's Regional Meeting - Guatemala, 1991.

- IDNDR's Regional Meeting - Costa Rica.
- Regional Seminar on the APPEL Process - Mexico, 1990.
- Inter-American Conference on Natural Disaster Reduction, march, 1994, Cartagena, Colombia. Meeting of all American Countries to evaluate the findings of the International Decade's first years, and preparatory meeting for the Yokohama World Conference, Japan.
- Brazil has also promoted some important Courses within the context of the Decade:
 - 1 Civil Defense Planning and Management Specialization Course - Brasilia, DF. Post graduation level specialization. Duration: 600 hours, with 84 attendants.
 - Administration of Emergencies and Disasters - coordinated by the University of Sao Paulo (USP) and the Secretariat of Civil Defense, Ministry of Regional Integration.
 - Regional Qualification Courses for Civil Defense Instructors:
 - Florianópolis City, State of Santa Catarina;
 - São Paulo City, State of São Paulo;
 - Belém City, State of Pará;
 - Fortaleza City, State of Ceará;
 - Recife City, State of Pernambuco;
 - Brasília City, Federal District.

Those courses were sponsored by the Secretariat of Civil Defense/Ministry of Regional Integration, USAID and University of Santa Catarina state, Brazil.

- Courses for Fire Department's Commissioned Officers at national level - Brasilia and Rio de Janeiro.

Six regional courses on control of radioactive sources will be held in all the regions in the Country, sponsored by the Secretariat of Civil Defense, National Nuclear Energy Commission (CNEN) and State Civil

Defense Coordinations. Its objective is to improve the record, handling and destination of radioactive sources used in different sectors.

- Conferences: A number of conferences have taken place in many institutions, including: the War College, Foreign Military Staff, City Halls in most Brazilian regions etc.

3. CURRENT OF PLANNED PARTNERSHIPS AND COOPERATION RELATED TO IDNDR WITH OTHER COUNTRIES

Brazil has overall cooperation agreements with many countries in the world and with each American country.

In particular with the Continent's South Cone Countries, there are special cooperation and mutual aid agreements with Argentina, Chile, Uruguay, Paraguay and Bolivia.

Either in relation to the Amazonian Basin's countries, like Venezuela, Colombia, Peru, Bolivia, Surinam and Guyana.

SECTION D - EVALUATION

1 - OVERALL EVALUATION OF DISASTER MITIGATION PROGRAMMES INCLUDING, BUT NOT LIMITED TO, THOSE INITIATED AFTER IDNDR AND ACHIEVEMENTS UP TO NOW

Brazil can modestly be proud of partially achieving the targets proposed for the Decade, with the expressive participation of the government, the communities and the private sector.

Ratifying such assertion, we can mention the following:

- Studies on risks have been expanded all over the Country, this enhancing the motivation and awareness of municipal

authorities and the population as a whole to develop even more such a matter.

- Vulnerabilities the Civil Defense at national level. have been made major efforts in order to diffuse and attain, with the whole population, the "Cultural Change" aiming at identifying the immediate threats, promoting life valorization and changing the existing vulnerable scene.
- Warning and alarm system: national, regional and local systems are considerably getting better and wider in the States and municipalities. Brazil has significantly widened the access to international satellite information systems.
- Institutional development: a general progress has been made in the States and municipalities.
- Legislation: It is wide and up-to-date.
- Human resources: There is a constant concern about developing it more and more. So, four major action lines are developed:
 - a) High level specialization training;
 - b) Civil Defense operation planning and management training for the States, municipalities and sectorial fields;
 - c) Operation and management training for workers and volunteers from municipalities;
 - d) General campaigns for the population, schools, press and enterprises.

2. REVIEW OF THE IDNDR

- Effort to centralize the coordination

The United Nations Organization - UNO has wisely proposed to governments of the member countries the institutionalization of

National Civil Defense Systems responsible for articulating and coordinating government and community efforts aiming at disaster reduction.

Brazil and many other countries are endeavoring to meet UNO recommendations.

Brazilian government appreciates UNO efforts to centralize the articulation of actions of many of its agencies in the implementation of coordinated actions concerning disaster reduction. It also proposes to strengthen/ such an effort.

- Disaster Conception
- Unification of Disaster Reduction Actions

The deep study of disasters tends to determine that the classification of natural disaster and human disaster is artificial, as well as to demonstrate that disasters are indeed mixed. The existing national systems are fully in charge of reducing either human, natural, or mixed disaster.

Problems relating to anthropogenic disasters are more and more important and trend to increase with the intense population growth.

If we concentrate only on natural disaster reduction, new international systems and new Decades should be established to make us being responsible for human disasters as well.

- Importance of Disasters with Chronic Evolution and caused by Added Effects.

Although the definitions of disasters approved by the international organizations do not suggest that a disaster occurs unexpectedly and violently, there is a trend to minimize sudden disasters.

In this Conference a huge progress was made, by considering drought as a priority.

Therefore, it is needed to fight hardly against the causes of the other disasters with chronic evolution, such as: harmful loss of agricultural lands, desertification, incompetent management of water resources, loss of

genetic resources by species extinction, non-planned occupation of geographic spaces (in view of state speculation), uncontrolled human population growth and chronic undernourishment of a number of people.

The disasters caused by added effects, the accidents and the endemic disasters should also be analyzed along the whole year. Among them, we emphasize the traumatism hyperendemism, which is responsible for morbimortality rates much higher than the ones registered in all the wars.

Brazilian government requests all UNO's agencies to give priority to disaster global overview, by considering both disasters with chronic evolution and with added effects as important as the sudden natural ones.

– Priority to Vulnerability Reduction

A disaster is not a harmful occurrence, but a result of its action on a vulnerable ecosystem.

The intensity of a disaster depends on the extent of the occurrence and the level of the society vulnerability to it.

From these two factories, the vulnerability level is the most important one.

Earthquakes with the same extent cause less losses in developed countries than in developing countries. The latest occurrences of disasters have demonstrated that the vulnerability rate sometimes exceeds to 1,000.

Brazil requests the International Decade for Natural Reduction's committees to consider the mitigation of economic, social, and cultural vulnerabilities in less developed countries as one of the most important factories to achieve the Decade purposes.