## **Replication Guide for:**

Food Transfers and Child Nutrition: Evidence from India's Public Distribution System by: Aditya Shrinivas, Kathy Baylis, Benjamin Crost September 2024

(Data archive prepared for American Economic Journal : Applied Economics)

## **Overview**

The code and data in this replication package generate the tables and figures in the manuscript and appendix using STATA. All tables and figures (except Table 1 and Appendix Figure 1) are generated using secondary data from ICRISAT's VDSA (VDSA 2015). The replicator should expect the code to run for about 30 mins.

Data in Table 1 is sourced from government records, newspaper clippings and primary fieldwork. Appendix Figure 1 shows the geo-location of VDSA villages and is not generated by code.

### **Data Availability**

This manuscript uses microdata from Village Dynamics In South Asia (VDSA) Database of International Crop Research Institute for the Semi-Arid Tropics (ICRISAT). The data comprises of village microdata from SATIndia (18 villages) and EastIndia (12 villages) from 2010 to 2015 and multiple questionnaire schedules including Employment, General Endowment Schedule (GES), MPrice and Transaction. These data are not provided in the replication package as ICRISAT VDSA database does not allow for redistribution. Users must register to access the data. The dataset and documentation are freely available online at: <a href="https://vdsa.icrisat.org/">https://vdsa.icrisat.org/</a>.

After registering online, accessing the VDSA website and manually downloading individual data files is not necessary. The replication package provides a python script (0\_vdsa\_webscraper.py) that web scrapes and automatically selects the required questionnaires and data files and downloads the required raw dataset from the VDSA website. Details on data extraction are provided below under Replication Instructions.

Alternatively, if the data files need to be accessed manually, follow these steps: Plug in Username and Password and Select MicroData. Select region (SATIndia or EastIndia), then select year (2010 to 2015) and select Questionnaire (Cultivation, Employment, GES, Mprice, and Transaction). For instance to get Transactions data from SATIndia villages in year 2013, follow these steps: Login → Select Microdata → Select SATIndia → Select 2013 → Select Transactions → Select all the Transactions files → Click Request Data. This paper uses microdata from SATIndia (18 villages) and EastIndia (12 villages) from 2010 to 2015 and all data files from five questionnaire schedules including Employment, General Endowment Schedule (GES), MPrice and Transaction.

#### Non-Public data:

This manuscript also uses data that is not publicly available online on the VDSA website. These data comprise of ration cards data for SAT villages. This data was collected in person by the corresponding author from ICRISAT. Researchers seeking access to this data can contact the

ICRISAT office (<a href="https://vdsa.icrisat.org/vdsa-contact.aspx">https://vdsa.icrisat.org/vdsa-contact.aspx</a>). Without this data the main results cannot be fully reproduced.

## Auxiliary data list:

The manuscript also uses multiple auxiliary datasets, as part of robustness checks and additional analysis. The additional sources of data are listed below. The raw and derived datasets needed for replication are provided in the replication package.

- NREGA data: The NREGA data comes from the "Statistical Year Book", published by the Ministry of Statistics and Program Implementation (MoSPI), Government of India. (Statistical Year Book India, 2013, 2014, 2015). This raw data is freely available to download at: <a href="https://www.mospi.gov.in/publication/statistical-year-book-india">https://www.mospi.gov.in/publication/statistical-year-book-india</a>. The paper uses NREGA budget allocation and implementation data from Statistical Year Books of years 2013, 2014 and 2015, reported under Chapter 35 on Rural and Urban Development, in sections 35.1, 35.2 and 35.3, and can be downloaded as excel .xls files. The replication package includes an auxiliary data file "PDSvsNREGA.dta" (Filepath: Data/Analysis/AnalysisAuxData/PDSvsNREGA.dta) that contains the extracted raw data on NREGA from the Statistical Year Books.
- Food composition table: The Food Composition data comes from the "Nutrient Intake of India, 2011-12", published by the National Sample Survey Office (NSSO), Ministry of Statistics and Program Implementation (MoSPI), Government of India (NSSO, 2014). This report is freely available to download at: <a href="https://www.mospi.gov.in/sites/default/files/publication\_reports/nss\_report\_560\_19dec14.pdf">https://www.mospi.gov.in/sites/default/files/publication\_reports/nss\_report\_560\_19dec14.pdf</a>
  . The paper uses the data on Food Composition Table, reported in Chapter 2, page 14 of the NSSO report (NSSO, 2014) to convert food items into its nutrient content (calories, protein and fat). The Food composition Table is largely based on "Nutrient values of Indian Foods" published by the National Institute of Nutrition, Ministry of Health and Family Welfare, Government of India (Gopalan et. al. 1991). To obtain nutrient values of food items in the VDSA consumption data, the food items list reported in the NSSO report are matched to the food items list in the VDSA data. The replication package includes an auxiliary data file "fct\_nsso.dta" (Filepath: Data/Raw/RawAuxData/fct\_nsso.dta) that contains the extracted food composition data from the NSSO report.
- Consumer Price Index (CPI): The CPI data comes from the Central Statistics Office, Ministry of Statistics and Program Implementation (MosPI), Government of India (CSO, 2014). This data is freely available to download at: <a href="https://cpi.mospi.gov.in/TimeSeries.aspx">https://cpi.mospi.gov.in/TimeSeries.aspx</a>. The paper uses rural CPI General Index with base year 2010 for all India, to deflate values to 2010 real values. The replication package includes an auxiliary data file "CPI.dta" (Filepath: Data/Raw/RawAuxData/CPI.dta) that contains the extracted raw data on CPI from the MoSPI website.
- Retail Price Data: The Retail price data comes from Department of Consumer Affairs, Ministry of Consumer Affairs (MCA), Government of India (MCA, 2015). This data is freely available to download at: <a href="https://fcainfoweb.nic.in/reports/report\_menu\_web.aspx">https://fcainfoweb.nic.in/reports/report\_menu\_web.aspx</a>. The paper uses Indian national average monthly retail prices from 2010 to 2015 for rice and

wheat. To obtain this data, click on the above link, Select Report Type: Retail. Select: Average/Month End Report. Select Commodity: Rice or wheat. Select Month and Year range and Click on Get Data. The replication package includes an auxiliary data file "Price.dta" (Filepath: Data/Analysis/AnalysisAuxData/Price\_data.dta) that contains the extracted raw data on Retail Prices from the MCA website.

• Rainfall Data: The Rainfall data comes from the Indian Meteorological Department (IMD) (Pai et.al. (2014). Daily rainfall data is measured at a high spatial resolution of 0.25 X 0.25 degree grid cells. The rainfall data was purchased from IMD office in Pune, India by the authors in 2017. The spatially gridded raw data for the entire Indian mainland was mapped to the VDSA village co-ordinates, using a nearest neighbor match by geodetic distance. The replication package includes an auxiliary file "INDrf.dta" (Filepath: Data/Raw/RawAuxData/INDrf.dta) that contains the raw data on daily rainfall for the VDSA villages from 1950 to 2016. This paper uses rainfall quantity from 2010 to 2015 for the VDSA villages, and a standardized z-score of rainfall quantity with respect to the 60 year village-specific mean. The do-file "7\_rf.do" (Filepath: Code/RawCode/7\_rf.do) transforms the raw data to the required analysis data.

## **Statement about rights**

I certify that the authors of the manuscript have legitimate access to and permission to use the data used in this manuscript

## **Replication package contents:**

### DATA

#### Auxilliary Data list

| filepath                           | filename   | Description                 | Provided |
|------------------------------------|------------|-----------------------------|----------|
| Auxilliary Data (used to transfo   |            |                             |          |
| Data/Raw/RawAuxData/               | CPI.dta    | Monthly CPI price index     | Yes      |
| Data/Raw/RawAuxData                | fct_nsso   | Food Consumption Table      | Yes      |
| Data/Raw/RawAuxData                | INDrf      | Village-level rainfall data | Yes      |
| Auxilliary Data (used in Analysis) |            |                             |          |
| Data/Analysis/AnalysisAuxData      | PDSvsNREGA | NREGA expenditures data     | Yes      |
| Data/Analysis/AnalysisAuxData      | Price_data | India Retail price data     | Yes      |

#### Analysis Data

(Analysis datasets are generated by code, and not provided in the replication package)

| filepath                       | Description                               | Provided |
|--------------------------------|---|----------|
| Data/Analysis/hh_mon_agg       | Household monthly data on consumption     | No       |
| Data/Analysis/indv_details_agg | Individual yearly data on anthropometrics | No       |
| Data/Analysis/AnalysisAuxData/ | Village-level rainfall data               | No       |
| RF VDSAVill                    |   |          |

Non-public data
(This data is not provided in the replication package)

| filepath                            | Description      | Provided |
|-------------------------------------|------------------|----------|
| Data/Raw/RawAuxData/Proprietarydata | Ration card data | No       |

# **CODE**

# Code for Data transformation from Raw to Analysis

| filepath                            | Description   |  |
|-------------------------------------|---|--|
| Code/RawCode/1_excel2dta            | Converts raw excel files to dta files                       |  |
| Code/RawCode/2_append               | Append the individual dta files into File aggregates        |  |
|                                     | (aggregates region+year)                                    |  |
| Code/RawCode/3_indvdetails          | Cleans and aggregates individual anthropometrics data used  |  |
|                                     | for Analysis  |  |
| Code/RawCode/4_sch_agg              | Generates aggregate datasets for GES, Employment,           |  |
|                                     | Transaction and Village monthly prices                      |  |
| Code/RawCode/5_pdstransfer          | Generates PDS transfer value data                           |  |
| Code/RawCode/6_merge_all            | Prepares Analysis data at the household-month aggregate     |  |
| Code/RawCode/7_rf                   | Cleans and transforms village rainfall data for analysis    |  |
| Code Folders                        |   |  |
| Code/RawCode/Employment             | 4_sch_agg do file calls all the do files from Folder        |  |
|                                     | "Code/RawCode/Employment". Each do-file in this folder      |  |
|                                     | cleans Employment Files at the individual level and         |  |
|                                     | collapses the data to household-year level                  |  |
| Code/RawCode/GES                    | 4_sch_agg do file calls all the do files from Folder        |  |
|                                     | "Code/RawCode/GES". Each do-file in this folder cleans      |  |
|                                     | GES Files and collapses the data to household-year level    |  |
| Code/RawCode/Mprice                 | 4_sch_agg do file calls all the do files from Folder        |  |
|                                     | "Code/RawCode/Mprice". Each do-file in this folder cleans   |  |
|                                     | Mprice Files at the village-commodity-month level and       |  |
|                                     | collapses the data to village-month level                   |  |
| Code/RawCode/Transaction            | 4_sch_agg do file calls all the do files from Folder        |  |
|                                     | "Code/RawCode/Transaction". Each do-file in this folder     |  |
|                                     | cleans Transaction Files and collapses the data to          |  |
|                                     | household-month level                                       |  |
| Code/RawCode/Transaction/Trans_food | Trans_food do file calls all the do files from Folder       |  |
|                                     | "Code/RawCode/Transaction/Trans_food". Each do-file in      |  |
|                                     | this folder cleans Food consumption Files and collapses the |  |
|                                     | data to household-month level                               |  |
| Code/RawCode/PDS                    | 5_pdstransfer do file calls all the do files from Folder    |  |
|                                     | "Code/RawCode/PDS". Each do-file in this folder cleans      |  |
|                                     | PDS Files and collapses the data to household-month level   |  |

## Secondary Do-files (Data Transformation Code)

| Parent do- file | Filepath (Code/RawCode/)                | Purpose                     |
|-----------------|---|-----------------------------|
|                 | Code/RawCode/Employment/employment      | Cleans employment files     |
|                 | Code/RawCode/GES/GES_caste              | Caste names and landclass   |
|                 | Code/RawCode/GES/GES_hhinfo             | Household characteristics   |
|                 | Code/RawCode/GES/GES_land_det           | Landholding                 |
|                 | Code/RawCode/Mprice                     | Village commodity prices    |
|                 | Code/RawCode/Transaction/Trans_govt_ben | Govt. benefits              |
|                 | Code/RawCode/Transaction/Trans_nonfood  | Nonfood expenditures        |
|                 | Code/RawCode/Transaction/Trans_food     | Food expenditures           |
|                 | Code/RawCode/Transaction/Trans_food/    | Clean quantity units        |
|                 | 01_Trans_food_clean                     |                             |
|                 | Code/RawCode/Transaction/Trans_food/    | Convert to Kcal, Prot, Fat  |
| Code/RawCode/   | 02_Trans_food_kcal                      |                             |
| 4_sch_agg.do    | Code/RawCode/Transaction/Trans_food/    | Create Food groups          |
|                 | 03_Trans_food_groups                    |                             |
|                 | Code/RawCode/Transaction/Trans_food/    | Food Quantity vars          |
|                 | 04_Trans_food_qty                       |                             |
|                 | Code/RawCode/Transaction/Trans_food/    | Food Expenditure value vars |
|                 | 05_Trans_food_val                       |                             |
|                 | Code/RawCode/Transaction/Trans_food/    | Food nutrient intake vars   |
|                 | 06_Trans_food_nut                       |                             |
|                 | Code/RawCode/Transaction/Trans_food/    | PDS consumption vars        |
|                 | 07 Trans food pds                       |                             |
|                 | Code/RawCode/Transaction/Trans_food/    | Food price vars             |
|                 | 08_Trans_food_price                     |                             |
|                 | G 1 /P G 1 /PPG/01 1 1                  | GI : 1                      |
|                 | Code/RawCode/PDS/01_pds_cardgen         | Clean ration cards          |
| G 1/D G 1/      | Code/RawCode/PDS/02 pds clean           | Cleans baseline vars        |
| Code/RawCode/   | Code/RawCode/PDS/03 pds cardedits       | Edit ration cards           |
| 5_pdstransfer   | Code/RawCode/PDS/04_pds_alloc           | Allocate PDS entitlements   |
|                 | Code/RawCode/PDS/05_pds_val             | PDS transfer value          |
|                 | Code/RawCode/PDS/06_pds_NFSA_tg         | NFSA Targets                |
|                 |   |                             |

## Code for Analysis

The analysis code use two datasets: 1) Data/Analysis/hh\_mon\_agg and 2) Data/Analysis/indv\_details\_agg and reproduces the tables and graphs in the manuscript. The analysis data are not provided in the replication package, however the code that generates the analysis data is provided (details above).

| filepath                          | Description   |
|-----------------------------------|---|
| Code/AnalysisCode/1_PDSAnthro_ind | Cleans and runs all the analysis at the individual-level on |
|                                   | child stunting  |
| Code/AnalysisCode/2_PDSNutri_hh   | Cleans and runs all the analysis at the household-level on  |
|                                   | household nutrient intake                                   |

| Code/AnalysisCode/3_PDSGraphs_hh  | Cleans and replicates graphs at the household-level              |  |
|-----------------------------------|--|--|
| Code/AnalysisCode/4_PDSPrice_vill | Cleans and runs all the analysis at the village-level on village |  |
|                                   | prices   |  |
| Code Folders                      |  |  |
| Code/AnalysisCode/Anthro_indv     | 1_PDSAnthro_ind do file calls all the do files from Folder       |  |
|                                   | "Code/Anthro_indv". Each do-file in this folder performs         |  |
|                                   | analyses at the individual-level on child stunting               |  |
| Code/AnalysisCode/Nutri_hh        | 2_PDSNutri_hh do file calls all the do files from Folder         |  |
|                                   | "Code/Anthro indv". Each do-file in this folder performs         |  |
|                                   | analyses at the household-level on household nutrient intake     |  |
| Code/AnalysisCode/Graphs_hh       | 3_PDSGraphs_hh do file calls all the do files from Folder        |  |
|                                   | "Code/Graphs_hh". Each do-file in this folder performs           |  |
|                                   | analyses at the household level.                                 |  |
| Code/AnalysisCode/Price_vill      | 4 PDSPrice vill do file calls all the do files from Folder       |  |
|                                   | "Code/Price vill". Each do-file in this folder performs          |  |
|                                   | analyses at the village-level on village prices                  |  |

# Secondary Do-files (Analysis code)

| Parent do-file     | Filepath (Code/AnalysisCode/)         | Purpose                         |
|--------------------|---------------------------------------|---------------------------------|
|                    | Anthro_indv/01_descpstats_child       | Descriptive stats of children   |
|                    | Anthro_indv/02A_zscore_child          | Calculate z-scores              |
|                    | Anthro_indv/02B_zscore_graphs         | Generate z-score graphs         |
|                    | Anthro_indv/02C_child_sumstat         | Summary stats of children       |
|                    | Anthro_indv/03A_pdsval                | Aggregates PDS value to year    |
|                    | Anthro_indv/03B_transvar              | Transform variables             |
|                    | Anthro_indv/B1_impacts_height         | Main effects on child height    |
|                    | Anthro_indv/ B1A_impacts_height_boot  | Bootstrap std. errors           |
|                    | Anthro_indv/ B2_impacts_height_hetero | Heterogeneity by age & gender   |
| Code/AnalysisCode/ | Anthro_indv/ B3_impacts_othanthro     | Effects on child weight         |
| 1_PDSAnthro_ind.do | Anthro_indv/B4_impacts_olderchildren  | Effects on older children       |
| 1_FDSAmmo_ma.ao    | Anthro_indv/B5_impacts_adultnut       | Effects on adult nutrition      |
|                    | Anthro_indv/B6_rfinteraction          | Monsoon Interaction             |
|                    | Anthro_indv/C1_rob_trends             | Robustness to Parallel trends   |
|                    | Anthro_indv/C2_rob_leads              | Robustness to Leads test        |
|                    | Anthro_indv/C3_rob_nrega              | Robustness to NREGA             |
|                    | Anthro_indv/C7_rob_attrition          | Robustness to Attrition         |
|                    | Anthro_indv/C8_rob_firststage_ind     | First stage at Individual level |
|                    | Anthro_indv/C9_rob_heterobyland       | Robustness to MSP               |
|                    | Anthro_indv/C10_rob_villbytimeFE      | Robustness to vill-by-time FE   |
|                    | Anthro_indv/C11_rob_reducedform       | Reduced form estimates          |
|                    |                                       |                                 |
|                    | Nutri_hh /D1_hh_prep_nut              | Prepares hh panel vars          |
|                    | Nutri_hh /D2_hh_transvars             | Transform hh monthly vars       |
| Code/AnalysisCode/ | Nutri_hh /D3_hh_consgroups            | Create consumption groups       |
| 2_PDSNutri_hh.do   | Nutri_hh /D4_hh_rob_firststage        | First stage at hh level         |
| 2_1 DSMIII_IIII.00 | Nutri_hh /D5_hh_takeup                | Take up of program              |
|                    | Nutri_hh /D6_hh_sumstat               | Summary stats of households     |
|                    | Nutri_hh /E1_hh_nut_impacts           | Main effects nutrient intake    |

|                                       | Nutri_hh /E2_hh_nut_bdshare             | Effects on budget share        |
|---------------------------------------|---|--------------------------------|
|                                       | Nutri_hh /E3_hh_nut_elast               | Calculate calorie elasticities |
|                                       | Nutri_hh /E4_hh_rob_othwelf             | Robustness other welfare prog  |
|                                       | Nutri_hh /F1_hh_lab_impacts             | Labor market effects           |
|                                       |   |                                |
|                                       | Graphs_hh/A1_hh_graph_price             | PDS State Price Variation      |
| Code/AnalysisCode/                    | Graphs_hh /A1_hh_graph_qty              | PDS State Quantity Variation   |
| 3_PDSGraphs_hh.do                     | Graphs_hh/A1_hh_graph_qtyhhsize         | PDS HHsize Variation           |
|                                       | Graphs_hh/A1_hh_graph_price             | PDS All Variation combined     |
|                                       |   |                                |
|                                       | Price_vill /G1_vill_pdsval              | Aggregates PDS value to vill   |
| Codo/AnalysisCodo/                    | Price_vill /G2_vill_transvars           | Transform village variable     |
| Code/AnalysisCode/ 4 PDSPrice vill.do | Price_vill /G3_vill_heterovars          | Generate Heterogeneity vars    |
| 4_PDSPrice_viii.uo                    | Price_vill /H1_vill_price_impacts       | Main price effects             |
|                                       | Price_vill /H2_vill_price_heteroimpacts | Hetero price effects           |

## Other files and folders

- Output tables are saved in the following folder: Output/Tables/
- Output graphs are saved in the following folder: Output/Graphs/

## **Computational Requirements:**

The code successfully ran and took approximately 30 mins with Stata 18 on a Macbook Pro 2019 with 16 GB RAM and Intel Core i7. This manuscript uses STATA user-written packages with most recent package versions. The replication package provides a setup program that installs all STATA packages and checks the version compatibility for all essential STATA packages. More details below.

Random seed is set at line 89 and 90 of program 1 main.do

Python version used through Google Colab is 3.10.12

## **Replication Instructions:**

#### Step 1: Obtain raw data from ICRISAT VDSA

The replication package includes a python script (Code/0\_vdsa\_webscraper.py) that scrapes and automatically downloads the required raw data from the VDSA website. This file can be easily uploaded on Google Colab platform. To run this code, you would need a username and password. Follow these steps:

- i. Register online at <a href="https://vdsa.icrisat.org/">https://vdsa.icrisat.org/</a> and get a username and password
- ii. Copy and paste Python script file 0 vdsa webscraper.py on Google Colab
- iii. Plug in the username and password in the file (*Lines 15 and 16*)
- iv. Click on Run the code: The code will automatically download a zip file
- "RawXLdata.zip" on your browser's download directory.

(Note: Downloading of zipfile "RawXLdata.zip" may take 15-30 mins, depending on Connected Google compute engine's bandwidth.)

v. Unzip the zipfile onto the Replication package folder path: Data/Raw/RawXLData

Note: Step (v) is important. The downloaded and extracted data folder needs to be moved to **Data/Raw/RawXLData**, or else the STATA do-file directory paths would not work.

After registering online, accessing the VDSA website and manually selecting and downloading individual data files is not necessary, as the replication package provides a python script that automatically downloads all the required data files. Alternatively, if the replicator wants to access data files manually, the steps are as follows: First register online at <a href="https://vdsa.icrisat.org/">https://vdsa.icrisat.org/</a>. Plug in Username and Password and Select MicroData. Select region (SATIndia or EastIndia), then select year (2010 to 2015) and select Questionnaire (Cultivation, Employement, GES, Mprice, and Transaction). For instance to get Transactions data from SATIndia villages in year 2013, follow these steps: Login → Select Microdata → Select SATIndia → Select 2013 → Select Transactions → Select all the Transactions files → Click Request Data. This paper uses microdata from SATIndia (18 villages) and EastIndia (12 villages) from 2010 to 2015 and five questionnaire schedules including Employment, General Endowment Schedule (GES), MPrice and Transaction. After downloading all the required files, transfer the files to the replication package folder path: Data/Raw/RawXLData

*Non-Public data:* This manuscript also uses data that is not available online on the VDSA website. These data comprise of ration cards data for SAT villages. This data was collected in person by the corresponding author from ICRISAT. Researchers seeking access to this data can contact the ICRISAT office (<a href="https://vdsa.icrisat.org/vdsa-contact.aspx">https://vdsa.icrisat.org/vdsa-contact.aspx</a>). Without this data the main results cannot be fully replicated.

After obtaining the ration cards data, the file needs to be moved to **Data/Raw/RawAuxData/Proprietarydata**, or else the STATA do-file directory paths would not work.

## Step 2: Analysis

The file "1\_main.do" is the main master do-file that reproduces all the results and graphs. The file "1\_main.do" also installs all dependencies locally, and should be run once.

## Running the code

- i. Change the file path for the "main" global in line 12 of Code/1 main.do
- ii. Run 1 main.do

This manuscript uses the STATA user-written package "reghdfe" (Correia, 2017) to run regressions with multiple fixed effects. The file "1\_main.do" includes installation instructions of "reghdfe" directly from the author's website. If connection is timed out, "reghdfe" needs to be installed manually by hand. Detailed instructions are provided in "1 main.do"

After installing required STATA packages, verify and ensure STATA packages are version compatible. *Lines 18 to 67* uses the "require" command and verifies the versions of STATA packages.

The file 1\_main.do is the master do-file that calls the i) do-files for Data transformation from raw to analysis and ii) do-files for Analysis:

| Ca | Code for Data Transformation from Raw to Analysis  Output |  |                               |  |  |
|----|---|--|-------------------------------|--|--|
| (F | (Filepath: Code/RawCode)                                  |  |                               |  |  |
| 1  | 1_excel2dta   | Converts raw excel files to dta files                    |                               |  |  |
| 2  | 2_append  | Append the individual dta files into File                |                               |  |  |
|    |   | aggregates   |                               |  |  |
| 3  | 3_indvdetails   | Cleans and aggregates individual                         | Saves <i>indv_details_agg</i> |  |  |
|    |   | anthropometrics data                                     | used for analysis             |  |  |
| 4  | 4_sch_agg   | Generates aggregate datasets for GES,                    |                               |  |  |
|    |   | Employment, Transaction and Village monthly              |                               |  |  |
|    |   | prices   |                               |  |  |
| 5  | 5_pdstransfer   | Generates PDS transfer value data                        |                               |  |  |
| 6  | 6_merge_all   | Prepares Analysis data at the household-month            | Saves <i>hh_mon_agg</i> used  |  |  |
|    |   | aggregate  | for analysis                  |  |  |
| 7  | 7_rf  | Prepares Rainfall Analysis data at the village           | Saves RF_VDSAVill used        |  |  |
|    |   | level  | for analysis                  |  |  |
|    |   |  |                               |  |  |
| Ca | Code for Analysis   |  |                               |  |  |
| (F | ilepath: Code/Analy                                       | sisCode/)  |                               |  |  |
| 1  | 1_PDSAnthro_ind   | Cleans and runs all the analysis at the                  | Results saved in              |  |  |
|    |   | individual-level on child stunting.                      | Output/Tables/Anthro_indv     |  |  |
| 2  | 2_PDSNutri_hh   | Cleans and runs all the analysis at the                  | Results saved in              |  |  |
|    |   | household-level on household nutrient intake.            | Output/Tables/Nutri_hh        |  |  |
| 3  | 3_PDSGraphs_hh  | Cleans and replicates graphs at the household-           | Results saved in              |  |  |
|    |   | level.   | Output/Graphs                 |  |  |
| 4  | 4_PDSPrice_vill   | Cleans and runs all the analysis at the <i>village</i> - | Results saved in              |  |  |
|    |   | level on village prices.                                 | Output/Tables/Price_vill      |  |  |

It is necessary to run the master do-files in the above order

## **Mapping of Tables/Figures to Output File names:**

#### Main tables

| Table # | Output file name                      | Do-file               |
|---------|---------------------------------------|-----------------------|
| Table 1 |                                       | Not generated by code |
| Table 2 | Tables/Anthro_indv/child_sumstat.csv  | 02C_child_sumstat     |
|         | Tables/Nutri_hh/hh_sumstat.csv        | D6_hh_sumstat         |
|         | Tables/Nutri_hh/hh_lab_sumstat.csv    | F1_hh_lab_impacts     |
| Table 3 | Tables/Anthro_indv/firststage_ind.csv | C8_rob_firststage_ind |
|         | Tables/Nutri_hh/firststage_hh.csv     | D4_hh_rob_firststage  |
| Table 4 | Tables/Nutri_hh/takeup_hh.csv         | D5 hh takeup          |
| Table 5 | Tables/Anthro indv/impacts height.csv | B1 impacts height     |

|          | Tables/Anthro_indv/impacts_height_boot.csv       | B1A_impacts_height_boot  |
|----------|--|--------------------------|
| Table 6  | Tables/Anthro_indv/impacts_height_hetero_age.csv | B2_impacts_height_hetero |
| Table 7  | Tables/Anthro_indv/leads_test.csv                | C2_rob_leads             |
| Table 8  | Tables/Anthro_indv/impacts_othchild.csv          | B3_impacts_othanthro     |
| Table 9  | Tables/Anthro_indv/impacts_adultnut.csv          | B5_impacts_adultnut      |
| Table 10 | Tables/Nutri_hh/impacts_cons_hh.csv              | E1 hh nut impacts        |
| Table 11 | Tables/Nutri_hh/impacts_labor.csv                | F1 hh lab impacts        |
| Table 12 | Tables/Anthro_indv/impacts_rfint.csv             | B6_rfinteraction         |

## Appendix tables

| Table     | Output file name                                    | Do-file                     |
|-----------|---|-----------------------------|
| Number    |   |                             |
| Table A1  | Tables/Anthro_indv/rob_attrit.csv                   | C7_rob_attrition            |
| Table A2  | Tables/Anthro_indv/rob_villtimefe.csv               | C10_rob_villbytimeFE        |
| Table A3  | Tables/Anthro_indv/rob_reducedform.csv              | C11_rob_reducedform         |
| Table A4  | Tables/Anthro_indv/impacts_height_hetero_gender.csv | B2_impacts_height_hetero    |
| Table A5  | Tables/Anthro_indv/rob_msp_land.csv                 | C9_rob_heterobyland         |
| Table A6  | Tables/Anthro_indv/impacts_oldchild.csv             | B4_impacts_olderchildren    |
| Table A7  | Tables/Anthro_indv/nrega_test.csv                   | C3_rob_nrega                |
| Table A8  | Tables/Nutri_hh/rob_othben.csv                      | E4_hh_rob_othwelf           |
| Table A9  | Tables/Nutri_hh/impacts_cons_budgetshare.csv        | E2_hh_nut_bdshare           |
| Table A10 | Tables/Nutri_hh/impacts_elast.csv                   | E3_hh_nut_elast             |
| Table A11 | Tables/Price_vill/impacts_price.csv                 | H1_vill_price_impacts       |
|           | Tables/Price_vill/impacts_price_hetero.csv          | H2 vill price heteroimpacts |

## **Figures**

| Figure Number | Output filename                   | <b>Do-file</b>        |
|---------------|-----------------------------------|-----------------------|
| Figure 1      | Graphs/PDSPrice_Entl_Inst.pdf     | A1_hh_graph_price     |
| Figure 2      | Graphs/PDSQty_Entl_Inst.pdf       | A2_hh_graph_qty       |
| Figure 3      | Graphs/PDSQtyHHsize_Entl_Inst.pdf | A3_hh_graph_qtyhhsize |
| Figure 4      | Graphs/ActualbyTarget.pdf         | A4_hh_graph_variation |
| Figure 5      | Graphs/Stunting_trend.pdf         | C1_rob_trends         |
| Figure A1     | Graphs/vdsa_map.jpg               | Not generated by code |
| Figure A2     | Distribution of HAZ               | 02B_zscore_graphs     |
| Figure A3     | Graphs/HAZ_trend.pdf              | C1_rob_trends         |

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