

## FACTORS IN WATERSHED VULNERABILITY



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## OUTLINE OF PRESENTATION

A) Environmental Vulnerability Concept

B) Vulnerability Factors

- Environmental
- Socio-economic
- Governance

C) Challenges

- Population Growth
- Development
- Agricultural Frontier
- Loss of Haiti's Natural Heritage
- Early Warning Systems

## WHAT IS MEANT BY “ENVIRONMENTAL VULNERABILITY”?

- Degree by which a country, a community or a sector can be damaged by external factors
- Result of the exposure of physical hazards that reduce resilience
- Threats can be a combination of social and physical processes
- Haiti: A mosaic of vulnerabilities

## WHAT ARE THE FACTORS?

### Environmental

- Climate ( hurricane frequency, abnormal drought cycles)
- Destruction of natural biological systems and biodiversity
- Deforestation (1,5%) and its corrolary: Soil erosion and desertification: 1600 MT/HA/AN
- Under-valuation of soil potential

## SOCIO-ECONOMIC FACTORS

- Population: Density - 286 persons/km<sup>2</sup>  
Current Population: 8.4 Million  
10 Million in 2010 & 16 Million in 2032
- Population: Driving force of vulnerability
- Poverty: Only Less Developed Country in Western Hemisphere

146<sup>th</sup> on the Human Development Index

## GOVERNANCE FACTORS

- . Absence of land use planning
- . Massive growth of urban areas/  
ecological footprint of cities
- . Weakness/absence of capacities at  
different levels (individual, institutional,  
systemic)
- . Multiple institutional mandates &  
confusion despite some progress



## WHAT ARE THE CHALLENGES?

### POPULATION GROWTH

- What steps should be taken to mitigate vulnerability *and* reduce population growth rates?
- At what rate must we reduce population growth?
- What is required to achieve a reasonable demographic transition?

## DEVELOPMENT & ENVIRONMENT

- Environmental vulnerability of watersheds in Haiti is an issue of uncontrolled development, creating enormous environmental costs
- Improved land use management at municipal levels of government
- Regulate land use according to natural potential
- Advance of agricultural frontier
- Will government allow agriculture everywhere?

## DEVELOPMENT & ENVIRONMENT

- Loss of Haiti's natural heritage
- Heightened vulnerability
- Declining quality of life
- Overcoming constraints to achieving Millennium Development Goals

## **EARLY WARNING SYSTEMS & VULNERABILITY**

- Early Warning Systems reduce loss of human life and damage to property and fragile lands
- Early Warning Systems must be integrated with improved environmental management and ecosystem protection
- Early warning mechanisms should support numerous natural systems that buffer environmental disturbance