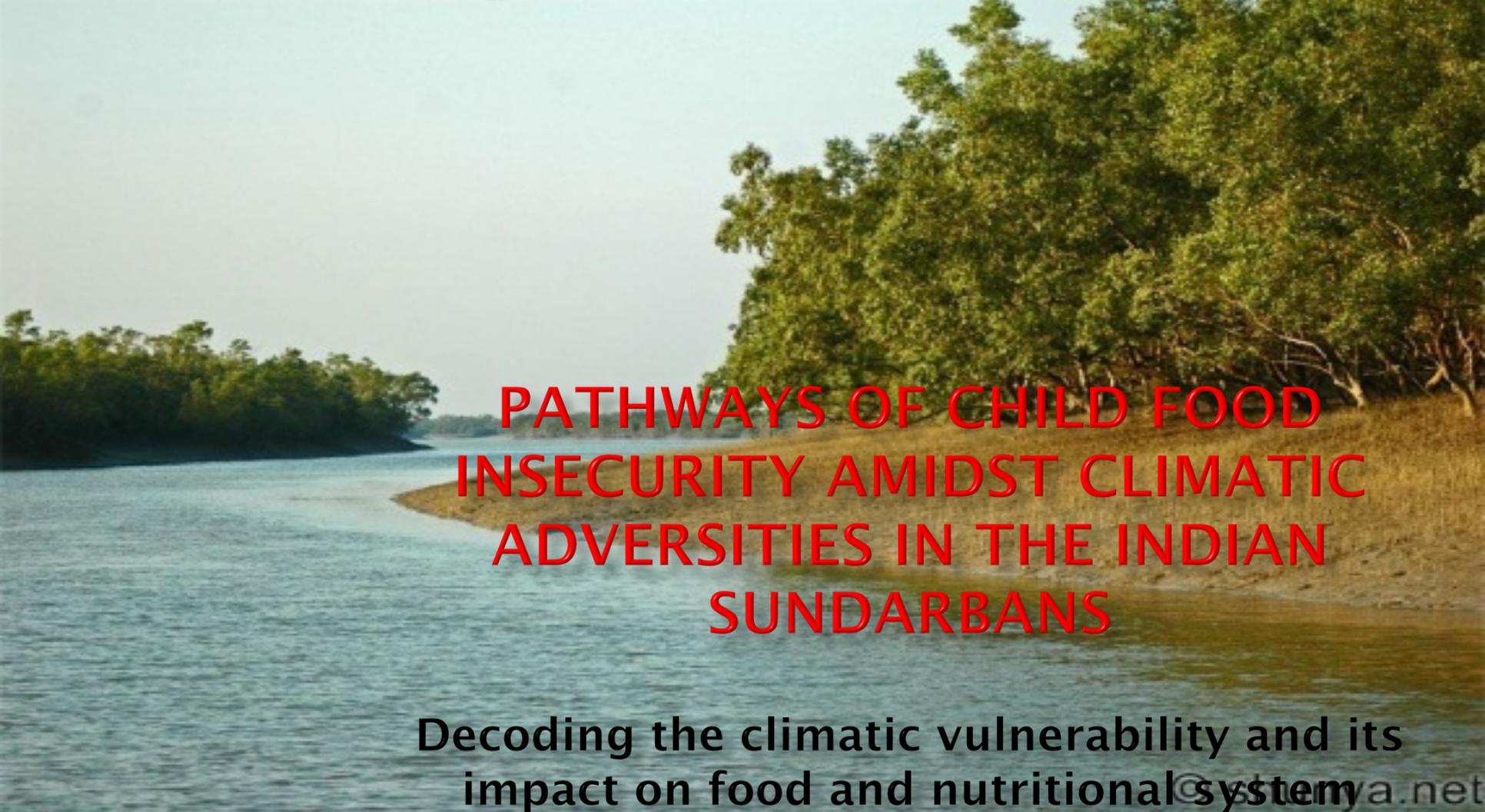




Norwegian University
of Life Sciences



Future Health Systems
Innovations for equity



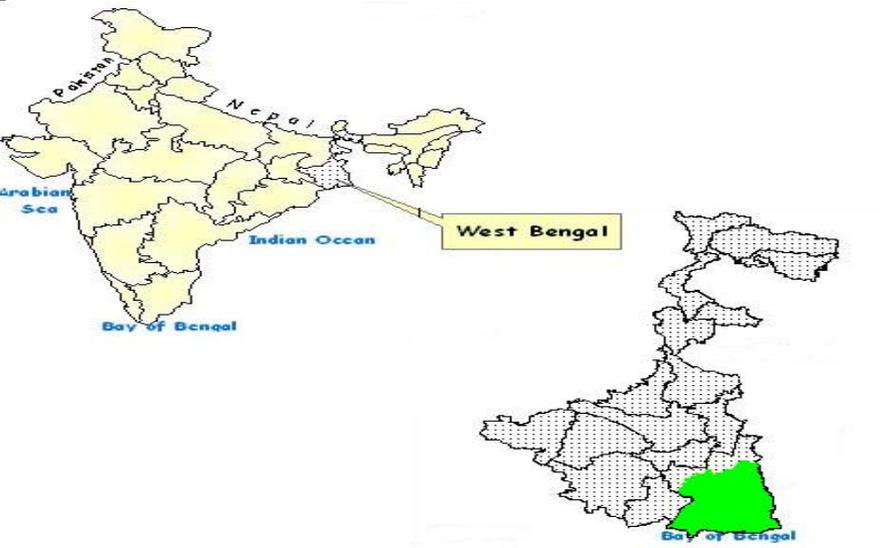
PATHWAYS OF CHILD FOOD INSECURITY AMIDST CLIMATIC ADVERSITIES IN THE INDIAN SUNDARBANS

Decoding the climatic vulnerability and its
impact on food and nutritional system [iihmr.org](http://www.iihmr.org)

ANH Symposium
Kathmandu, 2017

Upasona Ghosh, IIHMR University

The Indian Sundarbans: land of geo-social marginalization facing the climate changes



- Sea level rise
- Increasing sea surface temperature
- High erosion rate
- Unpredictable and erratic rain fall
- Increasing intensity of climatic events like flood and cyclone

IIHMR University's Study on Climate and Child nutrition and health

Focus of the study

- Generate and push streams of micro level evidence on linkage between CC, child nutrition and health in the Sundarbans
- Explore the child health and nutritional condition in one of the climate hit pockets in Sundarbans
- The existing system's response towards the changing climate and its impacts on health and nutrition
- Find out ways by which child care system of the Sundarbans can be made more climate resilient



Children: most dependent on environmental, socio-cultural and policy condition

Methodological approach

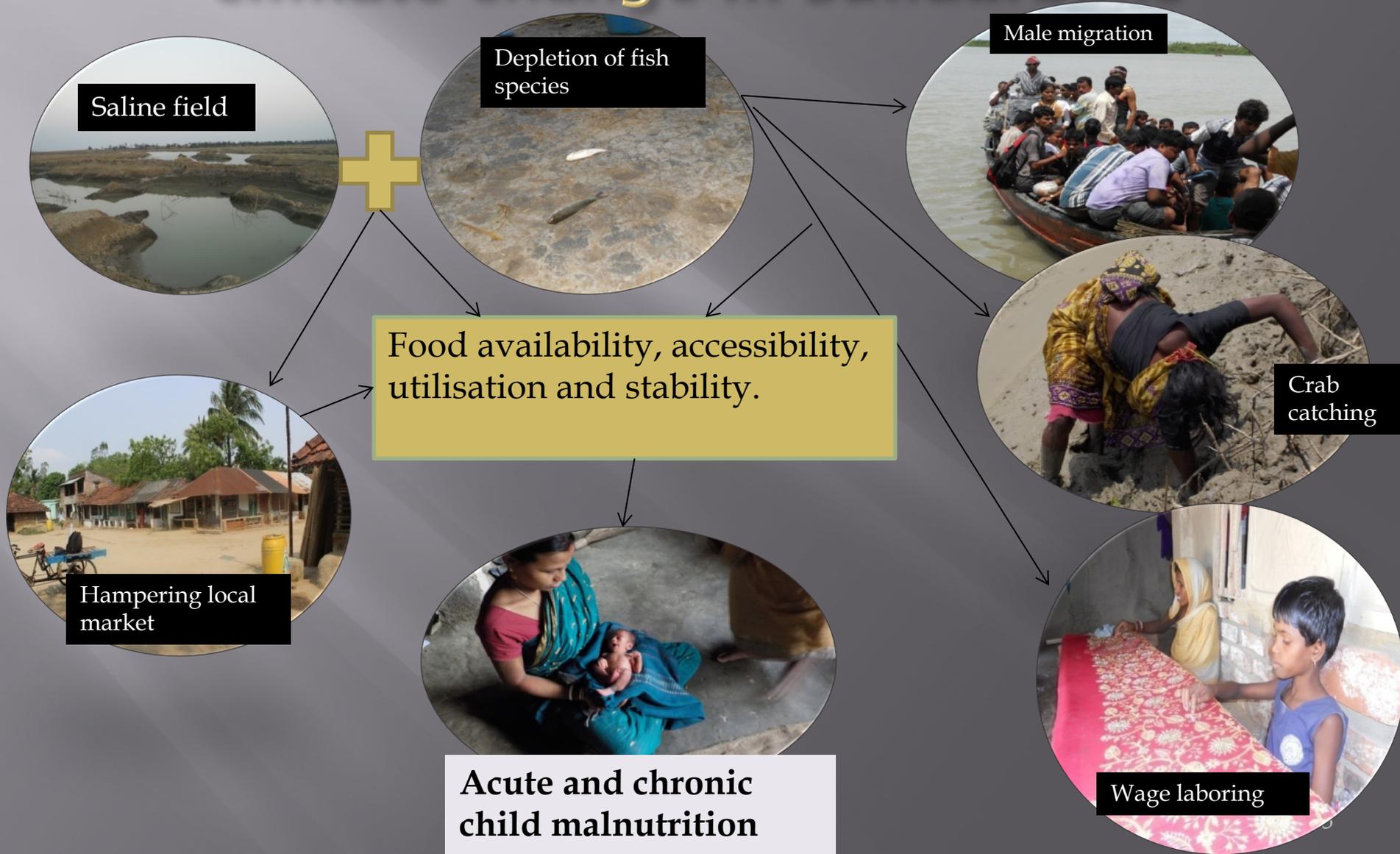
Approaches

- Comparative case study of differentially vulnerable regions under climate threats
 - islands (Ghoramara),
 - coastal mainland (Dhaspara)
 - mainland (Rudranagar)

Mixed methods

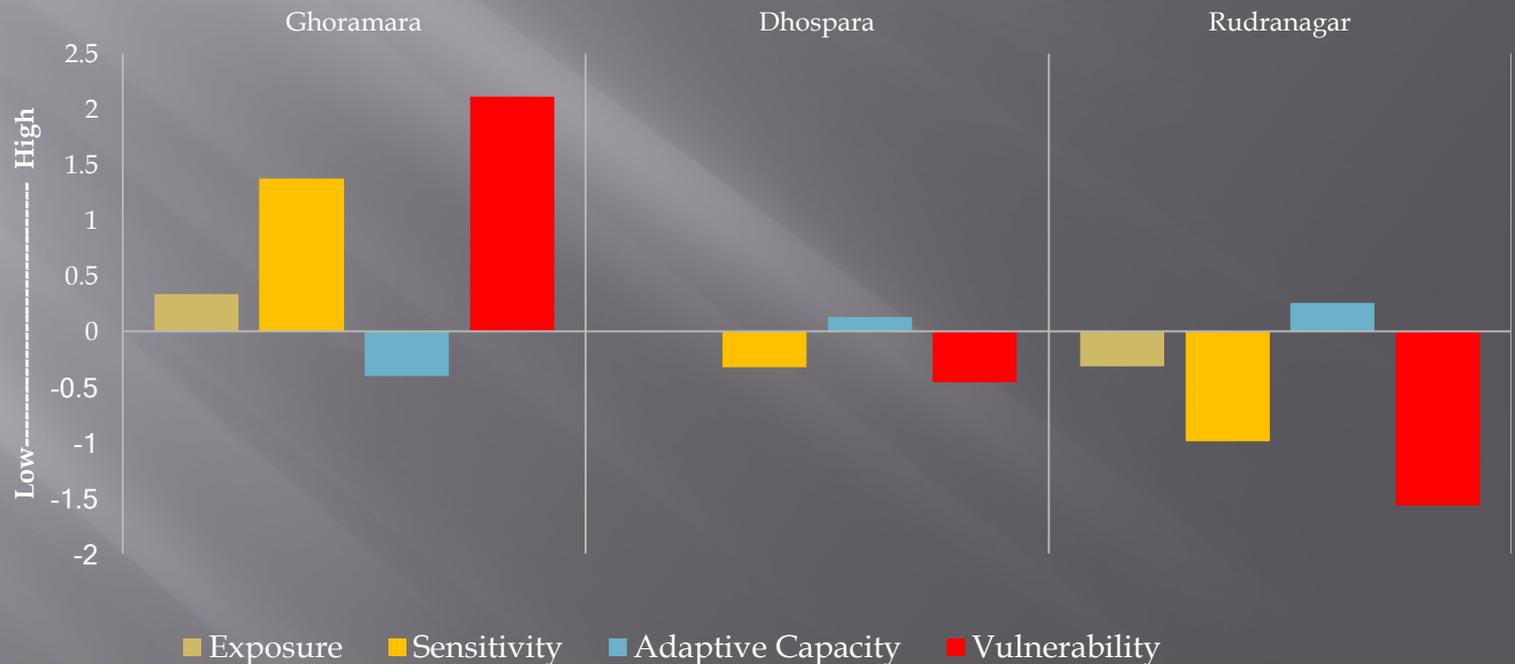
- Household survey: 1041 households with 0-6 years of children (systematic random sampling)
 - Anthropometric measurements like height, weight and mid-upper arm circumference
 - Experience of climate and climatic extremities and its effect on assets, livelihood and food security
 - Assessment of food security (both child and adult) in households
 - Migration and its effects on households food security
- in-depth and key informant Interviews:
 - All public and private health and nutritional providers serving three study regions
 - 24 in-depth interviews with the mothers of 0-6 years old child

The food insecurity pathway amidst climate change in Sundarbans



How climatically vulnerable are households in Sundarbans?

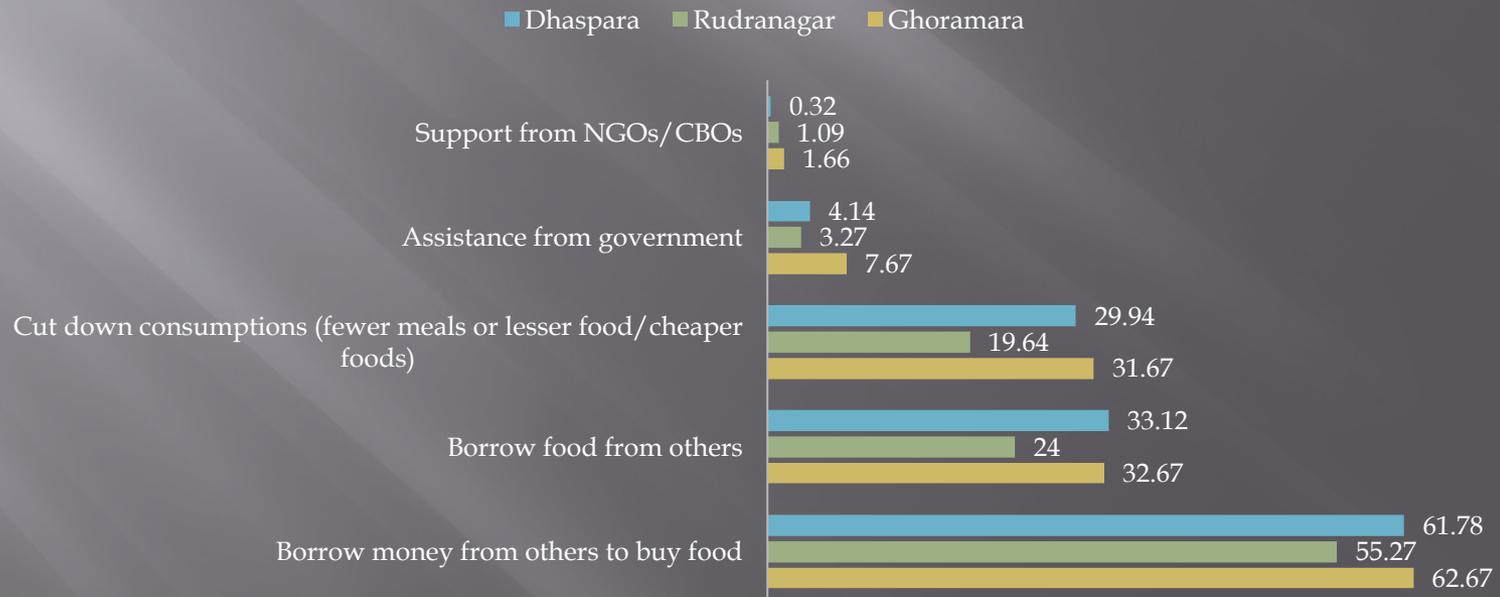
Vulnerability as per climatic exposure, sensitivity and adaptive capacity



Some crucial points on household food security

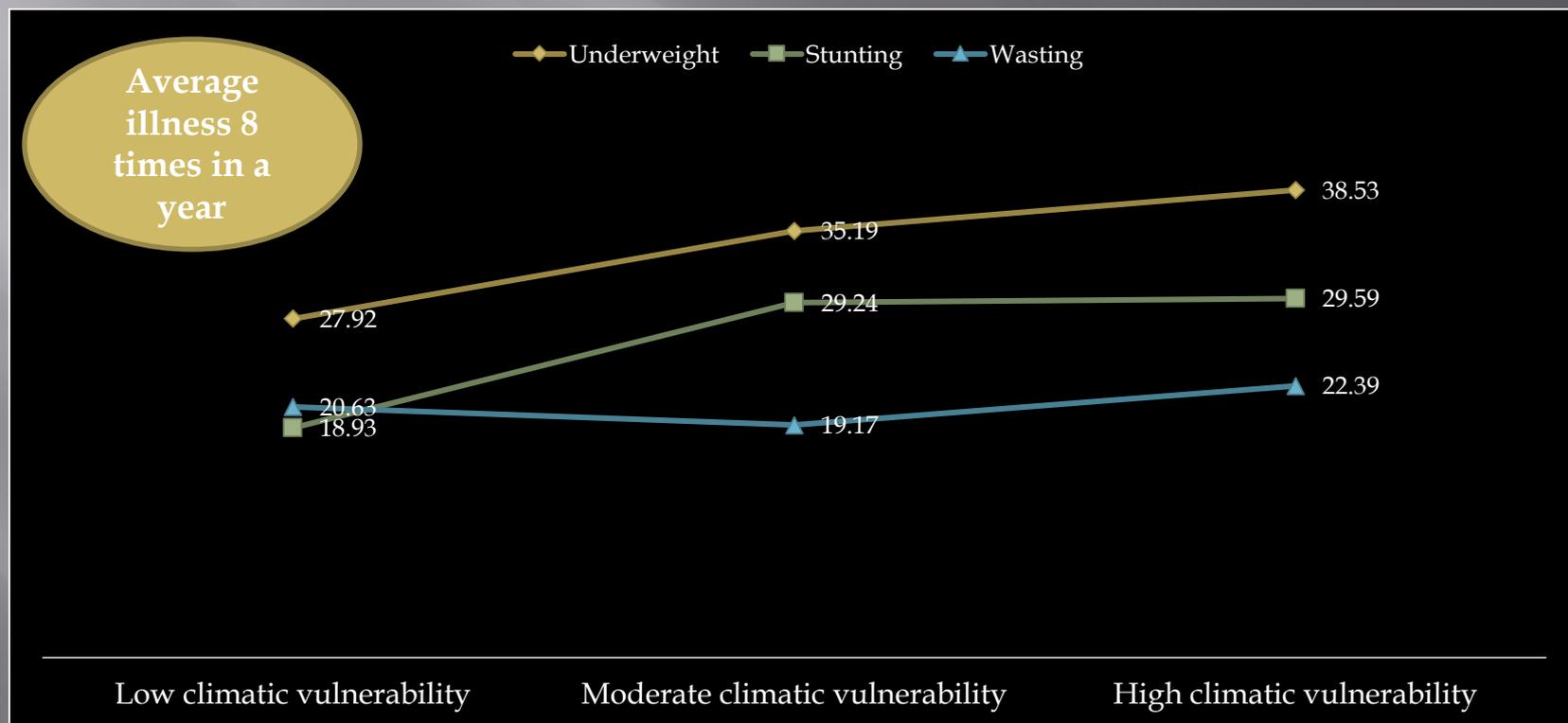
- 25.4% of the households faced extremely high losses to food resources during climatic emergencies in last five years
- 66.64% of the households face low to very low food security
- 44.53% of the households show low to very low levels of child food security

Coping strategies to maintain food security



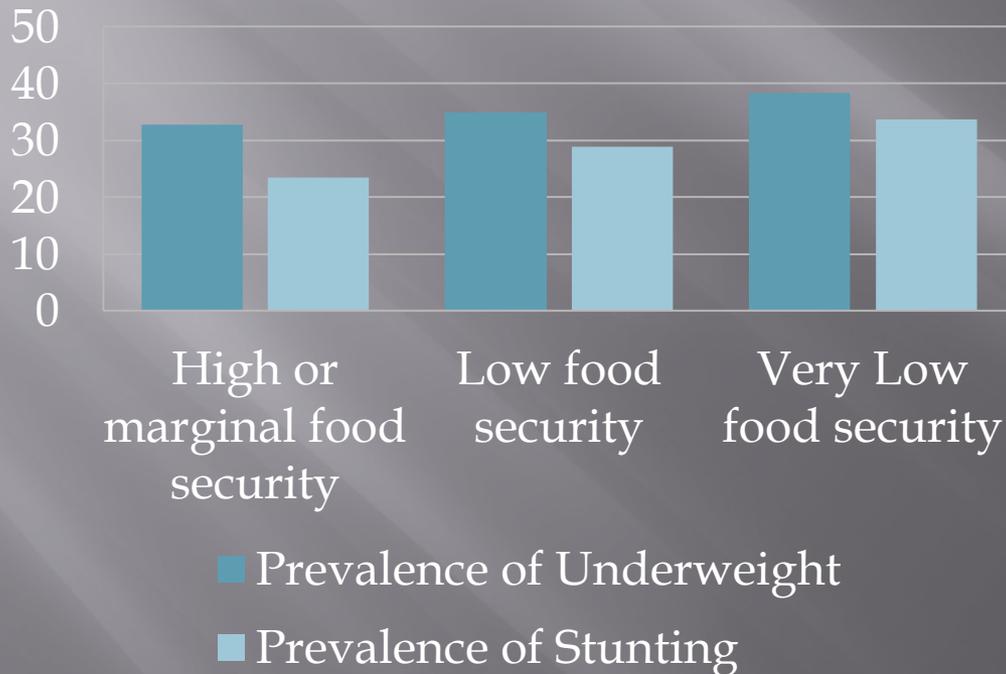
How malnourished are the children of the Sundarbans?

Malnutrition by climatic vulnerability of households

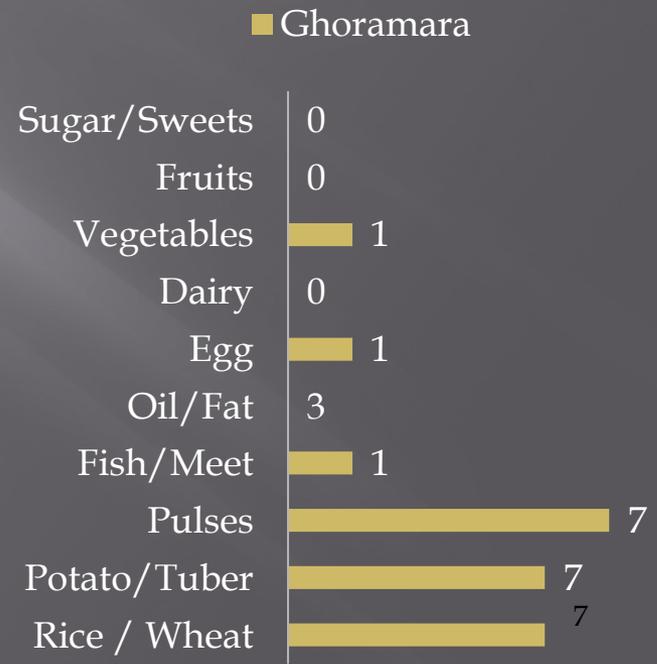


Child malnutrition and food security nexus

Child Malnutrition by household food security (%)



Diverse food items consumed by the people of High climatically vulnerable region (last week)



Number of days, food item is consumed in the last week

Situation of Anganwari Centers: The key nutritional care providers

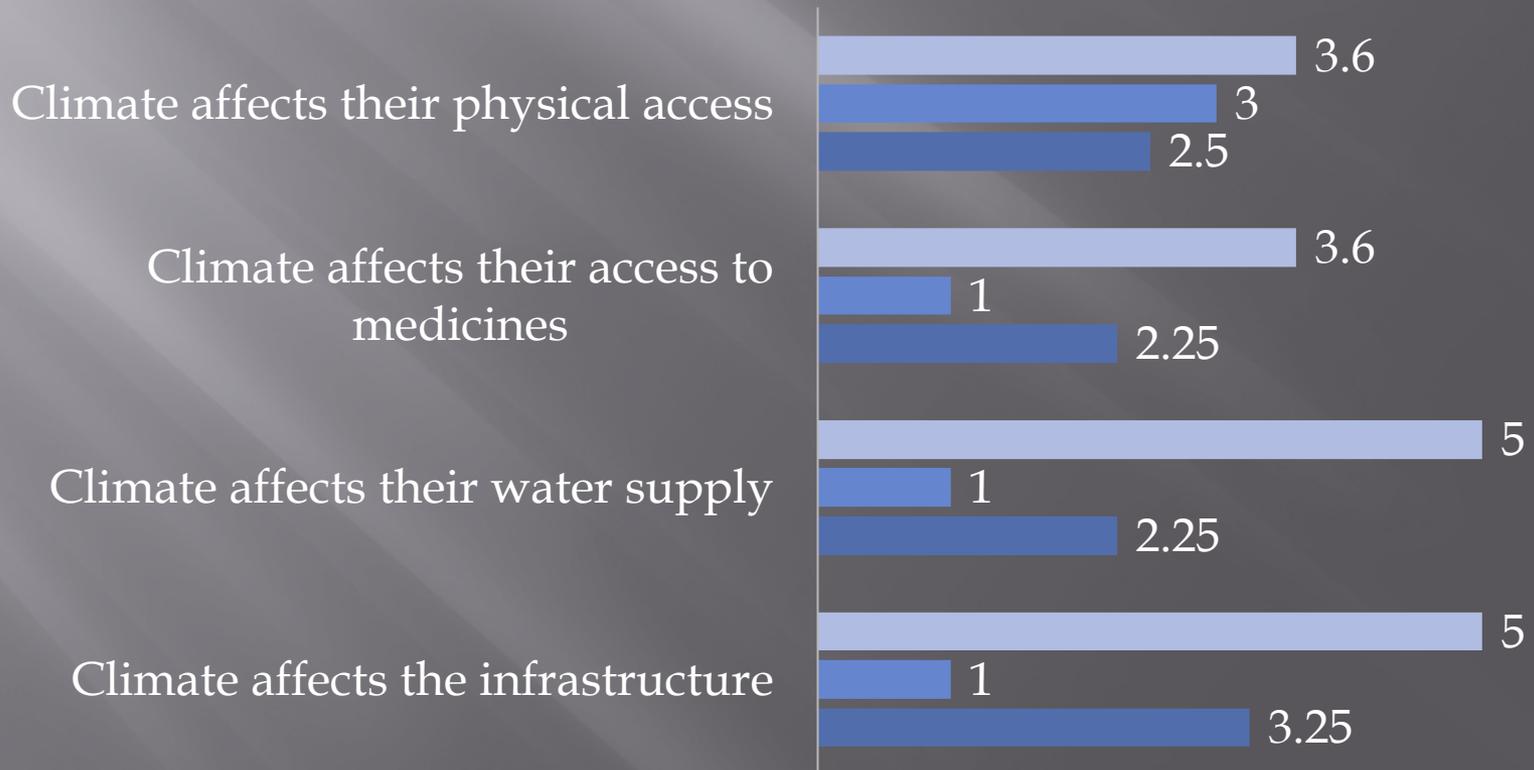
- ❑ Over burden: 1 centre per 550 population where as the standard is 1centre/300 population
- ❑ Of total 371 centres, only 70 centres of the study sites own a concrete building.
- ❑ Almost all the centres faces problems like water logging, shortage of raw material and permanent infrastructures
- ❑ 10 only 4 of the AWW were trained in growth monitoring of children in high climatically vulnerable zone



How does climate affect nutritional care facilities?

Average rating by health staff for damage due to climatic events on a five point Likert scale (1=not at all; 5= to a great extent)

■ Ghoramara ■ Rudranagar ■ Dhaspara



How the system is responding to the challenges?

Emerging trends from the provider's narratives

- ❑ **Reduce vulnerability**
 - Lack of sustainable and climate resilient care infrastructure specially in high climatically vulnerable regions
 - No such surveillance system to monitor environmental exposure and related impact on food system
- ❑ **Develop capacities**
 - Lack of technical understanding of the linkages between climate and nutrition and health
 - Lack of motivated and incentivised human resources
- ❑ **Long term perspectives**
 - Lack of recognition of long term climate impacts in present policies; more focus on emergency response

Our recommendations

- ❑ Recognize climate change and its impact as a significant determinant of nutrition while formulating policies and programmes for the region alike Sundarbans
- ❑ Long term community led adaptation strategies to address contextual social determinants of nutrition affected by the climate
- ❑ Prepare and scale up the already existing innovative measures like Special nutrition unit
- ❑ Strong surveillance required to monitor growth of the children in the age group between 25 to 36 months
- ❑ Climate sensitive infrastructure for climatically vulnerable pockets for uninterrupted service delivery
- ❑ Bringing up community voices and experience to envisage future

