Small Area Estimates of Stunting for Ghana

First Submission: RR_GHA_2026_713
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This review verifies the reproducibility of the exhibits included in the paper *"Small Area Estimates of Stunting for Ghana"*.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
3. Reproduction Environment

Main findings

- **Every exhibit of the paper has been reproduced accurately.**
- The code was successfully executed on a new computer after:
  1. Updating the working directory in line 13 of the do-file "0_master.do"
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 15 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors.
- **Verification Process and Data Handling**:
  - The reproducibility package relies on two types of data: limited-access (requires purchase or human approval or only available to World Bank Staff), and restricted data (available only from the data owners).
  - Reviewers used limited-access/restricted data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package.
  - *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the restricted data can use this file to verify that the data has not been altered.
- **Reproducibility Summary**:
  - **Data**: Some data is restricted and has not been included in the reproducibility package. For more details, please refer to the README file.

- **Code**: All code files (from cleaning to analysis) are included in the reproducibility package.
- **Outputs**: All outputs are generated by code included in the reproducibility package.
- **Dependencies environment**: The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Table 1** Reproduced.
- **Figure 1.a** Reproduced.
- **Figure 1.b** Reproduced.
- **Figure 2.a** Reproduced.
- **Figure 2.b** Reproduced.
- **Figure 2.c** Reproduced.
- **Table 2** Does not apply. The exhibit is an not an analytical output.
- **Table 3** Reproduced.
- **Table 4** Reproduced.
- **Figure 3.a** Reproduced.
- **Figure 3.b** Reproduced.
- **Figure 4.a** Reproduced.
- **Figure 4.b** Reproduced.
- **Table 5** Reproduced.
- **Figure 5.a** Reproduced.
- **Figure 5.b** Reproduced.
- **Figure 6.a** Reproduced.
- **Figure 6.b** Reproduced.
- **Table 6** Reproduced.
- **Figure 7** Reproduced.
- **Figure 8.a** Reproduced.
- **Figure 8.b** Reproduced.

- **Figure 9** Reproduced. Minor formatting differences. The map produced by the code lacks the districts contour lines present in the paper version, which are shown in blue.
- **Figure 10.a** Reproduced.
- **Figure 10.b** Reproduced.
- **Figure 11.a** Reproduced.
- **Figure 11.b** Reproduced.
- **Figure 12.a** Reproduced.
- **Figure 12.b** Reproduced.
- **Figure 13.a** Reproduced.
- **Figure 13.b** Reproduced.
- **Table 7** Reproduced.

Results in the Annex

- **Table A** Does not apply. The exhibit is an not an analytical output.
- **Table B** Reproduced.
- **Figure C** Reproduced. Minor formatting differences. The map produced by the code lacks the districts contour lines present in the paper version, which are shown in blue.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise
- Processor: INTEL(R) XEON(R) GOLD 6226R CPU @ 2.90GHz (2 processors)
- Memory available: 16 GB
- Software version: Stata 19.5 MP