Gender Vulnerability, Risk Prevention and Resilience Building

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1.1 Focus of the Talk and Main Questions

- Why are women and other social vulnerable groups so highly exposed to natural risks and hazards?
- What are the possible policies and measures to improve resilience for these social groups and to reduce their risks?
2. Basic Concepts and Focus of the Talk: Gender Security, Identity, Capacity Building and Resilience
2.1. Gender Security and Identity

- Gender security refers to the process of **raising consciousness** to be a human being as a **man or a woman** or a bisexual, depending on the position in the social structure.

- **Gender security** is normally **taken for granted**. The relationship to the model of reference is linked to the **status as gender** – understood as indigenous, poor, minority, women, elders and children.

- **Equity and identity are values at risk**. The **source of threats** emerges from the **patriarchal, hierarchical and violent order**, characterized by exclusive and totalitarian institutions such as non-democratic governments, churches and élites.

- The symbolic distribution assigns to the **man** the **public space**: production, *res publica, homo sapiens*; and to the **woman** the **private** one: reproduction, home, *homo domesticus*.

- The distribution of power acquires also generic forms. Men exercise a hierarchical and vertical power of domination and superiority.
## 2.2. Human, Gender and Environmental Security (HUGE)

<table>
<thead>
<tr>
<th>Level of expansion</th>
<th>Determination</th>
<th>Mode of expansion</th>
<th>Value at risk</th>
<th>Source(s) of threat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Without expansion</strong></td>
<td>National security (political, military dimension)</td>
<td>The State</td>
<td>Sovereignty, territorial integrity</td>
<td>Other States, terrorism, sub-state actors, guerrilla</td>
</tr>
<tr>
<td><strong>Increased</strong></td>
<td>Societal security</td>
<td>Nations, social groups</td>
<td>National Unity, national identity</td>
<td>(States), Nations, Migrants, Alien cultures</td>
</tr>
<tr>
<td><strong>Radical</strong></td>
<td>Human security</td>
<td>Individuals (Humankind)</td>
<td>Survival, quality of life, cultural integrity</td>
<td>The State, globalization, nature, GEC, poverty, fundamentalism</td>
</tr>
<tr>
<td><strong>Ultra-radical</strong></td>
<td>Environmental Security</td>
<td>Ecosystem, urban and agricultural system</td>
<td>Sustainability</td>
<td>Nature Humankind</td>
</tr>
<tr>
<td><strong>Trans-radical</strong></td>
<td>Gender security</td>
<td>Gender relations, indigenous, minorities</td>
<td>Equity, identity, social relations</td>
<td>Patriarchy, totalitarian institutions (élites, governments, religions, culture), intolerance</td>
</tr>
</tbody>
</table>

*Source: Bjørn Møller, 2003:279 and Úrsula Oswald, 2001, 2004*
Inequality for Women

Women in the World

- Illiterate Adults: 1 billion
- Without Access to Basic School: 300 million
- With Access to Secondary School: 67%
- 41% Extreme Poverty
- 70% With Access to Secondary School
- 12% Extreme Poverty
- 113% Charge of Daily Work

Source: UNIFEM, 2000 and UNAIDS, 2000

90% of all Maternal Deaths occur in Developing Countries: (500,000 deaths/year)
2. 4. Main Attributes of Social Identity

Thousands of years of experience have created a society in a specific socio-historic environment where symbolic elements have developed—class, ethnicity, age, religion, race, nationality, professional attribution, political ideology, education, etc. However, they are permanently changing, but its main attributes—gender, sex and race—and the socioeconomic conditions—rich, poor—are stable (Habermas). Each process of classification implies relations of identity; inclusion or rejection and exclusion, what constitutes the basis of any power exercise.
2.5. Social Representations

“Systems of values, ideas and practices” simultaneously creating a system of order, are able to offer a person the possibility to get familiar with the social and material world. The communication within a community offers a code of common social interchange, where several aspects of life, personal and collective history are classified without ambiguity (Moscovici, 1976: xiii).

Therefore, social representations originate in daily life, where society is the thinking and acting system.

The theory of social identity establishes a continuum between personal and social identity with a processual, relational, multidimensional, contextual and essentialist character.
2.6. Social Identity

- Tajfel (1979:31) affirms that social identity is generated in a world where processes of **unification and diversification** are occurring with giant steps, faster than ever in history.

- Hogg and Abrams (1988: 78) argue that persons have a **basic necessity to simplify** and order reality, where the categorization of the social environment is elaborated by **social comparison**, basically to improve self-esteem.

- Social representation of gender is specifically charged with **stereotypes**, to be weak, incapable, dependent and vulnerable. These are **social categories** that are rich and complex in a symbolic system that has been socially and dialogically constructed (Habermas, 1998, 2000, 2001). Both are part of an inalienable collective life, enriched by ideologies, rites, beliefs and daily practices.
Social identity is:

- **processual** resulting from and leading to permanent change;
- **relational** due to its transformation linked to interaction;
- **multidimensional** operating inside, between individuals, groups and ideologies (Doise, 1986);
- **contextual** forging relationships in specific contexts;
- **essential** due to the diversity and complexity of social interactions that are sustained and transformed by identity processes (Serrano, 2004, 2005).
3. Threats, Challenges, Vulnerabilities, Risks and Resilience
3.1. Vulnerability

- Results from "poverty, exclusion, marginalization and inequities in material consumption" O’Riordan (2002: 369).
- "The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards" (ISDR, 2004: 7).
- "Is conceptually located at the interaction of nature and culture" that also links "social and economic structures, cultural norms and values and environmental hazards" (Oliver-Smith, 2004: 11).
3.2. Challenges, Capacity and Resilience

- **Challenges** are a combination of potential and real institutional, societal, economic and political processes, that are able to deal with risks, fears and hazards.

- **Capacity** is “a combination of all the strengths and resources available within a community, society or organization that can reduce the level or risk, or the effects of a disaster.” (ISDR, 2004: 2)

- **Resilience** is “the capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better futures, protection and to improve risk reduction measures.” (ISDR, 2004: 6)
3.3. Risks

- Risk = Hazards x Vulnerabilities (sometimes multiplied by Exposure to a physical threat, Segob, Mexico); H and V are estimated probabilistically; E in money.

- “The probability of harmful consequences or expected losses – deaths, injuries, property, livelihoods, economic activities, resulting from interaction between natural or human-induced hazards and vulnerable conditions” (ISDR, 2004: 6).

- Social contexts can change the perception of risks and their underlying causes.
4. Vulnerability and Gender
4.1. Elements of Vulnerability Assessment

Vulnerability assessment requires collecting and analyzing data linked to building consciousness on:

- Types of hazards and frequency
- Elements at risk and how to reduce them
- Socioeconomic conditions and types of shelter
- Gender and family structure
- Genuine coping strategies
- Mapping specific hazard prone locations
- Learning from previous disasters and coping strategies
- Training for evacuation
- Resettlement of people at risk
- Evaluation of training and hazard mitigation process
4.2. Women and Disasters Management

Water and food production in hand of women:

- Under normal conditions women produce half of world food; in developing countries even 60% to 80%;
- But women in México only own 17% of their land and in Africa 2 %;
- Women practice survival strategies in coping with long-term disasters such as economic crises and famine.
- They contribute in Africa to:
  - 33% of the paid labor force
  - 70% of agricultural labor days
  - 60-80% of subsistence production
  - 100% of food transformation
  - 80% of food storing
  - 90% of spinning and weaving
  - 60% of harvesting and market activities
  - 2% own land or have land rights (FAO, 2002)
5. Gender Sensitive Risks, Vulnerabilities and their Management
Women contribute subjective and objective values

**Subjective values (social identity):**
- Caring about their families, children, neighbors and those in need
- Positive *self-esteem* in crisis situations
- Emotionally *stabilizing* families before, during and after a disaster
- Guardians of *traditions and values*
- Locally attached

**Objective values (social representation):**
- Flexible, adaptable and able to shift activities immediately by diversifying (refugee camps, survival activities, collection, reconstruction, services, agriculture, reforestation, ecotourism,)
- Open to *collaborate in rescue activities*
- Generate *survival strategies* in case of disasters
- Contribute to the national *economy*
- Create *local employments*, incomes and stabilize emigration
- Generate political *stability and conciliate conflicts*
5.2. Gender Aspects in Sri Lanka’s Tsunami

### Gender (%)
- Female: 65.3

### Age (%)
- 1-4: 13.9
- 5-9: 11.1
- 56-70: 9.7
- 71+: 15.3

### Activity (%)
- Student: 27.4

### Marital status (%)

### Educational status (%)

Source: Siri Hettige – University of Colombo & UNU-EHS
Sarith Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
## 5.3. Activity: Gender Sensitive (Unemployed & Poor): %

<table>
<thead>
<tr>
<th>Status</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>14.0</td>
<td>21.4</td>
</tr>
<tr>
<td>Employed</td>
<td>37.3</td>
<td>27.5</td>
</tr>
<tr>
<td>N/A</td>
<td>7.9</td>
<td>7.6</td>
</tr>
</tbody>
</table>

### Income (%)

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4999</td>
<td>43.5</td>
<td>50.8</td>
</tr>
</tbody>
</table>

Source: Siri Hettige – University of Colombo and UNU-EHS
Sarith Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
6. Regional Vulnerability
6.1. Case Study on Sri Lanka

Source: Siri Hettige – University of Colombo & UNU-EHS
Sarath Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
6.2. Variability of Wave Attack

(snapshots from a computer simulation)

red = raised sea level
blue = lowered sea level

by courtesy of DHI Water & Environment
6.3. Regional Vulnerability in Disasters

Number of Reported Deaths due to Tsunami

Source: Department of Census and Statistics

Number of Reported Displaced Persons due to Tsunami

Source: Department of Census and Statistics

Source: Siri Hettige – University of Colombo and UNU-EHS
Sarath Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
6.4. Environmental and Social Lost in Batticaloa

Navalady – eroded foundation

Kalmunai – decimated settlement

Mangroves damaged, War

Breached sand dunes

Source: Siri Hettige – University of Colombo & UNU-EHS
Sarath Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
7.1. Empirical Data with Household Characteristics of Local Population

Source: Siri Hettige – University of Colombo
Sarath Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
7.2. Do you agree to move to a safer place vacating the present coastal residence by “risk zone” (Gale District, Sri Lanka)

<table>
<thead>
<tr>
<th>100 meters</th>
<th>Owned</th>
<th>Encroached</th>
<th>Rent/Lease</th>
<th>Joint ownership</th>
<th>Relatives</th>
<th>Official house</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>268</td>
<td>43</td>
<td>17</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>340</td>
</tr>
<tr>
<td></td>
<td>78.8%</td>
<td>12.6%</td>
<td>5.0%</td>
<td>1.2%</td>
<td>1.5%</td>
<td>.9%</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>66.5%</td>
<td>75.4%</td>
<td>85.0%</td>
<td>50.0%</td>
<td>100.0%</td>
<td>75.0%</td>
<td>68.4</td>
</tr>
<tr>
<td>No</td>
<td>135</td>
<td>14</td>
<td>3</td>
<td>4</td>
<td></td>
<td>1</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>86.0%</td>
<td>8.9%</td>
<td>1.9%</td>
<td>2.5%</td>
<td></td>
<td>.6%</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>33.5%</td>
<td>24.6%</td>
<td>15.0%</td>
<td>50.0%</td>
<td></td>
<td>25.0%</td>
<td>31.6</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>20</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td></td>
<td>497</td>
</tr>
<tr>
<td></td>
<td>81.1%</td>
<td>11.5%</td>
<td>4.0%</td>
<td>1.6%</td>
<td>1.0%</td>
<td>.8%</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Siri Hettige – University of Colombo and UNU-EHS, 2005
Sarath Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
7.3. UNU-EHS Working Areas: Human and Environmental Security

- Human and Environmental Security
- Vulnerability
  - Economic vulnerability
  - Social vulnerability
  - Individual vulnerability
  - Infrastructure vulnerability
  - Institutional vulnerability
  - Environmental degradation
  - Hazards
  - Climate change
  - Gender vulnerability
  - Platform for vulnerability research
7.4. HAZARDS

**EXPOSED ELEMENTS (COMPLEX DYNAMIC SYSTEM)**

VULNERABILITY FACTORS $V(D_i(t), F_i(t), R_i(t))$  

- **Physical Damage** $D_\varphi(D_i)$  
  - first order impact  

- **Impact Factor** $I_f(F_i, R_i)$  
  - second order impact

**EXPOSED ELEMENTS**

- **Physical Damage**
  - $D_\varphi(D_i)$
- **Impact Factor**
  - $I_f(F_i, R_i)$

**VULNERABILITY FACTORS**

- $D_i(t)$
- $F_i(t)$
- $R_i(t)$

**ACTUATION SYSTEM**

- **Control System**
- **Risk Management System**

**CORRECTIVE AND PROSPECTIVE INTERVENTION**

- Risk Identification
- Risk Reduction
- Disaster Management
- Risk Transfer
- Risk Gender Bias

**Source:** Cardona, 2005
7.5. Resettlement and Coping Capacity with Culture of Prevention and Gender Sensitivity

Source: Siri Hettige – University of Colombo and UNU-EHS
Sarath Amarasinghe – University of Ruhuna
Nishara Fernando – University of Colombo
8. Conclusions

- All existing statistics on disasters of the World Bank, UN system, Red Cross, MunichRe, except some anthropological local studies do **not distinguish** between different grades of vulnerability within regions, social groups and gender.

- Women, children, elders and other social vulnerable groups are **highly exposed to natural risks and hazards** due to their cultural accepted social identity and social representation, developed within their cultural systems.

- The possible policies and measures to improve resilience for these social groups and to reduce their risks are:
  - compiling gender sensitive statistics;
  - training specifically and **gender sensitively** people for disasters and risk reduction;
  - using the **gender potential** represented in subjective and objective values to improve human and environmental security.
Thank you for your attention