# DATA SCIENCE PROJECT PROPOSAL: MALNUTRITION AMONG CHILDREN IN SUB-SAHARAN AFRICA

by

Diksha Ramesh

## 1. PROBLEM STATEMENT

Large body of literature recognizes the adverse impact of malnutrition on health, educational, and labour market outcomes. The socio-economic effects of malnutrition fall hardest on children the poorest communities, affecting the country's human capital. This project aims to analyse the determinants of chronic malnutrition, and what factors contribute to the reduction of stunting among children.

## 2. DATA SOURCES

This project will employ the Demographic Health Survey (DHS) data from sub-Saharan African countries. The following table lists out some of the DHS indicators that will be studied in this project:

| 1. | Children stunted |
|----|------------------|
| 2. | Children who started breastfeeding within 1 hour of birth |
| 3. | Children exclusively breastfed |
| 4. | Non-breastfed children |
| 5. | minimum meal frequency among breastfed children 6-23 months |
| 6. | Women with a birth in the past five years who took iron tablets or syrup for 90+ days |
| 7. | Vaccination and Immunization prevalence |
| 8. | Deworming medication |
| 9. | Diarrheal symptoms and treatment |
| 10. | Mother's health indicators (including prenatal and antenatal care) |
| 11. | Parent's literacy and education level |
| 12. | Household wealth index |

In addition to these indicators, this project will also analyse community-level health and sanitation facilities such as access to clean water, prevalence of open defecation, and availability of primary health care services.

3.  **OBTAINING THE DATA**

    The DHS data will be obtained through the means of web scraping.

4.  **STATISTICAL METHODS THAT WILL BE USED**

    a.  Data Wrangling

    b.  Data Visualization

    c.  Statistical learning tools: Supervised Learning.

5.  **SUCCESS**

    I aim to employ all the techniques learned in the data science coursework to build a model that technically explains reasons for malnourishment in sub-Saharan Africa. Additionally, demonstrating how, with improvements in socioeconomic conditions, healthcare, behavioural changes, such as increased breastfeeding, contribute to the nutritional status among children.