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# Risk Informed Development: Why, How and What

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**loss of protective environment and basic services such as water, health and education**

*Hello, I am Rakhi. I am 11 years old. I belong to Supaul district, Bihar. I was born on a boat while my mother was being rescued due to Kosi floods on 20<sup>th</sup> August, 2008. When I opened my eyes, I saw water everywhere – I got scared I lost one of my brother; he got missing while being rescued I was born under weight I saw my mother hungry for many days I lived my first six months under a tarpaulin sheet I was welcomed to a house which was grounded by kosi flood I am still living in a half constructed house.*



# Displacement

year after year of  
devastating floods and  
human tragedy



# After Living on the edge



Return-  
a long road  
to recovery

# Weather, water and climate-related hazards

We can continue to respond to the emergency situation created by hazards or.....

Our village/town is impacted by....

What is the impact

What are the consequences for...

What is the seasonality....

Patterns of impact.....

## Change

Tropical cyclones

flooding

Storm surges

Heavy precipitations (rain or snow)

Lightning

Storm (winds)

Dust storms

Wildland fires & haze

Hail & Lightning

Flash floods

Mud & landslides

Avalanches

Tornadoes

# To work beyond Emergencies, Disaster are also understood as a Cycle

*We cannot say that disasters are natural. Some physical events are natural, but the effects of these events are not natural; they are configured by social practices. Disasters are socio-natural events. If we accept this, then we must accept the idea that disasters can be prevented.*

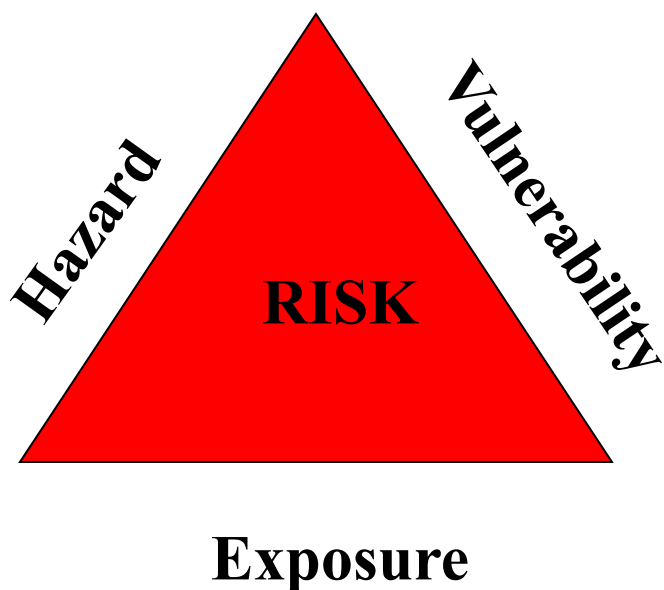


**Anatomy of “natural” disasters**

$$\text{Natural hazard} \times \text{Vulnerability} / \text{Capacity} = \text{Disaster Risk/Impact}$$

# Disaster Risk Reduction Means?

## The Risk Triangle:



What is the role of capacity?  
What type of capacity?

Risk is a combination of the interaction of **hazard**, **exposure**, and **vulnerability**, which can be represented by the three sides of a triangle.

DRR is the concept and practice of reducing risks through:

- systematic efforts to analyze and reduce the causal factors of disasters
- reducing exposure to hazards,
- addressing vulnerability of women, men, boys and girls by building specific KAS
- Robust planning and design of property, service delivery systems
- wise management of land and the environmental assets such as forest, water, lakes.....
- Improving family, community and service delivery level preparedness for adverse events



# e.g. Floods



## Hazards

Intense rain  
In River basin  
changes  
Storm surges  
Tsunami....

$$X = \frac{\text{Vulnerability}}{\text{Capacity}}$$

Location  
Poverty  
Politics  
Age, disability...  
Social Cohension  
Attitudes/behaviours  
Poor access to information,  
knowledge,  
skills....

## Disaster Risk/ Impact

Damage to housing  
Crop damage  
Death  
Injury  
Unemployment  
Loss of  
infrastructure  
Disease  
Loss of livestock..

Through DRR practices we can reduce vulnerability, enhance capacity and reduce exposure to hazards.....



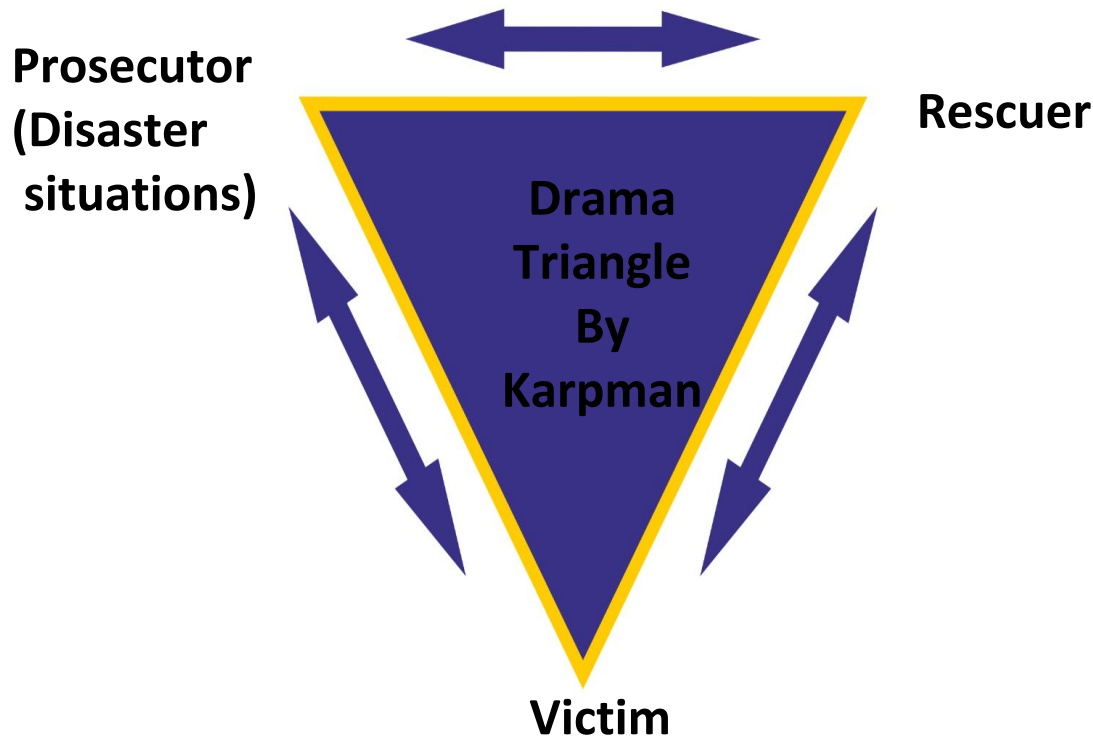
# DRR Strategy



Use community **CAPACITY** for  
**Resilience Building**

Accepted disaster- as destiny and resign to their fate

Developed a “dependency syndrome”

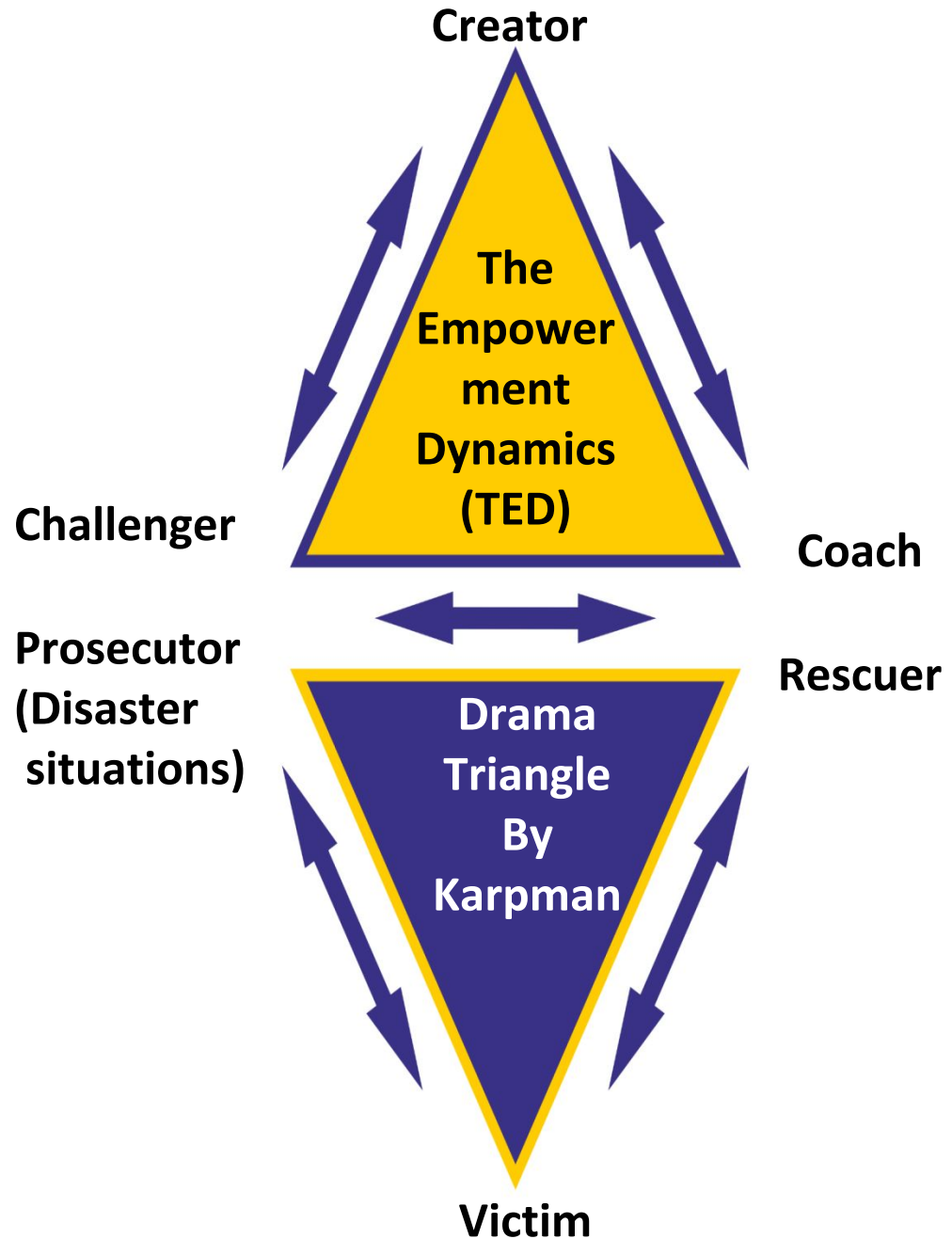


**Mindset of Victimhood**

# Transformation :

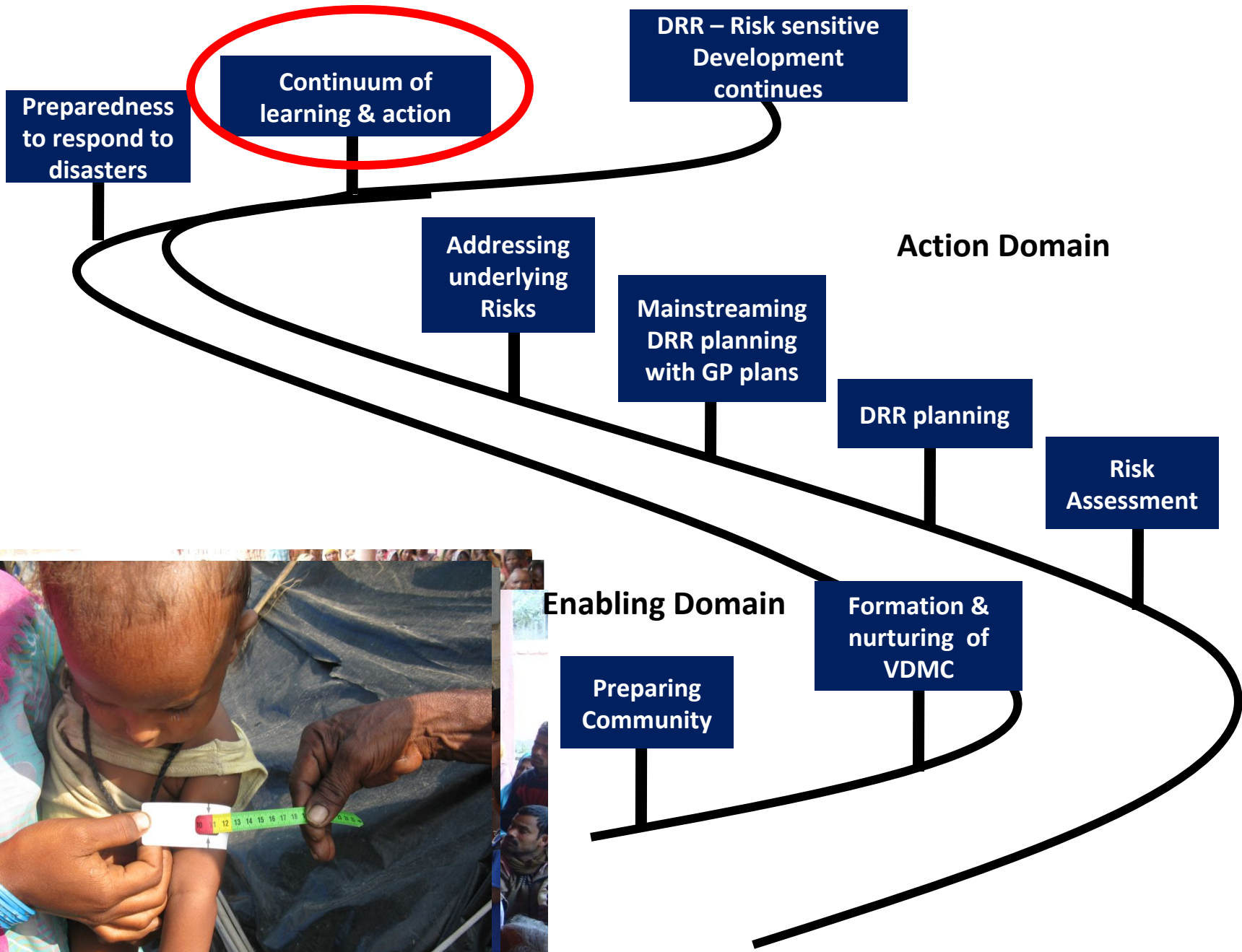
Problem orientation changed to outcome orientation

Emerging as creators of risk aware development planning in their villages and beyond



**Transformation of Mindset**





**Community-based Disaster Risk Reduction**





**Frameworks for Developing  
Risk Communication and  
Risk Informed Development**



## Pre-crisis

- Be prepared.
- Foster alliances.
- Develop consensus recommendations.
- Test messages.

## Initial

- Acknowledge the event with empathy.
- Explain and inform the public, in simplest forms, about the risk.
- Establish agency and spokesperson credibility.
- Provide emergency courses of action, including how and where to get more information.
- Commit to stakeholders and the public to continue communication.

## Maintenance

- Help the public more accurately understand its own risks.
- Provide background and encompassing information to those who need it.
- Gain understanding and support for response and recovery plans.
- Listen to stakeholder and audience feedback, and correct misinformation.
- Explain emergency recommendations.
- Empower risk/benefit decision-making.

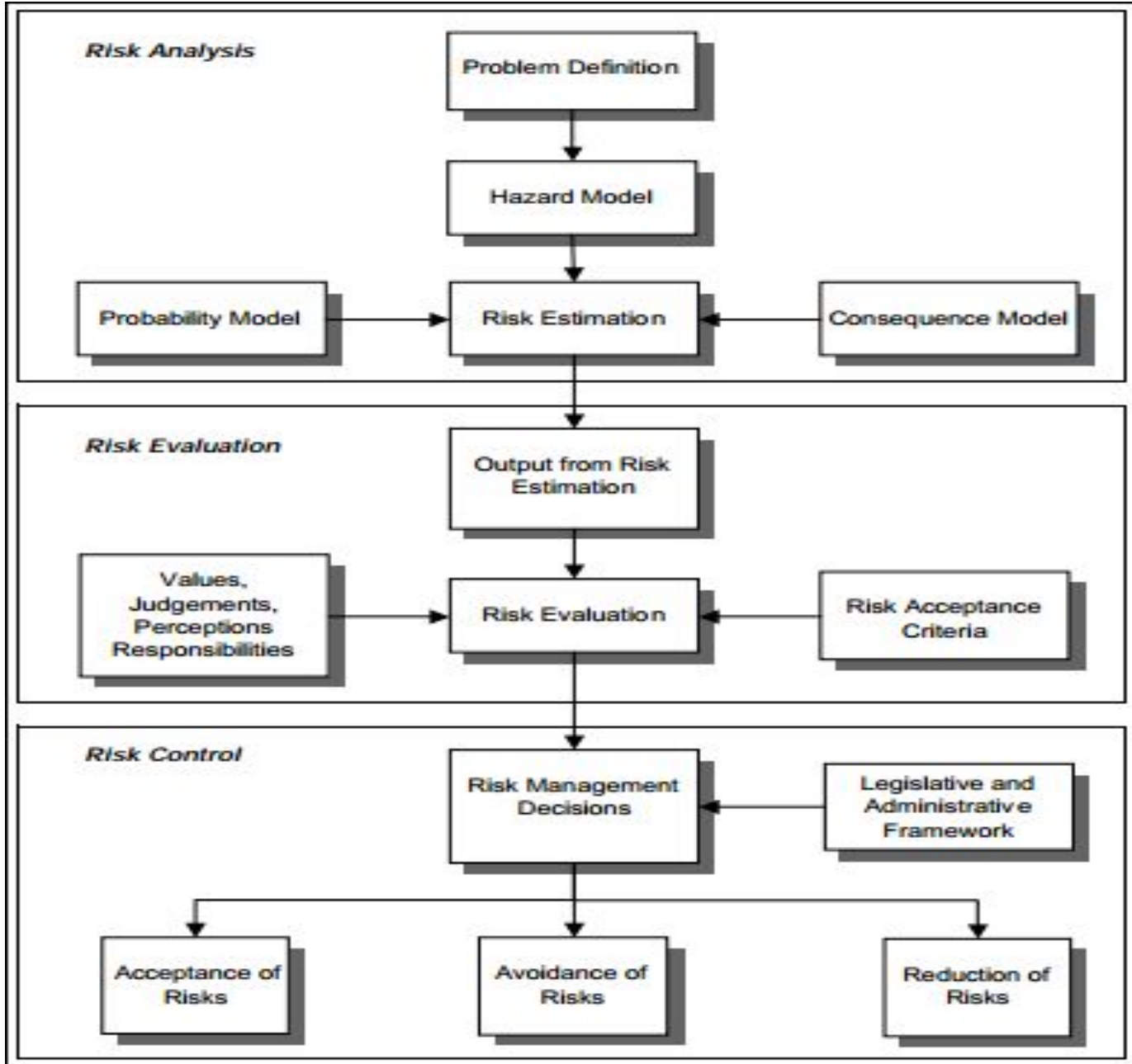
## Resolution

- Improve appropriate public response in future similar emergencies through education.
- Honestly examine problems and mishaps, and then reinforce what worked in the recovery and response efforts.
- Persuade the public to support public policy and resource allocation to the problem.
- Promote the activities and capabilities of the agency, including reinforcing its corporate identity, both internally and externally.

## Evaluation

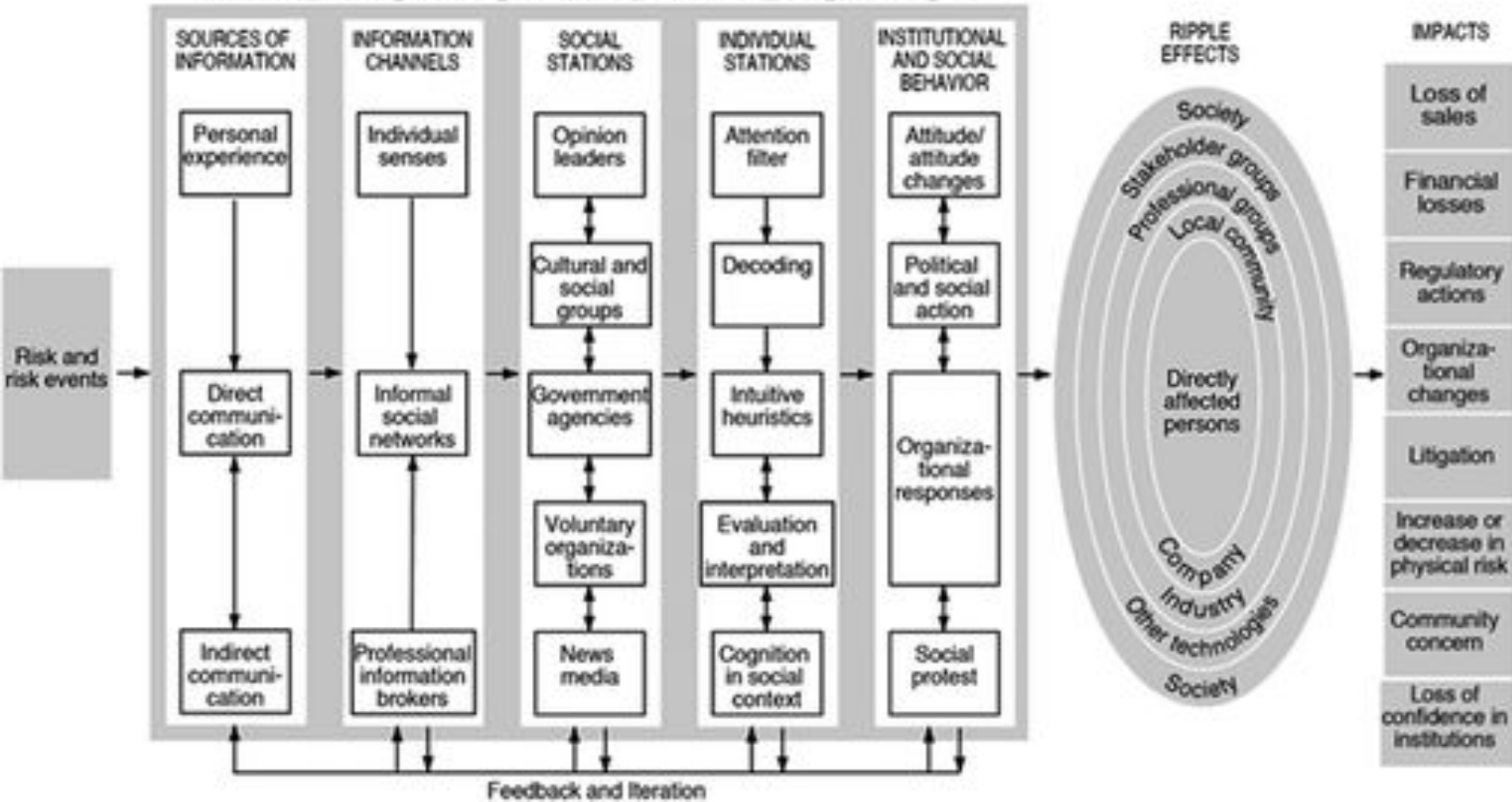
- Evaluate communication plan performance.
- Document lessons learned.
- Determine specific actions to improve crisis systems or the crisis plan.





**Framework for Risk Assessment** Source: Fookes (2007).

# AMPLIFICATION AND ATTENUATION



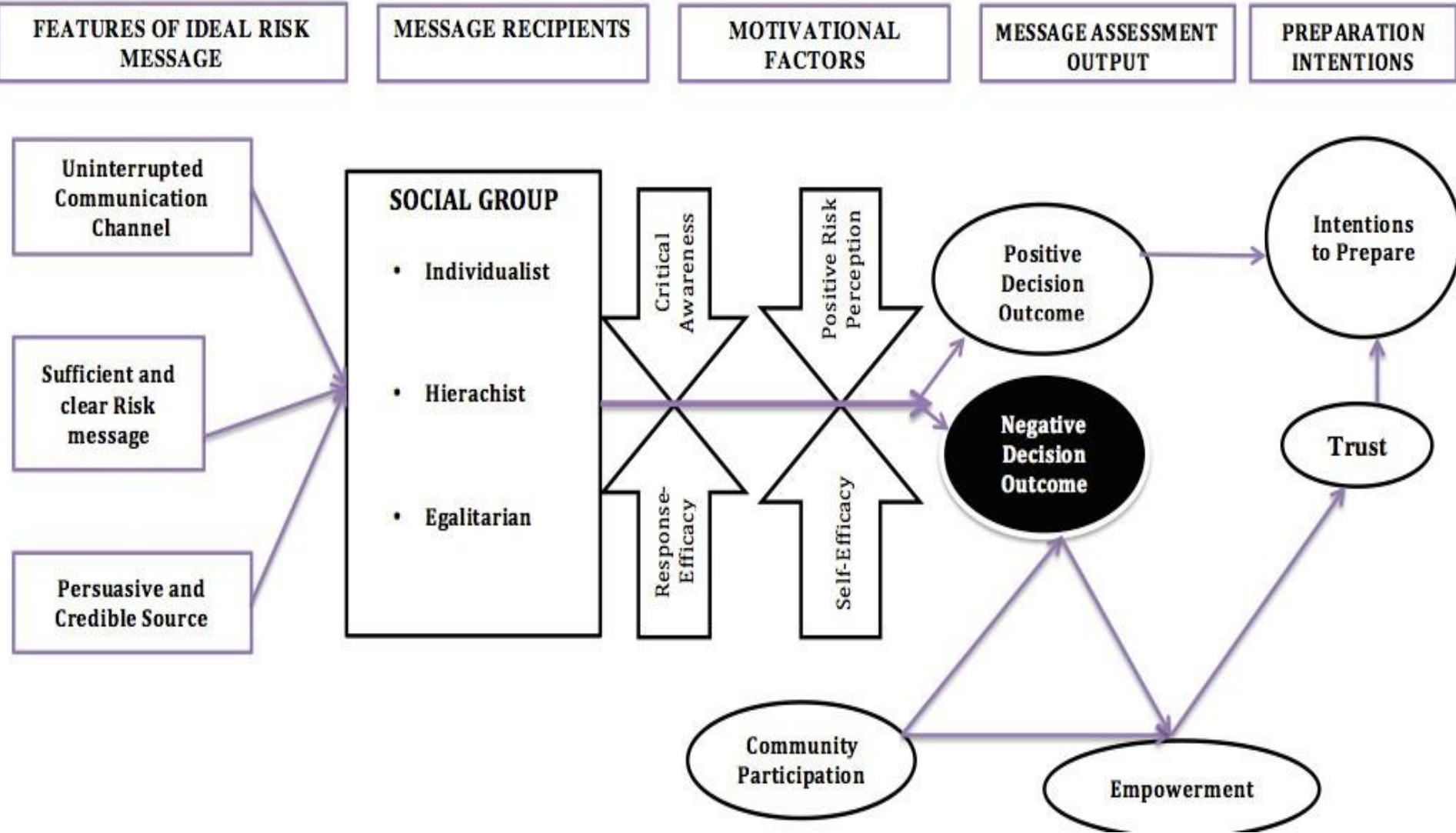
Social Amplification of Risk Framework

Source: Kasperson (2012).

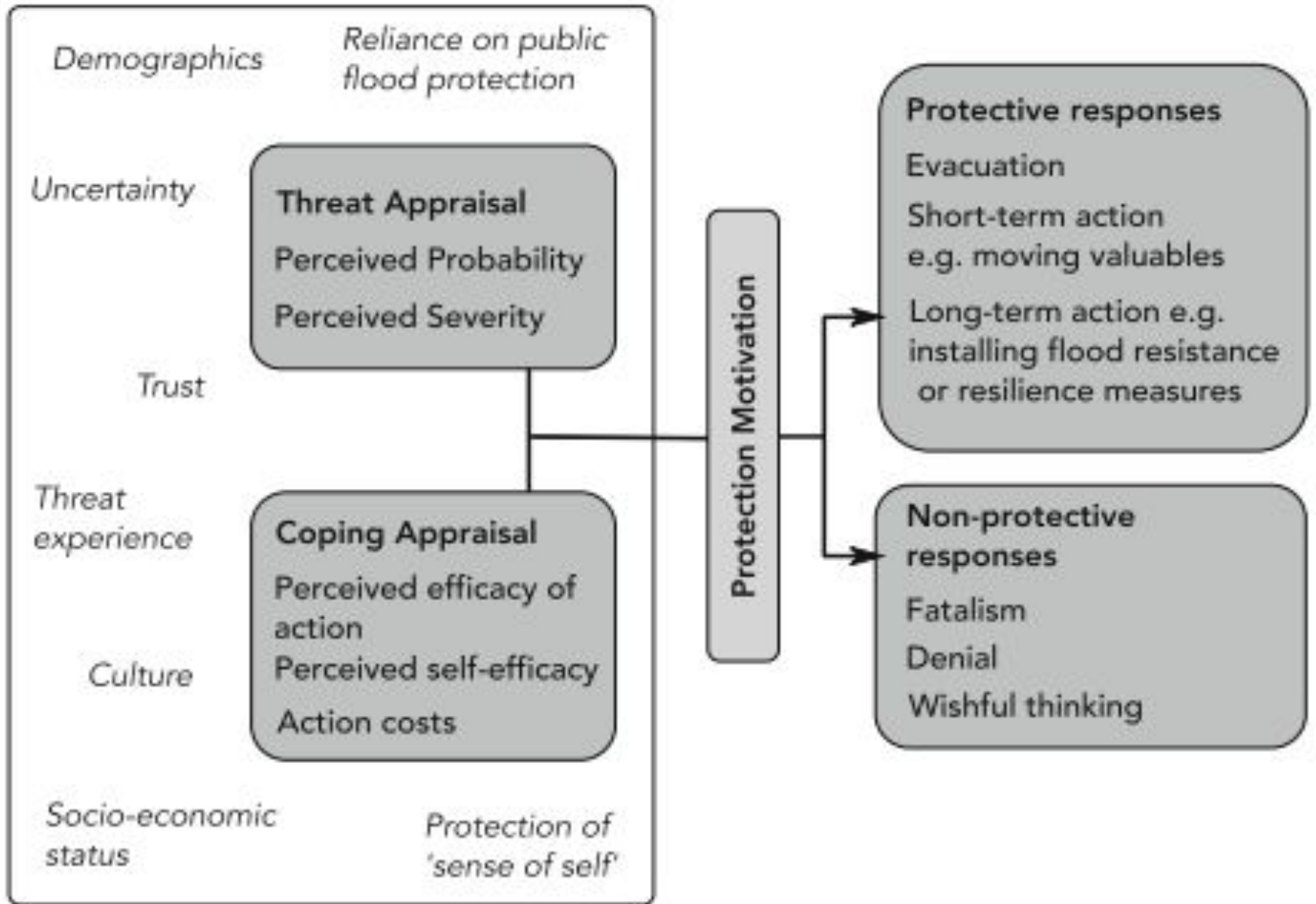


***Iterative Warning Response Process*** Source: NOAA(2016).





Motivating Disaster Preparedness Through Risk Communication Source: Abunyewah(2017).



Factors Influencing Protective actions

Source: Rollason(2018).