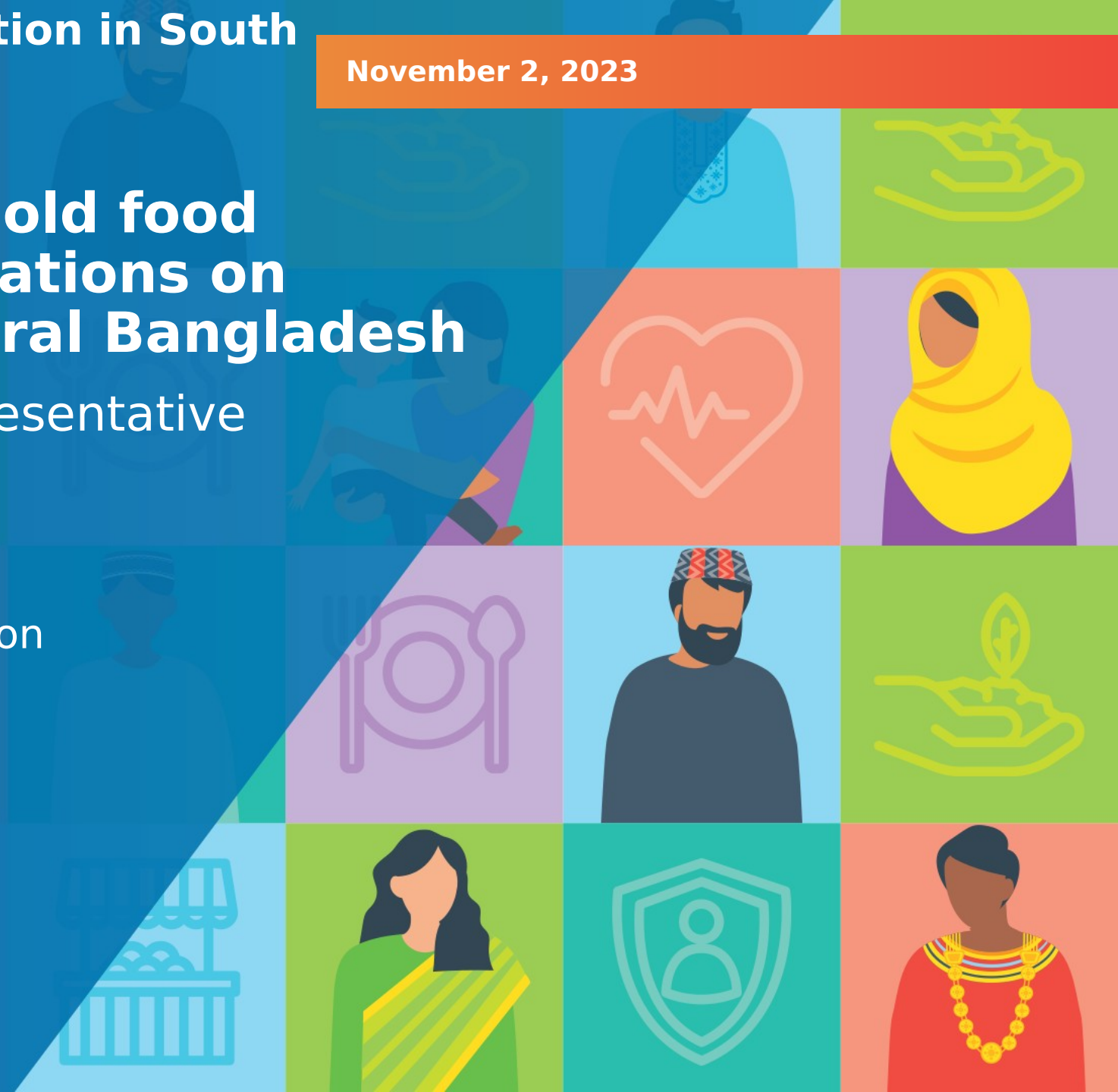


Determinants of household food insecurity and its implications on equitable nutrition in rural Bangladesh

Findings from a nationally representative survey

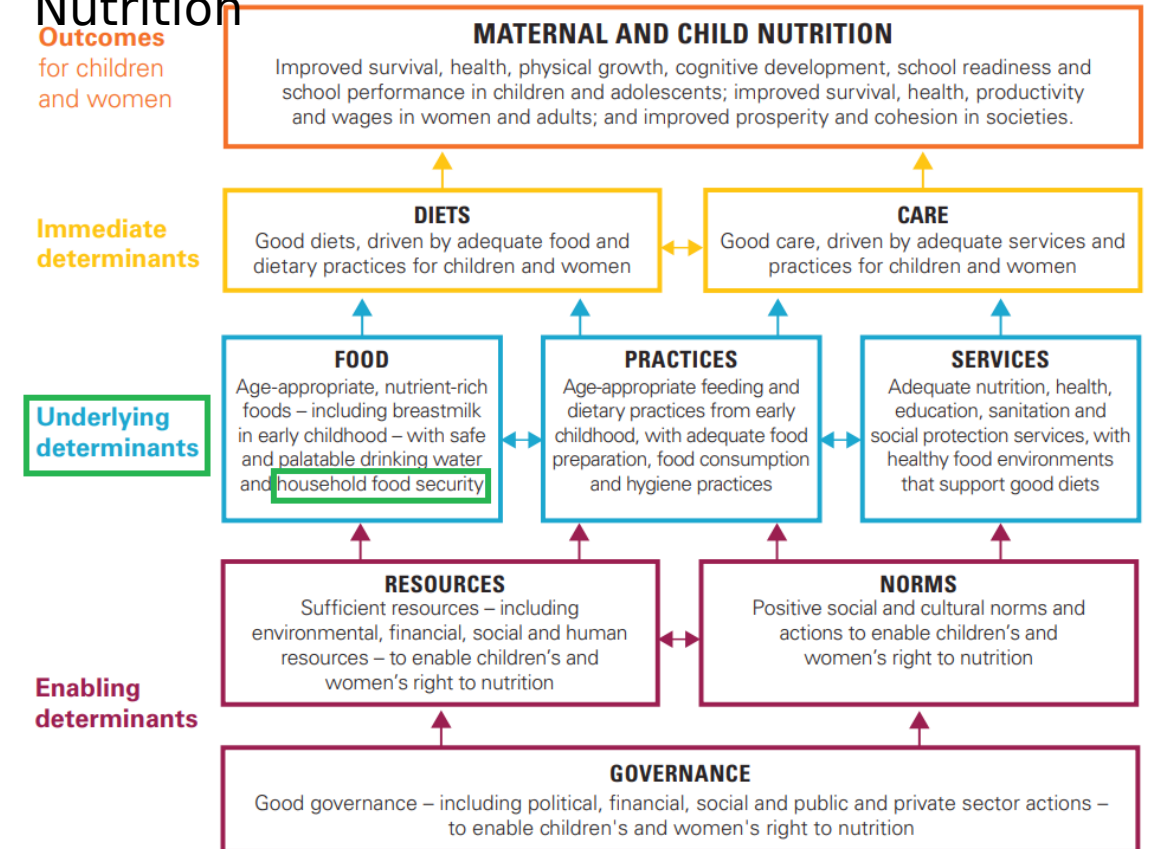
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Rationale and Objective- Why this Research!

- Bangladesh has made significant achievements in addressing food insecurity and malnutrition.
- But challenges remain to ensure sustainable food security and improved nutrition.
- According to UNICEF, household food insecurity is a key factors contributing to nutritional status.
- We explored the determinants of household food insecurity using the globally-validated Food Insecurity Experience Scale (FIES) developed by FAO.

Figure 1: Determinants of Maternal and Child Nutrition



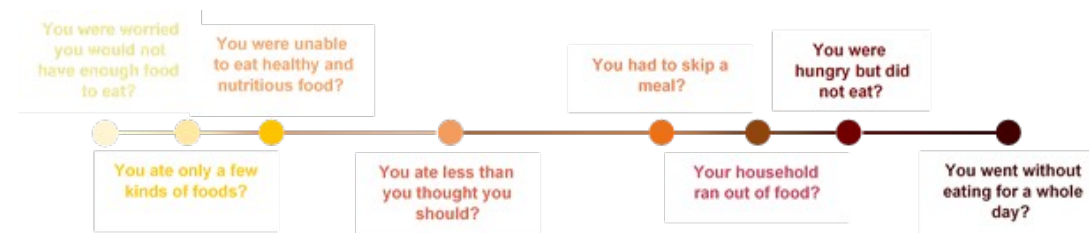
Methods - what we did!

- Data: Bangladesh Integrated Household Survey (BIHS) 2018-2019.
 - Sample size: 5,605 households
 - Two separate questionnaires for male and female respondents.
- FIES is an experience-based measurement scale with prevalence estimated for 4 levels of food insecurity: little to no food insecurity, moderate food insecurity, **severe food insecurity**, and **moderate or severe food insecurity**
- Raw scores from the number of affirmative responses are ordinal in nature and hence, should not be used to calculate for mean or regression analysis
- Used Rasch modeling to analyze FIES to estimate the prevalence of food insecurity at different levels of severity
- Modeled this Rasch-adjusted probabilities (probability of moderate or severe household food insecurity) to

Figure 2: Prevalence of moderate or severe food insecurity in the population, based on the FIES (SDG indicator 2.1.2)



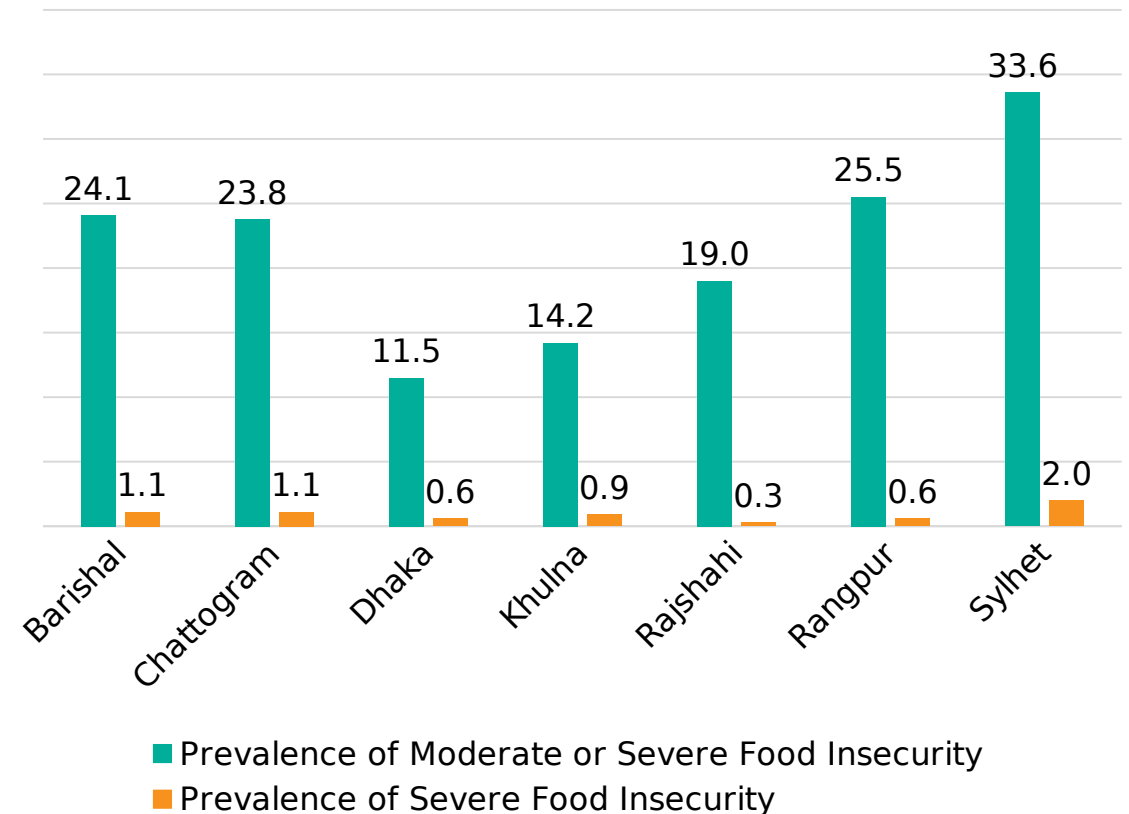
Figure 3: Questions in the FIES scale



One in every five households suffered from moderate or severe food insecurity in rural Bangladesh

- Prevalence of moderate or severe food insecurity was 18.9 percent, and the prevalence of severe food insecurity was 0.8 percent in rural Bangladesh.
- Food security status is relatively better in Dhaka and Khulna divisions than the rest of the country.
- Prevalence of moderate or severe food insecurity is higher in Sylhet division compared to other divisions.
- The overall Rasch reliability score was 0.84 and infit statistics were between 0.7 to 1.3, meaning good internal validity and reliability of the adjustments.

Figure 4: Regional variation of food insecurity



Components of regression analysis

Probability of moderate or severe food insecurity

Sociodemographic factors

Household head's age, sex, education
Gendered household type
Household size

Living condition and economic status

Access to improved sanitation
Access to safe drinking water
Shock Exposure Index
Wealth Index
Poverty Status
Division

Agricultural factors

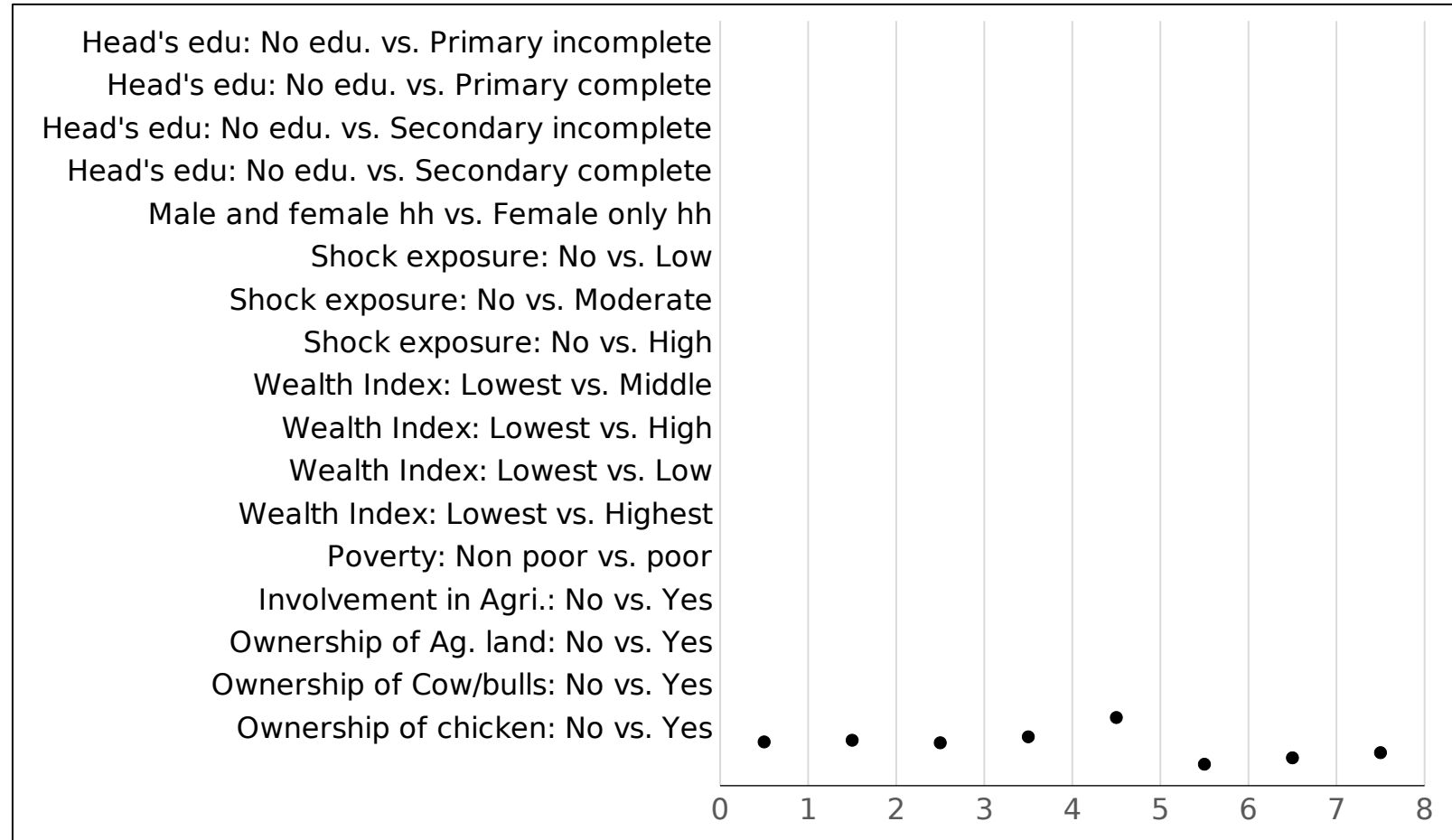
Involvement in agriculture
Ownership of agriculture land
Ownership of Cow/bull
Ownership of goat/sheep
Ownership of Chicken/duck

- Results from the regression analysis were expressed in terms of adjusted odds ratios (aOR)
- The adjusted odds ratios (aOR) and corresponding confidence interval (CI) were estimated with a 5% significance level

Involvement in agriculture plays significant role in food insecurity

Figure 5: Protective and Risk factors of household food insecurity

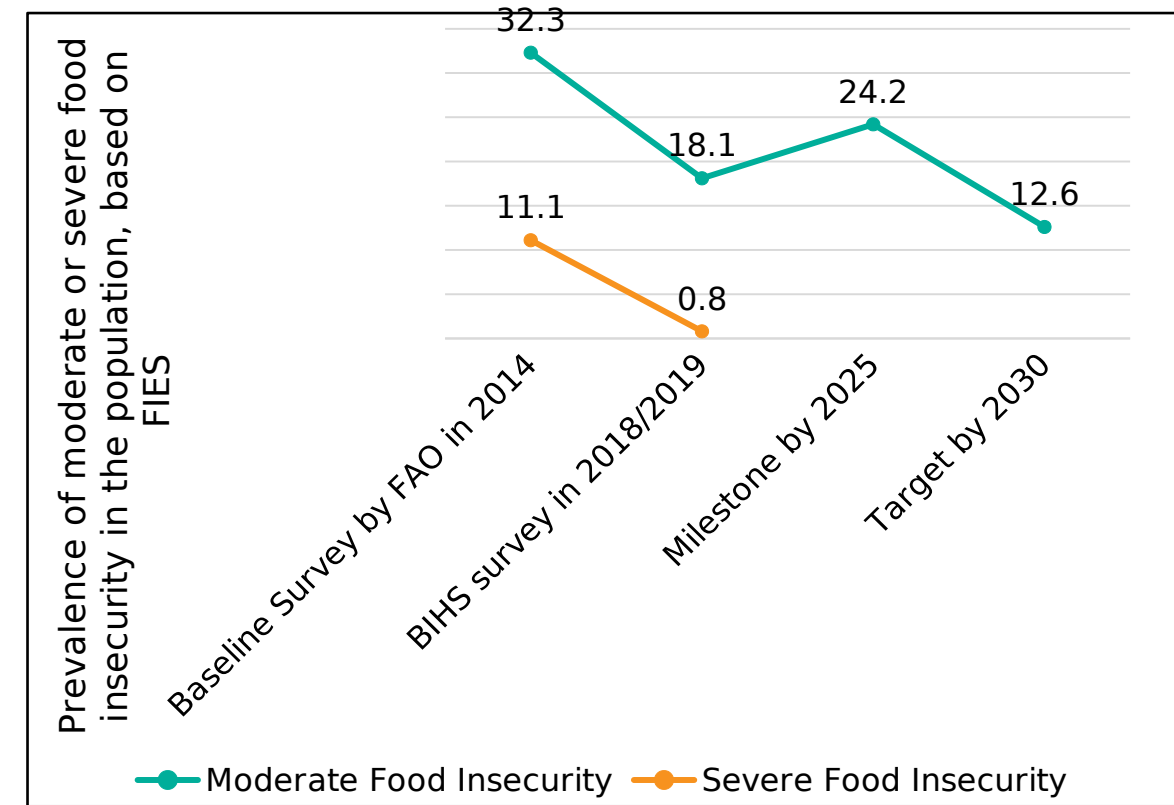
- Households that are led by educated heads; possess livestock such as cows, bulls, chickens, or ducks; are involved in agriculture; own agricultural land; and belong to wealthiest class exhibit significantly lower levels of food insecurity compared to those lacking these resources.
- Conversely, female only households, households exposed to different climatic and socio-economic shocks, and poverty increased the odds of being a food insecure household.



Policy implications

- This study highlights the pre-pandemic food insecurity situation in rural Bangladesh and can be considered as a benchmark.
- Identifying key determinants that leave certain demographics at greater risk of food insecurity enables us to develop targeted, evidence-based interventions to improve food and nutrition security.
- Further surveys are needed to explore dynamics over time and whether these determinants remained salient over time, particularly in the wake of recent shocks.

Figure 5: National target to reduce Food Insecurity



Acknowledgements

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- D4N workshop on 'Improving the measurement of food security to assess COVID-19 impacts' in 2021

Thank you!