

# Chapter 2:

## Theoretical Framing of World Views, Values, and Structural Dimensions of Disasters

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# Chapter Purpose

- To explore the fundamental and significant ways that our worldviews and scientific theories – our representations and assumptions about the world – frame our understanding of and response to hazards and disasters.

# Objectives

As a result of this chapter, readers should be able to:

- Understand what theory is and how it contributes to framing social vulnerability in a way that illuminates the critical elements of this complex issue.
- Define critical and conflict theories and explain how they contribute to understanding vulnerability in a more comprehensive fashion.
- Appreciate how structure and agency interplay in the creation of vulnerability.
- Explain how theory leads to an explanation of world views and values that in turn influences how disasters are viewed by disaster planners and by individuals and communities who are vulnerable to hazards and disasters.
- Appreciate how the theoretical framing of structure and agency illuminate how worldviews and values affect our approaches to tackling disaster reduction.
- Discuss how systems theory guides a mechanism for understanding and evaluating vulnerability, also linking to sustainable development.

# Introduction: A Flood in La Paz

*On February 19, 2002, a severe rainstorm “pummeled” La Paz, the capital of Bolivia, “killing 60, injuring 100 and leaving over 500 homeless. Hailstorms, heavy rains and flash floods tore through the region, destroying homes, washing away bridges and ripping up road surfaces and brick walls.”*

*The mayor of La Paz, Juan del Granado, estimated damages at \$60 million (Steen 2002).*

*Bolivia’s President, Jorge Quiroga, declared a state of emergency, and volunteers joined the city’s emergency staff and the Bolivian Red Cross to provide relief to the injured and homeless, stabilize buildings, and search for missing persons (Enever 2002; Steen 2002).*

# What is Theory?

- Scientific theory is elaborated and explicitly stated
  - Emerges from a body of observation, experiment, and scholarly exchange until consensus is reached
  - Describes, explains, and predicts phenomena
- Components
  - Assumptions
  - Concepts
  - Propositions

# Example: Plate Tectonic Theory

- Formulated in the 1960s and 1970s, central theory of contemporary geology
- Describes the relevant agents: magma, oceanic crust, ocean ridges and trenches, tectonic plates
- Describes the processes: radioactive decay at the earth's core creates convection currents in molten magma
- Explains and predicts resulting phenomena: earthquakes, volcanoes, changes in the earth's surface

# Worldview

- Informal, “common sense,” as in shared or common understandings that, like scientific theories, describe, explain and predict common events
  - Example: Who is a friend and who is an enemy?
- Shared among a group of people with common experience, location, language, or education
- Unlike formal theory, worldviews are not subjected to rigorous and systematic testing

# Hazards and Disasters: The Dominant View

- Disasters:
  - Are natural events
  - Result from extremes of nature
  - Disrupt the normal order
- Humans are passive victims
- Responses are technological to accommodate natural forces
- Prevention of future disaster requires
  - Warning and evacuation systems
  - Strengthened structures

# Critique of the Dominant View

- Accepted unconsciously within disaster literature as well as mass media and carries authority
- Does not incorporate human action (agency) as a root cause of hazards and disasters
- Reflects time and history in which it was formed
  - Cold War focus on strong civil defense system
  - Disasters and hazards are attacks by natural forces
  - Positivist science yields technological rather than a behavioral approach

# Knowledge, Power, and Theory

- Scientific theories, especially those that involve human beings and social phenomena, are also shaped by the social position and power of those who propound them.
- The dominant view of disasters deflects attention from recognizing:
  - Regularity with which they occur
  - Human decisions and actions that place some, but not all, people at risk

# Discussion

- Why is Bolivia's capital built in a geologically unstable area?

# Challenging the Dominant View: Social Vulnerability

- Social events of 1960s and 1970s challenged assumptions of dominant view
  - Research revealed role of complex social structural factors contributing to disasters and hazards
  - Example: Honduras
    - Farmers displaced by commercial banana plantations in lowlands cleared hillsides for subsistence
    - 1974, Hurricane Fifi's rains produced major landslide and collapse of a dam
    - 8,000 deaths, banana crop destroyed
    - Was this only a *natural* disaster?

# **Challenging the Dominant View: Social Vulnerability**

- 1980s and 1990s, technological approaches failed to prevent widespread destruction
- Earthquake in Kobe, Japan in 1995
  - World's most advanced structural engineering
  - 6,000 deaths
  - Collapse of many buildings
- Differential effect of disasters based on age, gender, disability, class and race

# Ethnographic Research

- People are knowledgeable about risks and hazards in their environments (local knowledge)
- Often develop means to mitigate risk
- Social factors like social or political marginalization may make it difficult for people to act on their knowledge

# Social Vulnerability

- Vulnerability consists of “The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.” (UN International Strategy for Disaster Reduction).
- And includes “. . . capacity to anticipate, cope with, resist and recover.” (Wisner et al. 2004, 11).

# Resilience

- Related to concept of adaptation
  - Ability to adjust material and non-material elements of culture to varying environments, physical and social, and to changes in those environments over time

# Vulnerability

- Occurs at many levels of analysis: individual, community, regional, national, and global
- Determined by social as well as physical factors: gender, race, ethnicity, age, and social class
- Theory to describe, explain and predict social vulnerability must:
  - Take into account social determinants
  - Analyze causality at multiple levels
  - View disasters as resulting from usual and normal events and processes

# Vulnerability and Social Justice

- Poor and marginalized are most vulnerable to disasters and hazards in rich and poor nations
- Discussion: What does vulnerability look like for people living on coastlines based on age, race, gender, disability, and social class?

# Making Theory Explicit

- Understand the differential effects of hazards and disasters on individuals, communities, regions, and nations.
- Understand how human actions, knowledge, and beliefs affect vulnerability and resilience to hazards and disasters.
- Decrease inequities in risk and exposure within and across populations and increase capacity and resilience in all kinds of communities (social justice).
- Develop more flexible, locally adaptable interventions and approaches.

# Conflict and Critical Theory

- Two major theoretical perspectives:
  - Political economy
  - Systems theory
- Combined in political ecology

# Political Economy

- Developed during the European Enlightenment
- Origin, nature, and relationships between nation-states and colonial holdings
- Jean-Jacques Rousseau, *A Discourse on Political Economy* (1755)
  - Economy: production and exchange of goods and services
  - Politics: just use of power and legitimate authority to allocate goods and benefits, set policy, protect rights, and resolve disputes

# Critique of Political Economy

- Need to critically assess and reform government, law, and economic system
- Karl Marx' critique, *Das Capital* (Capital, 1867).
  - Assumes that conflict and contradiction are inherent in human social life and generate progress as we seek to resolve them

# Mode of Production

- How human beings organize themselves to take energy from the environment to produce what they need to sustain themselves
- Means of production – raw materials necessary for production
  - Owned or controlled by the capitalist class
  - Support by laws and policies of the nation
- Those who do not own or control the means of production must sell their labor for wages – proletariat or working class

# Capitalism

- Two classes in conflict: workers and capitalists
- Creates inequality, exploitation, and oppression both within and among nations
- Inequality is institutionalized through forms of capital: human, social, cultural, institutional, financial, and political
- Opportunity is highly structured even when freedom, equality, and self-determination are valued

# Capitalism and Colonialism

- Reproduces class divisions among global regions and nations
  - Capitalist nations are the colonial nations of Europe and North America
  - Working nations are those nations who were colonized in Latin America, Asia, and Africa
  - Concentrated development of science, technology, and infrastructure in colonial nations
  - While colonies are “underdeveloped” (Rodney 1982)

# Social Structure

- *Structure* comprises a society's institutions
  - Kinship and marriage
  - Laws and courts
  - Schools and universities
  - Religious worship and study
  - Clinics, hospitals, and practices of healing
  - Financial markets and banks
  - Businesses and corporations
  - Professions
  - Government agencies
  - Police and military

# Social Structure

- Determines the conditions in which individuals live and act
- Structures or organizes opportunities and who has access to and control over them
- Structures or organizes resources and who has access to and control over them
- Structural violence is the institutionalization of inequality (Farmer 2005)
  - Systematic neglect of certain levees in New Orleans meant African Americans were disproportionately vulnerable to loss of life and property in Hurricane Katrina

# Social Structure: Non-material Elements

- Symbols, beliefs, values, and knowledge play an important role in maintaining and reproducing structures of power
- Hegemony, Antonio Gramsci
  - Exercise of power indirectly by the use of ideas, ideology, and a view of life that supports the social structure and those in power
  - Complex and contradictory process
  - Linked with mass media and popular theories or “common sense”

# Discussion

- What aspects of the dominant view of disasters be considered hegemonic?

# Knowledge, Truth, and Power

- Michel Foucault: “” Truth is linked in a circular relation with systems of power which produce and sustain it, and to effects of power which it induces and which extend it. A “ ‘régime’ of truth.” (1980, 133).
- Control of conversation or discourse can reinforce inequalities
- Members of a society internalize the dominant discourse and thus govern themselves (self-control)

# Habitus

- Pierre Bourdieu
  - Internalized social structure
  - Unconscious patterns of thinking, feeling, and acting exhibited in everyday life
  - Incorporates mainstream or dominant standards of behavior and an individual's location in the social structure, i.e., class status

# Agency

- The ability of individuals and groups to act independently of social structure in ways that are innovative, creative, and that challenge dominant systems of power.
  - Social life is dynamic and constantly evolving
  - Social behavior is never completely automatic
  - Alternative discourses or models for behavior exist in every society

# General Systems Theory

- Contemporary form attributed to Ludwig von Bertalanffy
- Systems are “a collection of interacting or independent entities that produces a unified functional whole, whose properties or behaviors cannot be predicted from a separate understanding of each individual level component” (Dale et al. 2004).

# Emergentism

- The character of the whole system *emerges* from its parts and is distinct from them.
  - Organizing functions link the parts to one another and the whole is dependent upon the parts working in unity
  - Changes in one part of the system generate changes in other parts of the system.
- Systems may be open or closed

# Ecological Systems

- Structure: the component parts of a system
- Function: the processes that link them
- A system can be broken down into smaller component subsystems to analyze complex relationships and interactions
- What subsystems is it important to understand when analyzing vulnerability to the flood in La Paz?

# Political Ecology

- Arose from a critique of ecology that focused on equilibrium and balance
- Introduced concept of conflict and change and hence vulnerability and resilience
- Human actions can be maladaptive as well as adaptive or yield unintended consequences

# Worldviews

- Ways of thinking about the world and its events that are more or less shared by a group of people
  - Largely unconscious
  - Only “more or less” shared – worldviews vary with an individual’s place in society

# Worldviews and Nature

- People under Nature (Nature's Theory): humans are at nature's mercy
- People with Nature: humans live their collective lives in harmony with nature
- People over Nature (Human's Theory): humans dominate nature through manipulation of the natural world

# Worldview and Social Structure

- Does a society's mode of production determine its worldview?
  - Will hunters and gatherers who meet their needs directly from nature adopt a “people with nature” worldview?
  - Will those living in an industrial society who live far removed from nature adopt a “people over nature” worldview?
  - Will a society with few resources whose members have little control over where they live adopt a worldview of “people under nature?”

# Worldviews and Values

- Values are
  - Guidelines for action
  - Address questions of morality, right and wrong action, what is good and desirable
  - Express equity or fairness, justice, and relationship of individual to society
- Intrinsic values – things that are good, desirable or important in and of themselves
- Extrinsic values – things that are valuable as a means to obtaining, enjoying, or protecting something that is intrinsically good (Flew 1979, 365).

# Dams in India

- Worldview of government: humans over nature
- Values: economic development more than possible harm or disruption to people displaced
- Worldview of opponents: nature with humans
- Values: economic development that is sustainable and values community needs over national needs or special interests

# Community Based Approaches

- Conscientização or critical consciousness, Paolo Freire
  - Becoming literate can be oppressive or liberating depending upon how it is taught
- Research on hazards and disasters can empower residents of communities at high risk
  - Participatory Rural Appraisal (PRA)
  - Community Based Participatory Research (CBPR)

# Landslides in La Paz 2011

- During heavy rains in February, red alert warning for landslides
- Rapid evacuation of the area when slide began
  - Landslide destroyed 800 homes
  - Several injuries but no deaths

# Participatory Approaches

- Elicits and builds upon local knowledge of risks and local solutions to mitigate those risks
- Seeks to understand relationships and institutions of power as they affect risk, vulnerability, and resilience
- Supports human agency to change interactions with the environment and the values and worldview that guide interactions.

# Sustainability

- Oliver-Smith notes, “In effect, if a society cannot withstand without major damage and destruction a predictable feature of its environment, that society has not developed in a sustainable way.”