

Strategies to Consider

Mainstream Disaster Planning and Management in the Preparation and Implementation of Land Use Plans

❖ Institutional Aspects

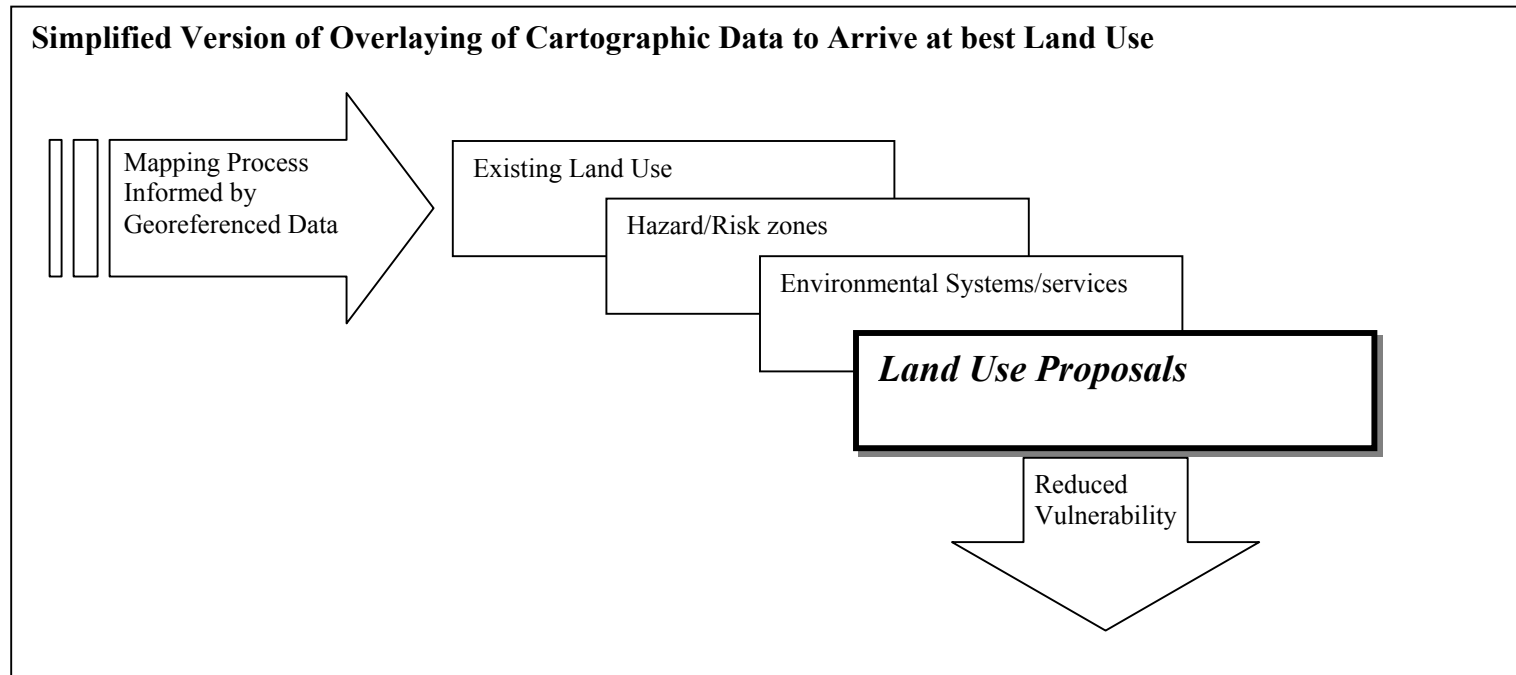
At face value this is an institutional or organizational action in which issues related to coordination of staff of the Disaster Management Office, and the Town and Country Planning Office and other agencies involved in physical and land use planning must be addressed along with budget requirements and the like. Beyond this, however, are cost implications associated with the devaluation of land considered to be in high risk areas. These are complicated issues that are not easily or quickly resolved. Public support must be nurtured through strategic awareness building.

❖ Planning Methods and Procedures

One of the advantages of hazard mapping associated with disaster mitigation is the use of geo-referenced data and the importance given to mapping information generally. Because land use planning by convention uses information in a spatial context, the merging of conventional mapping and GIS applications normally occur with relative ease. Although the procedure for arriving at land use proposals is more complex than implied in Box XXXX, the overlaying of cartographic data is seminal to the process leading to the reduction of vulnerability through rational land use accompanied by disaster sensitive socio-economic strategies.



Figure 22



Other Policy and Institutional Requirements

Vulnerability reduction requires actions by Governments, Households, Businesses, NGOs, Community Groups. From an institutional perspective planning for vulnerability reduction should focus on:

- Managing information to inform decisions
- Evaluating weaknesses in development policies, strategies, plans, standards
- Seeking consensus on policy adjustments
- Establishing targets and performance indicators for achieving policy objectives
- Working to overcome constraints to achieving objectives and targets



Other key requirements for vulnerability reduction/mitigation are:

- Strategic investment in mitigation actions
- Institutional strengthening and capacity building
- Market measures (incentives)
- Effective regulatory instruments
- Improved project evaluation, mitigation and enforcement procedures
- Public education, participation, support

Four significant Elements of Mitigation Planning

- Disaster preparedness plans (including hurricane shelter plans for boats)
- National physical development plans
- Pre-project (Pre-development) assessment (EIA)
- Environmental/Physical audits of existing facilities/uses

Strategies and Plans should be informed by risk analysis and vulnerability assessment. A review of the relationships between plans/projects and risk/vulnerability is also critical and could be achieved as indicated:

- Evaluate performance of planning strategies/projects in relation to assessed risk and vulnerability
- Identify where adjustments, modifications should be made or where alternative strategies should be considered.



EIA Procedure as a Mitigation Tool

Environmental Impact Assessment (EIA) is an important tool in reducing vulnerability during project design or during the process leading to planning approval of a development. However, the procedure is not always transparent or uniformly applied and therefore mitigation planners should:

- Evaluate effectiveness of procedure for non-government projects (hotels/marinas, residential communities, telecommunications, other projects)
- Evaluate effectiveness of EIA or other procedures for government projects (physical infrastructure, ports, dams and hydro projects, social infrastructure)

Mitigating the Impacts of Public Sector Investment Programs (PSIP)

Persons undertaking assessments may want to identify existing or new mechanisms for mitigating impacts of the public sector programme. Why the Public Sector Investment Programme?

- It is usually indicative of development priorities and trends
- Allows comprehensive rather than isolated review of impacts from physical development strategies and policies
- Allows for inter-agency cooperation and response to vulnerability issues (if effective mechanisms are in place)

Mechanisms exist and are applied in some countries for the assessment and mitigation of public sector projects.

These include:

- Procedures used by sector/line agencies and Central Planning Units in project design, evaluation and monitoring
- EIAs required by donor agencies
- Environmental Evaluations required by some Commercial Banks as a condition for obtaining financing for development projects.



EIAs may not go far enough in mitigating vulnerability. Why?

1. *Weaknesses in monitoring implementation and compliance with agreed mitigation.*
2. *Inadequacies in the terms of reference or scope of work for the assessment.*

Required Changes or emphasis to EIA Procedures should be pursued, e.g:

- Terms of reference/scope of work whose focus includes a wider range of vulnerability issues (storm surge, siting of harmful substances, structural integrity)
- Emphasis on implementation of agreed mitigation and monitoring of compliance with agreed actions.

Environmental Audits

The environmental audit (EA) procedure is increasingly being applied for environmental compliance, energy and water conservation. It is also used to meet requirements for funding, purchasing and other objectives linked to existing properties such as hotels, hospitals, telecommunications facilities and equipment, waterworks, power stations, schools and sewage treatment plants and storage facilities for harmful substances.

Environmental audits can also be considered in Reconstruction Strategies to guide mitigation in:

- Siting/adjusting buildings/facilities housing harmful substances (fuel tanks, chemicals store rooms, etc.)
- Retrofitting against future wind and flood damage
- Securing generators and other critical equipment
- Assessing costs and benefits of mitigation

Reducing Vulnerability of Essential Services

Special attention is required to essential services of a country prior to, during and after a disaster event. Direct and indirect damages and cost can be reduced if appropriate mitigation to reduce vulnerability is applied. This is particularly important in cases where buildings or facilities housing such services and equipment are not insured. While essential services are covered in assessment of various sectors (e.g, hospital and clinics in Health, Electricity



and Water Production plants under Infrastructure) strategic attention should be paid to services whose damage or loss increases vulnerability several-fold. Such services should be listed and ranked using vulnerability criteria, after which a strategy for reducing vulnerability could be applied as indicated:

- Develop a consensus among relevant agencies and/or stakeholders on goals and objectives and outputs of the vulnerability reduction strategy
- Agree on mechanisms for collaboration
- Develop vulnerability profiles of facilities and services
- Set targets and benchmarks for achieving outputs
- Determine performance indicators

Building Codes, Standards and Guidelines



Figure 23: Hurricanes resistance standards

Building codes, when applied, reduce vulnerability to properties. Countries may choose to adopt the Caribbean Uniform Building Codes (CUBIC) or select from a number of other standards specifically tailored to their own specific needs. The application of standards across the region is being done with varying degrees of scope and success. Critical gaps in application include standards for the construction or installment of water, electricity and communications infrastructure. Mitigation planners should note with interest what seems to be a growing trend among insurance companies to use standards as the basis for costing policies for buildings they insure.