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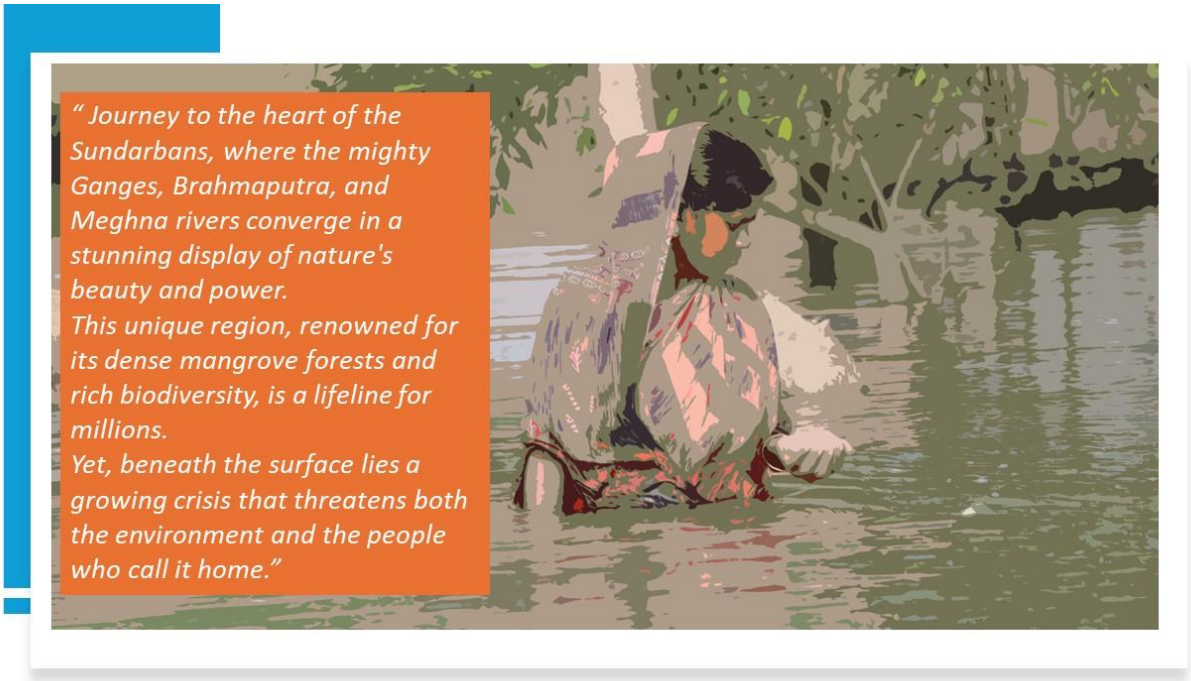
Layers of Crisis:

Climate Change, Water, and Women's Health in the Sundarbans



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Layers of Crisis: Climate Change, Water, and Women's Health in the Sundarbans

The Sundarbans, nestled at the confluence of the Ganges, Brahmaputra, and Meghna rivers on the Bay of Bengal, boasts a globally significant ecosystem. As the largest dense mangrove forests globally, it's home to diverse species and a vital resource for coastal communities, supporting a human population of about 4.5 million. Yet, this ecological treasure faces an existential threat from climate change and anthropogenic stressors like rising sea levels, cyclones, salinity increase, and environmental degradation. This impacts not just the ecosystem but also the livelihoods and subsistence of Sundarbans-dependent communities.

Located along India's eastern coast, the South 24 Parganas District in the Sundarbans is known as the cyclone capital of the country. Coastal populations here confront heightened vulnerability due to natural disasters, land loss, and freshwater depletion from saltwater intrusion. These challenges deepen socio-economic disparities, pushing communities further into poverty and food insecurity.

"My family has lost a significant portion of our farmland near the Bidyadhari River due to riverbank erosion, and our freshwater pond has become saline from frequent floods and cyclones. Life in the Sundarbans has been drastically altered since Cyclone Aila struck our village. With each cyclone, we rebuild our lives, only to face another looming threat. We now live in constant stress and fear," expressed Najma Sardar (50) from Chandipur village in the Gosaba block during a participatory action research group meeting facilitated by SaciWATERs. The multifaceted impact of climate change on the Sundarbans underscores the complexity of the challenges, with some consequences visible and others lurking unseen.

Climate Change, Water Quality Decline, and Community Health Impacts:

Over the past 15 years, the Sundarbans region has experienced a notable increase in the frequency and intensity of cyclonic storms. Events such as Aila (2009), Phailin (2013), Hudhud (2014), Komen (2015), Mora (2017), Titli (2018), Fani (May 2019), Bulbul (November 2019), Amphan (2020), Yaas (May 2021), and Jawad (December 2021) have left a significant impact. These cyclones not only unleash powerful winds but also pump saline seawater into the soil and water sources of island villages, disrupting ecosystems, agriculture, and fish culture. Floods and tidal surges also increase salinity, contaminating both surface and groundwater quality.

Besides the salinity induced by climate change, environmental pollution also contributes to the deterioration of water quality in the Sundarbans. Industrial pollutants from upstream areas via many tributaries and agricultural runoff containing fertilizers and pesticides further exacerbate the situation. This compounded impact of climate change and environmental hazards has intensified water insecurity in various parts of the Sundarbans. Despite water quality deterioration, many villages continue to consume contaminated water due to a lack of alternatives.

In most island villages of the Sundarbans, the absence of treated piped water forces communities to rely on hand pumps for drinking water and ponds for other needs like bathing, household use, cattle rearing, and fishing. Furthermore, groundwater, which is relatively less

contaminated compared to pond waters in the region, is also stressed due to high demand for irrigation. This lack of safe water
for drinking, sanitation, and hygiene, along with food insecurity and limited healthcare access, has triggered a public health crisis in the region.

Dr. Saheed Parvez, the General Duty Medical Officer, Madhabnagar Rural Hospital at Pathar Pratima block, shared, *"The majority of patients visiting the hospital suffer from hypertension, hypothyroidism, dermatological issues, diarrhea, and various stomach ailments, along with UTI and reproductive health-related issues. Approximately 60% of patients visiting the hospital experience dermatological problems, genital and urinary tract infections due to the usage of polluted water with higher salinity. Many women who come to the hospital for delivery are affected by genital infections, increasing the risk of infections for the unborn child*."

While data and studies exist for other diseases, there is a significant lack of discussion and awareness surrounding women's health issues, particularly menstrual health due to taboos and social stigma surrounding it.

Climate Change's Multifaceted Impact on Women's Health:

Climate change impacts men and women differently. The impact of climate change on women's health in the Sundarbans is multifaceted and complex. One of the lesser-known impacts is on the menstrual and reproductive health of women, who are disproportionately affected by increased salinity in the region. However, this complexity stems from various factors rather than following a linear equation. People in the island villages of the Sundarbans practice using pond water for bathing, a tradition that poses a unique health challenge to women due to its saline and contaminated nature. Exposure to such water leads to infections through bathing, washing menstrual cloth, and spending long hours fishing waist-deep in the river.

Seventy-seven percent (77%) of the 400 women interviewed reported suffering from menstrual and reproductive health issues, according to action research conducted by SaciWATERs supported by the Adaptation Research Alliance. Chandipur and Hetalbari in the Gosaba block, along with Mahendra Nagar and Durbachati villages in the Pathar Pratima blocks of South 24 Parganas District, were selected for the action research, which included forming participatory action research groups involving multi-stakeholder to find adaptation solutions to menstrual and reproductive health risks induced by climate change through knowledge co-creation.

"There are growing cases of white discharge, recurring UTIs, irregular bleeding, and cysts among women aged above 30," expressed Dr. Pallab Mondal, the General Duty Medical Officer at Gosaba Rural Hospital. The lack of advanced diagnostic facilities makes diagnosis and treatment challenging, often necessitating referrals to distant, larger government hospitals. Despite advising against pond bathing, practical constraints make it unavoidable for many women in the region. The number of hand pumps is limited and situated far from most homes for women, and due to limited supply, hand pumps are designated only for drinking water and cooking purposes.

Women from marginalized communities, especially those with limited financial resources and healthcare access, bear the greatest burden of climate impacts. For example, men migrating to cities for work often leave women, elderly, and children behind, increasing women's responsibilities and vulnerabilities to climate change. Additionally, economic constraints lead to period poverty, forcing women to rely on cloth washed with contaminated water instead of other sustainable and safe menstrual products, exacerbating infections. Lack of proper healthcare facilities in the Sundarbans further compounds these challenges, with women often traveling long distances for treatment or resorting to quack doctors in their villages.

Furthermore, awareness about reproductive and menstrual health is lacking in many communities, leading to misconceptions and taboos. Women's reluctance to prioritize their own health and seek timely treatment further complicates these issues.

Dipali Bhunia (35) from the fishing community in Mandra Nagar village mentioned, *"We have 15 patients of uterine tumors in our Purbo Para hamlet which has 100 households. Women in the village feel shy and don't share early symptoms with anyone. If the symptoms are treated at the early stages these kinds of major complications can be avoided."*

Moving Forward:

Addressing the intertwined challenges of climate change and menstrual & reproductive health in the Sundarbans demands concerted effort. Central to this is recognizing the critical role of water quality, the root cause of many health issues faced by women in the region. Furthermore, there is a pressing need for further scientific exploration to generate more evidence and inform evidence-based interventions for sustainable development in the region Furthermore, there is a pressing need for further scientific exploration to generate more evidence and inform evidence-based interventions for the region's specific health challenges. Moving forward, collaborative action integrating health and climate responses is imperative. This entails mainstreaming menstrual and reproductive health, ensuring gender-responsive adaptation, and empowering women as active decision-makers. Awareness creation, innovative & cost-effective technologies for water quality improvement, and community-based solutions are essential. Collective action at all levels, including implementation of policies and on-the-ground interventions, is vital to build resilience and foster a sustainable future. Immediate, inclusive policies and strategies are needed to drive change and safeguard the well-being of women in the Sundarbans. Last but not least, we must recognize the urgency of the situation and understand that further delay is not an option. Each passing day without action exacerbates their suffering and vulnerabilities.

Pic: Fisherwomen diligently fishing in the waist-deep waters of Mahendra Nagar, Pathar Pratima Block (Photograph by Jayati Chourey)

Pic: Participatory Action Research Group Workshop at Chandipur Village, Gosaba block