



**CENTRE *for* ELECTROMAGNETIC  
and LIGHTNING PROTECTION**

# MITIGATION OF DISASTERS DUE TO SEVERE CLIMATE EVENTS: FROM POLICY TO PRACTICE

**Chandima Gomes**  
Universiti Putra Malaysia



*Thailand has sound disaster management plan and has done a lot of research on the subject.  
Floods is not a very uncommon phenomena in Thailand.  
But when the floods hit Bangkok in 2011*





*Kenya has developed one of the first National Disaster Management Policies in the world: A very comprehensive document.*

*But last year, in Nairobi, the Capital City*



*Pakistan is known for the disastrous floods almost every year for the last decade.  
Pakistan government and scientists may definitely have worked towards mitigation policies  
And it hit in 2014 as well.*



*Every year lightning kills about 50 people in Sri Lanka.*

*Millions of dollars are lost due to property damage*

*The country boasts about having the longest surviving lightning research group in Asia;*

*First country to develop National Policy on Lightning Protection;*

*SL scientists have contributed a lot to develop lightning protection and safety technology all over the world.*

*We are now in 2015..... Same rate of deaths, may be the same amount of loss....*





## *NATURAL DISASTERS .....!!!!!!*

*There are **NO** “Natural Disasters” on earth*

*There are only “Natural Events” and “Human Disasters”*

*The first can hardly be avoided... at least by today's tech*

*The second is well within control..... But Just a Policy or Policy + Guidelines won't serve the purpose*

**What is lacking in our mechanism....?**



What is ultimatum of all our efforts..?

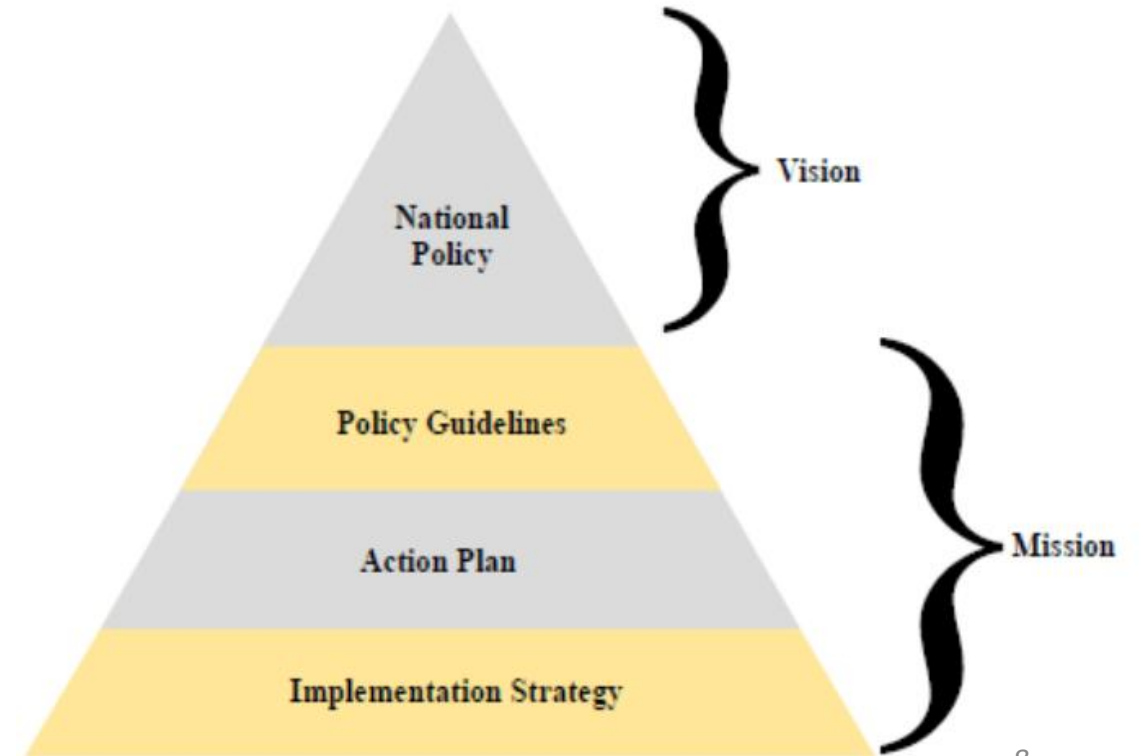
*Reduce (if it is not prevent) the human disaster due to extreme natural events...*

*If this goal is not achieved all our efforts are in vain .... WHATEVER THE POLICY AND GUIDELINES THAT WE HAVE*

*We propose two pathways:*

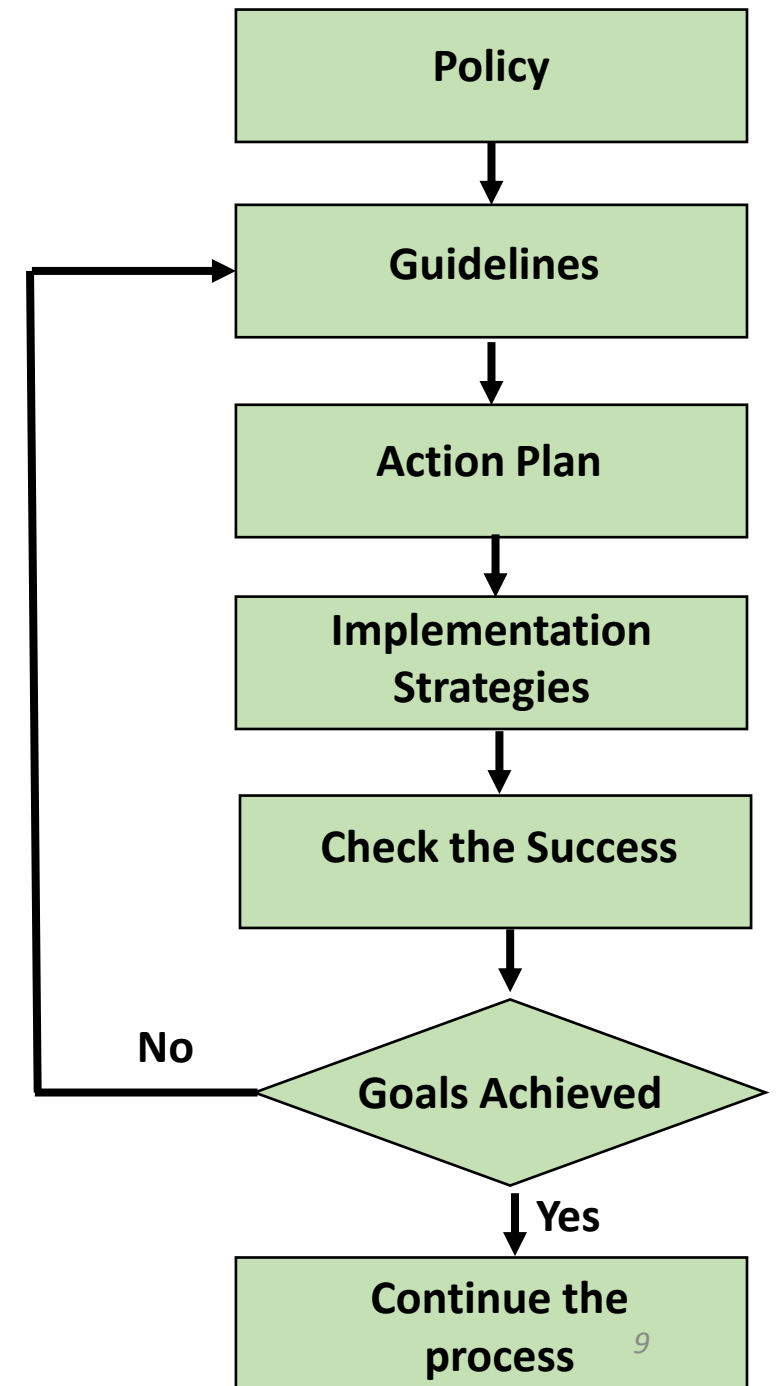
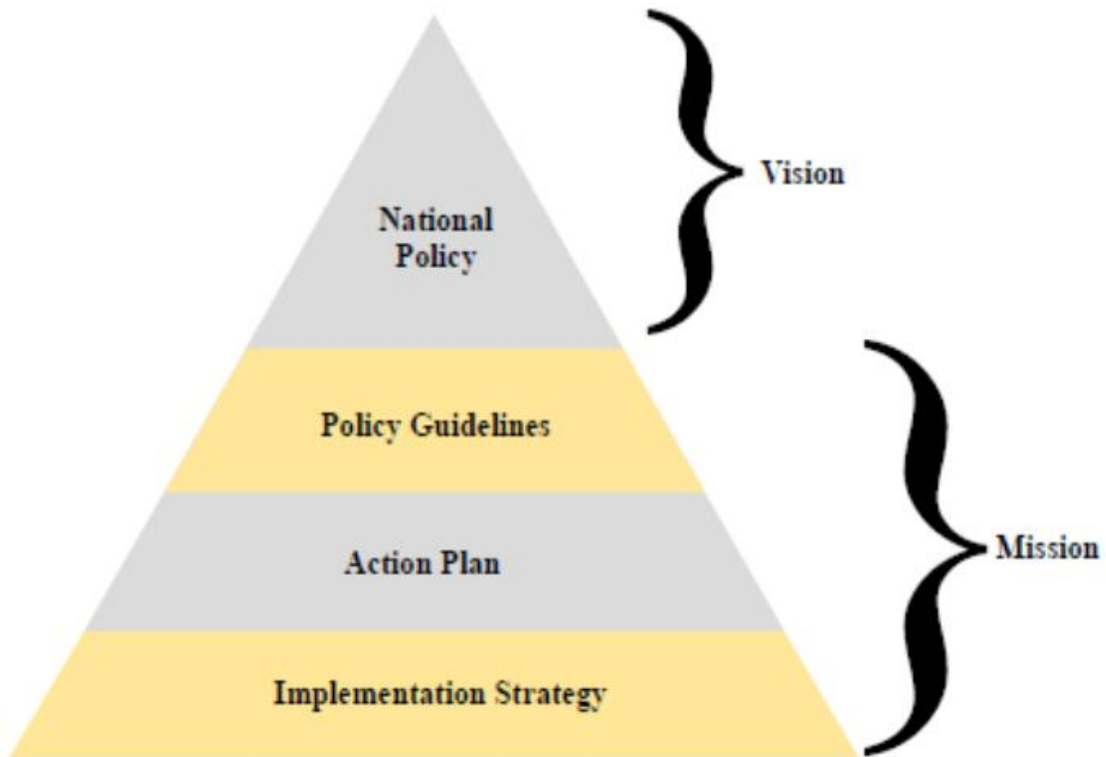
- 1. Order of process of disaster prevention*
- 2. Order of Hierarchy of risk reduction*

## **Order of process of disaster prevention**

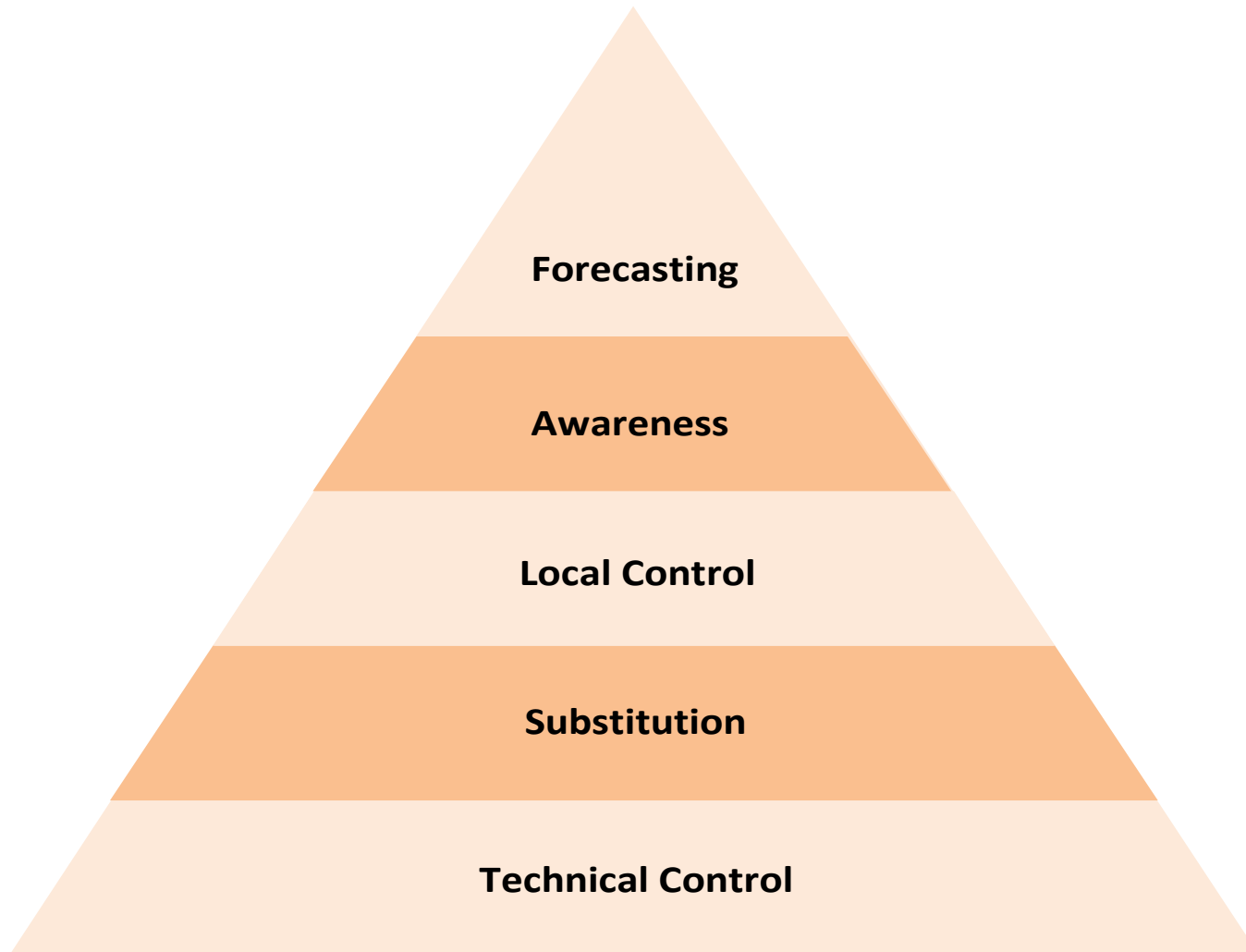




- *Policy: Our thought pattern and visionary goals*
- *Guidelines: The ways of achieving the goals*
- *Action Plan: What to do, when and by whom*
- *Implementation strategies: How to achieve at ground level*



# Order of Hierarchy of risk reduction



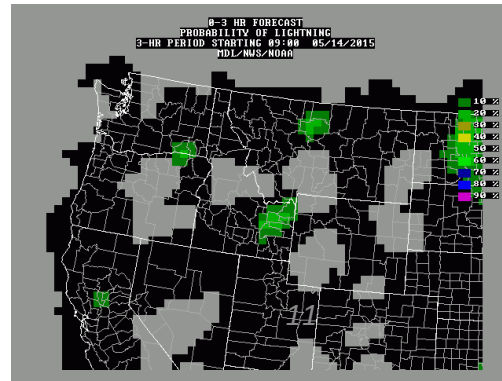
# Forecasting: Responsibility Meteorology Department...?

**We need a good business model**

**Forecasting is not simply the issuance of information on weather to happen**

**It is a process in which the ultimatum is the reaching of weather/event prediction to a potential victim**

**Then make sure that the victim applies the information to maximize safety**





Awareness: Without awareness; forecasting and safety measures become meaningless

- *Whose responsibility...?*
- *Coordinated effort is essential*
- *Level of target group is of prime importance*
- *Promotion with vested interests*
- *Should be a dynamic process*



# Local Control: Who commands what to be done

- *Who decides*
  - *Forecast information dissemination*
  - *Issuance of evacuation*
  - *Oversee new settlements, new structures, landscape modification, industrial development etc.*
  - *Suitability of safety structures and protection devices*
  - *Immediate pre-event, during-event, immediate post-event action*
  - *Post-event relief*
  - *Resettlement and loss recovery*

*Well defined order of hierarchical control is an essential ingredient of risk reduction*

Substitution: How to sustain the livelihood of the affected during the event

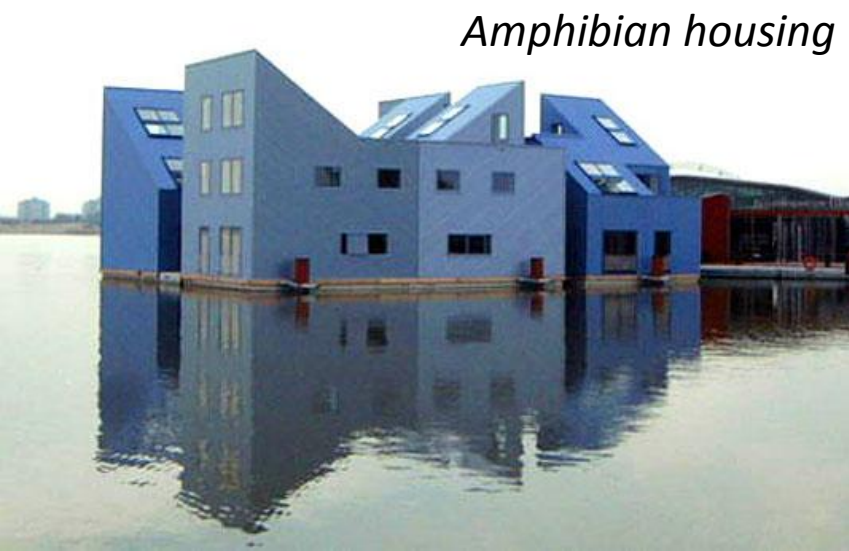
- *This is the least considered in the process ladder and most effective in mechanism failure*



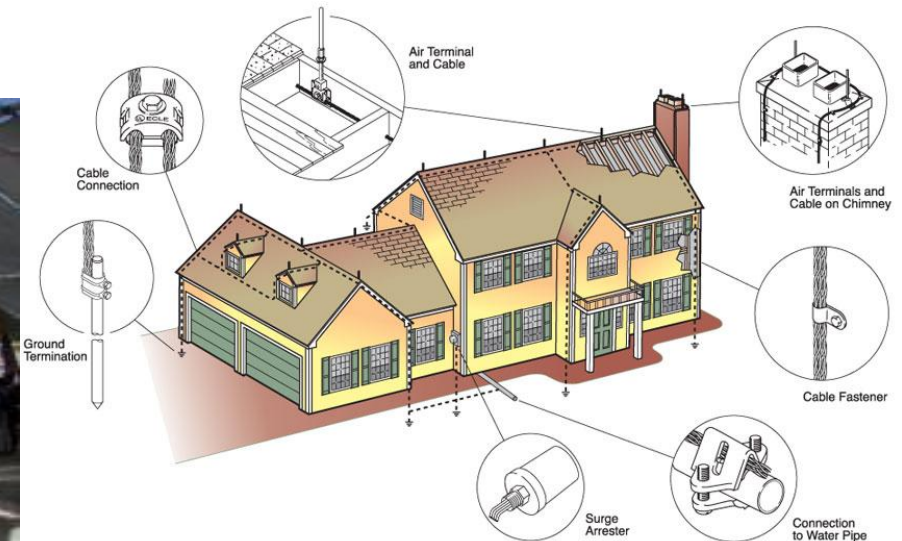


# Technical control: This is where technicality comes into the picture

- *Safety structures, safety mechanisms, protection techniques*
- *It is important to adopt the right technology*
- *Promote research when existing solutions are not suitable*
- *A solution for one region may not essentially be applicable in another region*
- *Encourage innovators and investors*



Dust storm shelters

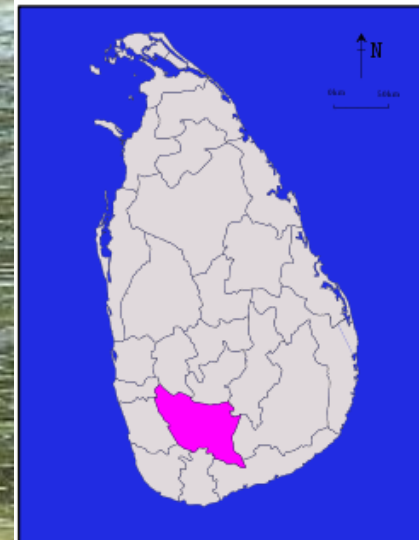


Lightning protection system



# One simple example to end up

- Ratnapura city is well known for getting affected by floods for the last century.
- For all these years the responsible authorities plan warning, evacuation, post-flood relief services etc.



# One simple example

- No action (or minimal action) has been taken to develop water egresses, improve drainage system, prevent land clearance and unsuitable human settlements, prevent dangerous mining and excavation activities etc.
- And they talk a lot at school seminars, civil service meetings, political platforms, etc. on how to stop cutting trees, vehicular emission, factory emission etc.

**Once in a while it rains heavily, the city get submerged in water, many people get affected and properties are lost, authorities give some tents and dry rations, then start blaming one another for being inefficient..... and the story repeats**



Let's work meaningfully and reduce the losses

