Gender, Disasters, Climate Change and Adaptation in East Brahmaputra River Basin, India

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Alternative Futures

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River Brahmaputra (the blue portion in the map below), fed by the glaciers, originates in Tibet, enters the Indian States of Arunachal Pradesh, Assam and Meghalaya; then flows into Bangladesh.

**Brahmaputra: brings severe floods, river bank erosion**
Assam and Arunachal Pradesh

Legend:
2 – Arunachal Pradesh
3 – Assam

Assam, Arunachal belong to the 7 NE states commonly known as ‘Seven Sisters.’

‘Special category states.’

- Hilly and difficult terrain
- Low infrastructure devt
- Significant tribal people
- Almost wholly dependent on the Central government for financial support
- Agro-based, livestock rearing, shifting agriculture
• **Sex ratio** (954) low but improving; **Child Sex Ratio** declining trend since 1991 (975 to 957 in 2011)

• **Female literacy** improving; a third still illiterate; male literacy at 79%; **Rural female literacy** rate (64%) far lower than urban (86%)

• **Infant Mortality Rate** better but among India’s 4 highest IMR States

• **Maternal Mortality Rate** improving but highest in India

• **Increasing crimes against women** – rape, trafficking, domestic violence

• **Gender Empowerment Measure (GEM)** lower in comparison to elsewhere in India (Gender HDI 2009)
Gender Context – Arunachal

- **Sex ratio** (920) very low though improving; **Child Sex Ratio** declining trend since 1991 (997 to 960 in 2011)
- **Female literacy** low though improving; Just about 60% literate; male literacy at 74%; **Rural female literacy** rate (54%) far lower than urban (79%)
- **Infant Mortality Rate** improving but only for male infants; female IMR increasing
- **Maternal Mortality Ratio** figures are not available but institutional delivery is low
- **Crimes against women** increasing: rape, domestic violence, kidnapping, polygamy, child marriage; weak police, legal infrastructure; prevalent customary laws
- **Barred from village-level political institutions**, even as observers. Panchayat institutions making a difference. Few women in higher institutions.
### Differential Work Burden

<table>
<thead>
<tr>
<th><strong>Men’s Work</strong></th>
<th><strong>Women’s Work</strong></th>
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</thead>
<tbody>
<tr>
<td>Men plough. Help women harvest. Help women in sericulture.</td>
<td>Women do the rest of the agricultural work:</td>
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<tr>
<td></td>
<td>Sowing, transplanting, weeding, making cow dung manure, applying manure, sharing harvesting, sorting damaged harvest if untimely rains, threshing, sorting and storing seed, rearing small animals (poultry, etc), sericulture, collecting food items (green, leafy vegetables, berries, herbs, etc) from forests, fetching fodder, water, firewood, household tasks, weaving own and family clothing, caring work.</td>
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Change: Climate & Governance

• Floods have already become more frequent, intense and unpredictable – IPCC projection; Increase in precipitation will lead to more flooding in the Brahmaputra basin (NATCOM 2004)
• Political strife – ethnic wars/ different tribes eroding development
• Traditional village councils stronger than elected Panchayat institutions
• ‘Progressive economic interventions not women friendly. Eg deforestation/commercialisation of forests; New Agri Policy
• Slow economic growth/opportunities
Change Burdening Women

• Already disadvantaged women; regression in social indicators
• Studies: more women die in disasters than men (UNDP, IUCN, etc)
• Frequent, intense floods but no ‘women’s package’ as part of government relief; relief declining and often late; livelihood restoration of women not a govt priority
• Women do not have the required education, opportunities, authority or resources to deal with the change
• Climate change is adding another layer to gender inequality

Restrictions on mobility because of customary law and lack of infrastructure a big limitation in the face of growing challenges.
### Differential Impacts of Floods

<table>
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<th>Climate Change</th>
<th>Women</th>
<th>Men</th>
</tr>
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<tr>
<td><strong>Floods, large-scale soil erosion</strong></td>
<td>Cannot row large boats to safety for children, elders or for self; lack of mobility hinders reaching safe areas – even when water comes into homes. Hygiene, menstruation, toilets, sanitation ‘impossible to cope’; no privacy Longer walks to get water and fuelwood Loss of fodder and livestock – primarily a women’s livelihood</td>
<td>Distress migration</td>
</tr>
<tr>
<td><strong>Lower food production</strong></td>
<td>Least to eat; sleep on an empty stomach Additional work as wage labour – feminisation of agriculture labour Other income-generating work. Eg weaving</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; priority to available food</td>
</tr>
<tr>
<td><strong>Social impacts</strong></td>
<td>Rehabilitation breaks up community social support Lack of mobility and caring responsibility limits avenues and time to take on income-generating activities Male migration leads to women-headed households Increased domestic violence, trafficking, deserted women, etc</td>
<td>Opportunities for alternative wage employment In decision-making roles in governance institutions</td>
</tr>
</tbody>
</table>
More Vulnerable & Responsible

“Men don’t work. They roam around. Have bidi, drink and eat tobacco.”

“If a household is a production unit, men are the consumers. They do some heavy work like ploughing but otherwise just chew paan (betel leaf) and play cards.”

“Women play a larger role in post-floods livelihood restoration.”

“Women have a special role to play in being aware of hygiene during floods.”
Gender and Adaptive Measures

- Flood shelters for people and livestock – Panchayat using govt’s MNREGA Scheme
- Hand-pumps on raised platforms – taken on by govt public health department
- Flood-resilient agriculture – sugarcane; low govt involvement
- Livestock rearing – small animals: poultry, ducks, goat, even pig rearing
- Promoting non-farm livelihoods - weaving and other household crafts through setting up local ‘amar (our) bazaar.’
- Flood and quake resilient houses – a new model
Adaptation Interventions

Raised Hand-pumps make safe Water available for women during floods

Raised flood shelters in villages provide women a place to go to because they cannot go too far.

Weaving is a very useful non-farm Income source when crops are destroyed by floods if markets exist.
• Most adaptation initiatives are INGO/NGO driven
• Assam government has a vision to improve women & child indicators
• Arunachal climate adaptation plan recognises women but needs more to address their concerns.
Thank you