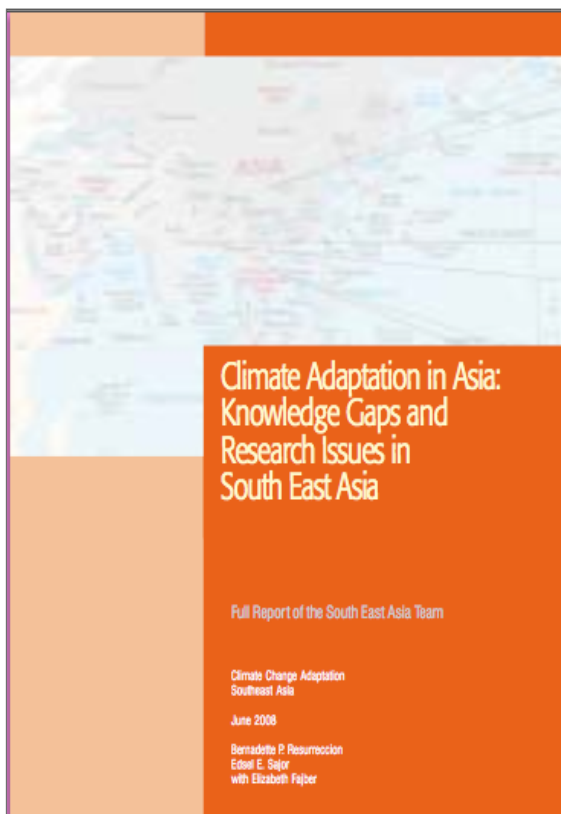


GENDER, HUMAN SECURITY AND CLIMATE CHANGE ADAPTATION IN SOUTHEAST ASIA

The Challenges for Gender-responsive Adaptive
Strategies



Gaps Analysis Study on Climate Change Adaptation for DFID-IDRC

What are people and groups doing with respect to planned and autonomous adaptation to CC?

What are the major gaps in knowledge regarding CC adaptation?

- 76 Interviews in Thailand, Indonesia, Malaysia, Cambodia, Philippines, Vietnam, Lao PDR
- 3 Roundtable Consultations (Hanoi, November 2007; Manila, January 2008; Bangkok, May 2008)
- Literature Review
- Collaborative effort with two other teams in South Asia and China

Climate change in Southeast Asia: General characteristics

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- Fairly moderate temperature increase
- Increasing variability/extremes in rainfall patterns
- Sea level rise
- More intense tropical cyclonic systems
- Increased flooding, salt water intrusion especially in Vietnam
- Drought or near-drought conditions (Indonesia during ENSO; Laos, Cambodia, Philippines, Vietnam after ENSO)
- Lao PDR, Thailand & Cambodia: long dry spells (drought) and increased flooding
- Philippines, Indonesia & Vietnam: heavier rainfall, storm surges and stronger cyclones, long dry spells, increased flooding, atmospheric haze due to increased forest fires in Indonesia during droughts

Vulnerable people in vulnerable places

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1. Mekong Basin: Floodplains, delta and basins

- 55 million people rely on the Mekong River for livelihoods and food; low social equity
- Hydropower: alters hydrology, flow of the river; disturbs fisheries, agricultural cultivation and flood-pulse systems; highly political and interest-laden; power trade among countries
 - Flow: downstream-upstream issues due to diversion (competition between Thailand NE and VN Mekong Delta) – long droughts may intensify this
- Floods: both positive (nourish wetlands [10% of basin], fisheries, biodiversity) and negative; flood management critical for VN & Cambodia during wet season and more cyclones can worsen flooding beyond adequate control

CC changes can potentially exacerbate existing social, political, economic, food security and ecological conditions



2 Coastal, deltaic low lying areas

- 42 million people in Indonesia live less than 10 meters above the average sea level – located in many low lying urban areas vulnerable to flooding and storm surges (other examples: Jakarta; Semarang; Cavite, Philippines)
- Huge migrant populations in fragile coastal areas; concentrations of informal slum settlements
- Flood-prone deltaic areas used for multiple livelihoods and multiple water uses that lead to increasingly saline environments



3. Coastal and upland areas of eastern Philippines and Vietnam

- In rural low lying volcanic areas such as in Albay, Philippines – cyclones and flooding inundate villages and people
- Home to ethnic minorities
- ENSO-related dry spells: disrupts agricultural practices on fragile lands (e.g, terraces and paddy embankments) and rainfed farmlands
- Frequent and most ferocious cyclones: lead to severe landslides in deforested areas, flooding thus disrupting livelihoods and people's mobility and trade



Human Security and Climate Change

- Human security has been expanded to include: (Woroniuk, 1999; UNESCAP,1999)
 - Security of survival (mortality/injury, disease)
 - Security of livelihood (food, water, energy, shelter and economic)
 - Security as dignity (human rights, participation, capacity)

- Climate change can threaten human security in the following ways: (WEDO, 2008)
 - Crop failure
 - Fuel shortage
 - Shortage of safe, clean water
 - Resource scarcity that could lead to economic drawbacks
 - Disease
 - Displacement
 - Conflicts due to growing competition over scarce resources

- Climate insecurities: exacerbate existing food insecurity, malnutrition, disease, and vulnerable rural livelihoods and are compounded by other non-climatic stresses: globalization, political insecurity, weak institutions and poverty

- Climate insecurities are also *gendered* – affecting women and men in different, uneven ways.

Linkages

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Human
Security

Gender

Climate
Change
Resilience
and
Adaptation

Climate change is a human security and gender issue since it:

- Affects women and men in different ways by exacerbating their existing and respective economic, political, livelihood and resource vulnerabilities
- Requires adaptation strategies that are often shaped and influenced by women and men's relative and differentiated capacities, power and social resilience, vulnerabilities and resources
- Has the potential to lead to conflicts due to the increasing competition over resources for livelihoods, thus threatening the security of women and men and their communities
- Requires building social resilience (reliable and sustained networks and institutions of support, trust, and with climate adaptive agendas)

Adaptation

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• The **actions** that people take in response to, or in anticipation of, projected or actual changes in climate to adjust to and cope with impacts, moderate damages and take advantage of opportunities (IPCC).

Adaptation

- **Reactive:** Those explicitly directed at remedying climate change impacts and vulnerabilities to climatic stressors
- **Anticipatory:** Those that enhance overall adaptive capacity and reduce general vulnerability of systems, people, and society in climate change-affected areas

Adaptation
Strategies

- Planned or unplanned
- Strategies may be differentiated according to:
 - Gender, age, class, ethnicity
 - Spatial scale
 - Ecological zones

Types of
adaptation
strategies

Role of gender in climate change adaptation

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Effects of climate change

- Gender influences who will be most affected by climate change effects

Types of adaptation strategies

- Gender may differentiate the types of adaptation strategies of women and men

Effectivity of strategies

- Gender also enables or constrains the adaptation strategies of people

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Gender, Human Security & Climate Change Adaptation: Cases in Southeast Asia

- Cambodia
- Vietnam
- Philippines

Cambodia

Site/Source	Climate-Related Stress	Human Security Aspect	Adaptation Practices	Possible Gender-related Insecurities
13				
Cambodia <i>Royal Government of Cambodia (2005)</i>	Flood, Windstorms Seawater Intrusion	Livelihood (food, shelter, economic security)	Reinforcement of housing structures, strengthening of protective structures, building of elevated enclosures for livestock, increasing household food stock, increasing feedstock for animals, preparation of emergency transportation, movement to safer areas, shifting planting dates, switching to flood-resistant crop varieties, reduction of mobility	Women are less involved in decision-making with regards to improving infrastructure, thus their specific needs and concerns over care and safety may be sidestepped; increasing burdens on women due to shifts in the gender divisions of labor, cropping choices, patterns and schedules; Increase in feedstock may place more pressure on both women and men to source this; increased mobility of men for alternative income sources and women are left behind to manage domestic and agricultural activities;
	Drought	Livelihood and Dignity	Organizing religious ceremonies, reduction of water consumption, construction of wells	Water consumption of mothers is usually reduced compared with family members
Tonle Sap <i>Keskinen et al., 2009</i>	High floods destroyed rice harvests, destroyed stilt houses; Decreasing aquatic productivity	Livelihood (food, shelter, economic security)	Borrowing money from middlemen to mitigate rice shortages; fishers seek employment in fishing lots (large-scale fishing areas), while in farming areas, farmers seek employment in factories or in rice fields of more well off neighbors	Women are traditionally tasked to transact loans and repayments, thus increased dependence on loans place new pressures on them; Access to income opportunities depend on time, skills and networks: women and men may vary on these

Cambodia: longer dry spells

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In two villages in Battambang Province:

Decreased rainfall and extended drought periods recorded since 2001

- Scarcity of water
 - Longer distances to fetch water more especially difficult for women from female headed households as men usually fetch water
 - Conflict over the distribution of water
- Lower rice yields leading to lower incomes
 - School drop out rates among both girls and boys have increased
- Higher incidences of malaria, dengue fever, diarrhea, heat stress and malnutrition

Source: Sina, 2008

Vietnam

Site/Source	Climate-Related Stress	Human Security Aspect	Adaptation Practices	Possible Gender-related Insecurities
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VIETNAM <i>Tran, X.B. et al. (2006)</i> <i>Nguyen, T. Q. (2007)</i>	Coastal Erosion, Windstorms, Flood	Shelter Economic security	Strengthen protective structures, reinforce housing structures, movement of family members and physical assets to safer areas or temporary government shelters, utilization of alternative transportation such as rubber boats, adjustment of aquaculture cycles, obtain financial help from social network and family members, reliance on traditional weather and early warning practices	Women may have limited land rights, thus excluded from decision making over changes in shelter; Weak access to early warning devices and announcements
MEKONG DELTA <i>Keskinen et al., (2009)</i>	Longer dry spells, reduced rainfall and warmer temperatures to affect rice cultivation, increased pests; Changes in flood regime due to dry spells and sea level rise: early arrival will affect rice production and salt water intrusion will affect shrimp pond aquaculture	Economic security	Higher cost for rice production since farmers will need to pump more water; change cropping calendar in view of an earlier flood arrival and longer dry spells; explore drought resistant rice varieties; Flood protection systems (dikes) in the urban areas where flooding is undesirable;	Gender divisions of labour may be affected: more labor bottlenecks for women and men May shift flood risk to poorer areas – where women and men unevenly share the brunt of livelihood and care obligations exacerbated by irregular flooding

Philippines

Site/Source	Climate-Related Stress	Human Security Aspect	Adaptation Practices	Possible Gender-related Insecurities
PHILIPPINES <i>Sales, R.F. (2008)</i>	Tropical Cyclones, Increased Flooding, Coastal Erosion, Sea-Level Rise in low lying cities	Shelter Economic security	Reinforcement of housing structures, movement to safer areas, construction of protective structures such as sandbags and dikes, increase level of food stocks, obtain low-interest loans from social network and community cooperatives or high-interest loans from informal sector, temporary migration to seek alternative income sources in other areas, diversify livelihood sources Increase use of bottled water	Vulnerability of poor women to loan sharks and onerous interest rates for loans; vulnerability towards human trafficking and forced labour in order to seek alternative income sources through migration; sexual harassment and intimidation; affordability of bottled water only to well off women and men
<i>Lasco, R. and Boer, R. (2006)</i>	Drought, Salt-Water Intrusion in rural areas and wetlands	Economic and Water insecurity	Use of early maturing and drought-resistant crop varieties, change in planting schedule, use of water conservation strategies such as rainwater harvesting, obtain bank loans to construct water storage tanks, use of shallow tube wells, construction of water-impounding basins, construction of fire lines, scheduling of irrigation	Women are not consulted in the shift to new crop varieties due to weak land and water rights; Household water, sanitation and health concerns compete with other water uses such as irrigation and industry when new water storage facilities are introduced;

Gender Gaps and Points of Entry for Research and Policy to Enable Adaptation and Resilience

1: Mobility and credit as autonomous adaptation strategies and the systems that support them

Major Gap

Diversifying livelihoods through short and long term migration where women increasingly are on the move

Gender Dimensions

Research:

- Who migrates? How climatic impacts amplify and affect who migrates;
- Women and men's access to institutions and systems that support mobility: transport, conduits for remittances (e.g., banks), informal trans-local and trans-national social networks
- Whether women have equal access to informal and formal credit institutions; Insurance and micro finance program for savings, the formation of savings and finance cooperatives

Policy:

- Provide women and men equal information on jobs and capacity building services to upgrade skills in order to enable their livelihood diversification
- Ensure equal access of women and men to networks of support (gov't and welfare agencies)
- Provide credit facilities equally to women and men - a critical strategy for strengthening resilience

2: Livelihood security of small-scale subsistence and fisher folk and farmers

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Major Gap	Gender Gap
<p>The threats that undermine small-scale livelihoods when exacerbated by climate change impacts</p> <p>The mechanisms that could strengthen their adaptive capacity and resilience that includes research on agriculture and fisheries particularly in increasingly saline environments alongside mechanisms for tenure security</p> <p>Linking climate information to local scales for access by marginal groups</p> <p>Livelihood transitions and needs for skills enhancement</p> <p>The effects of mitigation measures on people's livelihoods and well-being (e.g., forest conservation for carbon sequestration)</p> <p>Factors and conditions that undermine and exclude the voices of small-scale producers</p>	<p>Research:</p> <ul style="list-style-type: none"> •Whose livelihoods are most affected? Those of women or men, rich or poor, specific ethnic groups? (impact) •Who has better access? (access to enabling mechanisms) •Whose voices are least heard? (representation and claim-making) <p>Policy:</p> <ul style="list-style-type: none"> •Ensure proper representation of women and men coming from different classes and ethnic groups •Provide accessible scale-relevant information on climate change equally to women and men who are affected •Ensure and explore win win scenarios for local people – including women – who rely on forest resources for livelihoods and mitigation efforts

3: Resilience to health-related impacts

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Major Gap	Gender Gap
<p>Work so far: measures for water & sanitation in climate-induced disaster situations</p> <p>Health systems to anticipate and address changing disease vectors such as active surveillance of breeding areas</p> <p>Planning of water and sanitation systems and urban drainage to strengthen resilience to urban flooding and resulting health problems</p>	<p>Policy:</p> <p>Development of gender-responsive and accessible health systems that reach the poorest populations, which therefore addresses particular health needs of women and men throughout their entire life cycles</p> <p>Policy:</p> <p>Engage affected women and men in the planning of water and sanitation systems to avoid breeding areas for disease vectors</p> <p>Build pathways for women and men to strengthen their claim making abilities for better health systems</p>

4: Governance of adaptation across scales

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Major Gap

Disjunctures between **sectors** (environment, social development, economic) and between national and local scales that impede holistic planning and remain uninformed by autonomous adaptive strategies

Lack of effective intermediate **level of governance** where possible area-based integrative management of resources, systems and services

Trans-boundary governance of resources (e.g., water resources): constraints and enabling factors for developing equitable water allocation during drought and flooding periods

Serious capacity deficits at various levels of governance

Gender Gap

Research:

- People-centered research on adaptation strategies
- Mechanisms of social and gender exclusion

Policy:

- Equal representation of women and men at the intermediate levels of governance and in consultations regarding trans-boundary water governance during droughts and floods
- Holistic planning that considers women and men's autonomous adaptation strategies
- Capacity building of both women and men to take up leadership roles at the intermediate level of governance and in transboundary water governance



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Thank you.

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