DISASTERS AND DEVELOPMENT PLANNING

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DISASTERS AND DEVELOPMENT PLANNING

I. Introduction

Rapid tele-communications and media coverage have brought to the attention of the public throughout the world visual evidence of the increasing number of natural disasters such as earthquakes, hurricanes, landslides, floods, volcanic eruptions and prolonged droughts. Although not always the case, increasingly these disasters have wrought further hardship on population groups already living in marginal conditions.

In Latin American, for example, the pace of urbanization and industrialization has created pressures on dealing with the side effects of these processes. A harsh causal factor of this crisis in the cities is the devastating impact of recurrent natural disasters. Each time a disaster strikes, most of those who have to be evacuated and lodged in transitory shelters and who have to be fed and cared for are from the lower income groups.

The effects of natural disasters are magnified by the chaotic and uncontrolled process of human settlements in urban areas. Environmental impact assessments, risk analysis and contingency programmes and the lessons learned from past natural disasters have until recently rarely been taken in to account prior to the establishment of new settlements. Consequently, the occurrence of natural disasters ends up being very onerous to governments at the local as well as central levels.1/

Recent experience around the world has amply demonstrated that the effects of disasters can be mitigated directly by an effective system of pre-disaster policies and measures. The fact that some countries are experiencing the same kind of disasters at shorter intervals than in the past, and that some of the emergency situations could have been mitigated and even prevented, has led several Governments to include disaster-related considerations in development planning.

II. UNDP Involvement to Date

UNDP has long been involved in disaster related type of activities. This involvement has taken three forms: as the field representative of the United Nations Disaster Relief Office (UNDRO); as a funding source; and, in many cases, as executing agent of disaster management project through its Office for Projects Services (OPS).

Since 1971 to 1988, 34 million US dollars have been spent on 229 activities related to disaster relief, rehabilitation, preparedness and prevention. Fifty-nine percent of these projects related to emergency relief type of activities. The funds released to finance those projects were drawn from UNDP's Special Programme Resources (SPR) and have amounted to $5 million. Financial commitment averaged $37,000 per project. The remaining forty-one percent of the projects addressed rehabilitation as well as disaster prevention and preparedness, and amounted to $29 million, financed from SPR and also from country Indicative Planning Figures (IPF). The SPR component for the financing of rehabilitation and/or reconstruction activities has amounted to $14 million spread over 41 projects. These are usually direct support projects, short-term in duration (2-3 years) which respond to specific need emerging from government programmes targeted to the population in the devastated area.2/

It is UNDP policy to encourage the inclusion of projects in disaster prevention and preparedness in country programmes financed by the IPF. Fifty projects world wide for a total value of $14 million have been or are being implemented of which 31 aim at reinforcing Governments capacity to plan for the effects of disaster. The average cost of this type of project is around $280,000 Equally, depending on the country and the type of disasters to which it is prone, UNDP is encouraging in the appraisal of many UNDP projects an examination of their design in the light of disaster hazards.

III. Coordination

Within the United Nations system, there are formally established mechanisms for the coordination of pre-disaster planning and disaster relief. Although it is UNDRO's mandate to be "a focal point in the United Nations system for disaster relief matters", it is the Resident Co-ordinator of the UN system in each country that has the responsibility for coordinating the Organization's cooperation with the host country. To date, in virtually all countries, the UNDP Resident Representative is also the Resident Coordinator. In this role, as stipulated by article 8 of General Assembly Resolution A/RES/36/225 "...in response to a request for disaster relief from a disaster-stricken state, as necessary, and in particular in disaster-prone countries, the United Nations Resident Co-ordinator shall, with the full concurrence, consent and participation of the Government, convene meetings of the concerned organs, organizations and bodies of the United Nations system to plan, monitor and take immediate action to provide assistance." In any case, the UNDP Resident Representative is ex officio the representative of UNDRO at the country level.

In this dual capacity, all Resident Co-ordinators serving in disaster-prone countries have been instructed to form UN Disaster Management Teams. These teams are made up of country representatives of those UN organizations with a specific mandate in disaster management, such as UNICEF, FAO, WFP. Additionally, each Resident Co-ordinator has been instructed to nominate a senior UNDP national professional officer to serve as the "focal point" for disaster management matters in the UNDP office.

As will be seem from the case studies annexed to this paper, the UN team has had a significant role in coordinating the Organization's response in each country.

IV. Disasters and Development

In 1988, in keeping with the concept that preparedness for many types of disasters is better undertaken as part of the general development process, a joint UNDP/UNDRO Task Force urged UNDP to include disaster management and disaster mitigation activities more systematically within its programme and project cycle. Although it is UNDP policy to do so, it is only recently that these linkages are being fully appreciated by Governments. In order for UNDP to better assist governments conceptually and institutionally in the process of linking development planning with disaster preparedness, it has commissioned a study on institution-building as related to this subject. The objective of this study is to produce a set of lessons learned on the manner in which governments are addressing the effects of slow-onset or recurrent natural disaster, and from these lessons to derive recommendations for how UNDP can best cooperate with government through the programming process to mitigate the effects of disasters. The study, which is being carried out in three stages, including extensive field studies in three countries, is expected to be completed in January 1991.

V. UNDP Training Strategy for the Future

Parallel to the above study, UNDP and UNDRO are about to launch a co-operative effort for the training of the staff of the two organizations in disaster reduction matters, with particular emphasis on the links between disaster reduction and the on-going development process. This training scheme will bring together a consortium of university-based disaster management institutions at the global level, regional institutions in each of the four developing regions, and country level institutions and personnel involved in disaster management. The emphasis will be on training country personnel (comprised of UN system personnel, NGO's, bilateral donor representatives and representatives of government central planning organizations) to function as a country team in a disaster situation. It is planned that the total of approximately 3,300 persons will receive training of varying duration and content over the next three to four years. The training will be focused on the needs of personnel in 50 disaster-prone developing countries.

VI. Conclusions

In the foregoing paragraphs and in the attached Annexes, an attempt has been made to show that based on recurring disasters, the need for formulating development policies which are more responsive to disaster prevention and mitigation is gaining recognition in may disaster-prone countries. In the case studies, examples have been given on how this is being accomplished in these countries. The UN system, and UNDP in particular has a special role in working with governments to strengthen their capacity to construct the links between disasters and development, and has taken concrete steps to prepare its personnel to face this challenge.

Footnotes:

1. UNDP, RBLAC Regional Workshop on Environmental Management and Sustainable Development, Belem do Para, Brazil, 12-13 December 1988

2. UNDP/UNDRO Co-operation - An Evaluation, UNDP Central Evaluation Office/UNDRO, New York, December 1989, p. 7.

3. General Assembly Resolution 2816 of December 1971.

Bangladesh

Introduction

Bangladesh has most of the conditions guaranteed to increase a country's vulnerability to natural disasters. It is an LDC; it is heavily dependent upon its agricultural sector, but remains a net food importer; it suffers from considerable deforestation problems and it is the most densely populated developing country in the world, with a population growth rate of at least 2.6% per annum. These factors create enormous pressure upon arable land and create a large group of people living in areas (such as the "chars" in the bay of Bengal) where they are virtually defenseless against tropical storms, with their attendant storm surges. The topography of the country means that at least 80% of the land area is subject to severe flooding.

As if this were not enough, the major riverain systems of the country originate outside Bangladesh thus giving the government little control over the volume of water entering this almost totally deltaic and lowlying country. This means that the country is subject to both droughts and floods.

Summary of Recent Disasters

One of the greatest disasters of modern times occurred in Bangladesh (then East Pakistan) in 1970 when a huge cyclone struck the southern coastline of the country, killing an estimated 300,000 people.

In 1985, another large cyclone again hit the south of the country and its associated storm surge killed 10,000 people.

In 1987, the country was hit by the worst floods for 70 years. The immediate death toll was approximately 1,000 people but the direct and indirect economic effects led the IMF to estimate at the time that the country's economic growth rate for that year had been halved.

In 1988, the country was again hit by floods whose magnitude was even greater than those of 1987. 53 of the country's 64 districts were inundated. 45,000,000 people were directly affected, of which an estimated 25,000,000 were rendered homeless. Just as the floods were receding, another cyclone hit the south-west coastal region (which is relatively less populated) and killed an estimated 6,500 people.

The economic consequences of these natural disasters can only be guessed at. However, it must be borne in mind that at least 30 per cent of the population (i.e. more than 30 million people) are landless peasants, who are totally dependent on sharecropping for income. The medium-term consequences to them of sudden and large-

scale drops in agricultural production are obviously extremely grave.

Other costs can be identified. For example, the floods of 1987 and 1988 diverted the energies of government totally towards dealing with the effects of the floods, at the expense of regular, long-term development work. The permanent damage wrought by the floods thus is measured not only in GNP lost but in development postponed. "We have no margin for disaster" stated the Secretary of Planning in November 1988. Successive floods undermine peoples' confidence in accelerated economic growth resulting in flood-inhibited development, through fragile investor confidence. All these costs are additional to the cost of repair or replacement of capital stock which was estimated at $1.1 billion for the 1988 floods alone.

GOVERNMENT INSTITUTIONAL ARRANGEMENTS

a) Disaster Preparedness (non-structural measures)

The current (third) Five Year Plan of the Government of Bangladesh (GOB) makes no particular reference to the need to interface disaster preparedness activities with the ongoing economic and social development process. Annual Development Plans and sectoral plans also suffer from the same lack.

Of most importance, however, is that the numbers of people affected by these floods, together with the damage stretching across all development sectors, means that a true disaster preparedness strategy for Bangladesh has to encompass not only the whole government-sponsored development effort, but also society as a whole.

Traditionally, the Ministry of Relief and Rehabilitation has been responsible for disaster preparedness and response activities. However, two factors have inhibited its capacity to play this role fully. Its institutional location within government (parallel with the regular "line" ministries) has meant that it has not been in a institutional position to participate in macro level planning, nor even in sectoral planning. The current dialogue between donors and the GOB, therefore, focuses largely upon the necessary institutional arrangements within government to enable the following functions to be performed:

[i] adjust the nation's overall development strategies and programmes as necessary to reflect a proactive rather than reactive response to disasters;

[ii] take specific measures to convert disaster forecasts into effective warning at national and local levels. Government Standing Orders may have to be revised, bulletins simplified, communication channels enlarged and

vulnerability mapping undertaken at local level; and,

[iii] analyze the potential impact of proposed projects on disaster risks when undertaking Environmental Impact Assessments.

Overall responsibility for macro economic planning rests with the Planning Commission. Most line ministries have planning cells. Clearly, therefore, the government-based cast of actors has to include the Bangladesh Water Development Board (BWDB), the Water Master Plan Organization, the Planning Commission, the Ministry of Planning, including probably the External Resources Division (ERD) and the Implementation Monitoring and Evaluation Division (IMED), the Ministry of Relief and Rehabilitation, the line ministries (among them Agriculture and Forests, Fisheries and Livestock, Irrigation, Industry, Health and Education, Local Government, Rural Development and Cooperatives. Non-government organizations, for example, the Red Crescent and the Grameen Bank and BRAC, clearly have an essential role to play in development and implementation of a national disaster preparedness plan.

(b) Disaster Response - Relief

It is generally expected within the country that, in the event of a major natural disaster, the Presidential Secretariat will immediately assume the principal coordination role for the national response (not least the coordination of the military and civilian relief efforts). This expectation was fulfilled in the 1985, 1987 and 1988 disasters. The immediate response of government - particularly the military - to recent disasters has earned relatively high marks from many observers, although the 1987 and 1988 floods revealed weaknesses in the response of many District and Upazilla (sub-district) administrations.

(c) Rehabilitation and Reconstruction and the Relationship to Disaster Preparedness

Four donors (Japan, France, the United States and UNDP) commissioned studies to examine the lessons to be learned from the 1987 and 1988 floods and to recommend more effective flood protection measures.

Institutional issues can be divided into two categories. There is a clear need to ensure coordination in planning and implementation of a flood control strategy at the macro and field levels. The inter-relationships between the "water-oriented" institutions listed above will be of key importance. The studies referred to in the preceding paragraph focused largely on this first category of issues.

The second category of institutional issues are even more complex, and these are those concerned with the inter-relationships

and compatibility between necessary physical measures for flood control (particularly the recommended "compartamalisation" approach) and the ongoing development process. Recent experience has amply demonstrated in Bangladesh that local populations will not hesitate to breach embankments if they perceive that these structural measures inhibit the pursuit of their livelihood. Careful orientation of the flood control measures will be needed to ensure that they do not adversely affect for example community forestry activities, or inland fisheries. The whole issue of landuse will need to be very carefully addressed and features prominently in the terms of reference for the main Regional Studies coordinated by the Flood Action Plan Panel of Experts.

UNDP's role

In the case of the disasters occurring in 1985, 1987 and 1988, both the government and donors requested the UNDP office to assist the government in the coordination of the international response. The local UNDP office chairs and provides secretariat support to the permanent United Nations Disaster Management Team (DMT) which is chaired by UNDP, and consists of the Representatives of the Asian Development Bank, FAO, UNICEF, WFP, WHO and the World Bank. The team's membership was augmented by technical specialists from ongoing relevant UNDP-assisted projects (for example, flood forecasting and warning and meteorological services). Government officials and NGO representatives attended most of the meetings.

In addition, with the full agreement of government, the UNDP Resident Representative convened weekly meetings to which all bilateral donors, at the Chief of Mission level, were invited. Government also participated in these meetings, at a senior level. Within the UN system, each organization assumed responsibility for aspects of the disaster falling within its technical competence (for example, WFP for food aid and logistics, WHO for health sector requirements). The team's efforts were greatly assisted by consultants fielded by UNDRO.

Some donors (notably the United States) used the UNDP as a mechanism for channeling assistance to the GOB, both in the relief phase and in the follow-up phases.

In retrospect, it appears that the efforts of the United Nations system were appreciated both by the GOB and the donors. Its most useful coordination function was probably a result of the presence of United Nations staff (particularly senior national officers from UNICEF and WFP) who were in a strong position to provide up-to-date information of needs in the disaster-affected areas. This information was collated by the DMT and provided to UNDRO headquarters whence it was sent in the form of telexed situation reports (SITREPS). Of equal importance, the information gathered from various points within the country was made available immediately to local donor representatives. Information on relief supplies and funds pledged and delivered by donors was also included in these SITREPS.

Colombia

Introduction

Throughout its history, Colombia has suffered with some regularity the consequences of diverse disasters and public calamities. The geographical location of the country in the "Fire Belt" of the Pacific and the fact that a significant part of its territory is crossed by the Andes, exposes it to continuous seismic and volcanic risks. Its relief map, together with its special climatic conditions, is the cause of periodic floods which affect the human and economic activity of the country. In addition, its geological and topographical characteristics provoke frequent mud slides.

Summary of Recent Disasters

The Volcano Nevado del Ruiz, with an altitude of 5,400 meters, was relatively inactive since its last major eruption in 1845 until the night of 13 November 1985 when a series of tremors and eruptions of red-hot pumice blocks melted part of the ice cap that crowns the volcano. The mixture of water, pumice, and soil sped down the mountain side, gaining speeds reaching 30 miles per hour, as it descended along the Azufrado River channel and the Lagunilla River, already swollen by heavy rains. The mud-flow arrived with such force that it collapsed a natural dam on the Lagunilla and swept away the town of Armero, located about 45 kilometers from the crater and killing approximately 22,000 of the 29,000 inhabitants. It caused another river, the Gualí, to overflow, carrying away houses and a bridge on one of the main roads to the Colombian capital, Bogotá. On the western side of the mountain, another mud slide descended upon the Chinchiná coffee-growing area destroying some 400 houses and killing over 1,000 people. In addition to the tragic loss of life, it was estimated at the time that economic loss to social and productive sector infrastructure was over $211.8 million.

In addition to this disaster which was known worldwide, during the past few years Colombia has been affected by other events such as the earthquake in the Antigua Caldas region (1979), the earthquake in Popayan (1983), and the seaquake in Tumaco (1979). Recently, another significant disaster took place on 27 September 1987; after several days of heavy rain, a landslide buried 500 people and destroyed 300 houses in Villa Tina, a poor slum quarter of the city of Medellin. In 1988, the floods which normally occur each year during the winter season in the northern plains of the country, were made worse by Hurricane Joan.

Government Institutional Arrangements

a) The National System for Disaster Prevention and Assistance

It wasn't until after the tragedy of Armero that the Government realized the importance of developing an appropriate policy for the prevention and management of emergencies, particularly natural disasters, and that activities of planning and prevention need to form part of the national development policies. In 1986, the National Office for Disaster Prevention and Assistance (ONAD) was created within the Administrative Department of the Office of the Presidency of the Republic. In November 1988 Congress approved Law 46 by which the National System for the Prevention and Assistance to Disasters was created. In May 1989, through Decree No. 919, the National System was regulated and all related norms were codified therein. The functions and responsibilities of the various central and decentralized public, autonomous and private institutions was defined in this Decree.

The Decree is far reaching and calls upon the ONAD to elaborate a full Plan for the prevention and attention to disasters including all of the policies, actions and programmes, sectoral as well as national, regional and local that refer to the following aspects, among others:

a) the phases of prevention, immediate attention, reconstruction and development in relation to the different types of disasters and public calamities;

b) economic, financial, community legal and institution matters;

c) education, training, and community participation;

d) integrated information and communication systems at the national, regional and local levels;

e) inter-institutional and inter-sectoral coordination;

f) scientific research and necessary technical studies;

g) systems and control and evaluation procedures for the process of prevention and attention.

b) Disaster Preparedness and Response

The National Technical Committee, the entity in charge of interinstitutional coordination with national and international organizations, was created and defined by Decree 919. To carry out its functions, the Committee has the support of special commissions and advisory groups that are called upon according to their line of specialty and the emergency requirements of the moment. Decree 919 also establishes a National Operative Committee which is a front line disaster management unit responsible for immediate operations when a calamity occurs.

In addition to these committees, regional and local administrative units throughout the country are beginning to organize local Emergency Committees which are the basic units that must prepare for, and face, disasters in each municipality. As

examples of this approach to disaster management it is worth mentioning that Hurricane Joan, which in October-November of 1988, struck the northern coast of Colombia, and the 1988 emergency caused by the Galeras and Cumbal Volcanos were at the beginning assisted by the Local Committees.

Likewise, significant improvements were evident in the assistance provided in the 1988 rainy season during which the country suffered the worst winter in recorded history affecting 400,000 people in 21 out of the 30 country's territorial subdivisions.

The Local Emergency Committees were present in these instances together with high level committees and full public information coverage, creating the conditions for a successful prevention phase and adequate assistance programmes in health, food supply and temporary shelters.

In different parts of the country and in order to maintain the basic commodities needed in an emergency, Reserve Emergency Centers are being created, strategically located in special areas of easy access. The commodities stored in these Centers are property of the Nation and are given into custody to the local authorities to be used when required in each region.

Bearing in mind that emergency management requires an appropriate communication system, a network comprising all entities of the communications system has been integrated into a true emergency network.

The three main areas for rehabilitation activities are reparation and infrastructure of roads, agricultural credit programmes for crops and housing reconstruction and repairs. In order to reach these objectives the National Disaster Fund provided more than $7 million dollars in addition to funds provided by national entities at the local and central levels.

c) **Disaster Prevention**

Presently, risk prevention, as a global planning concept, is part of the country's development policy. The new norms and regulations previously described oblige national organizations to incorporate this concept in their development plans, in the design of regional and urban projects, civil works of great magnitude, and in industrial activities that could present any kind of threat to the population. Furthermore, they must keep in mind the fact that recent and growing ecological degradation, together with a lack of strict and efficient environmental protection, contribute to enhancing and precipitating disasters. In addition, Planning Offices at all levels of government are obliged to define and initiate actions aimed at risk prevention and mitigation. The Urban Reform Law, recently enacted, also incorporates this concept.

With respect to preventive relocation of towns and villages that are located in high risk areas, long term programmes requiring important investments have been identified. The process begins with the identification of those parts of the country where imminent danger is present, town by town. At time of this writing several towns located in dangerous areas and conditions have begun relocation programmes to safer areas. The Urban Reform Law provides the basic legal framework for this type of activity to take place; this activity that is due to grow in importance in the years to come.

With respect to temporary settlements which usually are established as an answer to emergencies, during the past year a new and different approach to this problem has been applied and the classic and traditional temporary settlement has been eliminated. Under the new approach, the affected population is housed in the homes of those not affected who voluntarily offer their homes. A small fee is paid to the host family.

In the area of partial or total house reconstruction, the priority is to have these homes located in low risk areas, with reconstruction programmes that involve an important element of community participation and efficient institutional support. The new housing solution that is being provided is the basic unit required for immediate occupancy, leaving all accessory refinements, additions and subdivisions for a later stage and under an established credit programmes. With this approach, the concept of free housing is eliminated. As a result of last years rains, 2,500 houses are either repaired or in the process, with the participation and financial support of the entities that make up the system, and under the methodologies previously explained. In addition to this effort, 2,000 new homes are under construction.

In addition to these efforts, during the past year, important progress has been made in the elaboration of a national risks inventory, under the coordination of the national Technical Committee. More than 800 municipalities, out a total of 1009, have provided the necessary information.

The National Geologic Institute, INGEOMINAS, which operates the National Vulcanologic Observatory, is the entity in charge of volcanic surveillance throughout the entire volcanic chain. Permanente seismological and deformation monitoring takes place on Ruiz, Galeras, Cumbal, Tolima and Machin volcanoes. Preliminary risk maps are available of all these volcanoes as well as the Huila volcano. In addition to this coverage, aerophotographic surveys of all active volcanoes in the country are made on a periodic basis.

In the seismic field, beginning in 1991, a seismic network via satellite will enter into operation nationwide, with the receiving center in Bogota and a portable network as well. For this program INGEOMINAS has obtained the support of UNDP and the Canadian Government.

With respect to hydrometeorology, the National Institute for Water Management, HIMAT, with technical support from UNDP, has been making substantial progress in a programme to systematize a network via satellite of hydrometeorologic alerts. With this system in operation an appropriate survey of the nation's waterways will be made.

In order to embody truly the prevention concept into the culture in Colombia, a programme has been defined to incorporate, in several stages, prevention issues in educational programmes at all school levels, both under formal and non-formal educational structures. Efforts are also being made to include in all school textbooks these same issues according to the specific conditions of each region of the country.

UNDP's Role

Immediately after the tragedy of Armero, and again after the landslide in Villa Tina, UNDP was called upon to assist the Government in assessing the damages, in mobilizing international support, which in the case of Nevada del Ruiz resulted in an international appeal launched by the Secretary-General of the United Nations, and in implementing follow-up activities. UNDP has worked closely with UNDRO to provide timely information to the international community and has been a partner in the creation of ONAD and the National System for Disaster Prevention and Assistance. A project for $2,000,000, subsequently expanded with contributions from the Government, was approved for the rehabilitation and reconstruction of the area affected by the Nevada del Ruiz eruption. Part of this project was dedicated to improving the Government's capacity to mitigate the risks, and to respond to emergencies. The creation of ONAD and the National System for the Prevention and Attention to Emergencies was one of the results of this effort. This project is in the process of being evaluated with a view to sharing the lessons learned with other countries.

As a consequence of the 1988 floods, UNDP has supported a project for the rehabilitation of the affected zones of the Department of Cordoba. In order to strengthen ONAD and the National System, UNDP is giving support to a project approved for this purpose.

In addition to the support given to the National Seismoligic Network, the Hydrometereologic Alert Network and the Volcanic Surveillance, UNDP is contributing to the execution of a project on Integrated Management of Prevention activities and Disaster Assistance in the urban zone of Medellin.

In coordination with ONAD, UNDP has been giving administrative support to the development of a programme executed by UNDRO for risk management in which over 60 local and national entities are participating. This programme is unique in its class and is

considered a pilot project and an initial step in the International Decade for Natural Disaster Reduction as declared by the United National General Assembly. With this programme, and with prior identification of high risk scenarios, work is being undertaken in Cali, with respect to seismic risk; in Tumaco, in regard to tsunamis; in Ibague with the Tolima and Machin Volcanos; along the Combeima River, in sudden floods; in Paz del Rio in landslides; and in several parts of the country in industrial risks.

One of the most important lessons obtained from the experience in Colombia has been that projects related to rehabilitation and reconstruction of areas affected by disasters should include preventive programmes that promote the organization, planning and incorporation of risk mitigation in development planning.

This annex has been prepared in consultation with the National Office for Disaster Prevention and Assistance of Colombia

ANNEX C

Ethiopia

Introduction

The disaster situation in Ethiopia needs little introduction. In 1988 alone, an estimated 7 million people were threatened by the drought situation. As is well known, the "complex" nature of the situation (whereby the effects of drought are compounded by civil strife) have posed numerous problems for development and relief agencies.

GOVERNMENT INSTITUTIONAL ARRANGEMENTS

(a) Disaster Preparedness

In December 1988, UNDP funded a successful seminar in Ethiopia which was hosted by the Office of the National Committee for Central Planning (ONCCP) which has overall responsibility for development planning. This was an important seminal event, as prior to this time, there had been little attempt to integrate disaster preparedness into development planning. Nevertheless, the strengthening of linkages between the Relief and Rehabilitation Commission (RRC) and the ONCCP is a task that remains to be fulfilled. One possible route would be to strengthen the small disaster preparedness unit in the ONCCP. The functions of such a unit clearly should be to (1) evaluate the preparedness and prevention programmes of the line ministries; (2) to develop ways in which the National Preparedness and Prevention Plan can be strengthened; and (3) to seek ways to integrate disaster prevention and preparedness with other Government initiatives.

(b) Relief

A National Committee for Relief and Rehabilitation, which is chaired by the Head of State, and includes in its membership the Deputy Chairman of the Council of Ministers, the Deputy Chairman of the ONCCP, the Commissioner of the Relief and Rehabilitation Committee (RRC) and the heads of relevant ministries. The RRC is the body primarily concerned with the day to day coordination of the Government's relief efforts. Inter-ministerial committees are chaired by RRC officials at all administrative levels down to awraja level. While the RRC's mandate is extensive, it does not possess the concomitant authority to implement its mandate in the most effective way.[1]

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[1]Source Conference Proceedings of the National Conference on a Disaster Prevention and Preparedness Strategy for Ethiopia, ONCCP, December 1988

UNDP's role

The UN system in general, and UNDP in particular, places a high priority on focusing their programmes on the relief-preparedness-development continuum. In response to the continuing emergency, the structure of the UNDP Office was radically changed in late 1985. Prior to that date, the UN's Office for Emergency Operations in Ethiopia (EOE) was quite separate from the UNDP Office. The appointment of Mr. Michael Priestley in 1985 as concurrently the Secretary General's Special Representative, Resident Coordinator and UNDP Resident Representative enabled the UN System (with considerable help from bilateral donors - see below) to start building the same type of links between disaster response and preparedness which have been advocated for the Government itself.

On 1 January 1987 a UN Emergency Preparedness and Prevention Group (EPPG) was established in Addis Ababa. Members of the EPPG include UNDP, WFP, FAO, UNICEF, UNHCR, WHO and the World Bank. Backstopping the EPPG is a UNDP coordinating unit whose staff have been provided from bilateral sources yet given UN system contracts. The advantages of this arrangement are several: firstly, the unit benefits from the multilateral and "neutral" image of the UN, yet secondly, provides an important opportunity for bilateral donors to be involved in the backstopping of the coordination effort. Thirdly, the unit's staffing can be easily adjusted in response to the evolving emergency situation. Its professional staffing has declined from a high of 22 in 1985 (in the unit which predated the EPPG) to 6 in 1989.

The coordinating unit plays a vital role in monitoring the relief activities not only of the UN system but also those of bilateral donors, (In fact, EPPG reports have frequently been quoted in the legislative bodies of donor countries).

The EPPG and the coordinating unit work in very close collaboration with NGO's. This is primarily because bilateral donors have chosen to channel the majority of their relief activities through NGO channels (in 1988-1989 the proportion was as high as 60%-75%). EPPG is represented at the meetings of the 50 member Christian Relief and Development Association (CRDA).

(c) Disaster Response - Rehabilitation and Reconstruction and the connection to disaster preparedness

Nation-wide efforts in rehabilitation and reconstruction must inevitably await the end of the civil conflict. However, UNDP is currently assisting the government with the preparation of an emergency famine code. Among the needs which will have to figure highly in this phase will be the resettlement of displaced persons, with development activities targeted directly at these groups.

Reconstruction efforts will have to tackle the underlying causes of the periodic emergencies. The nature of this long-

standing disaster mean that long-term efforts will have to be tackled through the regular development infrastructure of the country rather than through those parts of government responsible for emergency management.

The above-cited Conference on Disaster Preparedness and Prevention made a series of far-reaching recommendations which can only be briefly summarized here. One conference paper, delivered jointly by representatives of ONCCP and UNDP, advocated inter-alia the following measures:

- **use preparedness as a platform for prevention:** eg food-for-work programmes should be devised with longer-term prevention projects in mind.

- **look for preparedness components within present development programmes:** reassess how current development projects can incorporate elements of preparedness;

- **link preparedness and prevention in all future project and programme initiatives:**
in devising future projects and programmes in the future, the two components should form the criteria of virtually all proposals.

The paper emphasized that while agreement on the desirability of such measures may be relatively easy to achieve, substantial efforts to strengthen institutions, improve communication between them and provide clear guidelines for the implementation of the proposed measures will be necessary. Herein will lie the greatest challenge for the Government, donors in general and UNDP in particular.

ANNEX D

Jamaica

Summary of Recent Disasters

Jamaica lies squarely astride the path for hurricanes and tropical storms. These natural phenomena have caused widespread catastrophic losses and in the past 109 years, the island has experienced a total of 21 hurricanes, including the most recent, Hurricane Gilbert in September of 1988. The mean occurrences per year is about 0.202. The mean recurrence interval (return frequency) is 5.1 years.

While hurricane and tropical storms have fortunately been few and far between in the last three decades, this is an historical anomaly. The data set provides little reason to believe that this pattern will be repeated in the future.

In addition to these hurricanes, Jamaica has had over 35 tropical storms which either made landfall or passed near the island. While they may have brought much needed rains, others have caused substantial, but generally localized wind damage and floods that have been especially damaging to the agricultural sector. The mean occurrences per year of tropical storms is about 0.350 and the mean interval is only 2.5 years.

While hurricanes and tropical storms are the principal source of catastrophic losses, Jamaica has a significant earthquake exposure. WHile it is impossible to estimate either the frequency or severity of future earthquakes, it should be remembered that the earthquake of 1692 submerged the better part of Port Royal and the one of 1907 caused extensive damage to the city of Kingston. The destructive effects of major earthquakes on modern urban centers can clearly be seen from recent experiences in Mexico City and San Francisco. It is probable that Kingston and other urban centers would suffer heavy damage should a major earthquake occur.

On 12 September 1988, Hurricane Gilbert struck the island with wind speeds estimated at over 140 miles per hour. At the peak of the immediate post disaster situation, 810,000 persons were homeless and accommodated in 1,136 emergency shelters; 40% of the island's housing stock was badly damaged with close to 30,000 units, principally in the low-income sector, completely destroyed.

Destruction and losses in all sectors were estimated to be in the region of US$1 billion with the most serious sectors affected being Public Infrastructure US$300 million. Housing US$260 million, Manufacturing US$200 million, Agriculture US$160 million and Tourism US$80 million.

Agricultural crops such as bananas, coconuts, cocoa, coffee, yams, etc., suffered severe damage and the broiler industry was shattered with the loss of most of its birds and crops. Electricity supply was severely disrupted as both the generation and distribution facilities were damaged. There was also widespread damage to various public buildings such as schools, hospitals, clinics and offices, most of which suffered losses to equipment and supplies.

The hurricane came at the time when Jamaica was beginning a steady economic recovery and the impact of an estimated loss of US$1 billion on an economy with a US$3 billion GDP was severe. Although losses in the Tourism sector were relatively minor, the hurricane's impact was more in terms of the lack of services and cancellations rather than damage to physical facilities.

Causalities of the hurricane were relatively low and only 45 deaths were reported mainly because of an efficient preparedness programme administered by the Office of Disaster Preparedness (ODP), the Government's permanent professional agency charged with institutional responsibility for implementing disaster preparedness and mitigation strategies. The island was also fortunate because of the absence of an expected storm surge which would have caused extensive flooding.

In order to understand the events following the resulting reconstruction efforts, it is important to mention that Jamaica was about to have a general election when the hurricane struck. The upcoming elections played a very crucial role in determining the pace at which later rehabilitation and reconstruction work was implemented.

Government Institutional Arrangements

a) **Disaster Preparedness**

The country's chief co-ordinating body for disaster preparedness is the Office of Disaster Preparedness and Emergency Relief Co-ordination (ODIPERC) established in July of 1980. Overall policy, defining the disaster management programme for the country and the role of the ODIPERC in that programme is contained in a National Disaster Plan. In the event of a threatening imminent or actual disaster, the ODIPERC assumes the lead role in the co-ordination and activation of the Plan. The ODIPERC is supported by a National Disaster Committee, parish committees and the emergency services.

The ODIPERC was established to create and maintain contingency plans at national, parish and local levels; to promote public awareness of disaster threats and appropriate responses thereto; to monitor the effectiveness of hazard mitigation strategies and to establish an emergency response when major disasters occur. Main objectives of the ODIPERC are to ensure that in the event of

disaster, all available resources and skills are mobilized rapidly, and effectively to minimize suffering, loss of life and property and to restore conditions under which national, social and economic objectives can be met.

The ODIPERC is headed by a Director whose primary responsibility is to ensure the contingency plans are developed and activated to respond to national and major emergencies. He advises the Prime Minister and the Minister of Local Government on matters pertaining to disaster preparedness. He also maintains contact with Government agencies, major donor agencies, private sector groups, advising on disaster preparedness and response activity and implementation of contingency plans.

An active ongoing programme in public information is also undertaken by the ODIPERC. Workshops, seminars, public talks on disaster issues, training for officials with disaster responsibilities and preparation of brochures and booklets for use in awareness training and research programmes constitute a major part of the ODIPERC's work.

b) **Disaster Response - Relief**

There are clearly defined roles for Government agencies, emergency services and voluntary agencies in the event of a disaster.

The Security Forces and the Fire Department play a vital role in emergency and recovery situations. The Security Forces ensure that adequate arrangements exist for maintaining law and order. Search and rescue operations are co-ordinated by the Fire and Emergency Services with assistance from the Jamaica Defence Force. Government agencies such as the Ministry of Construction (Works), Ministry of Social Security and Ministry of Local Government execute repair, rehabilitation and co-ordinating functions during disasters. The Ministry of Local Government's chief role is to support the Parish Disaster Committees which make arrangements for procuring resources (manpower, materials, equipment) in all fourteen parishes and to ensure their mobilization during emergencies and disasters.

Voluntary organization such as the Red Cross, Project Accord and the Salvation Army, work closely with ODIPERC and the Ministry of Social Security. These organizations are independent, autonomous bodies which act as auxiliaries to the established public institutions. These organizations, because of their decentralized operations are in a position to provide for effective administration links at both the regional and local levels. Through the Parish Disaster Committees, the ODIPERC effectively co-ordinates the activities of these agencies. It supports the agencies by facilitating access to scarce resource and handles requests for external assistance, whether in the form of money, equipment or technical assistance so that these agencies can function effectively.

The Role of the United Nations Development Programme

Hurricane Gilbert was in the very real sense of the word a national disaster with every one of the island's fourteen parishes affected to a greater or lesser degree.

The suffering, particularly of the underprivileged was exacerbated by the loss of most subsistence income-generating activities due to destruction of cash crops, crops, soil erosion, widespread flooding and water damage, suspension of the provision of power and water supplies, significantly diminished health and sanitation services, suspension of schooling, transportation and telecommunication services.

At the same time, the public services have experienced significant technical and human resource losses due to the impact of successive structural adjustment programmes which resulted in diminished public services due to redundancies and overall reductions in public spending.

In the situation with severely depleted institutional capacities, the Government requested the UNDP/UNDRO Representative to take responsibility for the coordination and harmonization of relief needs with donor and international responses.

In collaboration with the Office of the Prime Minister, the UNDP chaired a series of daily meetings between the Donors, local and International Non-Governmental Organizations and the UN System and officials representing the various public sectors which suffered damage. In collaboration with the ODP, an EDP system was established for tracking and monitoring of all relief supplies received in the country and ensuring the precise specification of needs.

The organization also assisted the World Bank and other bi-lateral donors by providing much needed information and services in order to facilitate the damage assessments on which quick disbursing reconstruction grants and loans were eventually based. A geographic information system was established based on earlier work by the OAS, and an inter-active emergency information network was put in place in 11 Government public utilities and departments in order to facilitate resource management in the reconstruction phase and also preparation for future disasters.

Several UNDP-financed post disaster studies were carried out in order to provide information on which decisions could be taken to improve national resource management and reduce the negative effect of future disaster on the economy. The most important of these was "A Catastrophic Loss Insurance Programme for Agricultural Industries, Low Income Housing and Critical Public Services".

As an illustration, this study points out that "no one can define with any measure of accuracy precisely which Government

installations and services are critical. This would not be so important except for the fact that neither the GOJ nor the ministries and agencies thereof have an inventory of capital stock and their replacement values. The Government literally does not know what it owns, where it is or what it would cost to replace".

At the request of the Government, the UNDP redirected its Country Programme after the hurricane on the basis of using this national disaster as a window of opportunity in the rehabilitation and reconstruction phase to contribute to a series of structural changes in national resource management. This strategy has so far met with limited success, but the basis has been set for significant improvement as there is greater national appreciation of the impact of national disasters on the economy.