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NATIONAL DISASTER MITIGATION POLICY

Background

Management of disasters and emergencies in Papua New Guinea had been undertaken in accordance with the Disaster Management Act (Chapter 402). Whilst this legislation is purposeful the functions and responsibilities entailed in the Act have not been effectively and efficiently deployed. It is for this reason and consistent with the Act and the direction of the National Executive Council a National Environment and Disaster Mitigation Authority is being established. The Authority will comprise of members who will be headed by a Chairman and a Deputy Chairman. The Authority will be assisted by a Secretariat whose head, General Manager, shall also be the Executive Officer/Secretary to the Authority. The Secretariat will perform the operational and administrative roles and functions to assist the Authority. The present National Disaster Centre management arrangements will be absorbed in the Authority whose responsibilities will also encompass the disaster management responsibilities, which will, largely, include environment and disaster mitigation throughout Papua New Guinea. The main roles and functions of the Authority shall be:

- i) To implement the National Environment and Disaster Mitigation Programme;
- ii) To formulate, implement, monitor, evaluate and manage mitigation programmes and policies;
- iii) To secure funding and manage financial activities;

Implementation and participating agencies include all relevant agencies including corporate organisations, non-government organisations, churches and government both at the national and provincial levels. Donor agencies and international organisations assistance and support will be welcomed and these will be sought through normal administrative channels and arrangements.

Disasters have been managed on ad hoc basis and the attention accorded from various levels including that of the political and bureaucratic levels can be improved. There must be evidence of continuity and stability in plans, and development initiatives and plans must take into account the necessary disaster preventive measures. The economic activities and incentives need to be concentrated in safe areas and therefore, be seen to give support and contribute meaningfully and effectively to mitigation measures undertaken by the Authority and the disaster management stakeholders.

Experienced, dedicated, professional and qualified personnel must man the Authority and its Secretariat. The Authority is intended to be independent and free of political influence and it shall be self-reliant and in the long term sustain itself. These arrangements shall serve the interest and social well being of the future generations of Papua New Guinea in health, economy, education, transportation in air, road and sea, electrification, telecommunications, water, etc.

The financial arrangements will be sourced from the National Government's Seed Fund and re-current budget proceeds, provincial contributions and donor agency and international assistance. These arrangements are addressed separately.

Policies

In providing assistance to disaster victims, organisations often propose many deferring approaches and programmes. Different approaches often result in inequitable or unequal provision of materials and services. This can cause problems for the affected administration and for organisations with long-term commitments to the disaster-affected area. One way to avoid these problems is through uniform disaster management plans. The policy provides a mechanism for shaping disaster mitigation and vulnerable reduction efforts as well as emergency response and reconstruction. They also provide a basis upon which programmes can be coordinated and integrated. Relief and reconstruction policies should ideally be set as part of the disaster preparedness process. However, if they do not exist at the time of a disaster they should be established during the initial stages of emergency response.

Plans and Procedures

Plans and procedures are the most important tool of disaster management because they structure and guide emergency action. Plans are based on the premise that it is better to make your decisions long before a disaster strikes than in the aftermath of a disaster when information is inaccurate and the situation is confusing and often unknown. The primary plans and procedures are:

- i) **Disaster Plans.** These include preparedness plans such as warning and evacuation plans, sheltering plans, disaster and needs plans, search and rescue plans, and emergency services operations plans. Disaster plans are prepared on the basis of known risks, estimated impact areas, and predicted needs.
- ii) **Contingency Plans.** Contingency plans are actions planned in anticipation that something unexpected might occur.
- iii) **Forward Planning.** This concerns the development of specific plans to meet an immediate emergency
- iv) **Standard Operating Procedures (SOPs).** SOPs are developed within an organisation to provide standard responses to anticipated situations

Planning Strategies

Various strategies to mitigate the impacts of hazards can be adopted through normal planning, and among these are:

- i) Adjusting normal development programmes to reduce losses. E.g. certain varieties of crops that are more wind- or flood resistant can often be introduced in areas prone to floods or cyclones.
- ii) Economic diversification. In areas/regions where the principal or sole source of income is threatened, attempts should be made to diversify the economy and introduce economic activities that are less vulnerable, or not as vulnerable to the same types of disaster. Diversification is extremely important where economies are based on a single cash crop.
- iii) Developing “disaster resistant” economic activities in West New Britain Province.

Some economic activities are relatively unaffected by certain types of disasters. E.g. Warehousing could be more suitable than manufacturing for locating in flood plains. Coconut palms could be suitable than other fruit trees in cyclone-prone coastal areas. Efforts should be made to identify and to encourage the development of enterprises that are less vulnerable to the hazards.

Standardised Programmes or Programme Structures

A relief agency will commonly develop a standard approach for responding to a recurring need in a specific type of disaster. Agencies trying a particular approach in one disaster will often develop a programme model that can be used in similar disasters. Some successful examples of standardised programmes are:

- i) Supplementary feeding;
- ii) Shelter-to-housing;
- iii) Housing education;
- iv) Materials distribution;
- v) Food for work

Some agencies feel that a standard programme will not meet all the needs of victims in different situations, yet they recognise the need for standardising the management of disaster response. Standardised programme structures are workable only if the personnel are experienced and trained disaster managers.

Strategic Development or Investment

Planners are often able to encourage development away from hazardous areas by investing or creating a favourable environment for investment in less vulnerable regions or communities. This strategy is often difficult to implement, as most hazards are not site- or area-specific. They can threaten wide areas. E.g. Earthquake zones often extend over huge distance and relocation of threatened settlements or enterprises is often not possible. Furthermore, hazards that occur infrequently are usually not considered in economic development planning.

Strategic investment has proven successful in agriculture sectors. E.g. Regional planning authorities in India have been successful in extending irrigation, land reclamation activities, and regional farm-to-market roads onto coastal plains that might otherwise have been developed with more intensive forms of economic activities. By developing the coastal plains with large, plantation agriculture relying on fewer labourers, the authorities have substantially mitigated human losses from hurricanes.

Enabling Legislation

An important tool for National and Provincial disaster management offices is legislation to give the agencies the extraordinary authority and resources it needs to operate both before and after a disaster. Without this legislation many agencies find themselves unable to direct or coordinate vital activities. When lines of responsibility are not clear, needless duplication of assistance occur in some areas while other areas receive little aid.

Regulations

Regulatory controls for hazard management are vital tools for the planners, and these include:

- i) Land-use planning and zoning;
- ii) Building codes and Performance standards; and
- iii) Land-use and building standards.

Conventional **land-use controls** regulate function, density, and location of activities, the rate of development, and limits of growth. Zoning has a broad function in the reduction of vulnerability, since vulnerable areas can be controlled or set aside for certain types of development. E.g. a hazardous area can be zoned permanently for agriculture or recreational use thus minimizing concentrations of a population or a built environment on this site.

Land-use controls and regulations can be an effective tool for reducing vulnerability but they are not a universal cure. Controls must be relevant to local conditions and must be formulated with a realistic assessment of the actual risk.

Building codes are used to control the built environment within an area. Economic concerns often dictate the hazardous areas. To offset the threat and mitigate potential damages, building codes can be formulated to guide construction so that buildings and other man-made structures are as safe as possible.

Building codes and land-use zoning are often criticised as being ineffective in less developed countries, since enforcement is difficult and most growth is unregulated. Furthermore, codes and zoning are considered “passive” regulatory instruments; their enforcement often creates an adversary system between the public and the government. If development occurs in an area where it is not permitted, governments are usually powerless to reverse the situation.

Enforcement activities may give rise to corrupt inspection officials who institute a system of bribery to overlook nonconforming uses or structures.

Because of these criticisms, planners have made changes that appear more workable in many developing countries. This approach is known as performance standard zoning and building regulation where flexible standards are developed and adopted in which a variety of uses and construction are permitted as long as certain basic, minimal standards of safety and health are met. The standards usually permit people to use a variety of approaches to attain the desired standard. Rather than strictly enforcing the standard, the government makes a commitment to improve technical and planning assistance to persons in order to enable them to reach the highest standard possible. This type of approach is called an active". While it may be more expensive, a higher degree of compliance can usually be attained. Furthermore, governments become advocates and advisors rather than adversaries.

Prevention and Mitigation

The primary focus of disaster management should be to prevent disasters and/or to mitigate those calamities that do occur. The four sets of tools that could be used are:

- i) Hazard management and vulnerability reduction;
- ii) Economic diversification;
- iii) Political intervention; and
- iv) Public awareness.

The first two apply exclusively to disasters caused by natural phenomena while the latter are used to mitigate impending refugee situations. As a general rule National and Provincial Governments and larger non Government Organisations (should) carry out hazard management programmes. This is because many of the hazard management activities involve vast areas and require large amount of resources. At the community level small agencies and communities can undertake a variety of activities with little outside assistance. Planting windbreaks and building flood embankments or volcano related activities are such examples.

The role of the disaster manager in hazard management is usually to ensure that development plans and programmes incorporate hazard management activities. For example, West New Britain Provincial Disaster Committee (WNBPDCC) could conduct advocacy and awareness with various agencies on Volcanic Eruption hazards and the related problems and issues, and may carry out the necessary studies in consultation with the relevant agencies. The actual management of the volcano to reduce its impact is the responsibility of the scientists at the Rabaul Volcano Observatory and their colleagues in the relevant agencies. The range of specific tools for mitigating environmental hazards is:

- i) Planning;
- ii) Building Regulations, including zoning, building codes, performance standards, and improved urban design;
- iii) Strategic development or investment of sites and services;
- iv) Economic incentives;
- v) Housing education, i.e. Training of homebuilders to improve the quality and standard of housing;
- vi) Code encouragement, i.e. Use of building inspectors to advise and encourage homeowners to utilize disaster-resistant construction techniques (rather than simply to enforce codes);
- vii) Financial incentives as an inducement to builders to use hazard-resistant construction techniques;
- viii) Insurance;
- ix) Environment management, e.g. Reforestation and range-land management in watersheds; and
- x) Immunisation campaigns to reduce threats of diseases or the necessary health education and campaigns to reduce the impact of likely sicknesses and diseases.

All these tools, most of which are outdated or do not exist, require technical understanding of the threats and the possible solutions. The selection of a particular set of approaches shall be dictated by the availability of funds and the administrative capacity of the National and Provincial Disaster Committees. E.g. the adoption of building codes would depend upon the capacity of the relevant agency or the Provincial Government to enforce compliance. In a case where rapid urbanization and small provincial budget would not permit effective enforcement, housing education and code encouragement could be chosen as a alternative.

Preparedness Tools

The most important preparedness tool is the disaster plan and its various components. Every organisation that responds to a disaster must develop a plan that:

- i) Organises the response;
- ii) Establishes an organisational structure for each phase of the disaster;
- iii) Establishes objectives, priorities, and goals for the organisation; and
- iv) Assesses resources.

The development of the disaster plan permits disaster preparedness training, which is an equally important tool in preparedness.

Economic Mitigation

The purpose of economic mitigation is to reduce the disaster's impact on the economy and on the economic well being of the disaster victims. This is done by strengthening the sectors of the economy that are vulnerable to disasters by economic diversification where "disaster-resistant" economic activities are introduced or expanded. This can be done by spreading or relocating economic activities to less vulnerable areas so that not all the principal enterprises are affected at the same time. Insurance or other economic risk-spreading activities are also possible, and this should be considered.

Economic mitigation uses the same general methodology employed to reduce physical losses. Hazard mapping would have to be done and completed to enable planners identify those sectors of the economy that are vulnerable to disasters. Economic vulnerability determinations should consider other critical activities and installations. Energy facilities and systems are of prime concern, as are transportation network, fuel distribution facilities, road system, and financial institutions. Even though the means of production may not be affected by a disaster, the disruption of transportation network can make difficult the marketing or distribution of goods.

Economic diversification and insurance are two primary economic mitigation measures. Diversification spreads the risk so that if a disaster occurs, the total losses in any one area or sector are acceptable. Insurance can play a major role in mitigating disaster losses. Unfortunately, there are too few programmes currently available for low-income people. Alternate ways of providing insurance to low-income earners is through insurance of cooperatives even though the individual farmers who are members of the cooperative cannot. If a disaster occurs, the insurance pays the cooperative, which in turn divides the proceeds of the insurance among its members. The indirect effect of insurance is also important to consider.

Disaster claims paid for large institutions, facilities, installations, or structures can infuse much needed cash into the local economy. This can have a spin-off effect reflected in increased job opportunities, increased purchases and orders for local suppliers, and other economic boosts to the area affected by a disaster. Thus, even if it is not possible to insure low-income families and their houses, farms or business the objective of disaster management should be to insure the maximum number of larger economic activities.

Economic Incentives

Governments are often able to extend a number of economic incentives to people and organisations in order to encourage development away from hazardous areas. Examples of incentives include provision of land, loans, grants, favourable credit, favourable taxation, technical assistance, or combination of any the foregone.

Tools of Post-Disaster Management

A disaster manager uses a variety of tools to plan and manage disaster response. Most important of these are plans and procedures, policies, codes and standards, and standardized programmes or programme structures.

Public Awareness

Post-disaster programme can have an enormous impact on a community. It is important that they are planned to be effective and appropriate for the community that they meet only the needs the community cannot meet itself, and that the programme contribute to the development of the community. This frequently means that a programmer's objectives should include the participation of the victims in the programme planning and design. The programme should have an educational component that will upgrade the level of knowledge in the community to prevent or reduce a future disaster. The programme should also be tied to a long-term integrated development scheme.

Public Information & Education

For Hazard Management effective hazard management requires an informed public, especially those at risk and this is called public awareness and advocacy. Public awareness campaigns disseminate information about the types of disasters, the effects of the disaster, the measures available to reduce the impact, and the actions to be taken all disaster management stakeholders at the time of a disaster.

Typical public awareness activities include:

- i) Film and video programmes that illustrate and describe the hazard and the risk, and demonstrate what can be done to prevent or mitigate losses and damage;
- ii) Radio programmes;
- iii) School curricula and booklets that include lessons and projects about hazard mitigation;
- iv) Comic books (perhaps based on the films or video programmes) made available for general distribution;
- v) Posters placed around the community to act as a general reminder of the issues;
- vi) Presentations on the subject made to public groups or private organisations (E.g. neighborhood councils);
- vii) Brochures and handouts distributed door-to-door or at public events, fair, etc;
- viii) Community programmes and announcements on television and radios; and
- ix) Features or articles in local media, especially periodicals.

It is crucial to promote disaster awareness in areas where risk and vulnerability are high and people are indifferent to potential hazards. Public awareness activities can help motivate the public to initiate precautionary measures. Such activities can influence decision making at all levels. However, public awareness will not be successful unless it is continuous and highly visible. A public awareness programme for disaster mitigation describes and demonstrates techniques and actions that can be taken to keep disaster related problems from happening or at least minimise their impact. This can include cultivating drought-resistant food crops, making structural improvements to buildings to withstand the forces of earthquake or high/strong winds, and siting buildings or agricultural land out of floodplains. Public awareness is an important disaster preparedness tool as the activities are designed to inform the public about what individuals can do and should not do to protect themselves and their property. Timing for a public awareness programme in disaster preparedness depends on the type of disaster.

Codes and Standards

Codes and standards are used to mitigate losses and control reconstruction activities in certain sectors. In the housing sector, building codes or performance standards are used to set the minimum acceptable safety levels for houses and buildings. Specific codes and performance standards are also developed for hospitals, lifelines (water, sanitation, power and transportation systems) and critical facilities (government installations, communications installations, etc).

Programme standards are used to establish the minimum levels of assistance and support that should be provided to disaster victims. In famine and refugee relief programmes, feeding standards are set according to nutritional requirements.

Standards are normally set by disaster managers in each relief agency but there is growing trend internationally to develop common, uniform standards for many of the social and humanitarian services offered universally.

Emergency Response

The primary purposes of public awareness activities during an emergency are:

- i) To alert the public
- ii) To instruct the public about the nature of the danger;
- iii) To describe actions the public can take to protect their property and personal health, and warn people about what to do; and
- iv) To explain what to do for food, shelter, medicine, or how to obtain assistance in locating missing persons.

The duration of the emergency period and its time of occurrence are functions of the type of disaster. The emergency period for an earthquake is usually the first week after the event. The period for high windstorms begins 48 hours before the storm strikes and lasts for approximately a week to 10 days. Slow onset disasters such as droughts have an emergency period that continues until lives are no longer in danger. The timeframe for the emergency period is typically compressed, and public awareness messages are usually coordinated with the National Disaster Centre and other relevant agencies. The most common media are the television, radio, newspapers, special printed bulletins, and posters.

Emergency public awareness programmes emphasise getting people to react. To do this, a well-planned and thoroughly developed system of getting timely messages out needs to be in place before the emergency occurs.

Measures for Mitigating an Impending Refugee Crisis and Internal Displaced People

Unfortunately, measures for mitigating refugee situation or for protection of civilians in an armed conflict are poorly developed and documented. The measures that the international community has at its disposal are not well defined, and governments are often reluctant to exercise the ones that they do have. In the early 1980s humanitarian agencies began discussions on “early warning activities” and the development of political and humanitarian interventions that could possibly prevent or mitigate a crisis from escalating into a massive refugee situation.

These discussions have been unsuccessful. They, however, have emphasised the links between certain natural disasters and the political consequences that often follow along with conflicts that lead to refugee migration. The United Nations has begun a series of fact-finding and consultative workshops on the protection of civilians in an armed conflict on regional basis throughout the world. The workshop in the Pacific Islands region in early June 2003 made a number of observations and recommendations, and these included customary law, traditional chiefs and traditional methods of peacemaking, restitution, and reconciliation have an important role to play in the protection of civilians in the South Pacific, though with due attention to the balance that needs to be struck

between custom and the rule of law. The workshop noted with concern that the control of small arms and the security of police and military armouries is a critical regional issue and requires regional coordination.

For refugee mitigation measures to be successful a system of early warning must be in place to alert governments and humanitarian agencies of an impending crisis. The early warning would be based on indicators that political situation could lead to armed conflict that could result in displaced persons and possibly in refugees seeking asylum in another country. Recent research have shown that a number of indicators can point to an impending crisis, and the four most commonly discussed are:

- i) Political Intervention. Political Intervention by Outside Governments or Inter-Governmental Organisations such as the United Nations. Political interventions can range from military intervention to political or economic sanctions being taken against the country. Interventions are most often limited to expressions of concern by friendly nations.
- ii) Public Opinion and Moral Persuasion. Widespread public outcries against humanitarian abuses are considered to be the most effective tool for mitigating these abuses although totalitarian governments have shown a remarkable ability to ignore worldwide opinion in many cases. However, a major public outcry against a particular situation may influence outside governments to take political or economic sanctions that could lead to resolution or mitigation of the situation.
- iii) Linking Aid to Human Rights Policies. One measure utilised sometimes by western democracies is that of making economic or development assistance dependent upon the observance of human rights standards. This policy was first introduced by the US President Carter administration in 1970 and it experienced mixed results. Most observers attribute this to an unequal application of the policy due to geopolitical considerations. It is likely that this approach will continue to be advocated as an alternative to direct political intervention.
- iv) Internal Intervention. Most mitigation measures discussed so far are those actions taken by governments or inter-governmental organisations outside the country where the situation is developing. There is often little that the disaster managers can do inside the country. The measures are generally limited to moral persuasion and trying to influence public opinion. These are examples of non-governmental organisations within a country helping to reduce tension and alleviate some of the problems. E.g. Church and peace foundation organisations can frequently serve as a bridge between those seeking reconciliation. International organisations can often help reduce human rights abuses by placing large numbers of staff members in an area where abuses are occurring. These individuals serve as de facto observers and by their presence reduce human rights abuses. Non-government organisations can often work in partnership with the media to create an atmosphere and/of to help stem a growing crisis.

We, however, must acknowledge our minimal understanding of effective means of reducing a crisis that would create displaced persons or refugees. Agencies must understand that attempting to exercise these measures in a crisis may endanger their personnel.

Diversification & Expansion of the Social Support Network

The level of disorganisation that results from a disaster is indicative of the level of intervention and the social organisation of the community. Societies with overlapping and complex social organisations both formal and informal can easily absorb a disaster, as the communities would respond appropriately and quickly. Diversification of a community's social structure is an important mitigation measure. This can be accomplished through extending normal development work in the following manner:

- i) Institutional building. Local organisations that serve as a means of coping with disasters or providing support to disaster victims should be identified and strengthened. Consideration to increase the organisations, capacities and skills to enhance their abilities to deal with crisis should be accorded;
- ii) Increase the number of coping mechanisms within the community by developing formal institutions and linking these groups to outside resources, communities. This would establish the vehicle for intervention and assistance;

- iii) Broaden the scope of service of local groups and exchange activities that promote cooperation among different elements or groups within the society. Such cooperation can reduce the social impact of a disaster.

By increasing self-sufficiency and reliance on internal resources agencies improve the ability of local people to cope with a disaster. This can be a mitigation factor and can assist towards speedy recovery.

Awareness Activities for Recovery and Reconstruction

The general objective of public awareness during this phase is to inform the victims how they, individuals or collectively, can begin the process of recovery. Planning for these information activities should begin as soon as possible after the disaster. The information needed includes advise about reconstruction of housing, sources of employment, or recovery in the agricultural sector. Recovery and reconstruction can and should begin immediately after the emergency has passed. Unfortunately, this period is commonly characterized as one of false starts, mistakes, and waste. Accurate and timely information can help reduce delays.

The reconstruction period is often a long one, lasting several years for severe disasters. E.g. Rabaul volcanic eruptions of 1994. The public awareness programme needs to have a similarly long-term perspective, and reconstruction information needs to be kept in the forefront of the public's attention. It is also important to remember that reconstruction and recovery programmes should encourage mitigation of future disasters.

Adjusting On-Going development Activities

Adjustment to on-going development programmes would be A Step Ahead and it is a major way to address disaster mitigation. Many development projects have the potential to reduce either physical or economic vulnerability of families and communities. E.g. housing programmes can incorporate, often at little or no additional cost, a variety of disaster-resistant construction and planning techniques. Unfortunately these measures are frequently overlooked because the development programme planners are not aware of disaster mitigation opportunities. Thus an important function of disaster mitigation would be to review and adjust normal development programmes so that they help mitigate or prevent future disasters. Areas that would be of particular interest are:

- i) Housing and urban development programmes (sitting and construction);
- ii) Establishment of new settlements;
- iii) Forestry projects
- iv) Agricultural development projects;
- v) Land reclamation; and
- vi) General land management.

A Step Ahead

What is A Step Ahead? "A Step Ahead" is Papua New Guinea's modern day proactive planning and implementation of mitigation in disaster and risk management. The National Disaster Committee, National Disaster Centre and the disaster management stakeholders at the national, provincial and community levels will implement this strategy. The aim of this activity-based approach is to provide the communities in Papua New Guinea a safer and sustainable environment to live in and enjoy.

Going "A Step Ahead" means that each and every disaster management stakeholder must strive towards achieving enabling appropriate legislations, plans, policies and procedures. This can be achieved through numerous ways and means.

Disaster management utilises a variety of different tools, programmes, and methodologies to lessen the impact of disaster and provide for the managers the means and ways of guiding the necessary activities throughout the cycle of disaster management. This includes:

- i) Prevention and mitigation;
- ii) Preparedness; and
- iii) Post-disaster management

Letters or Memoranda of Agreement

Coordination between inter-governmental agencies and its network of agencies is often facilitated by formal letters or memoranda of agreement (or understanding). These define each agency's role in relation to the other and set out sphere of joint activity as well as areas of sole responsibility.

Hon. Sir Peter Barter, Kt, OBE, MP

Minister Responsible for Disaster & Emergency Management