



RESEARCH OBJECTIVE – Examining linkage between Food & Nutrition Security & Socioeconomic Inequalities in India & South Asia



RESEARCH QUESTION – How does socioeconomic characteristics of a household and an individual determine the food & nutrition security outcomes in India & South Asia?

By:

Sakshi Pandey

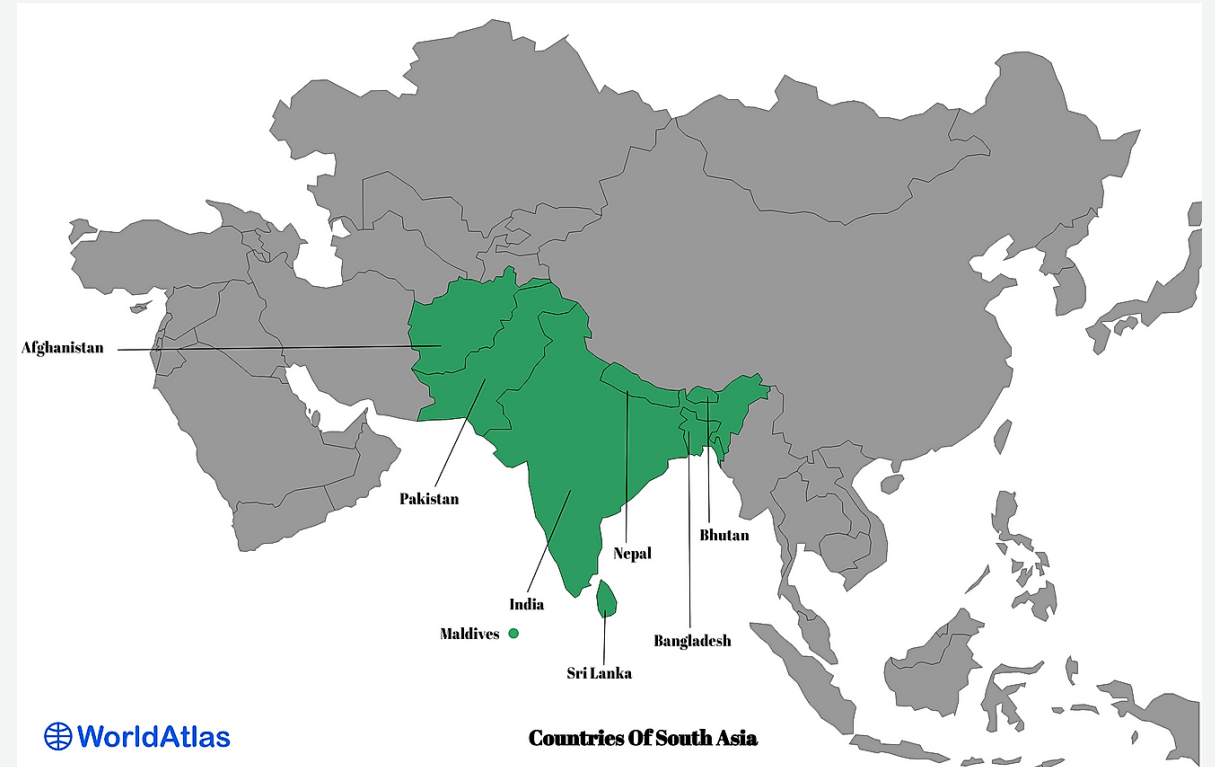
Third Year Ph.D. Student
Graduate School of Agricultural & Life Sciences
The University of Tokyo

TABLE OF CONTENTS

1. Introduction & Background
2. Motivation behind the study
3. Data and Methodology
4. References

INTRODUCTION & BACKGROUND

- **SOUTH ASIA**
- **Population:** 1.8 billion approx, with over 60% involved in Agriculture & allied sectors
- Second largest contributor to the total global output in value terms from agriculture and fisheries.
- **INDIA**
- Most Populated Country – 1.43 Bn
- 54% population involved in Agriculture
- Highest milk (24% of global production, 2021-22) and pulse producer (25% of global production, 2021-22)
- Ranks 2nd in Rice, wheat, sugarcane, fruit, vegetables, cotton, and groundnuts production in the world.
- Ranks 3rd in Egg Production and 8th in meat production in the world.

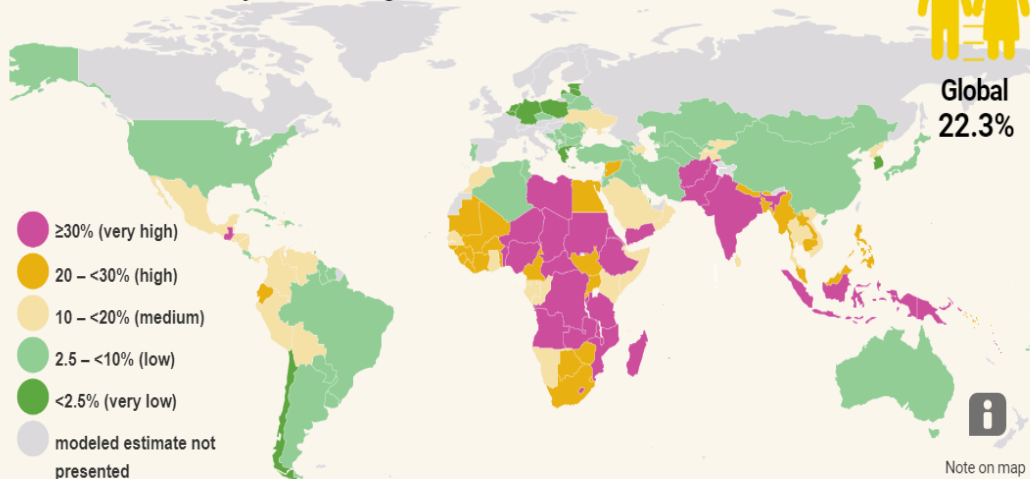


MOTIVATION BEHIND THE STUDY

In 28 countries, at least 30 per cent of children were still affected by stunting in 2022

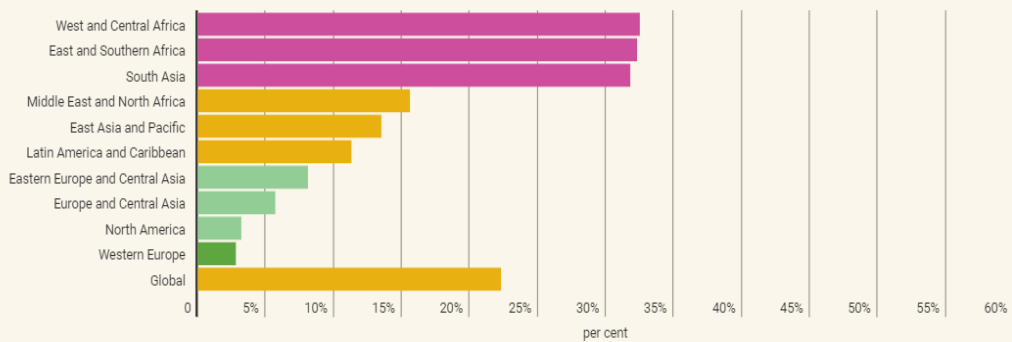


Global
22.3%



Percentage of children under 5 affected by stunting, by country, 2022

Note: *Asterisks denote the most recent country data point (e.g., from household surveys) used to generate the modelled stunting and overweight estimates is from before the year 2000; interpret with caution.

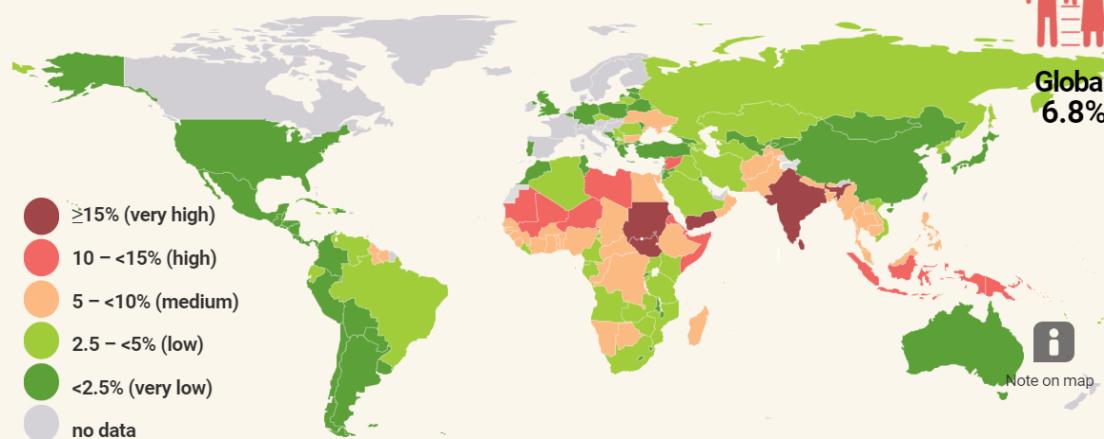


Percentage of children under 5 affected by stunting (%), by UNICEF region, 2022

South Asia has the highest wasting prevalence of any region in the world

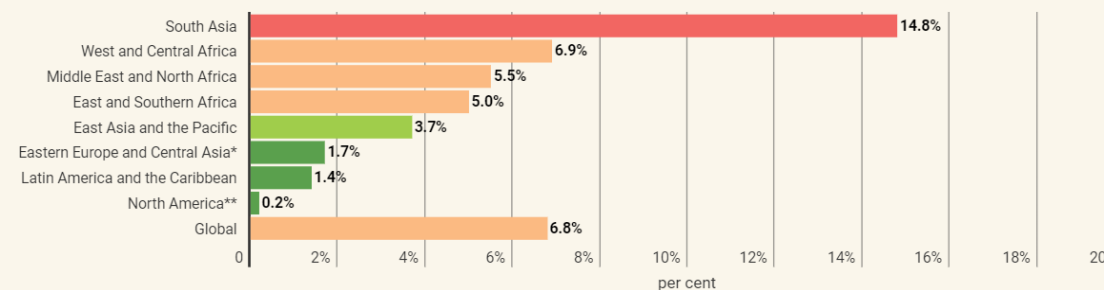


Global
6.8%



Percentage of children under 5 who are affected by wasting (%), by country, 2022

Note: 1. Country data are the most recent available survey estimates between 2012 and 2022; exceptions where older data are shown (2000–2011) are denoted with an asterisk (*) and where only data prior to 2000 are available the † footnote is used, denoting no recent data.

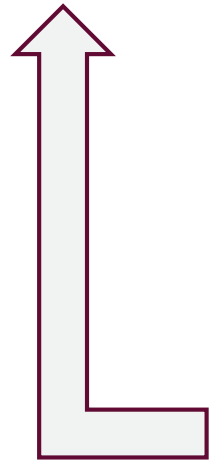


Percentage of children under 5 who are affected by wasting (%), by region, 2022

Notes: *The regional estimate for Eastern Europe and Central Asia excludes Russian Federation due to lack of data for that country. There is no estimate available for Western Europe due to insufficient population coverage. **The North America sub-regional estimate is based on data from only the United States.

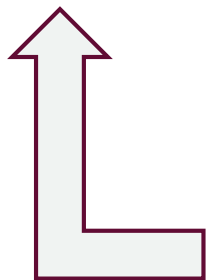
AVAILABILITY

1. Production of Crops/Food Items in the country
2. International Trade to meet the consumption demand



ACCESSIBILITY

1. **PHYSICAL ACCESS TO FOOD:** Access to markets, Supply Chain Systems
2. **FINANCIAL ACCESS TO FOOD:** Enough Money to produce, buy and consume
3. **SOCIAL ACCESS TO FOOD:** Government and Communities are not discriminating based on social determinants



UTILIZATION

1. Intra-household Distribution of Food
2. Awareness about Healthy Food
3. Effect of Education, Gender And Ethnicity

PROBLEM STATEMENT

DATA & METHODOLOGY

- **DATASETS USED**

- Demographic & Health Survey (DHS) Data of India
- Household Consumer Expenditure survey (CES) of India

- **METHODOLOGY USED**

- **Literature Review:** Identifying crucial socioeconomic parameter that affect overall food and nutrition security in South Asia
- **Data Cleaning:** Generating Requisite Variables and removing outliers
- **Descriptive Analysis:** Household characteristics, Nutritional Indicators, Consumption Pattern
- **Regression Analysis:** Generating models to assess factor affecting (i) Nutritional Outcomes in Children, (ii) food intake in Households
- **Generating Maps:** Maps of production & consumption of different food items among different geographical regions of India

REFERENCES

- Pandey S, Kashima S. Effects of dairy intake on anthropometric failure in children ages 6 to 23 mo consuming vegetarian diets and fulfilling minimum dietary diversity in India. *Nutrition* 2021;91–92:111446. <https://doi.org/10.1016/j.nut.2021.111446>.
- Minocha S, Makkar S, Swaminathan S, Thomas T, Webb P, Kurpad A V. Supply and demand of high quality protein foods in India: Trends and opportunities. *Glob Food Sec* 2019;23:139–48. <https://doi.org/10.1016/j.gfs.2019.05.004>.
- Li Z, Kim R, Vollmer S, Subramanian S V. Factors Associated with Child Stunting, Wasting, and Underweight in 35 Low- And Middle-Income Countries. *JAMA Netw Open*. 2020;3(4):1–18.
- Liou L, Kim R, Subramanian S V. Identifying geospatial patterns in wealth disparity in child malnutrition across 640 districts in India. *SSM - Popul Health*.
- Freeman MC, Garn J V., Sclar GD, Boisson S, Medlicott K, Alexander KT, et al. The impact of sanitation on infectious disease and nutritional status: A systematic review and meta-analysis. *Int J Hyg Environ Health* [Internet]. 2017 Aug;220(6):928–49. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S1438463917301529>
- Perkins JM, Jayatissa R, Subramanian S V. Dietary diversity and anthropometric status and failure among infants and young children in Sri Lanka. *Nutrition*. 2018 Nov 1;55–56:76–83.
- Oluwole, O., Ibidapo, O., Arowosola, T., Raji, F., Zandonadi, R. P., Alasqah, I., ... & Raposo, A. (2023). Sustainable transformation agenda for enhanced global food and nutrition security: a narrative review. *Frontiers in Nutrition*, 10.
- Global Nutrition Report, 2022, The state of global nutrition. Bristol, UK: Development Initiatives. Available at: <https://globalnutritionreport.org/reports/2022-global-nutrition-report/>
- Menon P, Bamezai A, Subandoro A, Ayoya MA, Aguayo V. Age-appropriate infant and young child feeding practices are associated with child nutrition in India: Insights from nationally representative data. *Matern Child Nutr*. 2015;11(1):73–87.
- Harris-Fry H, Azad K, Kuddus A, Shaha S, Nahar B, Hossen M, et al. Socio-economic determinants of household food security and women’s dietary diversity in rural Bangladesh: a cross-sectional study. *J Heal Popul Nutr*. 2015 Dec 10;33(1).