Draft
Report on the Online Stakeholders’ Consultation Workshop

Scoping Pathways to Health System Resilience

In The

Sundarbans Delta: Redressing Climate Change Vulnerability to Population Health in South Asia (PReSuRV)
Scoping Pathways to Health System Resilience in the Sundarbans Delta: Redressing Climate Change Vulnerability to Population Health in South Asia (PReSuRV)

Hosted By:

Dr. Papiya Mazumdar and Prof. Piran White, University of York, UK
Prof. Sugata Hazra, Jadavpur University, Kolkata, India

Workshop Participants:

Dr. Satyajit Sen (Senior Regional Director, MOHFW, Kolkata, under the Directorate General of Health Services, Govt. of India)
Dr. Arunoday Mondal (Eminent Physician serving Sundarbans community for decades, Awardee of the prestigious Padma Shri Award (2020) conferred by the Govt. of India, for his contribution in medicine)
Mr. Pradipta Ghoshal (Managing Trustee, Life Saving Society of India, a reputed NGO working in Indian Sundarbans)
Ms. Sahana Ghosh (Environmental Journalist)
Ms. Ishita Ray (Project Director, JEET-FIND, West Bengal World Health Partner)
Dr. Upasana Ghosh (Asst. Professor, Indian Institute of Public Health, Bhubaneswar)
Dr. Pradip Malhotra (Former Regional Director, MOHFW, and former leader of the Indian Antarctic Expedition)
Dr. Anurag Danda (Senior Fellow, Observer Research Foundation, and Founder, Elephant in the Room: Sustainability by Design)
Mr. Samiran Lahiri, AIII (CEO, Preferred Partners)
Ms. Sabina Yasmin (Southern Health Improvement Samity, West Bengal)
Mr. M.A. Wohab (Southern Health Improvement Samity, West Bengal)
Dr. Isha Das (School of Oceanographic Studies, Jadavpur University)
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Prof. Sugata Hazra (School of Oceanographic Studies, Jadavpur University)
Prof. Piran White (Co-Director of Interdisciplinary Global Development Centre, University of York, UK)
Dr. Helen Elsey (Senior Lecturer in Global Health, University of York, UK)
Dr. Papiya Mazumdar (Researcher, University of York, UK)

Apologies:

Mr. Subhas Acharya (Former Joint Director of Sundarban Development Board, Govt. of West Bengal)
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**Agenda:**

Overview of challenges to health systems resilience in the Sundarbans and measures to redress the overall health vulnerability in the region

**Introductory remarks by Prof. Piran White and Dr. Helen Elsey**

Prof. Piran White briefly introduced the aim of the workshop - to gain a better understanding of the various risks to health and wellbeing that are experienced by people living in the Sundarbans region. Of particular interest are:

- the risks of infectious and non-infectious disease, and how they are affected by the climate and natural environment in the area.
- how the Covid-19 pandemic and the policy responses to that have affected these relationships.
- the provision of health services in the region to help us understand any gaps in this provision so we can think about improvements for the future.

There is an opportunity to work together to build on the experiences of the past and present in order to be better prepared to reduce the impact of health-related emergencies in the Sundarbans now and in the future. This is especially important amidst the present troubled time of multiple public health crises experienced by the region, in wake of the worldwide climate change risks, the ongoing COVID-19 pandemic situations and the recent strike by the super-cyclone Amphan. The identification of priorities is important optimize focus for future research. It is best done when explored along with the important stakeholders familiar to the context and concerns. The present opportunity provides an appropriate context in which to seek consultations, and the University of York, UK in collaboration with the School of Oceanographic Studies, Jadavpur University, Kolkata and Southern Health Improvement Samiti (SHIS) a practising NGO working in Sundarbans area, feel fortunate to have this opportunity.

Dr. Helen Elsey, primarily interested in Public Health research in urban areas of low-and-middle income countries (LMICs), introduced a health systems perspective. She expressed severe concerns over the current waves of return-migration in rural areas following the COVID-19 pandemic. This has given rise to another important dimension of rural-urban migration in linkage to the public health research in LMICs.
Background to the environmental, socio-economic and health vulnerability in Sundarbans

Prof. Sugata Hazra presented the challenges posed to population health by the lack of healthcare facilities and adaptive capacity in Sundarbans. Severe rise in temperature, sea level, cyclonic disturbances, and high-intensity rainfall, supplemented by the recent complications inflicted by the Covid-19 pandemic and the super-cyclone Amphan, have all negatively impacted the Health Care Delivery System (HCDS) and the overall infrastructure in the region, and also resulted in increasing numbers of environmental migrants. Based on the recent mobile-health service data maintained by SHIS—the disease profile of Haroa Block in North 24 Parganas of West Bengal state shows that the residents are three times likelier to suffer from Respiratory Diseases than Gastrointestinal Disorders and Diabetes. Prof. Hazra emphasised that Haroa does not represent typical geographies of riverine or delta regions of Sundarbans, but it was selected for investigation due to its proximity to Kolkata and ease of accessibility of data during Covid-19 lockdown. Emphasising the lack of uniformity in hazard risks and social vulnerability across the islands of Sundarbans, Dr. Hazra reiterated the need for the transformative change to attain SDG 3 (Good Health and Wellbeing) through Disaster Risk Reduction (DRR) and a tailor-made, location-specific approach.

Ms. Isha Das and Ms. Sabina Yasmin presented on the dual health impacts of the Covid-19 and recent extreme climate event Amphan super-cyclone faced by Sundarbans. They shared the findings from a preliminary telephone survey of 14 NGOs and 20 Bare-Foot Doctors (BFDs) across 11 Blocks in Sundarbans across the blocks of Sandeshkhali, Hingalganj, Gosaba, Basanti, Kultali, Pathar Pratima, Kakdwip, Sagar, Canning, Haroa and Minakhan, spanning the North and South 24 Parganas Districts of West Bengal. The diseases found most prevalent in the region include, water-borne Diseases and Gastroenteritis, Skin problems, Malnutrition and Depression were, closely followed by Vector-borne Diseases, Respiratory Diseases, Cancer, Eye problems, Hazards from animal attacks and insect bites, Heart Disease and Diabetes. Hypertension and TB are less frequent. An assessment of the impact of Covid-19 revealed several concerns requiring an immediate response, such as

- Unavailability of doctors and medicines, and their inability to maintain physical distancing norms
- Denial of regular health services to patients with general ailments
- Lack of antenatal and postnatal care and avoidance of institutional delivery
- Lack of adequate transport facilities during lockdown
- Lack of Covid-19 risk communication leaving the residents confused, anxious, panic-stricken and depressed

The survey also revealed important concerns regarding the impact of Amphan on healthcare in Sundarbans during the pandemic, such as

- Severe damage to health clinics
- Inability to obey physical distancing norms in cyclone shelters
- Exposure to Covid-19 while collecting relief and due to unchecked disaster tourism
- Difficulty in maintaining menstrual hygiene
- Contamination of water sources by debris and dead animals
- Exposure to Vector-borne Diseases
The presentation also noted severe shortfalls in the Health Care Delivery System (HCDS), such as

- Inability of HCDS in Sundarbans to deal with the dual impact of Covid-19 and Cyclone Amphan
- Insufficient number of healthcare workers (doctors, nurses, ASHA workers)
- Lack of infrastructure to conduct basic tests and operations in Block Primary Health Centres (BPHCs) and Primary Health Centres (PHCs)
- General population heavily dependent on Bare Foot Doctors (BFDs) who lack professional medical training
- Lack of ambulance service in many islands
- Water ambulances to bring patients from islands to the mainland as yet undeveloped

Panel Discussion:

i) Summarizing discussion points related to- ‘Priorities for complex health system challenges in Sundarbans, faced in general and more specific to the present unprecedented public health crisis triggered dual challenges of COVID pandemic and the super cyclonic storm Amphan’

<table>
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<tr>
<th>Issues / Priorities</th>
<th>Observations/ Perspectives</th>
<th>Highlighted by</th>
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<tbody>
<tr>
<td>Provision of steady health care services in</td>
<td>Need for developing a steady health infrastructure within the three tier Government Health System- with strengthening the numbers of functional Block Primary Health Centres (BPHCs) and Primary Health Centres (PHCs) to support services for tests and treatment of patients</td>
<td>Dr. Arunoday Mondal</td>
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<td>Mobile health services might serve limited purpose in regular monitoring of most prevalent health concerns like – undiagnosed Diabetes, undiagnosed Hypertension (prevalent among almost 70% adult residents), Hypothyroidism, malnutrition, worm-infestation, tobacco related respiratory conditions, diseases emerging from saline water and chronic Asthma</td>
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<td>There remains a general lack of services for Covid-19 testing and facilities for returned- migrants to safely quarantine. Severe shocks to economic profile of the returned migrants and securing the long-term environmental safety of Sundarbans would need well-defined strategies adopted by the Government. Sundarbans is going imbalanced with invasion of settlements in uninhabitable islands that intervenes with natural mangrove coverage and make the place less resilient to pre-monsoon tropical cyclones</td>
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<td>Strengthening risk-communication in Sundarbans</td>
<td>The present dual-crisis situation has amplified stress and demonstrated the dire need for strengthening appropriate risk communication mechanism in Sundarbans. Improved risk communication between the authorities and the SBR residents in regional languages known to the locals would be necessary to allay their fear and confusion regarding the transmission of Covid-19.</td>
<td>Ms. Sahana Ghosh</td>
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| Gender perspectives of challenges faced in Sundarbans | Women face triple burden of —  
- Managing livelihood for the household, as men are often out-migrated and women play as de facto household heads  
- Managing domestic duties, and  
- Providing care for children and other family members, and now as husbands are returning from far-flung places due to COVID crisis  
This is an extraordinarily distressing time for women in Sundarbans, as husbands/male members are returning home having lost their jobs opportunity due to COVID-19 related lockdown and while at the same it demands a huge responsibility to rebuild their destroyed homes and lives after Amphan  
The resultant stress and chronic malnourishment, practices around child marriages and related cycles of gender specific practices, significantly triggers vulnerability among women for several physical and mental health related problems. Their experience of stress, depression and exposure to domestic violence is increasing manifolds to trigger chances of Deliberate Self Harm (DSH)  
Attention to health and wellbeing of women and children would be needed through a more efficient, sensitive, and robust approaches. Restoration of livelihood options in Sundarbans in general and specific to options suitable to the women’s multiple roles would be essential. | Dr. Upasena Ghosh |
| Environmental contexts as triggers to the health and disease risks in Sundarbans | Spatial-temporal variations in the Sundarbans is further supplemented by the triggers from risks from Covid-19 and Amphan. This has catapulted into a humanitarian crisis in the region and caused severe health impacts.  
There remain certain location-neutral physical and mental health issues within the natural and built environments, which deserve increased attention for management along with health issues emerging from location-specific risks like flooding, erosion and heightened conflict with wild animals, etc. Some of these from both sides include—  
- Loss of esteem and psychological distress caused by the loss of land and the attendant food insecurity due to constant threat from sea-level rise and inundation of habitation. Landed families are often losing their own lands in Sundarbans and are increasing susceptible to psychological distress and deliberate self-harm  
- Skin irritation and vision problems resulting from contact with poisonous plants. Worm-infestation and other water-borne diseases commonly prevail from risks of living conditions in Sundarbans | Dr. Anurag Danda |
- Health risks posed by noise and air pollution resulting from traveling by motor-boats and tricycle-vans, and indoor cooking
- Risks related to indoor smoke and other issues of built environment cause respiratory diseases and spread of TB infections
- Mental health issues often not recognized as serious because they are ‘unseen’
- Spatial risks of living in Sundarbans, characterizes environmental health vulnerability due to climate change impacts in 46 islands which are closest to the forests and separated by narrow-creaks

These everyday health risks are not taken care of unless this blows up with accidents or any sudden events

| Specific issues to Children’s health: Drowning | The gross lack of availability of data on death registration by drowning among children, leads to ignorance. Many islands remain inaccessible or scarcely accessible with certain specific points marked as approach-ways. Unattended/children lacked adult supervisions on their way to schools/play/etc, often demonstrate high vulnerability to drowning which is generally overlooked as an important public health concern in the region. It is suggested to launch some interventions to prevent accidental drowning of unattended children and people trying to save them. Some past related interventions have been through crèche service for children, children’s training and community awareness, with varying and limited success on sustainability so far. Lack of accessibility and inadequate communication around risks is an underlying problem. | Mr. Pradip Ghoshal |
| **Beating the issues of inaccessibility in Sundarbans** | There remains the need to address some of the shortfalls with respect to health and family welfare through the strengthening of health centres/services, commensurate to the demand of health care in Sundarbans. These shall connect inaccessible areas like riverine habitations and nodal points in strategic areas

Expansion of provision for water ambulances, mobile centres, faster modes of communication, and provision of telemedicine would reduce transport-related barriers in access to required healthcare

Strengthening telecommunication in the areas, would help develop facilities for telemedicine and social-welfare by means of improved education and outreach | Dr. Pradip Malhotra |
| **Novel Health Districts spanning** | Environmental risks emerging from difficult terrain, geographic locations, socio-economic contexts, and climate change related issues- | Ms. Ishita Ray |
| Across Sundarbans areas: Harnessing opportunities to address health risks and problems | demand for short-term and long-term strategies to build health resilience in Sundarbans. The two newly created health districts nucleated around Diamond Harbour and Basirhat- gives opportunities for focused attention and innovation.

There is a gap between service providers and recipients in terms of what are seen as health priorities. There remains an urgency for a reduction in the gap between recipients and health service providers, to address the need in communicable and non-communicable diseases.

Special attention would be needed to recognize spatial, cultural and behavioural change dimensions across the islands to build a robust plan.

Strengthening infrastructure in Sundarbans would be crucial to support crisis situations like the present. Faced with the dual burden of present challenges, Sundarbans lacked facilities, so Covid-19 isolation centres needed to be used as cyclone shelters.

Focus to be given on the healthcare needs of each island to develop a climate-resilient, decentralized, robust health system in SBR. |
|---|---|
| Holistic approach in strengthening health resilience in Sundarbans | Both short and long-term planning for health system in Sundarbans must ensure provision of regular healthcare services (including maternal and child health care, immunization, tuberculosis)- which are largely neglected at present due to pandemic-induced stress. Important measures shall include:

- Identification of diseases and health service gaps in required treatment based on robust statistics and experts' opinions
- Advance planning to ensure that providers are not overwhelmed with Covid-19 like emergency situation and surveillance, and they are able to continue to provide the regular spectrum of routine healthcare services when crisis hits
- Recognition of pressures on women that are otherwise overlooked- the loss of livelihood of women household helps working outside SBR, due to their reverse migration after lockdown, domestic violence and substance abuse, Amphan-induced food insecurity, and malnourishment
- Amphan has further compounded the water-related problems like access to piped water or arsenicosis

Concerted efforts from the government, NGOs and private individuals- would need to be harnessed. Better communication and |
| | Dr. Satyajit Sen |
collaboration between the private and public healthcare sectors to be encouraged.

Mitigation issues that cross-cutting health and other sectors like livelihood issues, socio-economic wellbeing and issues of reverse migration -would need to be taken into consideration

Assistance to build up strategies could be sought from the Centre for Environmental and Occupational Health, National Centre for Disease Control (NCDC)

ii) Summary of discussion on 'likely opportunities for strengthening health system resilience in Sundarbans'

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<th>Insurance options for pulling up resources to reduce disaster and health vulnerability, to impact on the overall economic conditions</th>
<th>• Recognizing people’s inability to secure compensation from the Government for destruction caused by natural disasters-insurance schemes with low annual premiums for hut, cattle, fisheries, inundation, malicious damages could be thought of • WB government could be advised to – devise insurance package and to formulate special contingency policy where premiums are paid by the government with an affordable proposition. • Gap-analysis could be performed to assess the quantum of social development fund requirement that shows the difference between economic loss and the insured loss as faced by the residents • Both group and individual medical insurance could be purchased, one need to think about the viable options. It could be seen how far the exiting insurances schemes launched by the Government of India, e.g., Ayushman Bharat or crop insurance. • May be opportunities for public-private partnerships, e.g. large corporations and private partners with offices in West Bengal may also be requested to channel some of their Corporate Social Responsibility (CSR) funds into the payment of premiums on behalf of the affected people with insurance.</th>
<th>Mr. Samiran Lahiri</th>
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| Planning and strategizing for increasing trend in multiple-chronic disease in Sundarbans | Climate shocks, floods, inundation of river banks playing havoc in Sundarbans

Nearly 5 mn people are exposed to the diseases triggered from unsafe water and unhygienic conditions from open defecation practices.

Both physical and social vulnerability needs to be reduced. Health infrastructure needs strengthening to a large extent. There are too few healthcare centres and much health provision is inadequate or non-existent. Still a significant proportion of residents in Sundarbans are dependent on indigenous health providers | Mr. M.A. Wohab |
| Planning for Transforming change in Sundarbans | Considering life in Sundarbans must continue, suggested courses of action to achieve SDG3 in the region could be:  
- Informed and systematic retreat, in planned phases, from specific high-risk areas  
- A holistic approach to strengthening health system addressing climate change related issues and not treating health problems discrete to the context  
- Action to address the risk of communicable and non-communicable diseases | Dr. Anurag Danda |