

Effects of Disasters on Development
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"ROLE OF WOMEN IN DISASTER MANAGEMENT"
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The PCDPPP and its parent organisation UNDR0 is very pleased to be a part of this initiative which was triggered by a joint visit of our team (representing the PAHO/WHO, LRCS and UNDR0 components) to Santo Domingo in 1987 when Hurricane Emily was striking. Any effort to explore the role of the majority of our population and increase the sensitivity to and awareness of the Women to the management issues involved in Disasters and Emergency loss reduction in the Caribbean is commendable. This paper will seek to outline the effects of disasters on the Caribbean with a special emphasis on the developmental implications.

The Caribbean island states are vulnerable to the effects of a variety of natural and man-caused disaster events. Their impact on the region has led to loss of life and injury; physical damage, destruction of property and infrastructure; economic loss and the setting back of efforts at development. Recent studies have indicated that the impact of extreme events on small island states may be a significant factor in setting back efforts at regional, national and local development.

It is a fact that many women have made significant contributions to disaster management in our region where for the last ten years the regional and national efforts at reducing the negative effects of disasters has been fairly consistent and methodical in several of the states.. Ten years ago in fact in June 1979, the regional meeting on disaster preparedness sponsored by US/AID's Office of Foreign Disaster Assistance, the United Nations Disaster Relief Organisation (UNDR0). and other agencies directly led to the development of programmes for the strengthening of several of the regional and national systems for disaster loss reduction.

The history and impact of natural disasters on our region is well known. On numerous occasions Earthquakes, Volcanic Eruptions, Hurricanes, Floods, Landslides, Droughts, and other natural events have killed and injured persons in many of the territories of the Caribbean. Unfortunately, the social, psychological and economic impacts of these events are not as well documented as the physical impacts and the rather bald numbers relating to death and injury. Hurricanes Gilbert, Joan, and Hugo are therefore merely the most recent manifestations of an intrinsic element of the Caribbean environment. In the past the region has also been affected by major man caused disasters such as fires in urban areas and epidemics, and it appears that the potential for major future technological events (oil spills, air crashes etc) is quite significant.

Natural Disasters in the Caribbean

Records dating back several centuries show that the Caribbean region has been struck by a steady succession of natural disasters. This century the Caribbean has been affected by hurricanes (e.g. Barbados - 1955; Haiti - 1964; Dominica and Dominican Republic - 1979; St. Lucia, Haiti, Dominica and Jamaica - 1980; Dominican Republic - 1987), volcanic eruptions (Martinique - 1902; Guadeloupe - 1976; St. Vincent and the Grenadines - 1979), earthquakes (Jamaica - 1907; Dominica - 1946; Antigua - 1974), floods and landslides (most years in various islands).

These disasters have damaged housing and infrastructure, destroyed crops and killed thousands of people. The destruction caused by these events is magnified by the small physical size of the countries in the region and their vulnerable economies. The impact of a natural disaster often disrupts the administrative structure of an entire Caribbean nation. Although it may appear a negligible incident at global level, for instance, the evacuation and temporary resettlement of over 10,000 persons in St. Vincent (volcanic eruption, 1979) quickly overwhelmed local capacity. The destruction itself - and the drain on financial and human resources needed for recovery - repeatedly jeopardizes progress towards economic and social development.

A regional survey undertaken after a series of disasters in 1979 (St. Vincent, Jamaica, Dominica) revealed weaknesses in communication and co-ordination systems and a general lack of national policies for the integration of disaster prevention and preparedness mechanisms into national economic planning. These weaknesses existed in spite of the history of disaster events, the increased vulnerability (due to recent population growth, rapid urbanization, development of marginal lands) and the opportunity presented by technical advances capable of reducing losses through developing warning and disaster management systems.

Building an effective disaster preparedness capability was seen as an integral part of the regional development strategy by national governments and the support of bilateral and multilateral donors was sought to address the problem.

Disasters are of particular concern to small island states since they are capable of interrupting the development process and wiping out major assets, in addition to causing loss of life, injury, human suffering. These events have also set back economic development by damaging or destroying physical assets and infrastructure, forcing the diversion of scarce resources into repairs or replacement of assets rather than the creation of new wealth. The Economic Commission for Latin America and the Caribbean has compiled a recent report on "The impact of natural Disasters in Latin America and the Caribbean" (JOVEL 1988) which summarises these impacts.

The disproportionate effect of disasters on small developing island states such as those of the Caribbean may be due to a number of factors including:-

Their small size, hence a single hurricane can totally devastate the entire territory

The concentration of investment at the coast in a zone highly susceptible to the effects of both hurricanes and seismic damage,

The heavy reliance on single facilities (a single hospital, airport or dock)

The narrow economic base in which typically the economy is dominated by one or two sectors. It should be noted that in many instances in our region these economic sectors are also (eg bananas, tourism) very vulnerable to disaster impact.

Lack of adequate planning standards covering the location and quality of buildings and public infrastructure or inadequate systems for maintaining the structures,

Lack of knowledge of the distribution and extent of risk

Inadequate institutional arrangements for foresight, strategic planning, and crisis management

Tendencies to favor top down structures and an undervaluing of traditional "coping mechanisms" at the community level

While the physical damage from disasters is undeniable, they also affect the vulnerable small island states of the Caribbean in more subtle and less easily quantifiable ways such as interrupting the socio-economic activities and by effects on the psychological state of the affected population.

There is no doubt also that the vulnerability of the region to disasters has increased due to the increases in population, increases in occupation of high risk sites (such as low lying areas) and the poor condition of the building stock in many countries. In addition to these factors we need to consider the public and environmental safety implications of new products and processes such as those involving hazardous materials.

Caribbean society including governments, the private sector, non government welfare oriented entities and very importantly the possible victims including women must therefore participate actively in developing a "disaster culture" in which the possible impacts (and opportunities!) created by disasters are factored into the efforts at sustainable development, strategic corporate planning. Obviously all elements of Caribbean society will have to collaborate in developing an appropriate Caribbean disaster culture and in such an effort both genders must play active roles.

In many cases the PCDDPP has noted that non governmental and private sector involvement in emergency management can be further developed, It has been largely confined in the past to "traditional" emergency relief oriented NGO's such as the Red Cross and Salvation Army. Recent activities undertaken by the NGOs will be discussed in this meeting and participants are urged to develop practical action plans to get involved in Disaster

related activities at the Personal, Family, Community, Workplace levels. The need exists for greater involvement and appreciation of the possible impact of special interest groups and the private non governmental interests in the region.

The traditional relief oriented approach also underestimates the importance of asset protection and loss reduction in the productive sector. It also ignores the potential role of many business related organisations to contribute to public awareness, environmental sensitivity, public safety education, training of specialist skills, orientation of community leaders, mobilising local resources, facilitating the rational use and distribution of international resources and in ensuring the fullest use of local resources in the event of catastrophies.

The role of public opinion is particularly important in dealing with the medium to longer term preparedness and very long term prevention/loss reduction issues.

Some of the opportunities include the possible inclusion of more disaster and emergency information in the regular programmes of organisations dealing with particular elements and sectoral interests such as the Womens Desks and affiliated organisations.

It is hoped that you the participants will also share management experiences and seek to define areas of oppurtunity for women in working with Governments to improve the capacity of Caribbean states to better manage the inevitable disasters.

Within the last few years, efforts at developing Disaster Management capacity in the region have been concentrated in a project with a limited life span, the PCDP. The PCDP has been a limited success and has indicated the need for a sustained effort in Human Resource Development, Applied Disaster Research within a regional Institution.

The PCDP has worked closely with the Governments through all its components in assisting to improve the DISASTER PREVENTION, EMERGENCY PREPAREDNESS, RESPONSE AND RECOVERY SYSTEMS. The PCDP components include PAHO the LRCS and UNDRO and efforts have been made to strengthen the capacity of the Governments emergency services and voluntary sector of the participating states to deal with all kinds of emergency events. We look forward to your contributions to this important area of regional endeavour.

In addition to planning for the "traditional" threats from natural disasters, the threats from man caused or technological emergencies therefore needs to be given more attention in the region. Many "man caused" emergencies are of course possible. These include Oil Spills, Air Crashes, Major Urban and Bush Fires. In recent years there has been increased concern at the growing evidence (in the form of actual incidents and near misses) of the need for greater attention to be paid to management of hazardous materials including petroleum products, agricultural chemicals, and other substances associated with industrial processes. An essential part of the management strategy for hazardous materials must be planning for emergencies involving such materials.

There is real concern about the capacity of the relevant regulatory and emergency services to monitor, respond to and cope with incidents involving chemicals and other hazardous materials in "normal" conditions and therefore it must be assumed that handling such incidents during a natural disaster would be even more difficult.

The tendency in many Caribbean states has been to regard disaster planning and loss reduction action as being confined to hurricane counter measures and to see the main responsibility to be in the hands of Government in the form of a loosely set up "COMMITTEE" whose main function was RELIEF.

One of the challenges which this meeting should face up to is the need to modify (or eliminate) the attitude that disaster planning is reactive and confined largely to public sector emergency relief activities in the post disaster period.

As those of you who have been visited by "GILBERT" and "HUGO" know some of the losses (such as the roof damage) are avoidable but will require stronger disaster management and loss reduction measures including improved legislation, regulations, monitoring/inspections as well as improved personal and domestic disaster avoidance measures..The need exists for greater intersectoral and multiagency emergency planning to be organised involving the agencies responsible for public safety, health, industrial development, agriculture, environmental planning, emergency response etc.

I wish to point out also the possibility of greater efforts to inform household heads - many of whom are women- of the basics of disaster resistant design so as to assist them in making what is for many in the Caribbean the largest investment they will undertake the purchase of a safe house!!

Reducing the impact of disaster events require the systematic application of scientific and technical knowledge, the development of appropriate human resources, and an organisational administrative and legal framework with which disaster planning, management and applied research are executed for the benefit of the people of the region. We should not in the context of this meeting be unmindful of the fact that significant and constantly increasing number of the professionals in these areas of scientific and technical skill are women and as we pursue the goals of the IDNDR many of its operational elements will depend on the professional and their standards.

Disaster Preparedness

During the existence of the PCDPPP, considerable effort has gone into establishing national capacity for preparedness and response through training, technical support, exposure to the emergency arrangements of other countries, the development of written plans and the use of drills and simulations. These activities have contributed to improved hurricane plans in most countries and to an awareness on the part of officials and governments of the need for an institutionalised system for identifying threats, developing credible scenarios (including 'worst cases'), creating interagency teams to write procedures, do exercises, tests and

simulation of the procedures, maintain regular reviews of the preparedness plans, train staff and keep the public informed. However, on the whole, the countries have not yet developed the full range of emergency procedures to deal with all potential hazards. So far procedures have mostly focussed on hurricanes. Well developed national plans for air crashes and oil spills do exist in Barbados, Cuba, Jamaica, Trinidad and Tobago and the French territories but in many other cases the non-hurricane threats are not the subject of structured and well-rehearsed plans.

The situation with regard to earthquake and volcanic emergencies is particularly disturbing in the light of the high level of earthquake risk for the area between Antigua and Cuba and the potential for volcanic activity in several of the Eastern Caribbean Islands. Volcanic Emergency plans exist for the French Islands and have been partially developed for Dominica, Montserrat and St. Vincent. In Cuba and also in Puerto Rico significant resources have been committed to developing earthquake plans and procedures and further collaboration in the Greater Antilles is envisaged. Comprehensive procedures for the technological/man caused events are seen to be a requirement for most states.

Mitigation and Prevention

The PCDPPP has been trying to actively promote mitigation measures including the legal adoption of the CUBIC regional building code, standards for disaster resistant low income housing and locational standards for safe development.

Spatial analysis of risk and application of land-use zoning techniques to reduce losses has been the subject of a variety of activities in the region by PCDPPP, the Organization of American States (OAS) and several governments. In Cuba, Jamaica, and also in Puerto Rico, flood plain maps are being developed as a part of national development programmes.

In Dominica, Grenada, St. Lucia, and St. Vincent, landslide maps have been developed under an OAS pilot project. In several other states, including Jamaica and Trinidad, preliminary landslide maps have been drafted. Zoning of high risk earthquake areas has been undertaken in Cuba, the French territories, and Puerto Rico. In other parts of the Caribbean, such maps are considered desirable but have yet to be fully developed under the country programmes.

Emergency Operations

The Emergency Response Systems for communication, coordination, control and mobilizing resources, to deal with the above situations are not yet fully developed in all the states of the Caribbean. Emergency Services (including the Security Forces, Fire, Health, Public Works, Public Utilities) in fact need to develop appropriate systems, capable of working closely with the private and voluntary sectors, to ensure the capability of mobilizing all the resources of the state to counter disaster threats or respond to actual incidents.

The establishment of National Emergency Organizations and naming of National Disaster Coordinators (including several women) has led to some improvements in Mitigation, Preparedness, Response and Recovery Systems for dealing with Natural Disasters and Technological Emergencies in the Caribbean. These improvements have included the establishment of a Command and Control Focal Points (National Emergency Operations Centres); more effective Contingency Planning and some broad spectrum Simulation Drills and Exercises for testing of emergency response capability. In many of the states participating in the PCDDPP however, such systems are best described as under developed.

The Security Forces have traditionally maintained contingency plans for dealing with security problems, natural disasters and mass casualty events. However, many other agencies (in both government and the private sector) with critical roles to play in such events, do not maintain adequate contingency plans and lack familiarity with crisis management techniques.

Recently completed reviews of the National Emergency Plans and the experiences and observations of Tropical Storms Emily, Danielle as well as Hurricane Gilbert, Joan and Hugo by the PCDDPP in actual emergency incidents has led to recognition of the need to extend the contingency arrangements and to ensure that tighter procedures are created (and tested) in order to deal with all credible emergency situations.

Such improvements may need to include:

- improvements in physical facilities and equipment for the control, communication and coordination function;
- optimal interfacing of the communication systems of the Emergency Services, Public Utilities, Commercial Radio, Key Period/Commercial Entities etc. (eg. LIAT, Cable & Wireless);
- adequate command centre arrangement for critical services including appropriate states of alert and emergency mobilization procedures;
- effective arrangement for command and operating centres to ensure continuity of operations (power supply etc);
- standardized incident command, site management and emergency management arrangements for the key services including appropriate cross training;
- regular joint simulations and drills at National, Regional and district/city levels;
- introduction of appropriate supporting equipment and technologies (multichannel and frequency agile radios, computer based mapping and display system warning, damage assessment methodologies etc.);
- development of a common Critical Resources Data Base (to include skills, equipment, materials etc);
- mutual assistance agreements between services, jurisdictions appropriate external agencies and nearby countries;

Implementation of the above will lead to better use of existing resources, rational development of a comprehensive integrated emergency system, timely emergency responses, appropriately staged responses and more effective damage control and loss reduction in potential and actual crisis situations.

As you are aware, the CARICOM Secretariat with the support of the PCDPPP mobilised a Caricom Disaster Response Unit (CDRU) to deal with the logistical and operational coordination of the immediate response to hurricane HUGO and to provide some of the immediately required services, including electrical and building repair skills.

This implies a wide range of possible and practical pre disaster actions which governments in the region can undertake and actively encourage including-:

- * The identification of high risk areas,
- * Land use management to rationalise investment in high risk settings,
- * Establishment/enforcement of adequate structural standards
- * Policies for ensuring the survival of lifelines, critical facilities, essential utilities, emergency services and vital economic sectors (agriculture/tourism/banking/industry).
- * Procedures for emergency action including warning, mobilisation search, rescue, emergency health management, first aid, sheltering of victims, protection of vital supplies, telecommunications, damage assesment.
- * Sensitising technical specialists in fields such as earthquake engineering, flood control measures, emergency medical care, to the need for continued attention to emergency issues in their ongoing programmes. Improving industrial safety systems.
- * Strengthening the emergency skills training in the emergency and essential services (police, military, health, public works, utilities etc)
- * Involving the private sector and ngos citizens organizations, local communities, uniformed youth groups (scouts etc), the schools, private sector and non governmental organisations (Red Cross, churches, credit unions etc) in emergency planning at the workplace as well as at personal and family levels.

Public information and media support.

In spite of the implementation of all the measures set out above, purely technical loss reduction measures are not likely to succeed unless public education, public information, warning procedures and effective communication techniques are seen to be essential components of any countries disaster loss reduction and emergency management programme. An informed and aware public is possibly the greatest asset a country can have in ensuring appropriate response before, during, and after disaster events.

The PCDPPP has therefore made a particular effort to assist the Caribbean states in improving the effectiveness of public safety and disaster awareness campaigns through donations of equipment, sessions to sensitise the media, support for production of radio and tv documentaries, etc. The purpose of these activities is to increase the efficiency and effectiveness of the public education

activities being undertaken by the governments, the media, as well as NGOs such as the Churches and Red Cross Societies.

The UN Disaster Relief Organization (UNDRO), Pan American Health Organization (PAHO), and League of Red Cross Societies (LRCS) who implement this unusual project have a great deal of experience in disaster relief and in disaster planning. It is unfortunately one consistent observation that countries with no recent disaster experience tend to become complacent and thus more vulnerable unless they mount effective public awareness programmes as an integral part of their disaster preparedness efforts. Such public awareness efforts are most effective when they are developed and implemented by multi sectoral groups embracing the government, the media, educators, key sectors, non governmental and private sector organizations etc.

The International Decade for Natural Disaster Reduction

The designation of the 1990s by the United Nations as the international decade for natural disaster reduction (IDNDR) should be noted by this meeting and every effort made to ensure that the views of your organisations are adequately taken into account as the programmes for the IDNDR are developed at national and regional level.

The IDNDR emphasises the importance being placed by the international community on the reduction of losses in disaster prone regions such as the caribbean.

The decade is expected to facilitate and accelerate national loss reduction and mitigation programmes. The decade will also further reinforce the view that disasters are not "acts of god" but are often the consequence of neglect by man of existing knowledge, technology, scientific information as well as the experience of international agencies.

It is important to note that the disaster loss reduction measures implied by the decade apply to all types of events and that the need exists for the caribbean efforts to be widened to include all credible disaster events. It is hoped that the decade will be the catalyst for these disaster loss reduction programmes which are intended to strengthen the disaster management capacity of the region. The decade should receive the support of the jamaican scientific and technical public as well as the media and the public in the caribbean.

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