

Disasters and Urban Space

Master M.I.T

Action Humanitaire Internationale et ONG

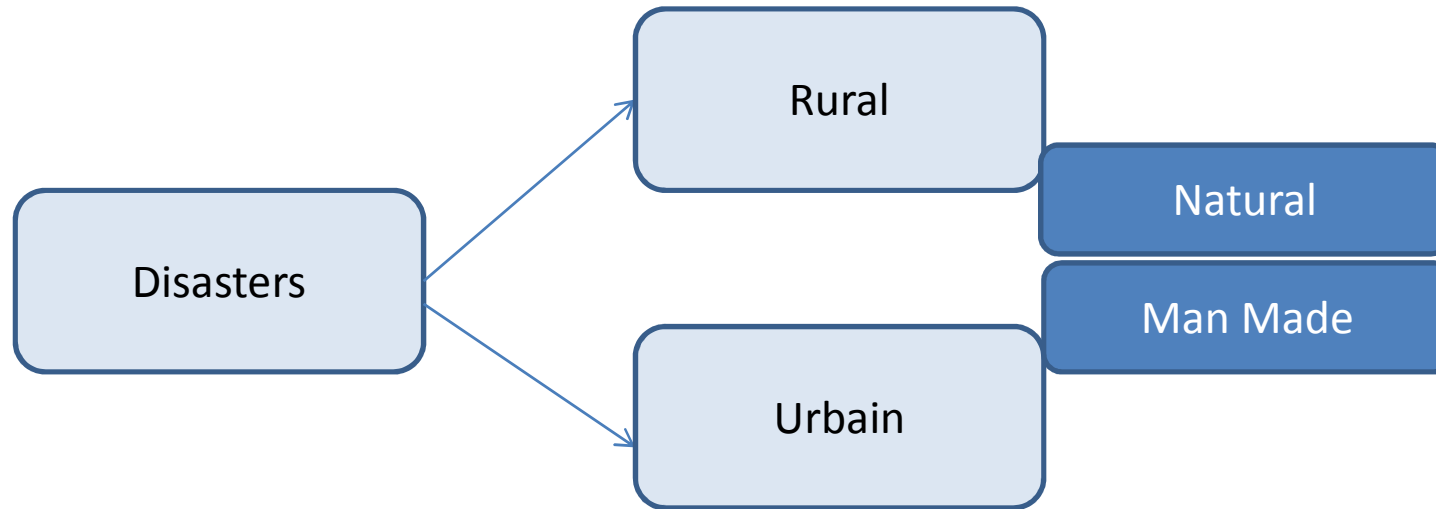
Semestre 1 – UE 5-A

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Disaster and urban Environment



The classes will help to understand and analyze the following points related to Disasters and Urban Vulnerability.

1. The specific characteristics of Disasters – an understanding
2. What is specific to urban disaster
3. Understand the risk and vulnerabilities in the urban context
4. Who are the vulnerable in the urban context.
5. How the urban disaster affects the urban population
6. Analysis of resilience and developing strategies for reducing disaster impacts
7. Programming disaster response et prevention.

What is specific to urban disaster?

There has been a constant trend of urban development which has been accelerated by Globalization.

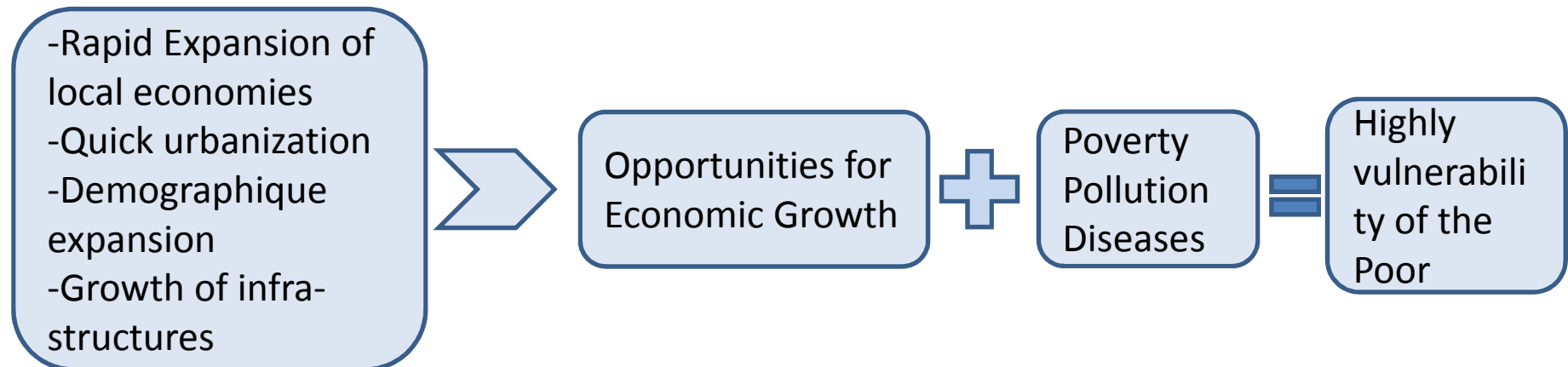
At the global level there were 2,9 Billion urban residents in 1990 and it is estimated that they will reach 5 Bn in 2030. In 2010 the urban population is estimated to be 3,5 Billion .

1 out of every 4 person will live in a city of 500 000

1 out every ten person will in a city of more than 10M inhabitants.

This trend will be particularly visible in the developing countries, particularly in Asia

- As a result :



What are the characteristics of an Urban Environment ?

- High density of population living in dire conditions
- Large informal settlements
- Poorly built and unsafe housing infrastructures
- Due to their isolated conditions of life and lack of government policies, a majority of the urban dwellers live in ghetto or in slums
- inadequate or inexistent services (lack of insurances, savings, assets , education etc)
- Poor access to health facilities and health care leading to diseases or becoming highly vulnerable to diseases.
- Food security and balanced nutrition is a major challenge. Insecure water and pollution
- Social conflicts and violence are prevalent in order to have access to scarce amenities.
- There is lack of clear government policies for urban planning, lack of integration schemes for the urban dwellers in unsafe conditions.
- In such conditions, the urban environment is highly vulnerable to any Hazard and disaster risks are high.

Vulnerability, then, depends on a host of parameters, urban planning, socio-economic, political, demographic, psychological, historical, technical, functional, etc.

What are the characteristics of urban vulnerability

- The urban space is fragmented and segmented that is, its social and physical dimensions
- Vulnerability is associated to downward social mobility which include process leading to exclusion. Social groups and areas are at risk
- The urban population is considered highly vulnerable because of the following factors :
 - Poverty conditions due to the lack of regular individual or family income because of non insertion or precarious insertion in the work market.
 - Non access to services and facilities {housing, health care, education, basic sanitations and electricity.}
 - Lack of adequate basic skills needed to attain certain minimally acceptable professional or social levels
- The urban population is highly vulnerable due to lack of “satisfactors “, which are possible means to satisfy the human needs . The satisfactors are not just economic means or goods available. They refer to anything that represents the way of being, having and doing which contributes to the achievement of human needs.
- The vulnerability is accentuated because adverse conditions or adversities affect the victims who are already in a state of poverty, and the impact is not only individuals and families, but the whole social network {families, neighborhood etc}
- From the social point of view, vulnerability is a situation of inequality and lack of opportunities that prevents people from overcoming it and even brings them to neglect these opportunities or neglect the access to information to seize these opportunities.

What are the Vulnerable groups in an Urban Environment

Vulnerable Groups	Related problems
Elderly and disabled	Often the poverty situation leads to the abandon of the elderly who are victims of poor health conditions and malnutrition. They are the most affected at the time of disasters.
Chronically Ill	These groups do not get the necessary treatments or has access to health care. At the time of disasters they are also the most affected
Street Children	Orphans and street children in urban areas are not so invisible but a high vulnerable group
Recent Migrants	This category of people are those who have left their villages in search of livelihood in the urban areas.
IDP	Are those who are internally displaced voluntarily or forced, for economic reasons or due to conflict situations.
Women and children	Highly vulnerable both socially and economically. Often Children are the first to be affected at the time of disasters

Conditions that create vulnerability

- Over crowding and poor living conditions
- Lack of access to clean drinking water and adequate sanitations leading to health hazards + communicable diseases.
- Lack of hygienic conditions
- Food insecurity due to rise in food price.
- Loss of livelihood and income
- The vulnerability of the urban poor is exacerbated by three factors :
 - The governments have rarely the capacity to provide safe living conditions : Water, housing, drainage systems etc.
 - The impoverished conditions of the poor compels them to live in hazard prone areas or in substandard crowded environment
 - The community is exposed to a variety of hardships “the stress bundles”

The duration of the disruption of city life due to a catastrophic phenomenon will depend on its intensity. The catastrophic consequences on the components of urban space are located in different time periods, beginning at the moment the event takes place, and lasting until the moment the system affected regains its stability.

Nature of Urban Risks

- The prominent among the disasters striking urban settlements frequently are floods and fire, incidences of landslides and cyclones.
- Urban seismic risk is on the increase. The mega cities are particularly at risk in terms of seismic disasters. An earthquake in a big city can create havoc both in terms of economical and human loss
- Tropical cyclones or typhoons with heavy precipitations, which contribute to urban flooding leading to loss of property and human life.
- High level of pollution and air conditions leading to health hazards.
- Water pollution and deficient sanitation leading to epidemics and chronic diseases.
- The coastal areas of certain urban cities are threatened by tidal waves created at the times of cyclones .

Analysis of Resilience- Indicators

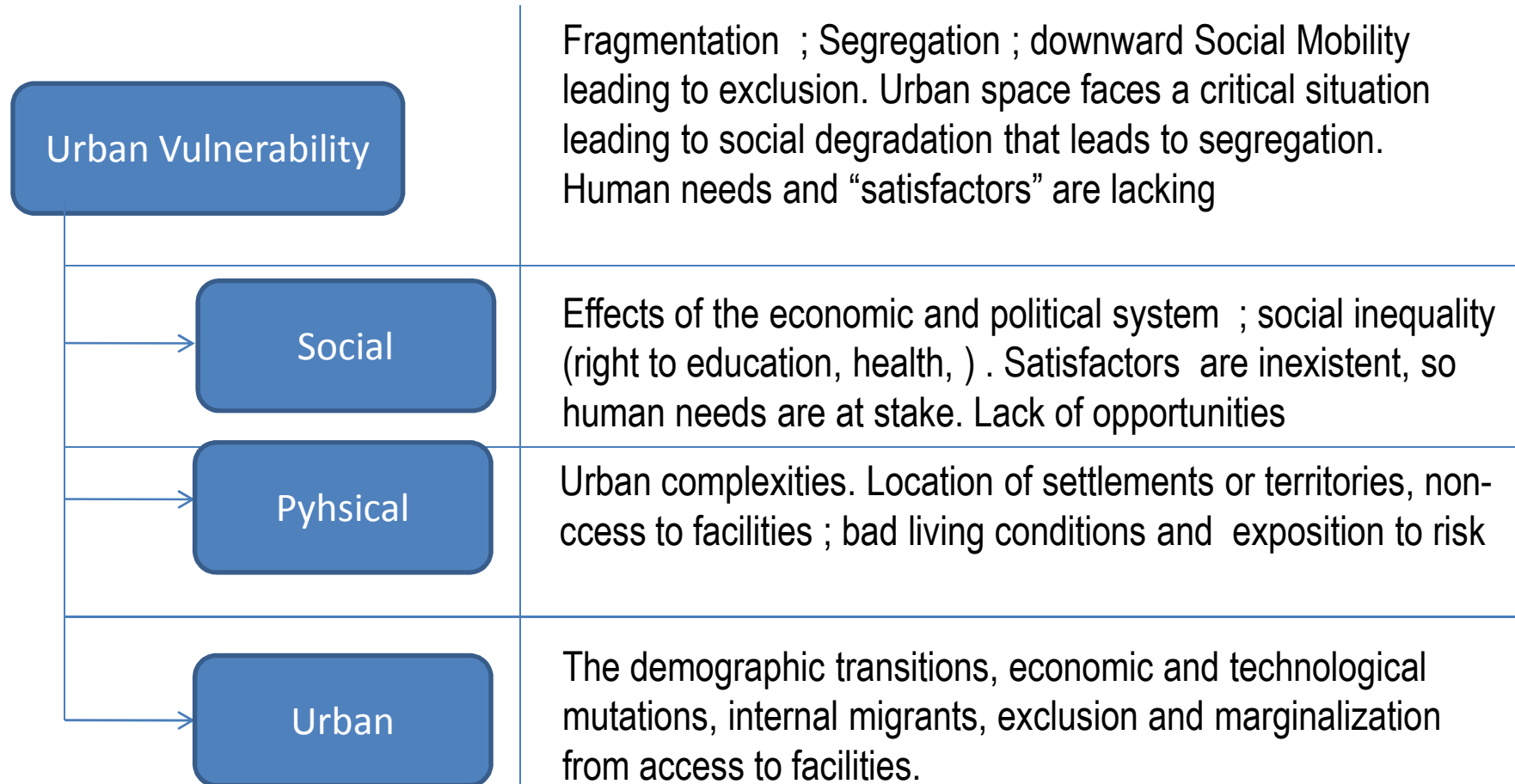
Factors affecting resilience	Indictors	Negative variables	Protecting or facilitating factors
Individual	Reactivity	Intensity of the trauma	Self esteem, hope
	Independence		Optimism
Family environment	Social intercourse	The suddenness of the disaster	Endurance to stress
	Initiatives	Mental health conditions before the disaster	Sociability
Community environment	Creativity	Lack of social intercourse (culture, professional etc.)	Emotional capacity
	Rapid Decision		Positive attitude before problems
	Capable of accepting situations		

Based on an analysis of these factors we define the vulnerability of the affected population : High resilience, Moderate resilience, resilience, low resilience, total inability

Major disasters 2000-2010

Year	Disaster	Country	Death	Affected	Total damage
26.01.01	Gujarat	India	20000	6300000	2,6
11.8.02	Dresden floods	Germany	27	330108	11,6
26.12.03	Bam	Iran	27000	270000	0,5
26.12.04	Tsunami-Asia	Asia	226408	235000	9,2
26.07.05	Mumbai floods	India	1200	20000000	3,3
29.08.05	Katirina	US	1900	500000	125
8.10.05	Kashmir EQ	Pakistan	74000	5500000	5,2
27.05.06	Yogyakarta-EQ	Indonésia	5900	3200000	3,1
2.5.08	Cyclone Nargis	Myanmar	140000	2500000	4
12.05.08	Sichuan EQ	China	88000	45000000	85
12.01.10	Haiti EQ	Haitie	222600	3400000	
			807035	87235108	249,5

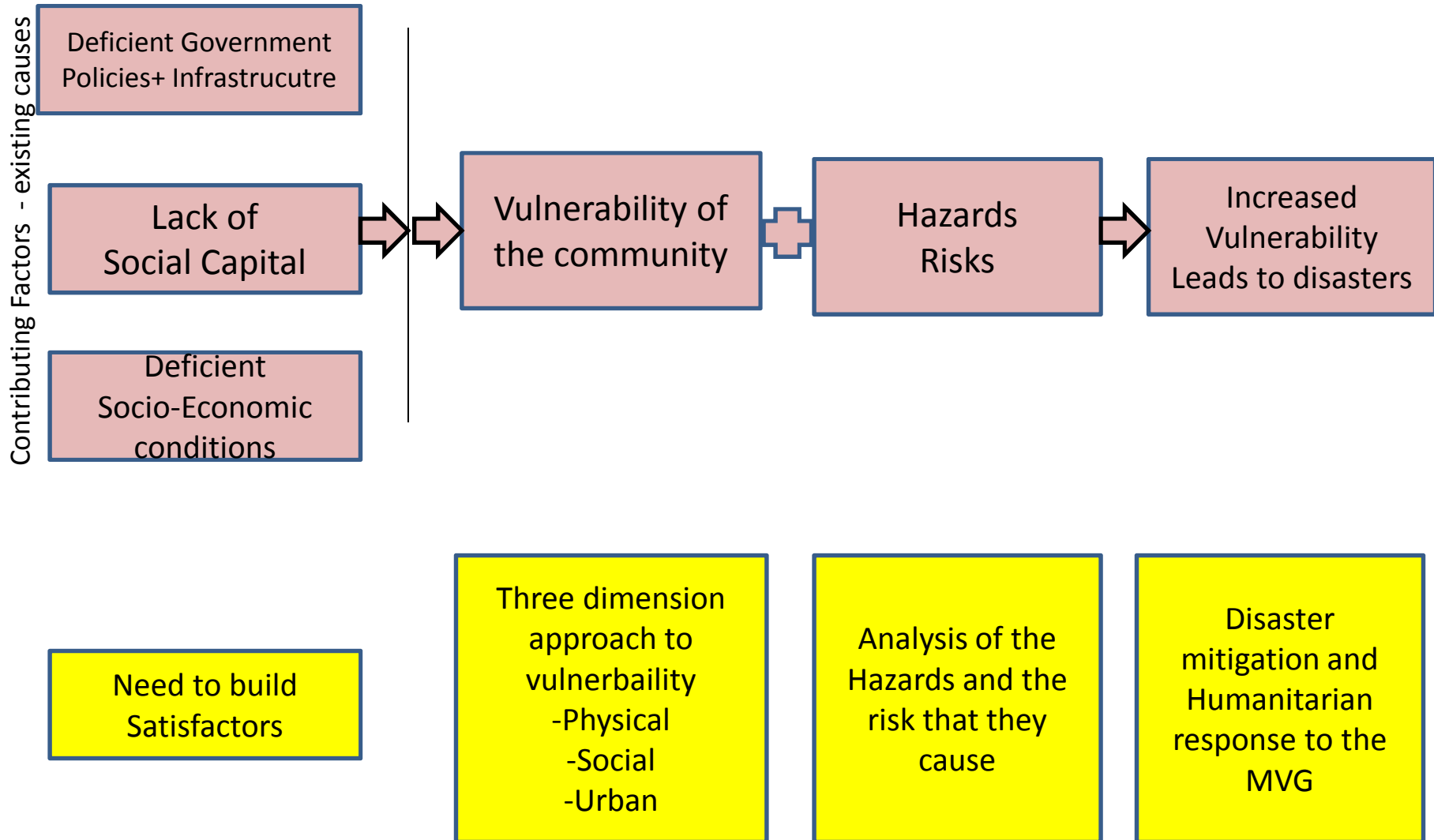
Approach to Urban Vulnerability



- The higher the exposure of a settlement the greater the risk before a threat
- A great exposure leads to a reduction in the resistance of a population facing a threat
- The greater the risk, the resistance of a settlement must be large to handle the threat.

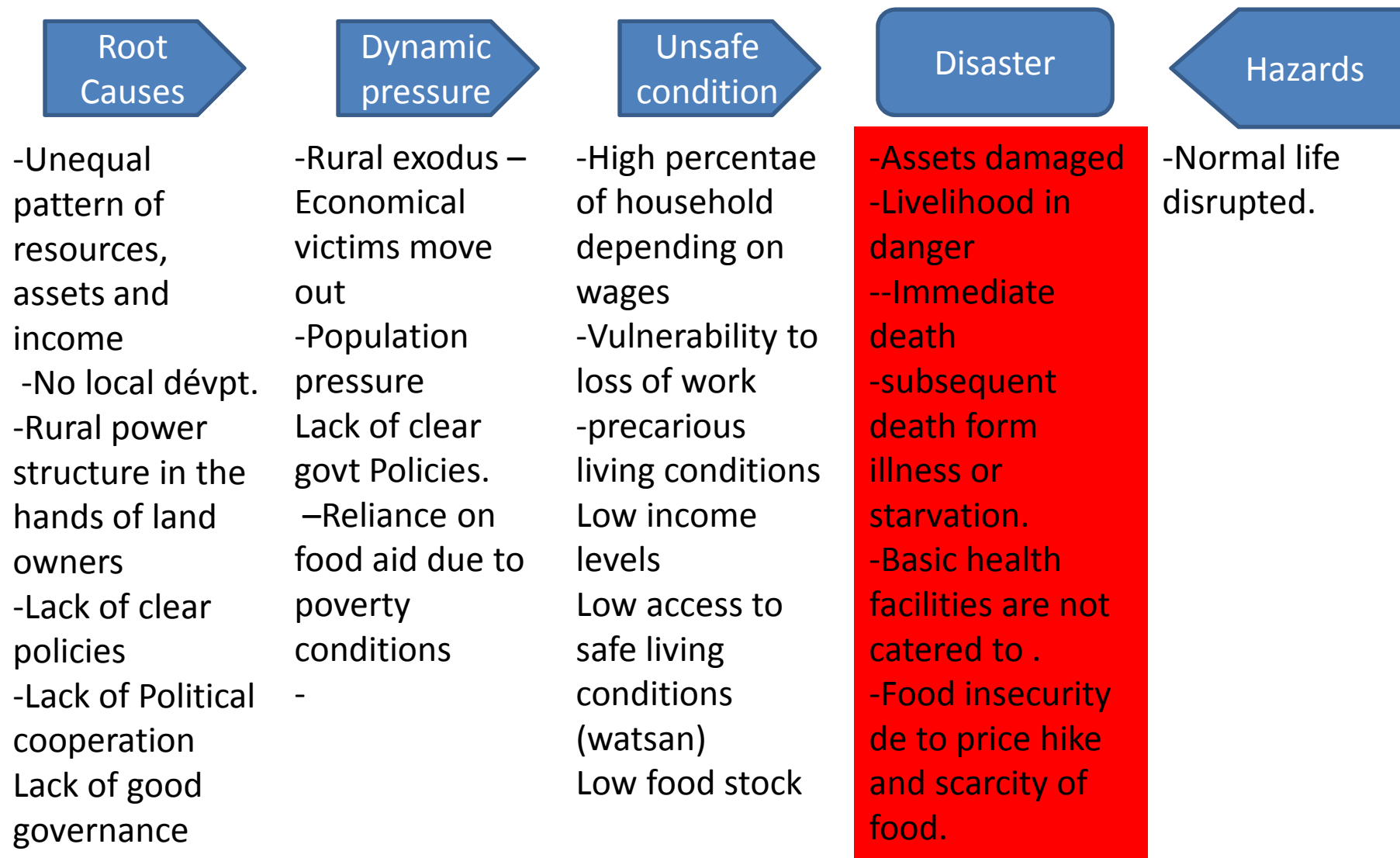
Need to strengthen the resilience of inner urban area to overcome threats of different kinds.

Urban Disasters



Urban vulnerability and Disasters

Framework for analysis



Real Life Cases

Fire disaster in Phnom Penh

- In 2008, a massive fire broke out in an illegal settlement area and about 450 families who came back after participating in the festivals, found their houses reduced to ashes. These dwellers are those who migrated from the village to find eke out a living in the city with the hope that they will have a better life. The average composition of the family is about 6 members . There are many children of low age and pregnant women.
- Your organization along with two other NGO is asked to organize the disaster response.
- You are asked to identify the Risks, the most vulnerable group and organize the relief activities with a major focus on early economic recovery.
- The government has promised to give a vacant land for three months and awaits suggestions from the three NGO

Yogyakarta earthquake, 2005

- Earthquake in Yogyakarta and Central Java On May 27, 2006, an earthquake
- measuring 6.3 on the Richter scale struck Java island about 33 km south of Bantul
- district in the highly urbanized Yogyakarta Province.¹⁹ The tremors lasted for 52 s,
- and hundreds of aftershocks followed. Striking in the early morning hours, the
- earthquake trapped many people in their homes, which subsequently collapsed. The
- disaster took over 5,700 lives (4,659 in Yogyakarta Province and 1,057 in Central
- Java province) with injury estimates ranging from 37,000–50,000. The total
- amount of damages and losses was initially estimated at US\$3.1 billion, i.e., much
- higher than those caused by the tsunami in Sri Lanka, India, and Thailand, and
- similar in scale to the earthquakes in Gujarat (2001) and Pakistan (2005). Much of
- the damage was done to dwellings (300,000+ need to be rebuilt) and private
- sector
- buildings with relatively less damage to infrastructure than in Aceh and Nias

Disaster Response Intervention Mechanism

