EVALUATION OF THE VULNERABILITY OF COASTAL COMMUNITIES TO CLIMATE CHANGE IN THE ISLAND ECONOMIES – THE CASE OF THE REPUBLIC OF MAURITIUS

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CLIMATE CHANGE

- Long term phenomenon that relates to atmospheric disturbances that do not concord with established norms
- Established norms since recorded history (from human writings or scriptures) and beyond (prehistory)
- Unobserved Patterns (Nature in disequilibrium)

IPCC Report

- Rise in Earth's temperature over last 50 years due to human activity
- Av surface temperature of the planet is projected to rise b/n 1.4 to 5.8 deg for period 1990-2100
- Rainfall patterns will be more sparse
- Sea-level to rise between 0.09 -0.88m over 1990-2100
- Projections show worse scenarios than what occurs today

Earlier Predictions

- Hotter summers
- Heavy rainfalls
- More storms
- More erosion
- Health problems
- Plants may die
- Food-chain disturbed
- Sea-temperature will rise

Extreme Events (Observed)

Changing rainfall patterns
Severe winters
Extremely hot and prolonged summers
Changing patterns of oceanic currents (surface and sea)
Unpredictable Storms (force and frequency, visit http://www.ipcc.ch/

ASPECTS OF CLIMATE CHANGE

- Episodes of extreme climatic events & their potential rise in frequency & intensity, used to connote CC
- Mauritius as SIS is concerned especially because of Oceanic Influences, Tropical Characteristics,Smallness & Its Topography.

Effects on Humanity

- Distortion of agricultural output
- Land slides
- Marine pollution and dislocation of fish stocks
- Threats to water resources
- Changes in coastal morphology
- Threats to private and public infrastructure
- Increasing health hazards (skin disorders, asthma, vector-borne diseases etc)

- Pests
- Food crises
- Losses of islands/landmasses
- Economic losses
- Ecological imbalances

Strategies To Be Adopted

- Climatic Engineering – Shooting of particualtes as coolant in the atmosphere
- Adaptation
- Mitigation
- Prevention

TARGETED COMMUNITIES OF THE STUDY

COASTAL COMMUNITIES (DIRECT TARGETS)

- FISHING COMMUNITIES
- FARMING COMMUNITIES
- AGRICULTURAL COMMUNITIES
- POPULATION AT LARGE
- ECONOMICALLY DISADVANTAGED POPULATIONS

TARGETED REGIONS

- POINTE-AUX-PIMENTS
- CASE NOYALE
- RIVIERE DES GALLETS
- QUATRE-SOEURS

OUR CONCERNS

- Health hazards and complications (malaria, dengue,chikungunya, aesthma etc)
- Loss of lives
- Loss of output (agricultural, farming and fishing)
- Food Crisis and Inflation
- Damages to public and private infrastructure
- More public support, indemnities and tax burdens
- Water shortages

POTENTIAL RISKS BASED ON HISTORICAL DATA

- Storms & Floods

Storms	Rainfall in mm	Wind Speed in km/h
Alix (Jan 1960)	645	200
Carol (Feb 1960)	508	260
Danielle (Jan 1964)	795	216
Gervaise (Feb 1975)	533	280
Claudette (Dec 1979)	300	218
Hollanda (Feb 1994)	494	216

- Droughts 1983, 1999, 2007,2011/2

OTHER OBSERVED PATTERNS

- Instability in sea-level
- Decline in Long run rainfall average across the island
- Extreme summer
- Acute rainfall deficiency
- Decline in average storms visiting Mauritius over last decade compared to the 1960-1980 period

Objectives of Our Study

- Identify the Challenges to Adaptation
- Identify characteristics of mitigation
- Assess the varying degree of vulnerability
- Ascertain the knowledge gap in understanding climate change
- Evaluate institutional support and inadequacies
- Provide policy recommendations

ACHIEVEMENTS TO DATE

- Review of Literature is over
- Discussions with the Kis are over
- FGDs are completed
- Methodology has been identified & retained
- Questionnaires in Eng & Creole done
- Field work is over

Methodology

Sustainable-Livelihoods Method (DFID, 1999)

Assess/evaluate the impact of climate change on (Resulting loss in)

- Social capital
- Economic capital
- Natural capital
- Physical capital
- Financial capital
- Institutional capital

Key Informants Interviewed

- Ministry of Environment
- Beach Authority
- CWA & Irrigation Authority
- Ministry of Agriculture
- Ministry of Fisheries
- Ministry of Tourism
- Mauritius Meteorological Services
- FARC
- MOI

FINDINGS FROM FOCUS GROUPS

- Term climate change is not well understood
- Understanding its impact is even more remote
- People cannot associate climate change with food crisis and health problems
- What should be done as mitigation is a complex issue (where to start)
- Fire Alarm approach
- Authorities are addressing defects in public infrastructure
- Many local associations exist that could help subsequently

Expected Outcomes

- Provide a template for risk assessment(track most vulnerable 1s)
- Identify the dynamics thru' which extreme weather patterns may affect livelihoods
- Assess mitigating methods
- Identify constraints to adaptation
- Evaluate institutional constraints

THANK YOU FOR YOUR ATTENTION