

"Disasters Can't Happen Here. Lord Jagannath Will Save Us": Exploring Women's Experience of Barriers to Early Warning Systems in Odisha, India

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CONTEXT

ODISHA: A COASTLINE OF CYCLONES

- 260 Cyclones Landfalls in Odisha over the past century
- 10 Deadliest Cyclones hit Odisha in the last two decades more than any other Indian coastal state
- Cyclone Fani- Category 3 storm, May 2019 strongest in 20 years. Damaged 1,294 villages and caused \$3.41B in losses

STUDY DESIGN

- Study Area-Puri District, Odisha, a coastal pilgrimage site and one of India's Char Dham holy sites, hit by Cyclone Fani in 2019
- Design-Exploratory, mixed-methods: household surveys, in-depth interviews, focus group discussions, and key informant interviews across two phases (2019 & 2024)
- Sample-**384 respondents** - 211 women (HHS) + 173 stakeholders (ASHA, Anganwadi, Aapda Mitra, ODRAF, NGO staff, elected members)

KEY FINDINGS

- 90% Received the warning but most didn't prepare
- 90% aware of cyclone , overall reach of early warning messages
- Only 40% knew Puri was the expected landfall
- Knew Cyclone Speed, 93.6% had no information on severity
- Access to early warning does **not** ensure disaster preparedness. Low risk perception was the primary barrier to action.

BARRIER 1- RELIGIOUS BELIEF: *"Lord Jagannath Will Save Us"*

"Disasters can't happen here. If it happens, Lord Jagannath will save us. So, I did not move to the shelter."

Woman from Penthakata, Puri

"We thought if the 1999 Super Cyclone could not affect Puri, how will Fani? Prabhu Jagannath stays here and will protect us."

Woman respondent, Chitrakara sahi, Puri

- This "**faith-based fatalism**" scored **8.4/10** as the top barrier by Aapda Mitra volunteers overrode risk information for many respondents.

BARRIERS 2 & 3

Past Experience & The "Cry Wolf" Effect

NORMALIZATION BIAS

Over **90% of women** had prior disaster experience, yet risk perception remained **low**. Past cyclones in Puri were less severe, creating a false sense of safety.

Cyclone Fani was unusual, **summer cyclone in May**, not the typical October peak , further reducing perceived urgency.

FALSE ALARMS UNDERMINE TRUST

Repeated warnings that didn't materialize eroded credibility of the EWS:

"Every year we get warnings... but cyclone never happens here"

"During Phailin, Hudhud, Titli , it was not severe here"

This "**cry wolf effect**" led many to dismiss Fani's warnings entirely.

BARRIERS 4 & 5

WHO FALLS THROUGH THE CRACKS?

SPATIAL MARGINALIZATION

Dalit women in **Harijan Sahi** live on village margins. Public address systems announce on main roads .*"Four-wheelers cannot enter here."*

DISABILITY & AGE

Elderly, pregnant, and disabled women face **physical and communication barriers**. Audio warnings fail those with hearing impairment; mobility limits evacuation.

LANGUAGE BARRIERS

Migrant fisherfolk from Andhra Pradesh speak **Telugu, not Odia**. PAS announcements and volunteer communications were inaccessible to them.

BARRIER 6 & 7

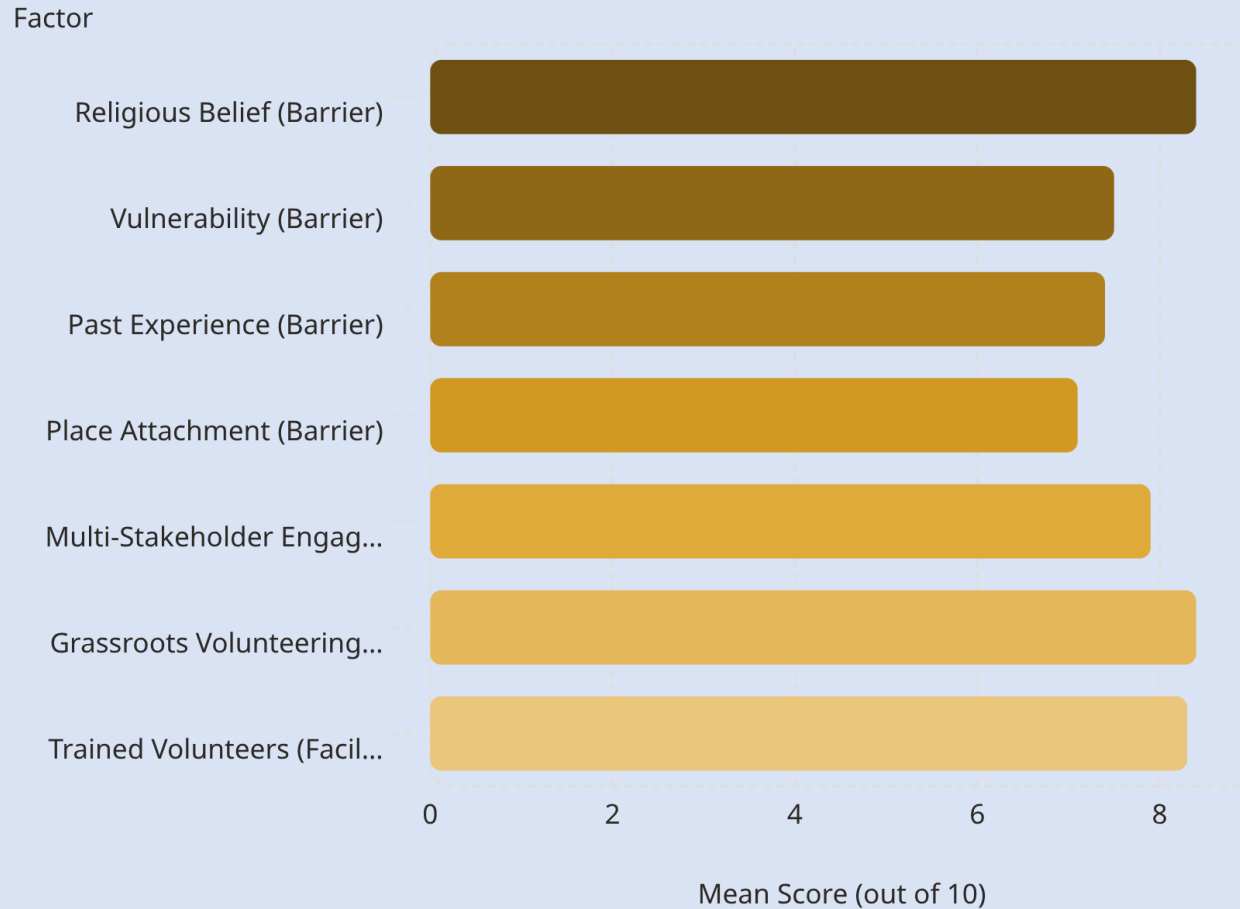
THE DIGITAL DIVIDE & PLACE ATTACHMENT

- Technology Gap
- Women predominantly use **keypad phones (74%)** without internet. Government text alerts were ineffective due to illiteracy and device limitations. TV was the top information source (40%) . It was absent in marginalized homes. **50 % illiterate**
- Reluctance to Evacuate

Attachment to home and assets prevented evacuation. **34%** feared theft; **20%** stayed because neighbors did; **15%** trusted divine protection near the Jagannath temple.

FORCE FIELD ANALYSIS

Barriers vs. Facilitators: What the Data Shows



Overall Scores

Barriers Total: 5.8 | Facilitators Total: 7.6

Odisha's decentralized disaster management and grassroots volunteer network are **stronger than the barriers** but targeted interventions are still needed for last-mile communities.

POLICY & PRACTICAL IMPLICATIONS

- Behaviourally informed and culturally sensitive EWS.
- Strengthen capacity of ASHA, Anganwadi & Aapda Mitra.
- Recruit local frontline workers with community knowledge.
- Promote women's participation in EWS planning.
- Use multilingual, multi-channel warning dissemination.
- Institutionalise woman-centric, community-based EWS.

MANAGERIAL IMPLICATIONS

- Gender-disaggregated vulnerability mapping.
- Targeted outreach to vulnerable women (Dalit, disabled, migrants).
- Structured feedback system for Aapda Mitra volunteers.
- Integrate ASHA & Anganwadi workers into EWS dissemination.
- Co-design warning materials with marginalized women.
- Encourage CSR support for last-mile EWS infrastructure.
- Promote digital literacy and access to communication technologies.

THANK YOU