

PERCEPTION OF SOCIAL VULNERABILITY IN RELATION TO FLOOD SITUATION IN MUMBAI

Dr. Maya Parihar Malhotra
Civil Defence ,HQ Officer
HOD , Dept of Transfusion Medicine
Bombay Hospital

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Perception of Social Vulnerability

Dr Maya Parihar Malhotra
Civil Defence ,HQ Officer
HOD , Dept of Transfusion Medicine
Bombay Hospital

3rd Workshop of GCOE_HSE Mumbai Base on
Managing and Reducing Social Vulnerability in the Context of Flood Risks in Mumbai



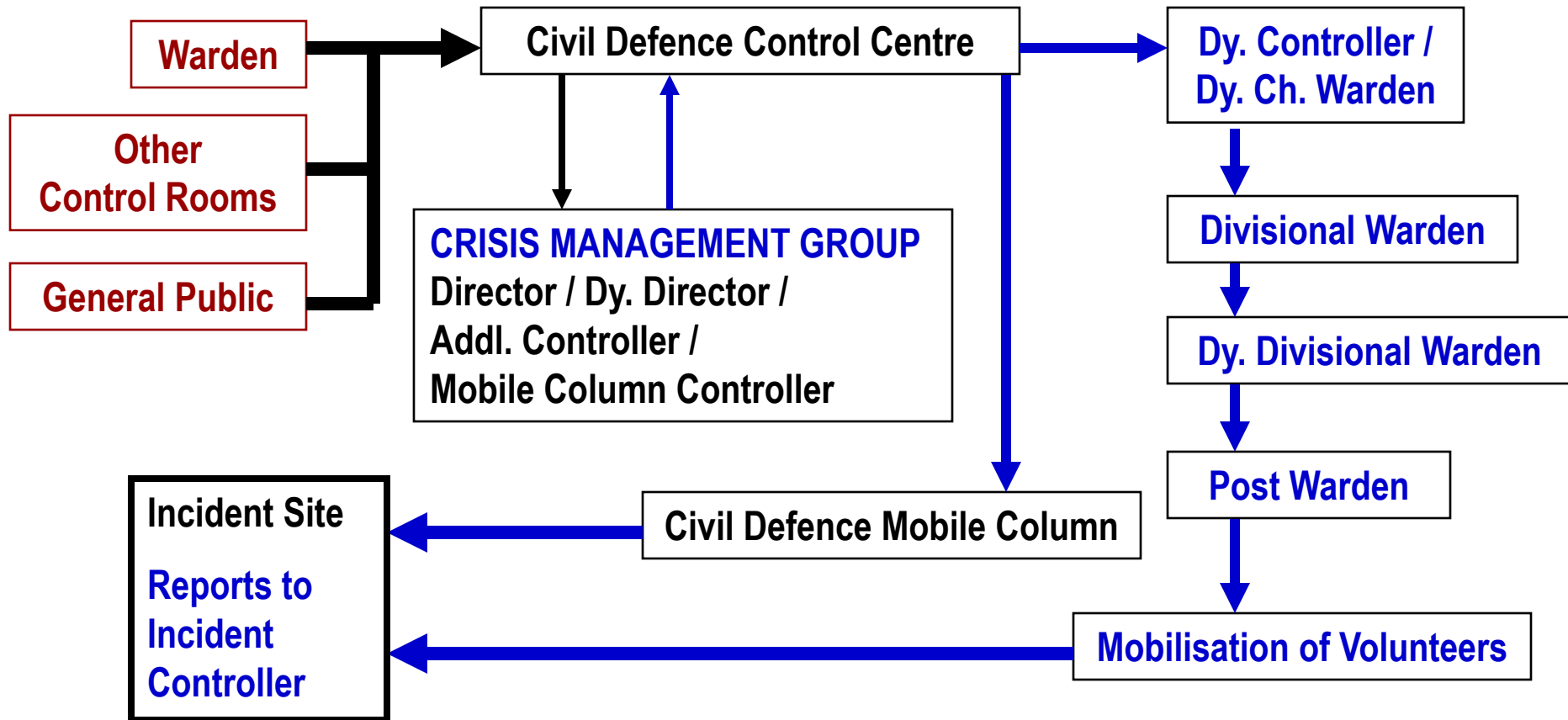
DISASTERS



MUMBAI WADES ON WETTEST DAY

Existing
EM
Framework
Jan 2010

Internal Working of Civil Defence



आपत्ती

व्यवस्थापनाचे

टप्पे

STAFF TRAINING























- **Bill passed to empower civil defence to handle disaster management**
- PTI
- Friday, December 18, 2009 15:32 IST
- **New Delhi:** A bill to empower civil defence to deal with disaster management work, apart from protecting people and their property in case of an attack, was passed by the Lok Sabha without any debate today.





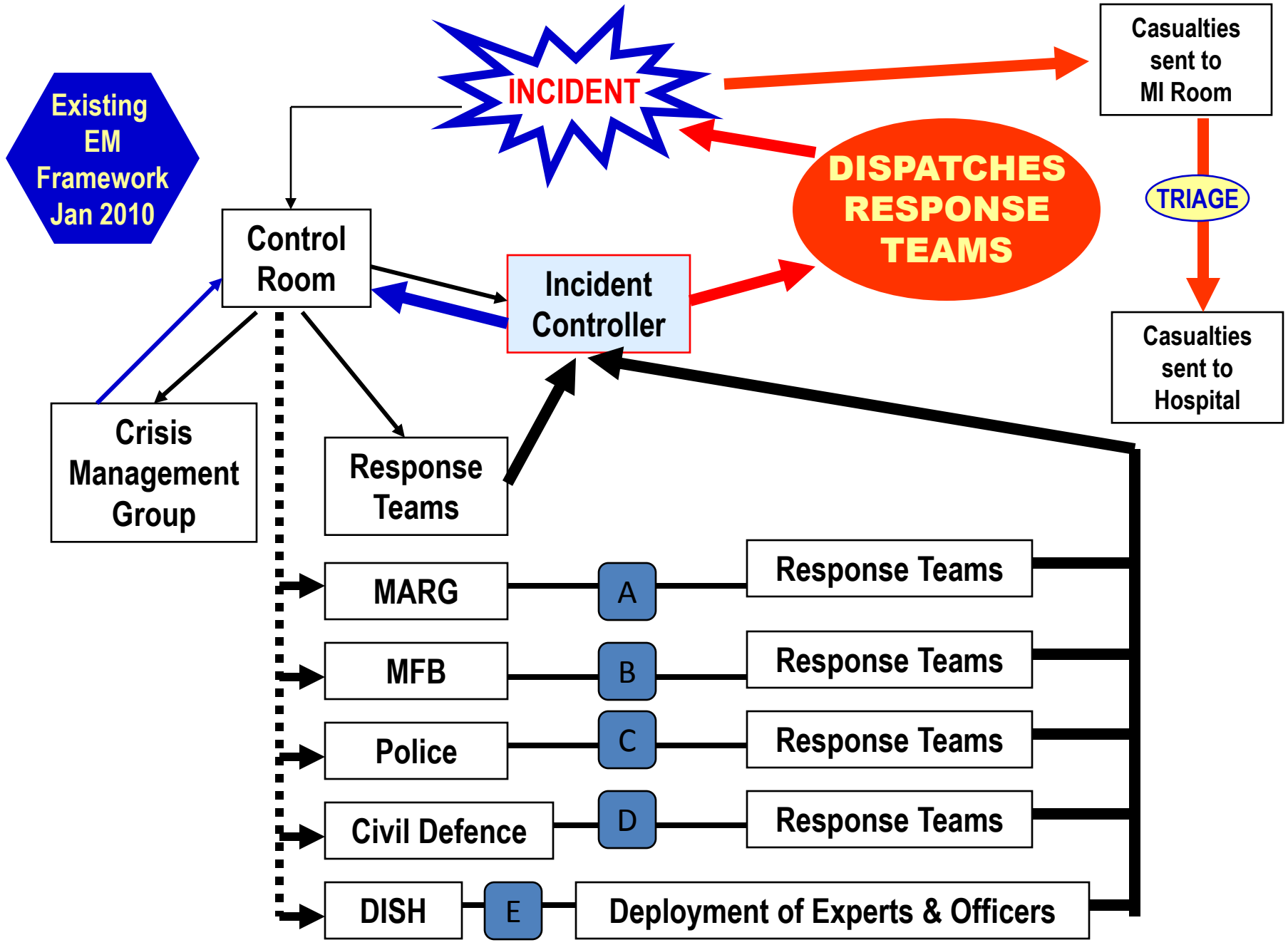
CIVIL DEFENCE CORPS, BRIHANMUMBAI
LIST OF FIRST AID POSTS
ON THE OCCASION OF GANAPATI VISARJAN

Sr. No.	Division	Place
1	D	Girgaum Chowpatty
2	G -North	R.B.I. Quarters, Near Kismat Talkies, Prabhadevi.
3	G - North	Dnyaneshwar Mandir, Shivaji Park.
4	F - North	Shankar Temple Talao, Sion.
5	L	Turde Wine Shop, Bail Bazar, Kurla.
6	H - East	Kalanagar Traffic Junction, Opp. Bhaskar Court Building.
7	H - West	Ram Mandir, Khar Danda.
8	H - West	Near Police Chowky, Juhu Chowpatty.
9	M- East	Trombay Jetty.
10	M - West	Teen Talao, Chembur.
11	N	Ganapati Immersion Ghat, Powai Lake.
12	S	Shivaji Talao, Near Saaz Cinema, Bhandup.

NATURAL HAZARDS EXPOSURE AS PER MUNICH RE CLASSIFICATION

For various natural perils, Munich Re natural risk exposures are as shown in the following table [Mumbai co ordinates 19 deg 5' North , 72 deg 15' East]

Hazard	None	Low	Moderate	High	Remarks
Earthquake				√	High
Volcanic eruption	√				None
Tsunami	√				None
Tropical storm		√			Low
Rain flooding				√	High
Storm surge				√	High
Tornado / Cyclone		√			Low
Hail storm			√		Moderate
Lightning		√			Low





Evacuation Plan

General Features

Preparedness Measures –



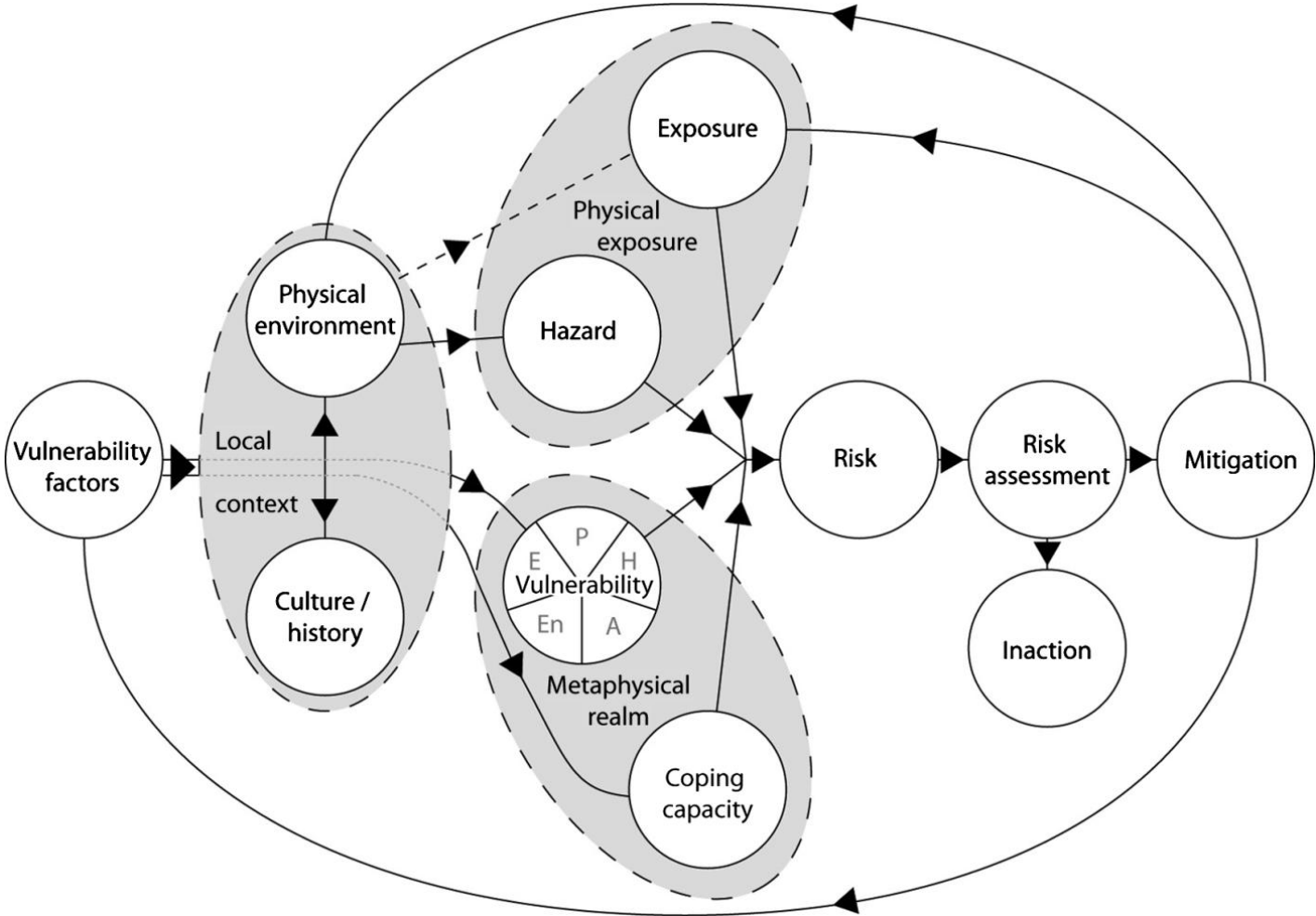
- a) Decide Mitigation Measures.
- b) Identification of Vulnerable Spots
- c) Identification of Escape Routes.
- d) Identification of Assembly Spots.
- e) Procurement of Equipment.
- f) Institutional Framework.
- g) Formation of Response Teams.
- h) Developing Internal Communication.
- i) Installing Internal Warning System.
- j) Training & Rehearsals for Occupants.

Social vulnerability,

definition by Blaikie *et al.* (Blaikie, et al., 1994; Messner and Meyer, 2005).

“the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard”

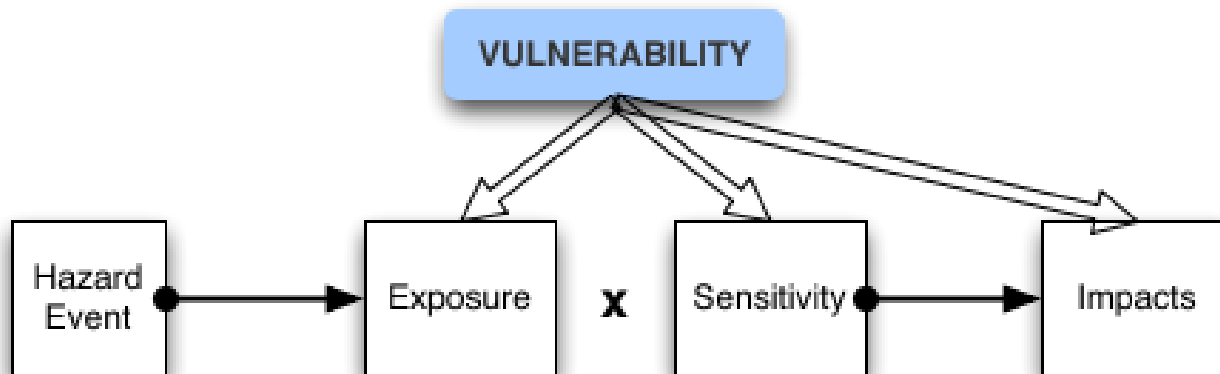
SOCIAL VULNERABILITY - CIRCLE

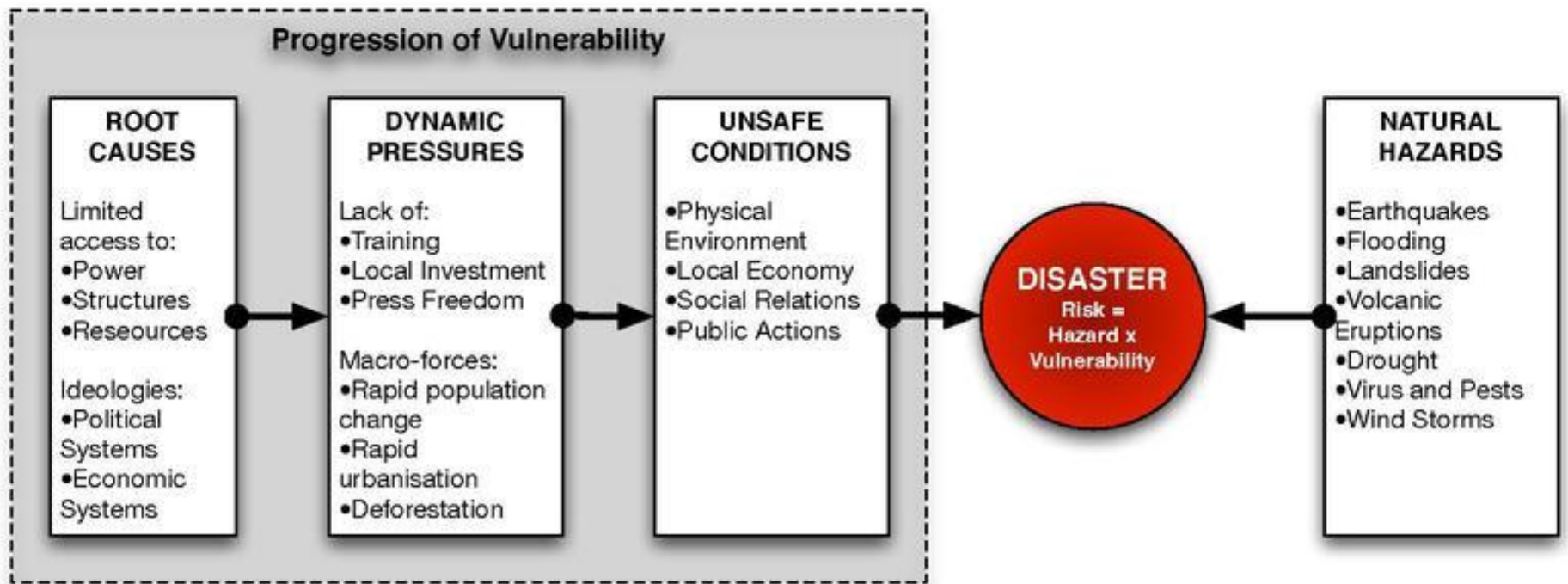


TWO MODELS

1- risk hazard model

2- the pressure release model





Pressure and Release (PAR) model after Blaikie et al. (1994) showing the progression of vulnerability. The diagram shows a disaster as the intersection between socio-economic pressures on the left and physical exposures (natural hazards) on the right

ADAPTATION FACTORS

Physical

Spatial / temporal

Social

Cultural

...

DAILY

CRISIS



Adaptation / Resistance

Social vulnerability is understood as a specific form of social inequality in the context of a so-called disaster

a relational concept:

means being vulnerable to something (e.g. to flooding),

more important, always implies (but is rarely made explicit) that other social groups, usually on the opposite side of a certain continuum (be it income, qualification or professional status) are not regarded as vulnerable.

social flood impacts

flood characteristics

- Inundation depth
- Velocity
- Speed of water rise
- Duration and frequency
- Pollution and debris
- Time of flood

Exposure

In

- Outside

Personal characteristics

Age

- Income
- Health status
- Family structure
- Nationality
- Property type

“Community”

- locally based group of people (e.g. a village)
- social networks of individuals belonging together because of specific interests and objectives as well as of ties based on kinship or positive emotions.

- the linkage between cultural factors and social resilience to natural threats
- these aspects may modify social vulnerability.
- Hispanic evacuation in Hurricane Katrina

- Community-based approaches to flood mitigation aim to build the capacity of local people to respond quickly and effectively.

Methodology

- flood characteristics exposure personal characteristics
- flood risk maps
- social vulnerability index
- social vulnerability maps
- Age, health, family structure,
- financial situation, nationality
- and property type

Adaptation policy

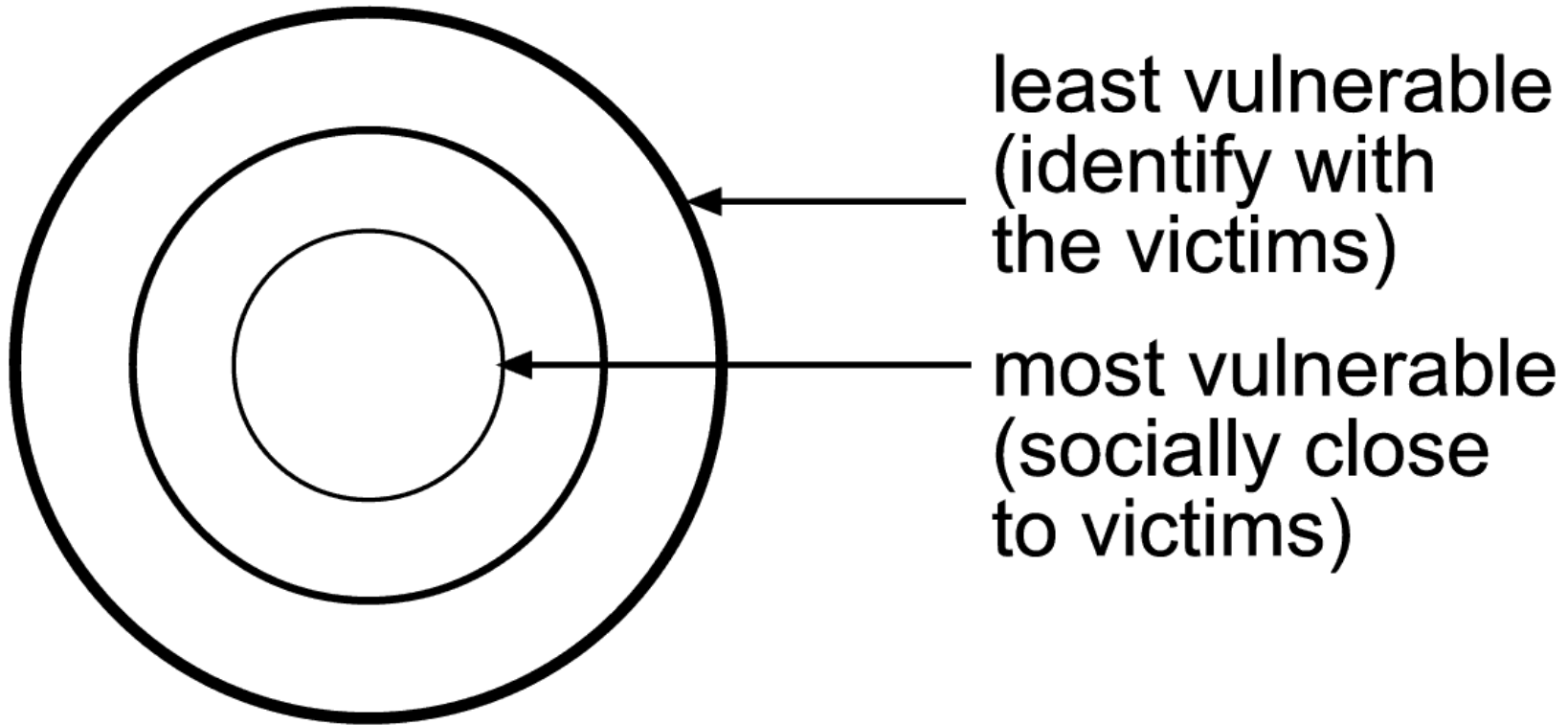
early evacuation of elderly,
adapted insurance program for
financially deprived people, spatial
planning

After the flood: f.e. supporting recovery
programs for socially vulnerable areas

Floods can cause health impacts which are enduring, including the stress and trauma created months or years afterwards whenever floods again appear to threaten.

These can be severe. Loss of treasured possessions in floods can be 'heartbreaking', and much more significant than financial losses,

Three Circles of Psychological/Social Vulnerability



- Role of media

Response agencies

- Local
- State
- National

Vulnerability reduction is a human rights issue; risk reduction is not.

Sarewitz et al. (2003)

YOU ARE:

The most critical part of the quality system

The nations greatest asset

The most important partner in disaster



YOU ALSO:

Bring your integrity and professionalism to the community

THANK YOU



