



AMOUD UNIVERSITY

Research and Innovation Center

BAHDA-2026

THE BORAMA HOUSEHOLD DEVELOPMENT ATLAS

Evidence for Inclusive, Resilient and Accountable Development

From Household Evidence to Development Action



**SOCIAL
DEVELOPMENT**



**HEALTH
DEVELOPMENT**



**ECONOMIC
DEVELOPMENT**



**TECHNOLOGY,
INFRASTRUCTURE &
ENVIRONMENT**



**GOVERNANCE &
BASIC SERVICES**



6 STRATA

96 CLUSTERS

2,896 CONSENTED HOUSEHOLDS



MODEL-ASSISTED PLANNING FRAME:

≈78,200 HOUSEHOLDS AND ≈626,000 RESIDENTS



**BORAMA DISTRICT
OPERATIONAL AREA
AWDAL REGION, SOMALILAND**



2026



AMOUD UNIVERSITY

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Borama Household Development Atlas

Household Well-Being, Inequalities and Development Priorities

From Household Evidence to Development Action

Borama District, Somaliland

2026

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Amoud University Research and Innovation Center

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Data and analytical basis

The Atlas is based on the final corrected BAHDA-2026 five-pillar dual-analysis package. The final analytical sample contains 2,896 consented household interviews distributed across six sampling strata, 24 zones and 96 predefined clusters. District-level interpretation uses the normalized household weight wgt; unweighted counts and percentages are retained throughout to show the observed sample base. Conditional questions use indicator-specific eligible denominators.

Thirteen multiple-response questions were audited directly against the five weighted pillar datasets. The final analysis uses 78 genuine binary response options and excludes the 13 Kobo parent fields that stored combined selections. Multiple-response tables report weighted and unweighted percentages of cases and percentages of responses. Raw and cleaned-sensitivity results are documented in the technical appendices.

Model-assisted planning estimates

The Atlas reports an estimated 78,209 households and 626,215 residents for the full operational area. These totals were produced through a transparent model-assisted process combining seven gridded population products, household GPS anchors and locally observed household-size means. They are planning estimates, not census counts, and should be used with the assumptions and limitations described in Chapter 2 and Appendix B.

Interpretive responsibility and disclaimer

BAHDA-2026 is a descriptive cross-sectional assessment. Associations and differences reported in the Atlas do not establish causality. Comparisons with the Somaliland Health and Demographic Survey 2020 and Somaliland Integrated Household Budget Survey 2022 are contextual benchmarks rather than estimates of change. Survey year, unit of analysis, denominator, question wording and reference period are shown wherever these affect comparability.

The interpretations, policy implications and recommendations are the responsibility of Amoud University. External policy frameworks are used for alignment and do not imply formal endorsement by the institutions that produced those frameworks.

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Message from the President

Local evidence becomes valuable when it strengthens public understanding, guides responsible decisions and improves the lives of communities.

Amoud University is pleased to present the *BAHDA-2026 Borama Household Development Atlas*, an institution-wide initiative that demonstrates the University's commitment to knowledge, public service and evidence-informed development. For more than three decades, Amoud University has connected teaching, research and community engagement. BAHDA-2026 advances that mission by creating a shared household evidence platform for Borama District and its urban, peri-urban and rural communities.

The scale of the undertaking is a source of institutional pride. Academic leaders, faculties, students, supervisors, technical teams, administrators, drivers, community representatives and participating households worked through one coordinated system. The survey covered all six strata, 24 zones and 96 predefined clusters, retaining 2,896 consented household interviews for analysis. This collective effort demonstrates what a university can achieve when research training, digital innovation and community service are organised around a common public purpose.

Local decision-makers require evidence that is more detailed than broad national averages. BAHDA therefore brings social development, health, household economy, technology and infrastructure, environmental conditions, governance and basic services into one integrated atlas. It allows readers to see not only district averages but also differences by residence, wealth quintile, sex of household head and original sampling stratum. The new Somaliland benchmark chapter further connects Borama's evidence with official Awdal and Somaliland findings while clearly documenting differences in year and definition.

The Atlas also responds transparently to a major statistical challenge. In the absence of a recent published census denominator for the complete study area, the team triangulated seven international population products with household GPS observations and locally observed household sizes. The resulting totals are presented as model-assisted planning estimates rather than census counts. This distinction reflects the University's commitment to methodological honesty.

I commend the Research and Innovation Center, the BAHDA Task Force, the academic units, the field and analytical teams, and above all the participating households. I invite public institutions, development partners, researchers, private-sector actors and communities to use this Atlas carefully, challenge it constructively and translate its evidence into practical improvements. Amoud University remains committed to sustained research, scholarly dialogue and service to society.

Prof. Dr. Mohamed Muse Jibril
President, Amoud University
Borama, Somaliland

Message from the Vice President for Academic Affairs and Research

BAHDA-2026 is both an evidence product and a learning system through which students, faculty and institutions strengthen their capacity for responsible research.

BAHDA-2026 represents a major step in Amoud University's academic and research development. It transforms a large field exercise into a structured platform for learning, methodological improvement and socially relevant scholarship. Academic units worked beyond disciplinary boundaries, harmonised their questions and contributed to a single evidence system. This approach recognises that household development outcomes are interconnected: education affects employment, health affects productivity, infrastructure affects access, environmental conditions affect resilience and governance influences the quality of services.

The assessment created a substantial practical learning opportunity. Students and supervisors were trained in research ethics, informed consent, digital interviewing, GPS use, questionnaire administration, field coordination and data-quality procedures. Cluster-based supervision and digital monitoring were intended to promote careful interviewing and rapid identification of field problems. The experience therefore strengthened both the evidence base and the University's capacity to undertake future large-scale, multidisciplinary research.

From an academic perspective, the Atlas establishes a transparent foundation for further analysis. It distinguishes descriptive findings from causal claims, weighted estimates from unweighted sample counts, survey observations from model-assisted population totals, and directly comparable benchmarks from contextual comparisons. These distinctions are essential for credible publication and responsible secondary use.

The dataset can support student theses, peer-reviewed papers, policy briefs, dashboards and future comparative studies, provided that every analysis respects the sampling design, eligible denominators, confidentiality requirements and limits of inference. The technical appendices and reproducible LaTeX and analytical structure are designed to make those responsibilities visible.

I encourage faculties, postgraduate students and research collaborators to use BAHDA as a living research resource. Its strongest contribution will not be one report, but a sustained programme of rigorous analysis, methodological refinement, public engagement and partnership with decision-makers.

Prof. Hamud Ibrahim Barkhadle
Vice President for Academic Affairs and Research
Amoud University

Message from the Director, Research and Innovation Center

The Atlas converts a complex institutional field exercise into a transparent household evidence platform for planning, research and public accountability.

The Research and Innovation Center is honoured to present the final BAHDA-2026 Atlas. The initiative began with a practical concern: Borama's institutions, communities and development partners require current, integrated and geographically detailed household evidence, yet available information is often fragmented across sectors or reported only at broader regional and national levels. BAHDA was therefore designed as a locally anchored platform that could bring multiple development domains into one coherent household assessment.

The methodology was built progressively. Academic units contributed questionnaire modules; deans and faculty reviewed the content; the instrument was translated into Somali; supervisors and student enumerators were trained; and repeated pilots improved skip logic, identifiers, metadata, GPS capture and field coordination. Borama District was organised into six strata, 24 zones and 96 clusters, all of which were included in the field system. Urban selection used random starts and systematic procedures, while peri-urban and rural residential concentrations used local listing, numbering and transparent household selection.

The analysis was also strengthened after fieldwork. Five pillar datasets were harmonised, survey weights were normalised, all item-level results were produced in weighted and unweighted form, and multiple-response questions were audited against the original data. This audit confirmed 78 genuine response options and identified the parent fields that had previously distorted presentation. The final tables and figures now preserve the correct options, denominators and labels.

A major methodological challenge was the lack of a recent published census denominator. Rather than accepting one administrative total or one global raster as unquestioned truth, the team triangulated seven international gridded population products representing four methodological families. Populated cells were classified using BAHDA GPS anchors, aggregated by stratum and converted to households using locally observed household-size means. Family-level medians were combined to reduce dependence on duplicate releases and resolutions. The resulting estimates of approximately 78,209 households and 626,215 residents are presented transparently as planning estimates.

The final Atlas now includes detailed pillar findings, cross-cutting inequalities, spatial patterns, Somaliland benchmarks, policy alignment, complete technical appendices and a future monitoring agenda. We are deeply grateful to the households, students, supervisors, faculty, administrators, technical officers, drivers and partners who made this possible. The Center will continue to support responsible analysis, policy dialogue, repository publication, data protection and future BAHDA rounds.

Dr. Abdisalam Hassan Muse
Director, Research and Innovation Center
Amoud University

Foreword

Reliable local evidence is a foundation for effective development. National surveys provide indispensable benchmarks, yet district and municipal planning also require information detailed enough to reveal differences among settlement types, household groups and service environments. Without this local layer, broad averages may conceal communities that face concentrated disadvantage or overlook local capabilities that can support development.

BAHDA-2026 responds to this need through a multidisciplinary household assessment covering the urban, peri-urban and rural communities of Borama District. It combines five development pillars within one evidence system and presents weighted district estimates alongside the unweighted sample base. It also goes beyond headline averages by examining inequalities across residence, wealth quintile, sex of household head and the original six sampling strata.

The Atlas complements, rather than replaces, Somaliland's official statistical products. The Somaliland Health and Demographic Survey 2020 and Somaliland Integrated Household Budget Survey 2022 remain essential national and regional benchmarks. Chapter 8 places Borama within this wider evidence environment through a carefully harmonised thirty-indicator comparison. The chapter distinguishes direct comparisons from those that are contextual because the unit of analysis, eligible population or reference period differs.

The publication is also important because it links evidence with development frameworks. Its findings are aligned thematically with Somaliland's National Development Plan III, African Union Agenda 2063 and the United Nations Sustainable Development Goals. This alignment is cautious: a household question is not described as an official national or international indicator unless the definition and denominator are equivalent. The purpose is to help readers connect local evidence with recognised policy commitments without forcing the data into an inappropriate template.

BAHDA-2026 is a demonstration of the public role of a university. Students, faculty, supervisors and technical teams gained practical experience in instrument design, ethics, digital data collection, spatial organisation, statistical analysis and publication. Communities contributed the lived evidence. The value of the Atlas will be realised when this knowledge is discussed openly, validated responsibly and translated into coordinated action.

This publication should therefore be read as both a statistical report and a development platform. It identifies household capabilities, documents persistent constraints and proposes an architecture for future monitoring. Its most important contribution may be the shared evidence language it creates among households, Amoud University, public institutions, civil society, the private sector and development partners.

“Ultimately, the value of BAHDA-2026 will be measured not by the data it contains, but by the decisions it informs, the actions it inspires, and the lives it helps to improve.”

Prof. Dr. Mohamed Muse Jibril
President, Amoud University

Borama, Somaliland
August 2026

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BAHDA-2026 was made possible by a large university and community effort. Amoud University Research and Innovation Center gratefully acknowledges the leadership, technical teams, field contributors, institutional partners and participating households whose contributions carried the assessment from early planning through fieldwork, analysis, validation and final publication.

Research and Innovation Center Leadership. The survey was guided throughout by **Dr. Abdisalam Hassan Muse**, Director; **Abdirashid Mohamed Yousuf**, Deputy Director; and **Dr. Mukhtaar Axmed Cumar**, Senior Advisor. Their leadership guided BAHDA-2026 from its early planning through completion.

Technical and Research Team. The following team contributed across survey design, statistical planning, preparation, field coordination, GIS, data systems, administration, communication, data processing, analysis, interpretation, editing and publication preparation:

Dr. Mukhtaar Axmed Cumar – Survey Coordinator and Technical Lead

Mohamed Ali Hussein – Senior Statistician

Eng. Mohamed Deheye – GIS Technician

Bishar Elmi – Administration Specialist

Abdikarim Mahdi – ICT Technician

Mukhar Abdi – Director of Academics

Hakima Abdirahman – Editing and Preparation of the Report

Abdirashid Mohamed Yousuf – Senior Statistician

Hawa Abdillahi – Data Analyst

Eng. Ahmed Awale – GIS Technician

Abdirahman Mohamed Haji Abubakar – Website Designer

Sakariye Mohamed – Communication Specialist

Abdirahman Deheye – Director of EDC

Development Partner Personnel. The Center appreciates personnel from development organisations who contributed to technical dialogue, validation, dissemination and the wider use of BAHDA-2026 evidence.

Other Named Contributors. The photographic record of BAHDA-2026 was contributed by **Ahmed Daacad**, **Abdirisak Omer**, **Omer Abdillahi** and **Khalid Sultan**. Participant permissions for publication of the photographic plates have been confirmed.

Institutional Partners. The University acknowledges public institutions, local authorities, academic units, community representatives and partner organisations that supported consultation, coordination, technical discussion, validation and dissemination.

Fieldwork Contributors and Supervisory Structure. BAHDA-2026 relied on approximately **900 senior Amoud University students serving as enumerators**, supported by **38 field supervisors**, **8 coordinators**, **primarily academic deans and senior institutional personnel**, and **7 BAHDA Task Force members providing overall field supervision, coordination and institutional oversight**. This layered structure supported deployment, quality assurance, communication and problem resolution across the field operation.

Participating Households. Above all, Amoud University expresses its sincere appreciation to the **2,896 households whose consented interviews were retained in the final analytical dataset**, and to the wider communities that welcomed field teams. Their time, experiences and willingness to share household information are the foundation of the evidence presented in this Atlas.

General Acknowledgement. The Research and Innovation Center also recognises the faculty members, administrative staff, drivers, logistics personnel, community facilitators, technical assistants and other contributors whose work supported BAHDA-2026 but whose names cannot all be listed individually. The final Atlas reflects a collective institutional and community effort.

Expert Reviewers

BAHDA-2026 benefited from multidisciplinary expert review across health sciences, social sciences, engineering, economics, agriculture and environment, law and postgraduate research. The reviewers listed below provided technical, disciplinary and editorial feedback that contributed to strengthening the final Atlas. Responsibility for the final content, interpretation and publication remains with Amoud University Research and Innovation Center.

1.	Dr. Omran Salih	School of Postgraduate Studies and Research
2.	Dr. Jibril Abdikadir	School of Postgraduate Studies and Research
3.	Dr. Mustafe Khadar Abdi	School of Postgraduate Studies and Research
4.	Dr. Mohamoud Abdillahi	School of Medicine and Surgery
5.	Dr. Abdillahi Mohamed	School of Dentistry
6.	Yurub Abdirahman	Faculty of Business and Economics
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12.	Dr. Mohamed Ali	Faculty of Sharia and Law
13.	Dr. Abdirahman Saed	School of Medical Laboratory
14.	Bishar Elmi	Faculty of Business and Economics
15.	Mohamed Abdi Osman	Faculty of Agriculture and Environment
16.	Abdirashid Jama Abdillahi	Faculty of Business and Economics

Ethical Conduct and Community Respect

Participation in BAHDA-2026 was voluntary and based on informed consent. Field interviewers were trained to explain the purpose of the assessment, the voluntary nature of participation, confidentiality protections and participants' rights. Participants could decline any question or discontinue the interview at any time.

Information intended for publication was de-identified. Direct personal identifiers, confidential household records and exact household GPS coordinates are not presented in the Atlas. Spatial findings are reported only at approved aggregated levels to minimise the possibility of identifying individual households. The research and publication teams were expected to represent participating households and communities respectfully and to avoid language, interpretation or imagery that could stigmatise individuals or communities on the basis of poverty, disability, household characteristics or place of residence.

Institutional ethics documentation. The ethical and participant-protection procedures documented for BAHDA-2026 were formally acknowledged by the **Amoud University Institutional Review Board** in its *Institutional Ethics and Participant Protection Statement – BAHDA-2026*, Ref. **AU/IRB/21EC/2026**, dated **10 August 2026**. The statement confirms the safeguards described above, including voluntary participation, informed consent, confidentiality, de-identification and aggregated spatial reporting.

The IRB statement further records that the final analytical and publication package does not contain documentary confirmation of a formal prior IRB/ethics committee approval number. Accordingly, Amoud University did not assign, reconstruct or retrospectively create an IRB approval number where documentary evidence was unavailable. Ref. AU/IRB/21EC/2026 is therefore the reference number of the institutional ethics and participant-protection statement and should not be interpreted as a retrospective protocol approval number.

Data confidentiality and responsible representation of participating communities remain applicable to analysis, dissemination and future use of BAHDA-2026 findings.

Data Access, Confidentiality and Responsible Reuse

Public-use BAHDA outputs contain no direct identifiers or precise household coordinates. Restricted analytical files may be made available only under Amoud University data-governance procedures and a clear statement of permitted use, confidentiality, storage and destruction.

Responsible secondary analysis requires the use of valid denominators, survey weights where district-level estimates are intended, and the correct multiple-response option dictionary. Analysts should distinguish observed unweighted counts from normalised weighted counts and should not interpret contextual Somaliland benchmarks as direct trends. Publications should cite both the Atlas and the relevant dataset or analytical package.

The final Atlas is deposited in the Amoud University Institutional Repository and is persistently identified by DOI [10.67178/pgc3n7h0](https://doi.org/10.67178/pgc3n7h0) and ARK [ark:/53360/pgc3n7h0](https://nbn-resolving.org/urn:nbn:uk:53360-pgc3n7h0). The repository record provides the public publication record and version context. Restricted household-level data remain separate from public documentation and continue to be governed by Amoud University confidentiality and data-access procedures.

Executive Summary

Household evidence for better development decisions

BAHDA-2026 provides an integrated household-level account of well-being, inequality and development priorities across Borama District. The assessment brings social development, health, economic conditions, technology and infrastructure, environmental resilience, governance and basic services into one analytical framework. It retained 2,896 consented household interviews across six sampling strata, 24 zones and 96 clusters. Weighted estimates are used for district-level interpretation, while unweighted counts and percentages remain visible to preserve denominator transparency.

The Atlas is designed to complement national and regional evidence. Chapter 8 compares thirty carefully selected BAHDA indicators with Awdal and Somaliland findings from the Somaliland Health and Demographic Survey 2020 and the Somaliland Integrated Household Budget Survey 2022. These are contextual benchmarks rather than estimates of change. Each indicator is classified as directly comparable, comparable after harmonisation or contextual only.

 Assessment scale			
2,896	Consented households	6	Sampling strata
24	Zones	96	Predefined clusters
312	Approved item-level analyses	78	Genuine multiple-response options
5	Development pillars	4	Main inequality dimensions

Social development

Household capabilities coexist with important participation gaps. The weighted mean household size was 8.0 persons, larger than the Awdal and Somaliland averages reported by the Somaliland IHBS. Only 41.5 percent of households with school-age children reported that all eligible children aged 6–18 were attending school. Adult literacy was present among all adults in 40.7 percent of households and among some adults in a further 40.0 percent, but the measure is household-based and cannot be treated as identical to the person-level national literacy rate. Vocational or technical training was reported by 43.9 percent of eligible households. Adult unemployment experience affected 46.2 percent of households, while 30.7 percent reported regular or occasional remittance receipt.

Disability and food insecurity remain central social-development concerns. One-quarter of households reported at least one member with a chronic disability. Concern about insufficient food affected 29.6 percent of households; inability to afford healthy food affected 36.4 percent; meal skipping affected 30.6 percent; and 21.9 percent reported a whole day without eating. Borrowing food or taking loans, selling assets or livestock and reducing meals were prominent coping responses. These findings support integrated social protection, inclusive services, education-to-employment pathways and household food-security action.

Health development

The health pillar shows substantial household exposure to chronic disease and affordability barriers. An adult hypertension diagnosis was reported by 33.5 percent of households and an adult diabetes diagnosis by 25.2 percent. These are household-burden indicators and are not directly comparable with person-level chronic-disease prevalence. Health insurance or an employer-supported scheme was reported by 12.9 percent of households. Cost prevented 45.5 percent from obtaining the full course of prescribed medicine.

Maternal, newborn and child-health results show both service use and continuing gaps. Among eligible households, 85.9 percent reported that all children under five were fully vaccinated, but this household measure differs from the SLHDS all-basic-vaccination indicator for children aged 12–23 months. The health chapter also documents antenatal care, delivery, newborn care, nutrition, mental well-being, laboratory and pharmacy access, diagnostic services and oral health. The combined evidence indicates that access must be assessed through affordability, travel time, medicine availability, diagnostic quality and continuity of care rather than facility presence alone.

Economic development

Household economic participation is widespread but uneven. Household enterprise ownership was 27.2 percent, compared with lower household-enterprise benchmarks in Awdal and Somaliland IHBS 2022. Formal financial-institution use was reported by 22.8 percent of households, while mobile-money use was exceptionally common at 87.9 percent. Half of households reported some form of regular saving, although 49.4 percent were unable to save. Formal or informal loan or credit use reached 37.4 percent.

Economic resilience remains fragile. A recent economic shock affected 39.3 percent of households. Agriculture, livestock, productive assets, business constraints and financial literacy differed substantially across residence and wealth groups. The evidence supports stronger enterprise services, accessible finance, savings mechanisms, market connections and climate-sensitive productive systems.

Technology, infrastructure and environment

Digital access is a major household capability. Functional basic mobile-phone ownership reached 85.3 percent and smartphone ownership 77.4 percent. Approximately 77.4 percent of households reported an internet access route, while 63.4 percent identified cost as a major internet barrier. Digital access had supported job or income opportunities for some households, but device ownership did not guarantee reliable, affordable or productive use.

Housing, energy and environmental evidence reveals uneven service conditions. Two-thirds of households owned their dwelling. Electricity was available through grid, solar or generators to 86.2 percent, although reliability and daily hours varied. Clean cooking fuels—electricity or LPG/gas—accounted for 31.8 percent, leaving most households reliant on charcoal or wood. Weather-pattern changes were perceived by 59.7 percent of households, and the environmental modules document flooding, drought, erosion, waste, adaptation and agricultural support.

Governance and basic services

Household participation and awareness are present but not universal. Electoral and community-governance participation reached 62.0 percent. Knowledge of basic legal rights was 58.2 percent, while knowledge of affordable legal-aid services was 42.5 percent. National identification was the most frequently reported civic document within the corrected multiple-response results. Community

safety was reported by 66.5 percent of households, but experiences of insecurity and perceptions of accountability differed across groups and locations.

Basic services are closely connected to local governance. Piped water was the primary drinking-water source for 34.3 percent of households, while public taps and boreholes were also important. Improved sanitation, defined from flush-to-septic and pit-with-slab categories, reached 64.2 percent. Water and soap were both present at the handwashing place in 42.8 percent of households. These findings highlight the practical connection between household welfare, municipal services, accountability and public trust.

Cross-cutting inequalities

The strongest development differences do not follow one simple pattern. Wealth gradients are pronounced for food security, digital access, housing and several service indicators. Residence affects proximity, infrastructure and livelihoods, while the original six strata reveal local variation hidden by the three-category residence grouping. Female- and male-headed households differ on some indicators, but these differences must be interpreted with household composition, age, marital status and location in mind.

The main planning conclusion is that disadvantage overlaps. A low-wealth household in a poorly served location may face food insecurity, economic shocks, medicine-cost barriers, limited digital access and weak civic documentation simultaneously. Priority programmes therefore need coordinated packages rather than isolated sector interventions.

Borama in the Somaliland development context

The thirty-indicator benchmark identifies areas of relative strength and areas of concern. Borama's household enterprise ownership, electricity access, mobile access and internet access appear comparatively strong, although several comparisons are contextual because BAHDA measures households while national reports often measure individuals. Food-security items show a mixed pattern: Borama's concern about insufficient food was lower than the Awdal and Somaliland one-month benchmarks, but meal skipping and going an entire day without food remained substantial. Health comparisons require the greatest caution because eligible populations differ markedly.

↔ Benchmark interpretation

Differences between BAHDA-2026, SLHDS 2020 and Somaliland IHBS 2022 should not be described as improvement or deterioration unless the same definition, denominator, design and reference period are reproduced.

Priority directions



Learning and skills

Improve school participation, adult literacy, technical training and the transition from education to work.



Affordable and continuous health care

Address medicine costs, diagnostics, travel, preventive care and maternal-child health as one access system.



Food security and social protection
Protect households from food-price pressure, livelihood shocks and harmful coping strategies.



Enterprise and household resilience
Expand finance, savings, market access, productive assets and climate-sensitive livelihoods.



Inclusive technology and infrastructure
Pair device access with reliable connectivity, digital skills, clean energy, safe housing and transport.



Responsive governance and services
Strengthen participation, legal awareness, documentation, safety, WASH and accountable service delivery.



People-and-place targeting
Use residence, wealth, household leadership and stratum evidence together when identifying priority groups.



Repeatable monitoring
Preserve a stable indicator core, improve sampling denominators and repeat BAHDA as a local development observatory.

BAHDA-2026 is a baseline rather than an endpoint. Its long-term value will depend on responsible use, community validation, stable indicators, transparent denominators, repeat measurement and clear institutional ownership of follow-up action.

BAHDA-2026 at a Glance

Key evidence, inequalities and development implications



Twenty-four headline findings across five pillars

This chapter-at-a-glance page highlights the most policy-relevant findings. Weighted estimates are shown prominently; unweighted estimates remain visible in the accompanying interpretation and tables.



Average Household Size

8.0 persons

Model-assisted weighted mean; unweighted mean 8.1.



All Eligible Children Attending School

41.5%

Unweighted estimate: 48.3%.



Adult Literacy Within the Household

80.7%

All or some adults literate.



Vocational and Technical Training

43.9%

Unweighted estimate: 54.0%.



Adult Unemployment Experience

46.2%

At least one adult unemployed and seeking work.



Household Disability Prevalence

25.1%

At least one member with a chronic disability.



Concern About Insufficient Food

29.6%

Unweighted estimate: 28.8%.



Whole Day Without Eating

21.9%

Severe household food-insecurity experience.

**Adult Hypertension Diagnosis****33.5%**

Any diagnosed adult member in the household.

**Adult Diabetes Diagnosis****25.2%**

Any diagnosed adult member in the household.

**Household Health Insurance****12.9%**

Insurance or employer-supported scheme.

**Medicine Affordability Barrier****45.5%**

Cost prevented completion of prescribed medicine.

**Full Vaccination Among Children Under Five****85.9%**

Card seen or reported by the mother.

**Household Enterprise Ownership****27.2%**

At least one household business or enterprise.

**Mobile-Money Use****87.9%**

Daily or occasional household use.

**Regular Household Saving****50.5%**

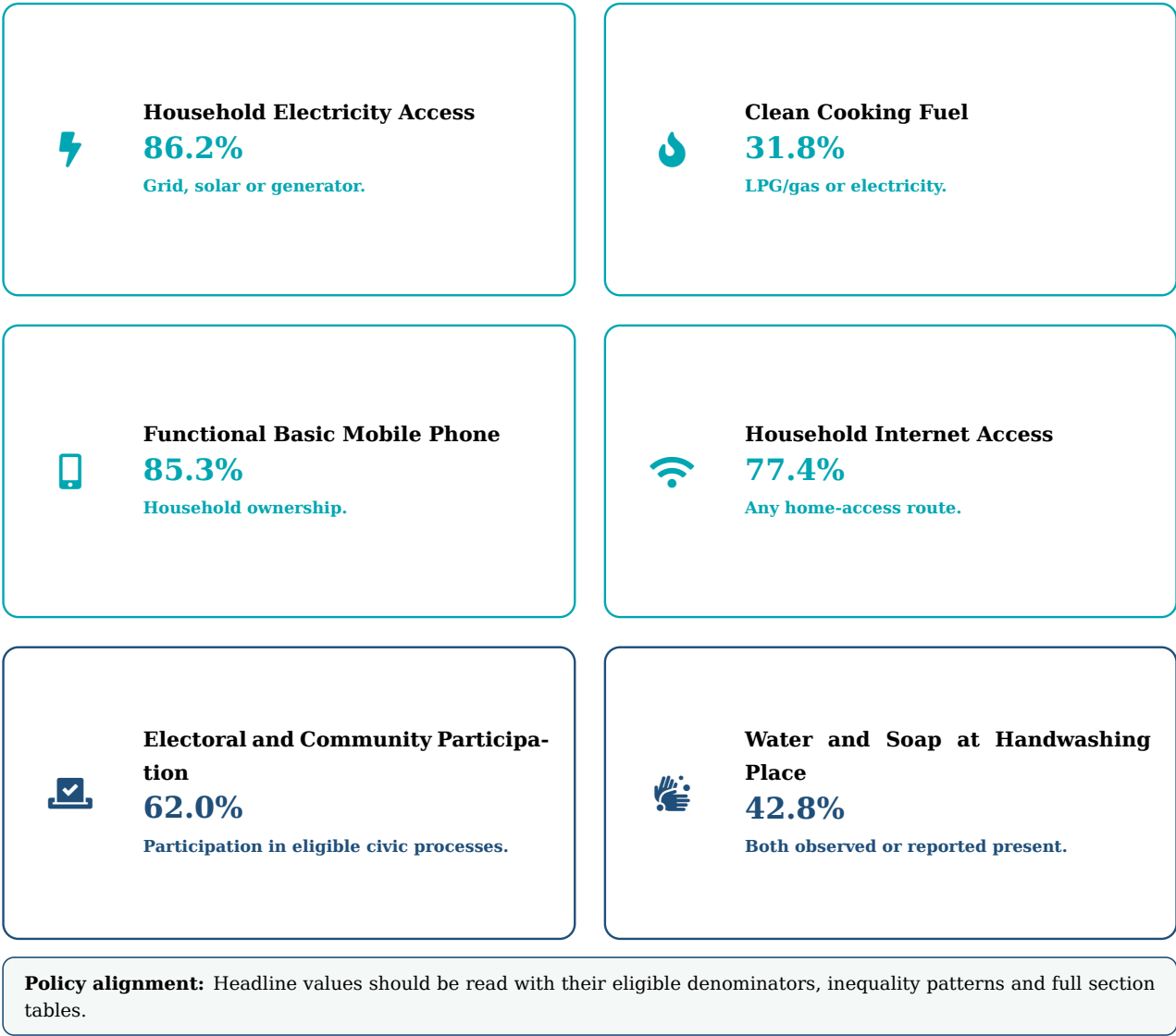
Formal, informal or both.

**Recent Household Economic Shock****39.3%**

During the preceding 12 months.

**Housing Ownership****66.7%**

Weighted estimate for owned dwellings.



Borama in the Somaliland Development Context

Key evidence, inequalities and development implications

↔ Selected comparative benchmarks

This chapter-at-a-glance page highlights the most policy-relevant findings. Weighted estimates are shown prominently; unweighted estimates remain visible in the accompanying interpretation and tables.



Average Household Size

8.0 Borama

Awdal 5.9; Somaliland 6.5.



Adult Literacy

80.7% household context

Awdal 54.4%; Somaliland 58.0% among persons 15+.



Household Enterprise Ownership

27.2%

Awdal 10%; Somaliland 14%.



Remittance Receipt

30.7%

Awdal 33%; Somaliland 24%.



Electricity Access

86.2%

Awdal 59.7%; Somaliland 63.1%.



Clean Cooking Fuel

31.8%

Awdal 28%; Somaliland 16%.



Water and Soap

42.8%

Awdal 51%; Somaliland 48%.



Internet Access or Use

77.4% household access

Awdal and Somaliland 38% among persons 15+.

⇄ Benchmark interpretation

The comparative cards mix direct, harmonised and contextual measures. Chapter 8 and Appendix H document the exact denominator and comparability classification for all thirty indicators.

Policy Alignment at a Glance

BAHDA-2026 localises three complementary development frameworks. Somaliland’s National Development Plan III provides the national planning architecture for 2023–2027. African Union Agenda 2063 situates household development within continental aspirations for prosperity, well-being, infrastructure, governance, peace, integration and people-driven development. The United Nations 2030 Agenda provides the 17 Sustainable Development Goals and their associated targets.[3, 7, 9]

Three-Level Development Alignment		
Alignment is thematic and does not imply that every BAHDA measure is an official framework indicator.		
Somaliland NDP III	African Union Agenda 2063	UN 2030 Agenda
National priorities for social development, economic transformation, infrastructure, governance, justice, and climate resilience.	Continental aspirations for prosperity, healthy citizens, skills, infrastructure, capable institutions, and people-driven development.	Relevant goals and targets among the 17 Sustainable Development Goals.

Figure 1. Three-Level Policy Alignment

 Social Development
NDP III: Social Development. Agenda 2063: inclusive growth, education and skills, youth and gender. SDGs: 1, 2, 4, 5, 8 and 10.
 Health Development
NDP III: Social Development and health. Agenda 2063: healthy and well-nourished citizens. SDGs: 2, 3 and 6.

 Economic Development

NDP III: Economic Development. **Agenda 2063:** jobs, transformed economies, agriculture and productive capacity. **SDGs:** 1, 2, 8, 9 and 10.

 Technology, Infrastructure and Environment

NDP III: Economic Infrastructure and Climate Change. **Agenda 2063:** modern infrastructure, energy, connectivity and climate resilience. **SDGs:** 6, 7, 9, 11, 12, 13 and 15.

 Governance and Basic Services

NDP III: Good Governance and Justice. **Agenda 2063:** democratic values, human rights, capable institutions, peace and security. **SDGs:** 6, 16 and 17.

Reporting note. The mappings are thematic. A BAHDA household measure is not described as an official NDP III, Agenda 2063 or SDG indicator unless the definition, eligible population and denominator are equivalent.

How to Read This Atlas

Weighted estimate	The principal district-level estimate produced with the normalised household weight wgt. Weighting adjusts the contribution of the six strata.
Unweighted estimate	The observed sample distribution before weighting. It shows what was recorded among the interviewed households.
Weighted count	A normalised analytical count. It may contain decimals and is not an observed number of interviews.
Eligible denominator	The valid base for an indicator. Some questions apply only to households with children, recent births, livestock, internet access or another qualifying condition.
Percentage of cases	For multiple-response questions, the percentage of eligible households selecting an option. Percentages may exceed 100 when added because one household may select several options.
Percentage of responses	The share of all selections represented by an option. These percentages sum to approximately 100 across the options.
Heatmap	A coordinated weighted and unweighted comparison across residence, wealth quintile, sex of household head or original sampling stratum.
Comparability A	A Borama–Awdal–Somaliland measure with closely aligned definition and unit.
Comparability B	A measure compared after transparent category or definition harmonisation.
Comparability C	A contextual comparison in which the unit, eligible population or reference period differs materially.
Development implication	A concise planning interpretation. It is not a causal claim and should be read with the evidence and limitations.
Section tables	All detailed item tables appear at the end of their relevant section so that the narrative and figures remain easy to follow.
Detailed table identifiers	Item-level table identifiers retain the original BAHDA Pillar-Section-Item coding rather than the book chapter number. For example, a table labelled 5.1.2 may appear in Chapter 7 because Chapter 7 reports Pillar 5, Governance and Basic Services. This preserves traceability between the questionnaire, analytical files, tables and reproducibility package.
Photographic plate	An approved real-life image documenting validation, training, fieldwork, analysis or dissemination. Captions and publication permissions have been confirmed institutionally.

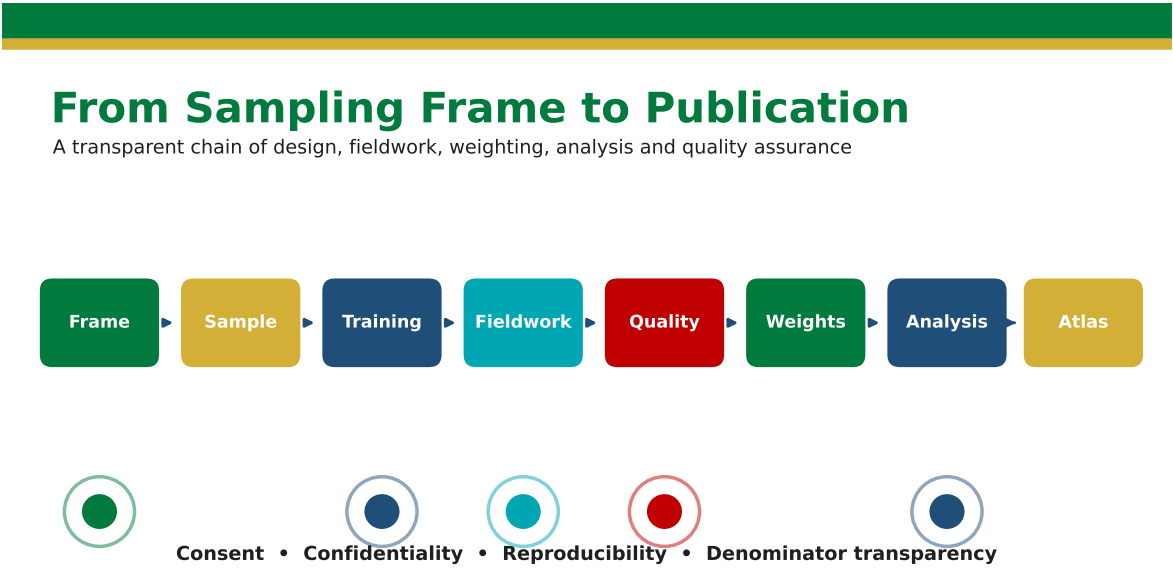


Figure 2. Evidence From Design to Development Action

Acronyms and Abbreviations

Acronym / term	Meaning
Agenda 2063	African Union Agenda 2063: The Africa We Want
ANC	Antenatal Care
ARK	Archival Resource Key
AU	Amoud University or African Union, according to context
BAHDA	Borama Amoud Household Development Assessment
CAPI	Computer-Assisted Personal Interviewing
CI	Confidence Interval
CIESIN	Center for International Earth Science Information Network
CFL	Compact Fluorescent Lamp
CrI	Credible Interval
DHS	Demographic and Health Survey
DOI	Digital Object Identifier
ECE	Early Childhood Education
ESS	Effective Sample Size
FIES	Food Insecurity Experience Scale
FAO	Food and Agriculture Organization of the United Nations
GHS-POP	Global Human Settlement Layer Population Grid
GHSL	Global Human Settlement Layer
GHSL-WUP-POP	Global Human Settlement Layer-World Urbanization Prospects Population Grid
GIS	Geographic Information System
GPS	Global Positioning System
GPW / GPWv4	Gridded Population of the World / Version 4
HH	Household
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IHBS	Integrated Household Budget Survey
IOM	Infant Oral Mutilation
IRB	Institutional Review Board
GSMA	GSM Association
LED	Light-Emitting Diode
LFT	Liver Function Test
LPG	Liquefied Petroleum Gas
MCH	Maternal and Child Health
MCMC	Markov Chain Monte Carlo
MUAC	Mid-Upper Arm Circumference
NAR	Net Attendance Ratio
NCD	Non-Communicable Disease
NDP III	Somaliland National Development Plan III, 2023–2027
ODK	Open Data Kit
PCA	Principal Components Analysis
PSA	Prostate-Specific Antigen

Acronym / term	Meaning
PNC	Postnatal Care / Check
PSU	Primary Sampling Unit
PV	Photovoltaic
QA	Quality Assurance
RIC	Research and Innovation Center
SDGs	United Nations Sustainable Development Goals
SEN	Special Educational Needs
SLHDS	Somaliland Health and Demographic Survey 2020
SME	Small and Medium Enterprise
SNBS	Somalia National Bureau of Statistics
TB	Tuberculosis
TVET	Technical and Vocational Education and Training
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USD	United States Dollar
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WUP	World Urbanization Prospects

Contents

Publication Information	iii
Message from the President	v
Message from the Vice President for Academic Affairs and Research	vi
Message from the Director, Research and Innovation Center	vii
Foreword	viii
Acknowledgements	ix
Expert Reviewers	x
Ethical Conduct and Community Respect	xi
Data Access, Confidentiality and Responsible Reuse	xii
Executive Summary	xiii
Policy Alignment at a Glance	xxii
How to Read This Atlas	xxiv
Acronyms and Abbreviations	xxvi
List of Tables	xxxiii
List of Figures	xl
List of Maps	xlvi
List of Photographic Plates	xlvi
1 Introduction	1
Chapter Overview	2
1.1 Borama within Awdal Region	3
1.2 Why Local Household Evidence Was Needed	3
1.3 Origin and Institutional Rationale of BAHDA-2026	4
1.4 Geographic and Sampling Framework	4
1.4.1 The six operational strata	5
1.5 Why a Model-Assisted Household Frame Was Required	6
1.6 Three Connected Forms of Evidence	6
1.7 Purpose and Objectives	7
1.8 The Five-Pillar Development Framework	7
1.9 Development and Evidence Context	8
1.10 From Household Evidence to Development Action	9
1.11 Scope, Intended Users and Boundaries of Inference	10
1.12 Organisation of the Atlas	10

1.13	Chapter Summary	11
2	Methodology	12
	Chapter Overview	13
2.1	Methodological Overview	14
2.2	Study Design and Study Area	15
2.3	Target Population, Eligibility and Units of Analysis	15
2.4	Construction of the Corrected Geographic Framework	15
2.5	International Gridded Population Inputs	17
2.6	GPWv4 Reference-Year Adjustment	18
2.7	Raster Preparation and Populated-Cell Extraction	18
2.8	BAHDA GPS Anchors and Nearest-Stratum Assignment	18
2.9	GPS Quality Assurance and Spatial Uncertainty	19
2.10	Population Aggregation by Product and Stratum	19
2.11	Conversion from Population to Households	19
2.12	Balancing the Four Product Families	20
2.13	Final BAHDA GPS Local Ensemble	20
2.14	Comparison of the Eight Principal Estimates	20
2.15	Final Estimates by Six Strata	21
2.16	Bayesian Robustness and Uncertainty Validation of the Population Frame	22
2.16.1	Four-Family Evidence Structure	23
2.16.2	Posterior Simulation and Household-Size Propagation	23
2.16.3	Principal Bayesian Validation Result and Concordance	24
2.16.4	MCMC Diagnostics	25
2.16.5	Prior-Sensitivity Analysis	26
2.16.6	Leave-One-Family-Out Sensitivity	26
2.16.7	Explicit Separation of Population-Estimation Uncertainty	27
2.16.8	Reproducibility and Publication Rule	28
2.17	Sample Size and Operational Reserve	28
2.18	Sampling Structure and Household Selection	28
2.19	Achieved Sample Distribution	29
2.20	Construction of the Analytical Weights	30
2.21	Demonstrated Effect of Weighting	31
2.22	Questionnaire Development, Validation and Translation	31
2.23	Training, Piloting and Field Preparation	32
2.24	Digital Data Collection and Field Implementation	32
2.25	Field Supervision and Quality Assurance	35
2.26	Data Management and Harmonisation	35
2.27	Derived Indicators	35
2.28	Corrected Multiple-Response Analysis	36
2.29	Statistical Analysis and Reporting	36
2.30	Somaliland Benchmark Harmonisation	37
2.31	Ethical Considerations and Confidentiality	37
2.32	Methodological Strengths and Limitations	38
2.33	Reproducibility and Future Improvements	38
2.34	Detailed Methodological Tables	40
2.35	Chapter Summary	44
3	Social Development	45
	Chapter Overview	47
3.1	Household Demographics and Population Profile	47
	Detailed tables: Household Demographics and Population Profile	51
3.2	Education, Literacy and School Participation	53
	Detailed tables: Education, Literacy and School Participation	57

3.3	Skills, Training and Learning Opportunities	61
	Detailed tables: Skills, Training and Learning Opportunities	64
3.4	Employment, Livelihoods and Income Sources	65
	Detailed tables: Employment, Livelihoods and Income Sources	69
3.5	Disability, Inclusion and Social Protection	71
	Detailed tables: Disability, Inclusion and Social Protection	75
3.6	Food Security and Household Vulnerability	77
	Detailed tables: Food Security and Household Vulnerability	81
3.7	Chapter Inequality Synthesis	84
4	Health Development	88
	Chapter Overview	90
4.1	General Health, Chronic Disease and Care Access	90
	Detailed tables: General Health, Chronic Disease and Care Access	94
4.2	Maternal, Newborn and Child Health	98
	Detailed tables: Maternal, Newborn and Child Health	102
4.3	Nutrition, Mental Well-Being and Public Health Risks	109
	Detailed tables: Nutrition, Mental Well-Being and Public Health Risks	113
4.4	Pharmacy, Laboratory and Diagnostic Services	116
	Detailed tables: Pharmacy, Laboratory and Diagnostic Services	120
4.5	Oral Health	129
	Detailed tables: Oral Health	133
4.6	Chapter Inequality Synthesis	139
5	Economic Development	142
	Chapter Overview	144
5.1	Enterprise and Business Development	144
	Detailed tables: Enterprise and Business Development	148
5.2	Financial Inclusion, Savings and Credit	149
	Detailed tables: Financial Inclusion, Savings and Credit	153
5.3	Household Assets, Expenditure and Economic Resilience	154
	Detailed tables: Household Assets, Expenditure and Economic Resilience	158
5.4	Agriculture, Livestock and Productive Resources	160
	Detailed tables: Agriculture, Livestock and Productive Resources	166
5.5	Chapter Inequality Synthesis	172
6	Technology, Infrastructure and Environment	175
	Chapter Overview	177
6.1	ICT Access, Internet and Digital Readiness	177
	Detailed tables: ICT Access, Internet and Digital Readiness	181
6.2	Digital Skills, Online Work and Innovation	184
	Detailed tables: Digital Skills, Online Work and Innovation	187
6.3	Housing and Settlement Conditions	189
	Detailed tables: Housing and Settlement Conditions	193
6.4	Energy, Roads, Transport and Urban Infrastructure	198
	Detailed tables: Energy, Roads, Transport and Urban Infrastructure	201
6.5	Environment, Climate and Resilience	204
	Detailed tables: Environment, Climate and Resilience	209
6.6	Chapter Inequality Synthesis	211
7	Governance and Basic Services	215
	Chapter Overview	217
7.1	Civic Awareness and Community Participation	217
	Detailed tables: Civic Awareness and Community Participation	220

7.2	Legal Awareness, Rights and Justice Access	221
	Detailed tables: Legal Awareness, Rights and Justice Access	225
7.3	Community Safety, Protection and Accountability	228
	Detailed tables: Community Safety, Protection and Accountability	231
7.4	Basic Services, WASH and Local Accountability	234
	Detailed tables: Basic Services, WASH and Local Accountability	239
7.5	Digital Public Services and Future Preferences	241
	Detailed tables: Digital Public Services and Future Preferences	244
7.6	Chapter Inequality Synthesis	244
8	Borama in the Somaliland Development Context	248
	Chapter Overview	250
8.1	Purpose and Policy Relevance of the Benchmark	250
8.2	Sources and Comparability Framework	251
8.3	Human Capability and Household Participation	253
8.4	Economic Inclusion and Household Resilience	256
8.5	Food-Security Access and Dietary Quality	259
8.6	Severe Food Insecurity and Household Health Burden	262
8.7	Health Access, Protection and Household Energy	265
8.8	Water, Sanitation and Digital Inclusion	269
8.9	Overall Benchmark Interpretation	272
9	Cross-Pillar Inequalities and Household Vulnerability	276
	Chapter Overview	277
9.1	Purpose and Analytical Framework	278
9.2	Inequality by Residence	278
9.3	Inequality by Wealth Quintile	279
9.4	Inequality by Sex of Household Head	280
9.5	Inequality by Sampling Stratum	281
9.6	Intersecting Household Vulnerability	281
9.7	Priority Population Groups and Development Packages	282
9.8	Monitoring Cross-Pillar Inequality	282
10	Spatial Development Patterns and Priority Areas	285
	Chapter Overview	286
10.1	Spatial Analytical Approach	286
10.2	The Six-Stratum Development System	287
10.3	Urban Development Patterns	287
10.4	Peri-Urban Development Patterns	288
10.5	Rural Development Patterns	288
10.6	Cross-Pillar Stratum Patterns	288
10.7	Integrated Spatial Priority Typology	288
10.8	Future Spatial Monitoring	289
11	Policy Alignment and Development Action Framework	291
	Chapter Overview	292
11.1	Purpose and Principles of Policy Alignment	292
11.2	Alignment with Somaliland National Development Plan III	293
11.3	Alignment with African Union Agenda 2063	293
11.4	Alignment with the Sustainable Development Goals	293
11.5	Immediate Development Priorities	294
11.6	Medium-Term Structural Priorities	294
11.7	Institutional Responsibilities	294
11.8	Development Action Framework	295

11.9	Proposed Monitoring Architecture	296
12	Conclusions and the Future BAHDA Agenda	299
12.1	Principal Lessons	300
12.2	What the Evidence Means for Borama	300
12.3	The Continuing Role of Amoud University	301
12.4	Future BAHDA Rounds	301
12.5	A Borama Development Observatory	301
12.6	Dissemination, Public Use and Accountability	302
12.7	Final Conclusion	303
A	Detailed Sampling Design and Field Organisation	304
A.1	Operational frame	304
A.2	Household selection	304
A.3	Consent and achieved sample	304
A.4	Recommended improvements for future rounds	304
B	Model-Assisted Population and Household Estimation	306
B.1	Rationale	306
B.2	Data families and aggregation	306
B.3	Bayesian robustness validation	306
B.4	Sensitivity and limitations	306
C	Survey Weighting, Normalisation and Verification	307
C.1	Weight variables	307
C.2	Use in the Atlas	307
C.3	Verification	307
D	Data Quality, Validation, Disclosure Control and Reproducibility	308
D.1	Quality-control sequence	308
D.2	Multiple-response correction	308
D.3	Disclosure control	308
D.4	Reproducibility	308
E	Corrected Multiple-Response Analysis and Quality Control	309
F	Complete BAHDA-2026 Indicator and Item Framework	310
G	Photographic Plates, Permissions and Credits	324
H	Somaliland Benchmark Harmonisation Register	325
H.1	Interpretation Rules	327
I	Detailed NDP III, Agenda 2063 and SDG Alignment Matrix	328
I.1	Use of the matrix	329
J	Data Access, Reproducibility and Citation Guidance	330
J.1	Public materials	330
J.2	Restricted materials	330
J.3	Reproducible workflow	330
J.4	Citation	330
K	Contributor and Institutional Role Register	331
	Glossary	332
	References	336

List of Tables

1.1	Forms of evidence used in BAHDA-2026	6
1.2	BAHDA-2026 five-pillar framework	7
2.1	Primary BAHDA estimate and Bayesian robustness synthesis	24
2.2	Prior-sensitivity analysis of the Bayesian population synthesis	26
2.3	Leave-one-population-family-out Bayesian sensitivity analysis	27
2.4	District population and household totals by model family	27
2.5	Population-estimation uncertainty framework	28
2.6	BAHDA-2026 design and operational profile	40
2.7	Seven gridded population products used in the BAHDA ensemble	40
2.8	Adjustment of the GPWv4 2020 surface to the 2025 reference period	40
2.9	Observed household size used for stratum-specific conversion	40
2.10	GPS inside-outside quality-assurance summary	41
2.11	Seven-source population and household estimates by BAHDA stratum	41
2.12	District totals from the seven international population products	43
2.13	Product-family median household estimates by stratum	43
2.14	Final BAHDA household and population estimates by six strata	43
2.15	Model-assisted frame, achieved sample and final analytical weights	44
2.16	Operational completion and consent profile	44
1.1.1	Respondent Sex	51
1.1.2	Respondent Age	51
1.1.3	Respondent Relationship to Household Head	52
1.1.4	Sex of Household Head	52
1.1.5	Age of Household Head	52
1.1.6	Marital Status of Head	52
1.1.7	Household Size	53
1.1.8	Education of Household Head	53
1.2.1	School Attendance Among Children	57
1.2.2	Reasons for School Non-Attendance	57
1.2.4	Type of Primary School	58
1.2.6	Distance to School	58
1.2.7	School Meal Support	58
1.2.8	Perceived School Safety	58
1.2.9	Adult Literacy Within the Household	59
1.2.10	Post-Primary Education Within the Household	59
1.2.11	Home Learning Materials	59
1.2.12	Teaching Quality	59
1.2.13	Educational Internet Access	60
1.2.14	Tutoring and Remedial Support	60
1.2.15	Gender Equality in School Encouragement	60
1.2.16	Travel Mode to School	60
1.2.17	Main Medium of Instruction	61
1.2.18	Early Childhood Education Attendance	61
1.3.1	Youth Vocational Training Completion	64
1.3.2	Demand for Further Education and Skills	65

1.3.3	Access to Skills and Employment Information	65
1.3.4	Satisfaction With Educational Opportunities	65
1.4.1	Employment Status of Household Head	69
1.4.2	Primary Household Income Source	69
1.4.4	Primary Earner Employment	70
1.4.5	Household Remittance Receipt	70
1.4.6	Importance of Remittances	70
1.4.7	Adult Unemployment Experience	70
1.4.8	Local Economic Environment Satisfaction	71
1.5.1	Household Disability Prevalence	75
1.5.2	Disability-Related Barriers	75
1.5.3	Household Accessibility Features	75
1.5.5	Children With Disability or Special Needs	76
1.5.6	Type of Child Disability	76
1.5.7	School Attendance of Children With Disability	76
1.6.1	Household Residential Mobility	81
1.6.2	Concern About Insufficient Food	82
1.6.3	Inability to Afford Healthy Food	82
1.6.4	Limited Dietary Diversity	82
1.6.5	Meal Skipping	82
1.6.6	Reduced Food Intake	83
1.6.7	Your Household Run Out of Food Entirely	83
1.6.8	Hunger Without Eating	83
1.6.9	You Go A Whole Day Without Eating	83
1.6.10	Daily Meals	83
1.6.11	Main Household Food Sources	84
1.6.12	Food-Shortage Coping Strategies	84
2.1.1	Adult Hypertension Diagnosis	94
2.1.2	Adult Diabetes Diagnosis	94
2.1.3	Daily Use of Chronic-Disease Medication	94
2.1.4	Chronic Pain in the Household	95
2.1.5	Preference for Traditional or Formal Care	95
2.1.7	Household Health-Monitoring Device	95
2.1.8	Need for Surgery	95
2.1.9	If Surgery Was Needed, Was It Performed	96
2.1.10	Barriers to Required Surgery	96
2.1.12	Location of Surgery or Emergency Care	96
2.1.13	Emergency Care Use	96
2.1.14	Emergency Care Travel Time	97
2.1.15	Perceived Availability of Doctors	97
2.1.17	Child Developmental Delay	97
2.1.18	The Household Have Any Form of Health Insurance	97
2.1.19	Satisfaction With Doctors	97
2.2.1	Recent Pregnancy or Live Birth	102
2.2.2	Children Under Five in the Household	102
2.2.3	Children Under Two in the Household	102
2.2.4	Number of Pregnancies	103
2.2.5	Antenatal Care Visits	103
2.2.6	Pregnancy Danger-Sign Information	103
2.2.7	Maternal Supplement Use	103
2.2.8	Distance to Nearest Maternity or MCH Clinic	104
2.2.9	Maternal Transport to A Health Facility	104
2.2.10	Source of Pregnancy Advice	104

2.2.11	Place of Delivery	104
2.2.13	Delivery Assistance	105
2.2.14	Newborn Condition After Delivery	105
2.2.15	Newborn Birth Weight	105
2.2.16	Was A Postnatal Check-up (PNC) Conducted for Both Mother	106
2.2.17	Use of Traditional Herbs During Labour	106
2.2.18	Newborn Loss	106
2.2.19	Exclusive Breastfeeding	106
2.2.20	All Children Under 5 in Household Fully Vaccinated (check	107
2.2.21	First Response to Childhood Illness	107
2.2.22	Child Growth-Chart Availability	107
2.2.23	Household First-Aid Knowledge	107
2.2.24	Modern Family-Planning Knowledge and Use	108
2.2.25	Reasons for Non-Use of Family Planning	108
2.2.26	Trust in Midwifery Advice	108
2.2.27	Respectful Maternity Care	108
2.2.28	Satisfaction with Nursing Care	109
2.3.1	Household Epilepsy Prevalence	113
2.3.2	Unusual Behaviour or Psychotic Symptoms	113
2.3.3	Depression or Anxiety	113
2.3.4	Anaemia Diagnosis	114
2.3.5	Stroke Warning-Sign Knowledge	114
2.3.6	Daily Tobacco or Khat Use	114
2.3.7	You Aware of Any Cancer Screening Services	114
2.3.8	Child MUAC Screening	114
2.3.9	Vitamin A or Deworming	115
2.3.10	Recent Emotional-Distress Frequency	115
2.3.11	Difficulty Relaxing	115
2.3.12	Severe Trauma Experience	115
2.3.13	Perceived Causes of Mental Illness	116
2.3.14	Satisfaction With Public Health Environment	116
2.4.1	Availability of Essential Medicines	120
2.4.2	Distance to the Nearest Licensed Pharmacy	120
2.4.3	Primary Source of Medicines	120
2.4.4	Medicine Affordability Barrier	121
2.4.5	Pharmacy Waiting Time	121
2.4.6	Buy Medicines Without A Doctor's Prescription	121
2.4.7	Medicine-Sharing Practices	121
2.4.8	Early Discontinuation of Medication	122
2.4.9	Knowledge of Antibiotic Resistance	122
2.4.10	Traditional Medicine Use	122
2.4.11	Checking Medicine Expiry Dates	122
2.4.12	Awareness of Counterfeit Medicines	122
2.4.13	Safe Home Medicine Storage	123
2.4.14	Disposal of Unused Medicines	123
2.4.15	Adverse Drug Reactions	123
2.4.16	Did You Report It to A Health Professional	123
2.4.17	Medicine-Use Counselling	124
2.4.18	Readability of Medicine Labels	124
2.4.19	Trust in Pharmacist Advice	124
2.4.20	Satisfaction With Pharmacy Services	124
2.4.21	Perceived Benefit of Early Laboratory Testing	125
2.4.22	Frequency of Laboratory Testing	125

2.4.23	Barriers to Laboratory Testing	125
2.4.24	Preparedness for Infectious-Disease Outbreaks	125
2.4.25	Adult HIV or TB Screening	126
2.4.26	Hepatitis B Testing	126
2.4.27	Laboratory Testing for Fever	126
2.4.28	Awareness of Unsafe Laboratory Practices	126
2.4.29	HbA1c Testing Among Adults with Diabetes	127
2.4.30	Fasting Instructions for Blood Tests	127
2.4.31	Kidney-Function Testing	127
2.4.32	Liver-Function Testing	127
2.4.33	Anaemia Testing and Diagnosis	127
2.4.34	Cancer-Screening Tests	128
2.4.35	Rh Blood-Type Testing Awareness	128
2.4.36	Blood Donation	128
2.4.37	Other Laboratory Tests	128
2.4.39	Trust in Private Laboratory Results	129
2.4.40	Laboratory Hygiene	129
2.5.1	Infant Oral Mutilation	133
2.5.2	Children Affected by Infant Oral Mutilation	134
2.5.3	Reasons for Infant Oral Mutilation	134
2.5.4	Perceived Danger of Infant Oral Mutilation	134
2.5.5	Has Any Household Member Avoided Seeking	135
2.5.6	Reasons for Not Seeking Dental Care	135
2.5.7	Preferred Source of Dental Care	135
2.5.8	Dental-Care Avoidance Due to Fear	135
2.5.9	Knowledge of Sugar-Related Dental Risk	136
2.5.10	Tooth-Brushing Frequency	136
2.5.11	Night-Time Tooth Brushing	136
2.5.12	Recommended Age to Start Tooth Brushing	136
2.5.13	Dental Caries Experience	137
2.5.14	Perceived Causes of Dental Caries	137
2.5.15	Teeth Affected by Dental Caries	137
2.5.16	Dental-Caries Prevention	137
2.5.17	Preferred Dental-Caries Treatment	138
2.5.18	Dental Pain Affecting Daily Activities	138
2.5.19	Eating Limitations From Dental Caries	138
2.5.20	Smile Impact of Dental Caries	138
2.5.21	Oral Health and Quality of Life	138
3.1.1	Household Member Own	148
3.1.2	Biggest Challenge Facing Household's	148
3.1.4	Business Financial Records	149
3.1.5	Business Tax or Licence Payment	149
3.1.6	Market Access for Household Businesses	149
3.2.1	Formal Financial-Institution Use	153
3.2.2	Your Household Use Mobile Money Services	153
3.2.3	Adult Household Member Regularly Save Money	153
3.2.4	Household Loan or Credit Use	154
3.2.5	Financial Literacy of Household Head	154
3.3.1	Household Ownership of A Radio or Television	158
3.3.2	Refrigerator or Freezer Ownership	158
3.3.3	Modern Bed Ownership	158
3.3.4	Electric or Gas Stove Ownership	159
3.3.5	Private Vehicle Ownership	159

3.3.6	Household Ownership of A Motorbike or Bicycle	159
3.3.7	Average Monthly Household Expenditure	159
3.3.8	Severity of Rising Food and Fuel Prices	160
3.3.9	Recent Household Economic Shock	160
3.3.10	Confidence in the Household Economic Future	160
3.4.1	Access to Agricultural Land	166
3.4.2	Agricultural Land Size	166
3.4.3	Primary Agricultural Activity	167
3.4.4	Main Crops Cultivated	167
3.4.6	Agricultural Inputs Used	167
3.4.7	Change in Agricultural Production	168
3.4.8	Crop and Post-Harvest Constraints	168
3.4.9	Household Irrigation Use	168
3.4.10	Household Ownership of Livestock	169
3.4.11	Livestock Types Owned	169
3.4.12	Cattle Ownership Count	169
3.4.13	Sheep and Goat Ownership Count	169
3.4.14	Camel Ownership Count	170
3.4.15	Donkey Ownership Count	170
3.4.16	Poultry Ownership Count	171
3.4.17	Main Livestock Problems	171
3.4.19	Agricultural and Livestock Water Source	171
4.1.1	Basic Mobile-Phone Ownership	181
4.1.2	Household Smartphone Ownership	181
4.1.3	Number of Working Mobile Phones	181
4.1.4	Number of Working Smartphones	182
4.1.5	Household Computer or Tablet Ownership	182
4.1.6	Home Internet Access Route	182
4.1.7	Internet Reliability	183
4.1.8	Internet-Cost Barrier	183
4.1.9	Daily Internet Use by Main User	183
4.2.1	Household Member Aged 15	187
4.2.2	Gender Equality in Digital Access	187
4.2.3	Internet Use for Business	187
4.2.4	Internet Use for Health Information	188
4.2.5	Rating of the Digital Literacy of Household Head, Such As	188
4.2.6	Internet-Enabled Employment Opportunities	188
4.2.8	Demand for Digital Skills	188
4.2.9	Do Household Members Take Steps to Protect Their Online	189
4.2.10	Do Household Members Feel Confident in Evaluating Whether	189
4.3.1	The Household's Dwelling Owned	193
4.3.2	Residency Certificate or Land Title	193
4.3.3	Building Age	193
4.3.4	External Wall Material	194
4.3.5	Main Material Used for the Roof	194
4.3.6	Perceived Structural Safety of the Home	194
4.3.7	Structural Cracks	194
4.3.8	Household Dampness	195
4.3.9	Professional Home Repairs	195
4.3.10	Housing Engineering Quality	195
4.3.11	Foundation Material	195
4.3.12	Window and Door Materials	196
4.3.13	Electrical Wiring Safety	196

4.3.14	Housing Construction Guidance	196
4.3.15	Major Structural Damage	196
4.3.16	Indoor Heat Conditions	197
4.3.17	Indoor Cold Conditions	197
4.3.18	Main Material of the Floor Inside the House	197
4.4.1	Primary Household Electricity Source	201
4.4.2	Daily Electricity Availability	201
4.4.3	Primary Fuel Used for Cooking	202
4.4.4	Household Solar-PV Use	202
4.4.5	Energy-Efficient Lighting	202
4.4.6	Proximity to a Paved Road	202
4.4.7	Traffic-Related House Vibration	203
4.4.8	Access to Public Transport	203
4.4.9	Satisfaction with Urban Planning	203
4.4.10	Functional Neighbourhood Drainage	203
4.4.11	Functional Streetlight Availability	204
4.4.12	Household Flooding or Rainwater Intrusion	204
4.5.1	Noticed Changes in Weather Patterns Over the Last 10	209
4.5.2	Observed Climate Changes	209
4.5.3	Satisfaction With Agricultural Support	210
4.5.4	Household Climate Impacts	210
4.5.5	Adopted Any Adaptation Measures	210
4.5.6	Household Adaptation Measures	210
4.5.7	Local Environmental Problems	211
5.1.1	Electoral and Community Participation	220
5.1.2	Satisfaction with Local-Government Transparency	221
5.2.1	Knowledge of Basic Legal Rights	225
5.2.2	Knowledge of Somaliland's Constitution	225
5.2.3	Awareness of Equality Before the Law	226
5.2.4	Know Where to Go If Your Rights Are Violated	226
5.2.5	Understanding of Basic Islamic Inheritance	226
5.2.6	Affordable Legal-Aid Access	226
5.2.7	Perceived Fairness of Formal Courts	227
5.2.8	Household Civic Documents	227
5.2.9	Ever Needed Civic Documents for A Court Case	227
5.2.10	Type of Legal Case	227
5.3.1	Preferred Legal-Dispute Resolution Mechanism	231
5.3.3	Major Household Dispute (Last 12 Months)	231
5.3.4	Dispute-Resolution Mechanism	232
5.3.6	Emotional Stress from Online Interactions	232
5.3.7	Online Harassment and Scam Exposure	232
5.3.8	Water or Grazing-Land Conflict	232
5.3.9	Household Victimization	233
5.3.10	Crime Reporting	233
5.3.11	Feel Safe in Your Community	233
5.3.12	Trust in Local Police	233
5.3.13	Main Security Concerns in Your Area	234
5.3.15	Other Security Concerns - Open Text	234
5.4.1	Primary Source of Drinking Water	239
5.4.2	Primary Type of Toilet Facility	239
5.4.3	Treat Your Water to Make It Safe to Drink	240
5.4.4	Are Water and Soap Both Present at the Handwashing Place	240
5.4.5	Child-Faeces Disposal Method	240

5.4.6	Primary Household Solid-Waste Disposal Method	240
5.4.7	Primary Method for Wastewater/sewage Disposal	241
5.4.8	Internal Household Plumbing	241
5.5.1	Preference for Online Government Services	244
8.2	Human Capability Benchmarks	256
8.3	Economic Inclusion Benchmarks	259
8.4	Food-Security and Diet Benchmarks	262
8.5	Severe Food Insecurity and Health Burden	265
8.6	Health Access, Protection and Energy	269
8.7	WASH and Digital Inclusion Benchmarks	272
8.1	Somaliland Benchmark Dashboard	272
9.1	Cross-Pillar Inequality Gaps	282
10.1	Spatial Gaps Across Sampling Strata	289
11.1	Integrated Policy-Alignment Matrix	296
H.1	Somaliland Benchmark Harmonisation Register	325
I.1	Detailed Policy-Alignment Matrix	328

List of Figures

1	Three-Level Policy Alignment	xxii
2	Evidence From Design to Development Action	xxv
1.1	Borama Household Development Ecosystem	3
1.2	Five-pillar development framework	8
1.3	National, continental and global policy alignment	9
1.4	Household evidence-to-action pathway	10
1.5	BAHDA-2026 atlas architecture	11
2.1	BAHDA GPS-Derived Six-Strata Estimation Zones	16
2.2	BAHDA-2026 Final 96-Cluster Sampling Framework	17
2.3	Seven international household estimates and the BAHDA GPS local ensemble	21
2.4	Final BAHDA GPS household estimate by six strata	22
2.5	Primary BAHDA population estimate and Bayesian robustness layer	24
2.6	Posterior concordance with the primary BAHDA population estimate	25
2.7	Four-chain Bayesian trace diagnostic	26
2.8	Achieved consented sample by sampling stratum	29
2.9	Estimated household distribution and achieved sample allocation	30
2.10	Normalized six-stratum analytical weights	30
2.11	Effect of weighting on the residence distribution	31
2.12	Fieldwork and quality-assurance workflow	33
2.13	Corrected multiple-response analysis	36
2.14	Weighted, unweighted and subgroup analysis	37
3.1	Social Development Framework	47
3.2	Household Size	49
3.3	Sex of Household Head	49
3.4	Respondent Sex	50
3.5	Respondent Age	50
3.6	Highest Level of Education Completed by the Household Head	51
3.7	School Attendance Among Children	55
3.8	Adult Literacy Within the Household	55
3.9	Reasons for School Non-Attendance	56
3.10	Distance from Home to the Nearest School Children Attend (in km)	56
3.11	Type of Primary School	57
3.12	Youth Vocational Training Completion	62
3.13	Demand for Further Education and Skills	63
3.14	Access to Skills and Employment Information	63
3.15	Satisfaction With Educational Opportunities	64
3.16	Section 1.3 Indicator Profile	64
3.17	Employment Status of Household Head	67
3.18	Primary Household Income Source	67
3.19	Adult Unemployment Experience	68
3.20	Household Remittance Receipt	68
3.21	Importance of Remittances	69
3.22	Household Disability Prevalence	72
3.23	Disability-Related Barriers	72

3.24	Children With Disability or Special Needs	73
3.25	Type of Child Disability	73
3.26	School Attendance of Children With Disability	74
3.27	Household Accessibility Features	74
3.28	Concern About Insufficient Food	78
3.29	Meal Skipping	78
3.30	Household Residential Mobility	79
3.31	Inability to Afford Healthy Food	80
3.32	Limited Dietary Diversity	80
3.33	Main Household Food Sources	81
3.34	Food-Shortage Coping Strategies	81
3.35	Social Development indicators by Residence	85
3.36	Social Development indicators by Wealth Quintile	85
3.37	Social Development indicators by Sex of Household Head	86
3.38	Social Development indicators by Sampling Stratum	86
4.1	Health Development Framework	90
4.2	Adult Hypertension Diagnosis	92
4.3	Adult Diabetes Diagnosis	92
4.4	Daily Use of Chronic-Disease Medication	93
4.5	Chronic Pain in the Household	93
4.6	Preference for Traditional or Formal Care	94
4.7	Antenatal Care Visits	99
4.8	Place of Delivery	100
4.9	Recent Pregnancy or Live Birth	101
4.10	Children Under Five in the Household	101
4.11	Children Under Two in the Household	102
4.12	Depression or Anxiety	110
4.13	Daily Tobacco or Khat Use	111
4.14	Household Epilepsy Prevalence	112
4.15	Unusual Behaviour or Psychotic Symptoms	112
4.16	Anaemia Diagnosis	113
4.17	Availability of Essential Medicines	118
4.18	Medicine Affordability Barrier	118
4.19	Distance to the Nearest Licensed Pharmacy	119
4.20	Primary Source of Medicines	119
4.21	Pharmacy Waiting Time	120
4.22	Main Oral-Health Results: Self-Reported Dental Caries Experience and Household Infant Oral Mutilation	131
4.23	Perceived Danger of Infant Oral Mutilation	131
4.24	Dental-Care Avoidance	132
4.25	Children Affected by Infant Oral Mutilation	133
4.26	Reasons for Infant Oral Mutilation	133
4.27	Health Development indicators by Residence	139
4.28	Health Development indicators by Wealth Quintile	140
4.29	Health Development indicators by Sex of Household Head	140
4.30	Health Development indicators by Sampling Stratum	141
5.1	Economic Development Framework	144
5.2	Household Enterprise Ownership	146
5.3	Primary Business Constraint	146
5.4	Business Financial Records	147
5.5	Business Tax or Licence Payment	147
5.6	Market Access for Household Businesses	148
5.7	Formal Financial-Institution Use	151

5.8	Mobile-Money Use	151
5.9	Adult Household Member Regularly Save Money	152
5.10	Household Loan or Credit Use	152
5.11	Financial Literacy of Household Head	153
5.12	Average Monthly Household Expenditure	156
5.13	Severity of Rising Food and Fuel Prices	156
5.14	Household Ownership of A Radio or Television	157
5.15	Refrigerator or Freezer Ownership	157
5.16	Modern Bed Ownership	158
5.17	Access to Agricultural Land	162
5.18	Main Crops Cultivated	162
5.19	Agricultural Land Size	163
5.20	Primary Agricultural Activity	163
5.21	Change in Agricultural Production	164
5.22	Agricultural Inputs Used	164
5.23	Crop and Post-Harvest Constraints	165
5.24	Livestock Types Owned	165
5.25	Main Livestock Problems	166
5.26	Economic Development indicators by Residence	172
5.27	Economic Development indicators by Wealth Quintile	172
5.28	Economic Development indicators by Sex of Household Head	173
5.29	Economic Development indicators by Sampling Stratum	173
6.1	Technology, Infrastructure and Environment Framework	177
6.2	Household Smartphone Ownership	179
6.3	Household Computer or Tablet Ownership	179
6.4	Basic Mobile-Phone Ownership	180
6.5	Number of Working Mobile Phones	180
6.6	Number of Working Smartphones	181
6.7	Income From Online Platforms or Digital Work	185
6.8	Internet Use for Business	185
6.9	Gender Equality in Digital Access	186
6.10	Internet Use for Health Information	186
6.11	Rating of the Digital Literacy of Household Head, Such As	187
6.12	Housing Tenure	191
6.13	Perceived Structural Safety of the Home	191
6.14	Residency Certificate or Land Title	192
6.15	Approximately How Old Is This Building	192
6.16	External Wall Material	193
6.17	Primary Household Electricity Source	199
6.18	Primary Fuel Used for Cooking	199
6.19	Daily Electricity Availability	200
6.20	Household Solar-PV Use	200
6.21	Energy-Efficient Lighting	201
6.22	Observed Changes in Weather Patterns	205
6.23	Household Climate Impacts	206
6.24	Satisfaction With Agricultural Support	207
6.25	Adopted Any Adaptation Measures	207
6.26	Section 4.5 Indicator Profile	207
6.27	Observed Climate Changes	208
6.28	Climate Adaptation Measures	208
6.29	Local Environmental Problems	209
6.30	Infrastructure and Environment by Residence	212
6.31	Infrastructure and Environment by Wealth Quintile	212

6.32	Infrastructure and Environment by Household-Head Sex	213
6.33	Infrastructure and Environment by Sampling Stratum	213
7.1	Governance and Basic Services Framework	217
7.2	Electoral and Community Participation	218
7.3	Satisfaction with Local-Government Transparency	219
7.4	Section 5.1 Indicator Profile	219
7.5	Section 5.1 weighting sensitivity	220
7.6	Participation and accountability cycle	220
7.7	Knowledge of Basic Legal Rights	222
7.8	Household Knowledge of Where to Access Free or Affordable Legal Aid	222
7.9	Knowledge of Somaliland's Constitution among Adult Household Members	223
7.10	Awareness of Equality Before the Law	224
7.11	Know Where to Go If Your Rights Are Violated	224
7.12	Civic Document Ownership	225
7.13	Household Experience of a Major Dispute in the Last 12 Months	229
7.14	Community Safety	229
7.15	Preferred Legal-Dispute Resolution Mechanism	230
7.16	Dispute-Resolution Mechanism	230
7.17	Emotional Stress from Online Interactions	231
7.18	Primary Source of Drinking Water	235
7.19	Primary Type of Toilet Facility	236
7.20	Treat Your Water to Make It Safe to Drink	237
7.21	Water and Soap at the Handwashing Place	237
7.22	Child-Faeces Disposal Method	238
7.23	Primary Method of Wastewater/Sewage Disposal	238
7.24	Internal Household Plumbing	239
7.25	Preference for Online Government Services	242
7.26	Section 5.5 Indicator Profile	242
7.27	Section 5.5 weighting sensitivity	243
7.28	Inclusive digital public-service pathway	243
7.29	Chapter 7 integrated development framework	244
7.30	Governance and Basic Services indicators by Residence	245
7.31	Governance and Basic Services indicators by Wealth Quintile	245
7.32	Governance and Services by Household-Head Sex	246
7.33	Governance and Basic Services indicators by Sampling Stratum	246
8.1	Borama-Awdal-Somaliland benchmark hierarchy	250
8.2	Thirty-Indicator Somaliland Benchmark Dashboard	252
8.3	Average household size	253
8.4	Adult literacy: household and person-level context	254
8.5	School participation: contextual comparison	254
8.6	Household enterprise ownership	255
8.7	Household remittance receipt	255
8.8	Formal financial access	257
8.9	Mobile-money or mobile financial use	257
8.10	Household loan or credit use	258
8.11	Recent household economic shock	258
8.12	Climate-related change or shock	259
8.13	Concern about insufficient food	260
8.14	Unable to afford healthy food	260
8.15	Limited dietary diversity	261
8.16	Meal skipping	261
8.17	Eating less than needed	262
8.18	Household ran out of food	263

8.19	Went hungry	263
8.20	Whole day without eating	264
8.21	Chronic health burden: contextual measures	264
8.22	Disability prevalence: household and person-level context	265
8.23	Medicine or treatment affordability barrier	266
8.24	Health-insurance coverage: contextual measures	267
8.25	Full vaccination: contextual measures	267
8.26	Household electricity access	268
8.27	Clean cooking fuel	268
8.28	Piped drinking water	269
8.29	Improved sanitation facility	270
8.30	Handwashing place with water and soap	270
8.31	Mobile-phone ownership or access	271
8.32	Internet access or use	271
9.1	Cross-Pillar Vulnerability Framework	278
9.2	Cross-Pillar Inequality by Residence	279
9.3	Observed sample distribution by residence	279
9.4	Cross-Pillar Inequality by Wealth Quintile	280
9.5	Cross-Pillar Inequality by Household-Head Sex	280
9.6	Cross-Pillar Patterns by Sampling Stratum	281
9.7	Observed sample distribution by sampling stratum	281
9.8	People, place and service dimensions of vulnerability	282
10.1	Six-stratum public reporting framework	287
10.2	Achieved sample across the six strata	287
10.3	Cross-Pillar Patterns by Sampling Stratum	288
11.1	Three-Level Policy Alignment	293
11.2	Evidence-to-action and accountability sequence	295
11.3	Household Evidence-to-Action Pathway	296
12.1	Future BAHDA development observatory	302
A.1	Stratified Multistage Sampling Process	305

List of Maps

1.1	Geographic and sampling framework of BAHDA-2026 in Borama District	5
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List of Photographic Plates

1.1	Institutional planning and validation of the BAHDA evidence platform	4
2.1	Survey Team Capacity Building and Operational Readiness	32
2.2	Enumerator Deployment and Transport Coordination	33
2.3	Urban Field Deployment Across Selected BAHDA Sampling Strata	34
2.4	Direct institutional field supervision and Supervisory presence during deployment .	34
2.5	Peri-Urban and Rural Field Deployment	35
2.6	RIC technical planning and analytical coordination and Review of analytical outputs and publication evidence	38
11.1	Stakeholder deliberation and interpretation of local evidence	295
12.1	Institutional Leadership and Dissemination of BAHDA-2026	301
12.2	BAHDA-2026 Public Dissemination and Stakeholder Engagement	303



Introduction

Understanding Borama through integrated household and spatial evidence



Chapter 1 at a Glance

Key evidence, inequalities and development implications



Operational geography

6 strata

Four urban, one peri-urban and one rural.



Sampling framework

24 zones / 96 clusters

Six strata with 16 clusters per stratum.



Household evidence

2,896

Consented household interviews retained for analysis.



Population evidence

7 products

Balanced across four international model families.



Planning frame

78,209 households

GPS-calibrated model-assisted estimate.



Estimated residents

626,215

Planning estimate, not a census count.



Development framework

5 pillars

Social, health, economic, infrastructure and governance.



Institutional platform

Amoud University

Research, teaching and community service.

Chapter Overview

BAHDA-2026 was developed to provide Borama with a locally detailed evidence base that connects household well-being, inequality, geography and development action. This chapter establishes the study setting, institutional rationale, six-stratum and 24-zone operational framework, five-pillar architecture and the distinction between survey evidence, weighted estimates and model-assisted planning totals.

The chapter also defines the Atlas's central interpretive boundaries: BAHDA complements rather than

replaces official Somaliland statistics; its household survey is cross-sectional and descriptive; its planning totals are not census counts; and its greatest value lies in revealing local variation that broader averages may conceal.

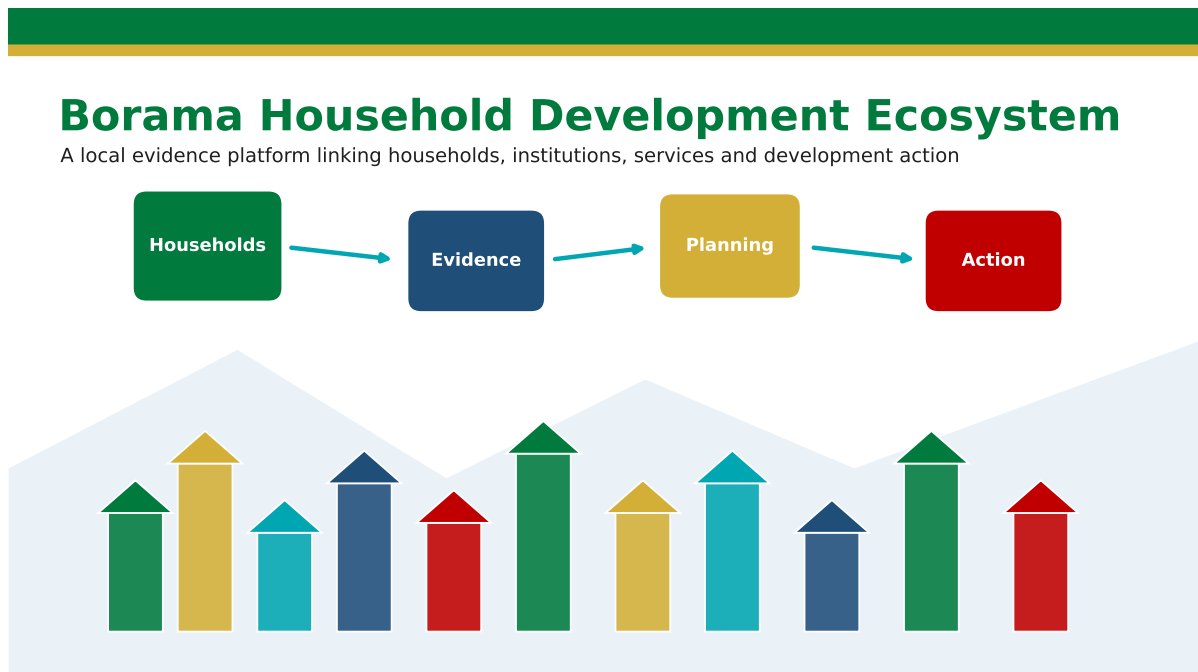


Figure 1.1. Borama Household Development Ecosystem

Note. BAHDA links household evidence to planning and development action through an institutional evidence platform.

1.1 Borama within Awdal Region

Borama is the principal administrative and urban centre of Awdal Region in western Somaliland. It functions as a centre for education, health care, public administration, commerce, transport and community life. Its development system extends beyond the central town. Peri-urban settlements and rural communities are connected to Borama through markets, labour, food supply, livestock, schooling, health care, mobility and public services.

BAHDA-2026 was therefore designed as a household assessment of Borama District's interconnected urban, peri-urban and rural development space. The assessment does not treat the urban core as an isolated settlement. It recognises that household opportunities and constraints are shaped by movement between the town, the surrounding peri-urban belt and the outward rural corridors.

1.2 Why Local Household Evidence Was Needed

National and regional statistics remain indispensable. The Somaliland Health and Demographic Survey 2020 and the Somaliland Integrated Household Budget Survey 2022 provide important evidence on population, household characteristics, education, health, livelihoods, housing, WASH, assets, shocks and digital access. BAHDA complements rather than replaces these official sources.[5, 6]

Local planning, however, requires a finer geographic and thematic resolution. A regional or district average can conceal large differences between settlement types and household groups. It may not show whether a constraint is concentrated in the four urban Sheikh strata, in the peri-urban belt, along rural corridors, among lower-wealth households or within households facing disability, food insecurity or weak service access.

BAHDA-2026 responds to this evidence gap by integrating a large household survey, a GPS-supported spatial framework, model-assisted household totals, weighted district estimates, subgroup comparisons and policy-oriented interpretation. Its added value is local granularity: it connects the conditions households report with the geographic and institutional systems through which development action is organised.

1.3 Origin and Institutional Rationale of BAHDA-2026

The assessment was coordinated by the Amoud University Research and Innovation Center. Academic units contributed questionnaire content from their disciplinary areas. Deans, faculty members and the BAHDA Task Force reviewed and harmonised the modules. The instrument was translated into Somali and programmed in KoboToolbox. Supervisors and student enumerators were trained, field procedures were piloted, and the final household data were processed through a common analytical system.

This institutional model links teaching, research and community service. It also responds to a practical limitation of fragmented studies: separate projects may repeat background questions, use incompatible definitions and generate outputs that cannot be combined. BAHDA creates a shared household platform with common geographic identifiers, weights, indicators, tables and reproducible analytical procedures.

The platform can support the Atlas, policy briefs, dashboards, postgraduate research, peer-reviewed publications and future monitoring rounds. Its role is not to substitute for government statistics. It adds a transparent local evidence layer that can strengthen planning, public dialogue and collaboration among communities, government institutions, Amoud University, civil society, development partners and the private sector.

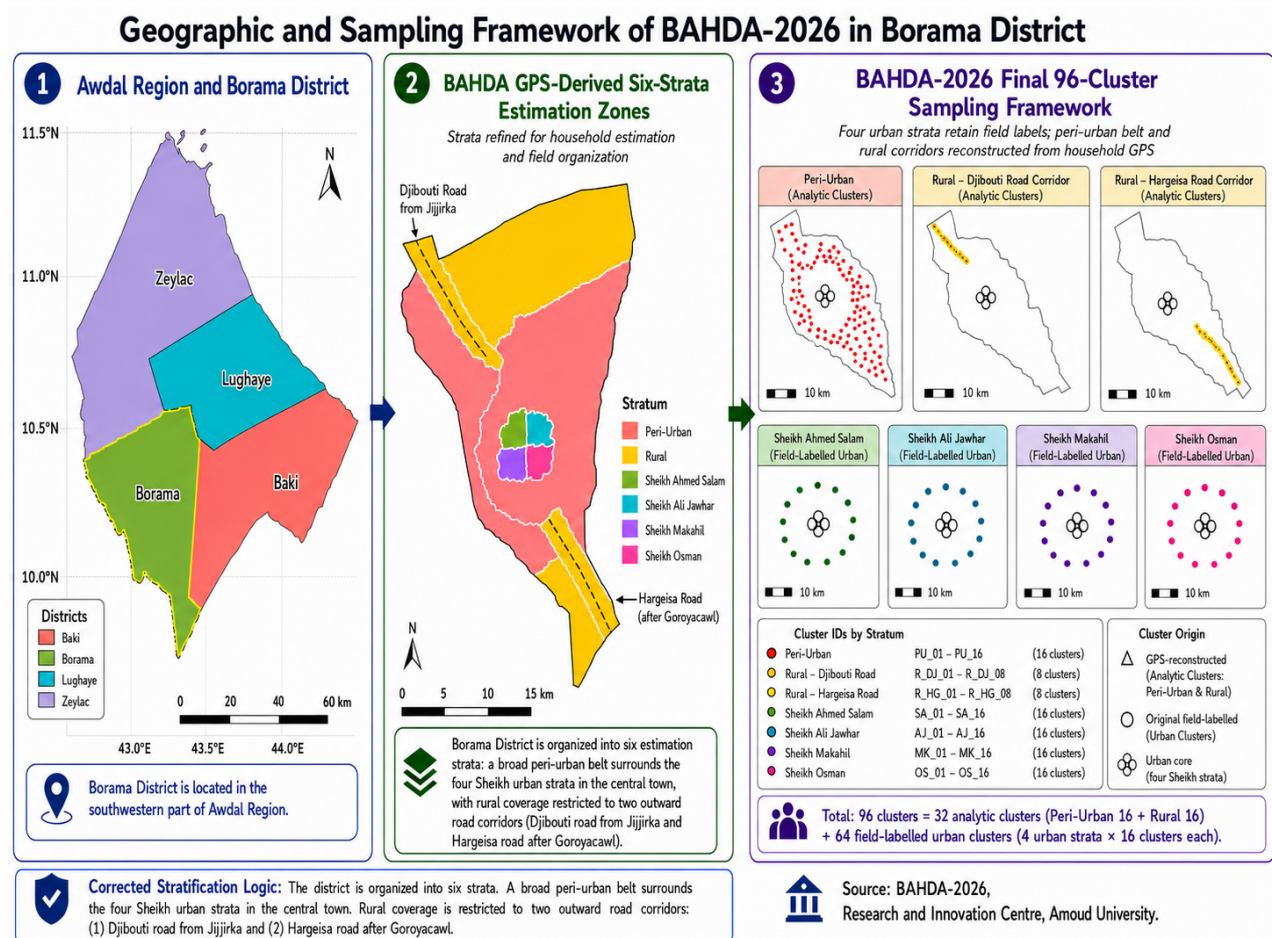


Plate 1.1. Institutional planning and validation of the BAHDA evidence platform

1.4 Geographic and Sampling Framework

Figure 1.1 presents the final geographic logic adopted for BAHDA-2026. The three panels should be read as a sequence. The first locates Borama District within Awdal Region. The second translates the

district into six operational estimation strata. The third links those strata to the final 96-cluster sampling framework.



Map 1.1. Geographic and sampling framework of BAHDA-2026 in Borama District

Note. Panel 1 locates Borama District within Awdal Region. Panel 2 presents four central urban strata, a broad surrounding peri-urban belt and rural coverage restricted to the outward Djibouti and Hargeisa road corridors. Panel 3 presents the equal 96-cluster allocation: 16 clusters in each of the six strata. BAHDA strata are operational analytical zones rather than official administrative boundaries.

1.4.1 The six operational strata

The four field-labelled urban strata are Sheikh Ahmed Salan, Sheikh Ali Jawhar, Sheikh Makahil and Sheikh Osman. Together they represent the central urban component of the study. A broad peri-urban belt surrounds these four strata and is the largest operational stratum by mapped area. The rural component is restricted to two outward road corridors: the Djibouti Road corridor and the Hargeisa Road corridor after Goryacawl. The two corridors together form the single Rural stratum within the six-stratum design.

The final framework is organised into 24 operational zones and 96 clusters, with equal allocation of 16 clusters to each of the six strata. Each stratum contains four zones, and each zone contains four sub-zones that constitute the operational clusters ($4 \text{ zones} \times 4 \text{ clusters} = 16 \text{ clusters per stratum}$). The four urban Sheikh strata therefore contribute 64 field-labelled clusters, 16 per stratum. Peri-Urban contributes 16 clusters, distributed as four clusters in each of the east, south, west and north directions. Rural contributes 16 clusters, divided equally between the two outward corridors: eight along the Djibouti Road and eight along the Hargeisa Road. Where complete final electronic cluster variables were unavailable, the peri-urban and rural analytical labels were reconstructed from household GPS evidence. This reconstruction is described openly so that analytical labels are not mistaken for original field labels.

Interpretation. The spatial framework moves from administrative geography to locally defined estimation strata and then to final sampling clusters. This separation is important: the BAHDA strata support household estimation, field organisation and analysis, but they are not presented as new administrative boundaries.

1.5 Why a Model-Assisted Household Frame Was Required

A recent complete published census denominator was not available for the full BAHDA operational area. The project therefore required a transparent planning frame to assess sample allocation, construct stratum weights and estimate the approximate number of households and residents represented by the survey.

BAHDA did not adopt one municipal total or one gridded population product as unquestioned truth. It combined seven international gridded population products representing four model families: WorldPop, GHSL GHS-POP, GHSL-WUP and CIESIN GPWv4.[25, 26, 27, 28] The products differ in model assumptions, spatial resolution, source data and the way population is distributed across space.

Household GPS observations supplied the local calibration. Populated cells from each product were assigned to their nearest valid BAHDA GPS stratum anchor. Population was aggregated separately within the six strata and converted to household estimates using the observed mean household size for the corresponding stratum. Closely related releases or resolutions were first combined within their product family, after which the four family estimates were combined at stratum level.

The final ensemble estimated approximately 78,209 households and 626,215 residents. The seven international product totals ranged from approximately 53,492 to 95,608 households. This disagreement is retained as evidence of model uncertainty rather than hidden behind a single unqualified number.

Reporting note. The household and resident totals are model-assisted planning estimates. They are used for sample-distribution assessment, weighting and planning. They are not census counts or administratively confirmed totals.

1.6 Three Connected Forms of Evidence

The Atlas contains three related but distinct forms of evidence.

Table 1.1. Forms of evidence used in BAHDA-2026

Evidence form	What it represents	Appropriate interpretation
Unweighted sample evidence	The number of consented households or eligible respondents contributing a valid response.	Shows the empirical sample support and the observed distribution of responses.
Weighted survey estimates	Percentages and means adjusted so that the six strata contribute according to the model-assisted household frame.	Used as the principal district-level household estimates in the analytical chapters.
Model-assisted planning totals	Estimated households and residents derived from seven population products, GPS calibration and local household-size conversion.	Used for planning denominators and weight construction; not interpreted as census counts.

These forms of evidence answer different questions. Unweighted counts show how many observations support a finding. Weighted estimates describe the estimated district household distribution. Model-assisted totals approximate the scale of the population and household frame. They should not be interchanged.

1.7 Purpose and Objectives

The purpose of the Atlas is to translate the BAHDA-2026 household and spatial evidence into a coherent development profile of Borama District. The specific objectives are to:

1. describe household conditions across the five approved development pillars;
2. identify geographic and socioeconomic inequalities across residence, wealth, sex of household head and original sampling stratum;
3. establish a transparent model-assisted household frame for sample assessment, weighting and planning;
4. retain weighted district estimates alongside unweighted sample counts and valid item-specific denominators;
5. support local planning, programme design, policy dialogue, research and community engagement;
6. compare selected findings with Awdal and Somaliland benchmarks where definitions permit;
7. align local evidence with relevant development priorities without presenting BAHDA indicators as official national indicators;
8. establish a baseline and reproducible platform for future BAHDA rounds.

1.8 The Five-Pillar Development Framework

BAHDA is organised around five connected development pillars. The structure preserves the multidisciplinary content of the questionnaire while making the evidence accessible to decision-makers.

Table 1.2. BAHDA-2026 five-pillar framework

Pillar	Core focus	Central development question
Social Development	Demography, education, skills, employment, disability, inclusion and food security.	Are people able to develop capabilities and participate in social and economic life?
Health Development	Chronic disease, care access, maternal and child health, nutrition, diagnostics, pharmacy and oral health.	What health needs and service-access barriers affect households?
Economic Development	Enterprise, finance, savings, credit, remittances, assets, shocks, agriculture and livestock.	How do households generate, manage and protect economic resources?
Technology and Infrastructure	ICT, digital readiness, housing, energy, roads, transport, environment and climate resilience.	What systems enable or constrain household connectivity, safety and development?
Governance	Participation, rights, justice, safety, WASH, public services and accountability.	How do households experience institutions, rights, services and local accountability?

The pillars should not be read in isolation. Education and skills affect work opportunities. Health affects participation and productivity. Income and shocks shape food security and care seeking. Housing, roads, energy and digital systems influence access to services. Governance affects how services are planned, delivered and held accountable.

BAHDA-2026 Five-Pillar Development Framework

The five pillars are interpreted together because household development conditions are interdependent.

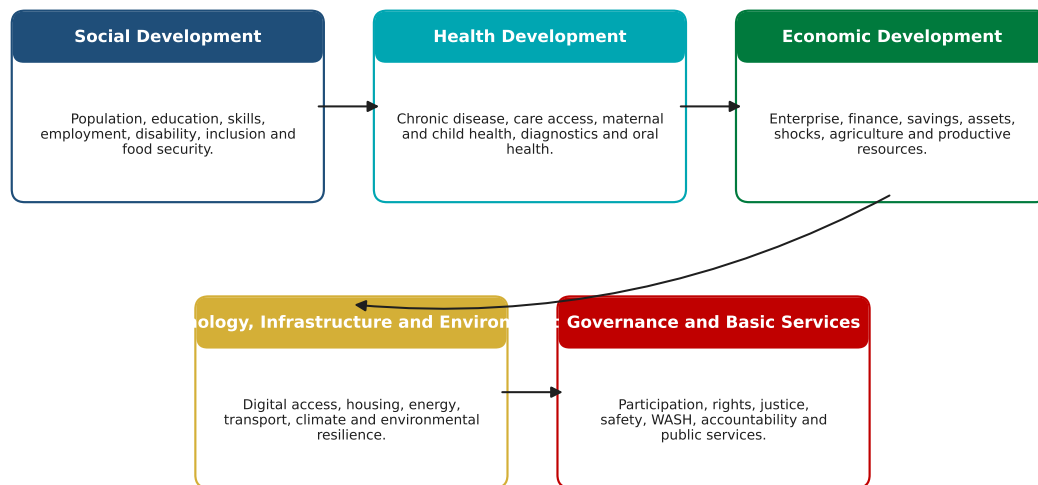


Figure 1.2. Five-pillar development framework

1.9 Development and Evidence Context

Somaliland's National Development Plan III for 2023-2027 provides the principal national planning framework. Its broad areas include economic development, social development, economic infrastructure, good governance, justice and climate-related priorities.[3] African Union Agenda 2063 frames continental transformation around inclusive growth, health, education, skills, infrastructure, climate resilience, capable institutions, peace, gender equality and people-driven development.[7] The Sustainable Development Goals provide a global framework covering poverty, hunger, health, education, equality, water, energy, work, infrastructure, sustainable settlements, climate and institutions.[9]

BAHDA uses these frameworks for thematic alignment. It does not claim that every household question is an official indicator of NDP III, Agenda 2063 or the SDGs. Alignment identifies where local evidence can inform broader priorities and where institutional responsibilities may be connected.

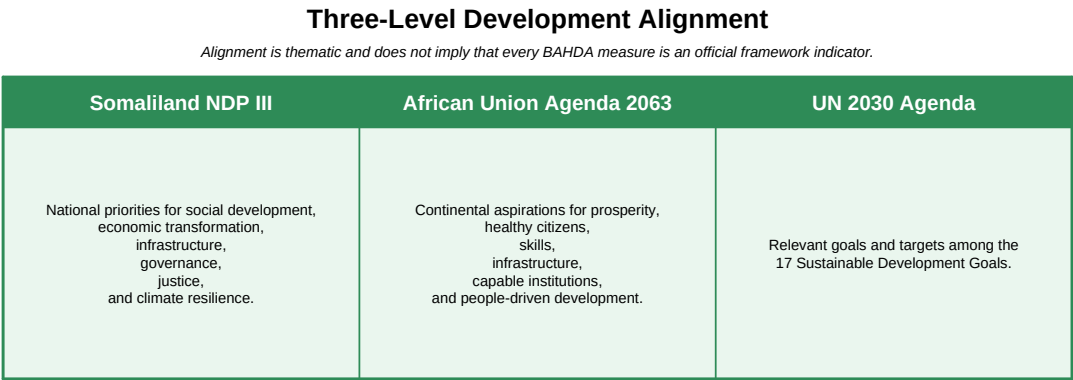


Figure 1.3. National, continental and global policy alignment

1.10 From Household Evidence to Development Action

The BAHDA pathway begins with voluntary household participation and ethical data collection. It continues through consent filtering, cleaning, weighting, item analysis, subgroup comparison, spatial synthesis and interpretation. Findings are then connected to development priorities, institutional responsibilities and monitoring indicators.

The pathway does not assume that every questionnaire item requires a separate intervention. Priority is strengthened when a condition is widespread, severe, unequal, geographically concentrated, policy-relevant and feasible to address. Cross-pillar interpretation is therefore central to the Atlas.

From Household Evidence to Development Action

A transparent pathway from ethical data collection to coordinated development action.

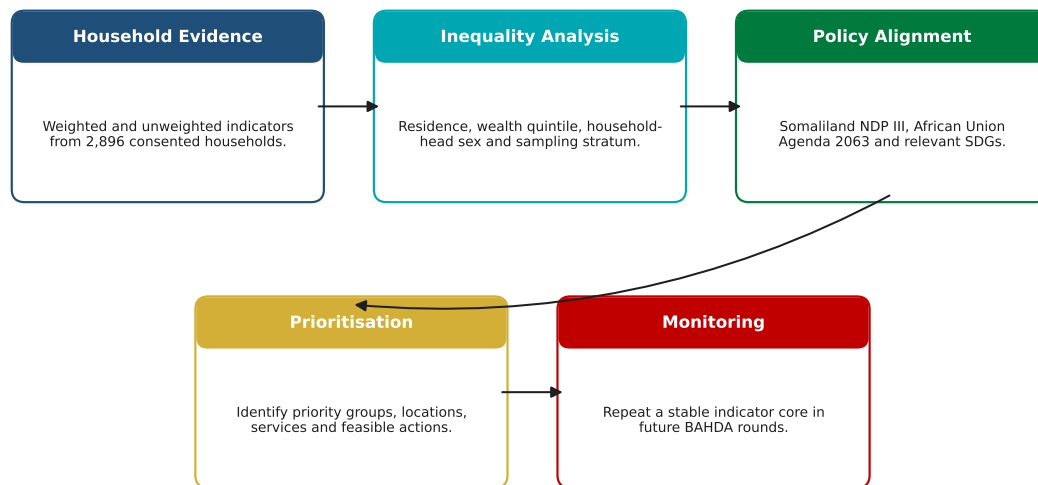


Figure 1.4. Household evidence-to-action pathway

1.11 Scope, Intended Users and Boundaries of Inference

The Atlas describes the BAHDA operational area and the 2,896 consented households retained for analysis. District-wide findings use the normalized six-stratum analytical weight unless otherwise stated. Unweighted counts remain visible to show sample support. Conditional questions use eligible valid-response denominators, and multiple-response questions may sum to more than 100 percent.

The intended users include Borama local government, Somaliland ministries and agencies, Amoud University, schools, health institutions, civil-society organisations, development partners, private-sector actors, researchers, students, community leaders and participating communities.

The local geographic scope is a strength for targeted planning, but it defines the boundary of inference. Results are not national estimates. The cross-sectional design describes conditions and associations but does not establish causality. Exact household coordinates remain confidential. Comparisons with other surveys must account for differences in year, population, wording, reference period, weighting and unit of analysis.

1.12 Organisation of the Atlas

Chapter 2 documents the complete methodology, including the corrected geographic framework, seven-source household estimation, sample design, weighting, questionnaire development, piloting, fieldwork, data management, quality assurance, ethics and statistical analysis. Chapters 3–7 present the five pillars. Chapter 8 benchmarks selected indicators against Awdal and Somaliland evidence. Chapter 9 examines cross-pillar inequality and vulnerability. Chapter 10 presents spatial patterns. Chapter 11 develops the policy and action architecture. Chapter 12 concludes with the future BAHDA research and monitoring agenda. Technical appendices preserve detailed methods and reproducibility documentation.

How the BAHDA-2026 Atlas Is Organised

The book moves from context and methods to evidence, comparison, prioritisation and action.

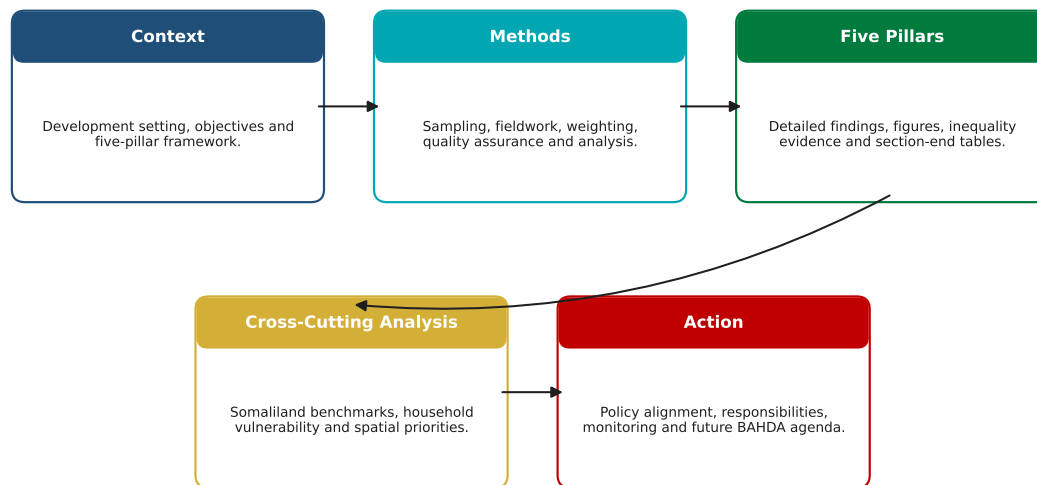


Figure 1.5. BAHDA-2026 atlas architecture

1.13 Chapter Summary

BAHDA-2026 is a locally anchored household evidence platform for Borama District. It combines 2,896 consented household interviews with a corrected six-stratum geographic framework, 96 sampling clusters, seven international population products, household GPS calibration and locally observed household sizes. The resulting planning frame estimates 78,209 households and 626,215 residents. Its value lies not in claiming census precision, but in making the evidence, assumptions, inequalities and uncertainty transparent. Chapter 2 explains each methodological stage in detail.

Policy alignment: BAHDA-2026 should be used as a transparent local planning and research platform: weighted household evidence for interpretation, unweighted counts for sample support, and model-assisted totals for planning scale.



Methodology

Study design, spatial household framing, sampling, field implementation, weighting and quality assurance



Chapter 2 at a Glance

Key evidence, inequalities and development implications



Study design

Cross-sectional

Multidisciplinary household assessment.



Operational geography

6 strata

Four urban, one peri-urban and one rural.



Zones and clusters

24 / 96

24 operational zones and 96 clusters.



Analytical sample

2,896

Consented household interviews.



Population inputs

7 / 4

Seven products representing four model families.



Planning frame

78,209

Estimated households; 626,215 residents.



Primary weight

wgt

Normalized six-stratum analytical weight.



Confidentiality

Protected GPS

Exact household coordinates are not published.

Chapter Overview

This chapter documents how BAHDA-2026 moved from an operational household frame to a reproducible analytical Atlas. It covers the six strata, 24 zones and 96-cluster field system; model-assisted household estimation; sampling and field implementation; normalized weighting; eligible denominators; multiple-response correction; data quality, confidentiality and reproducibility.

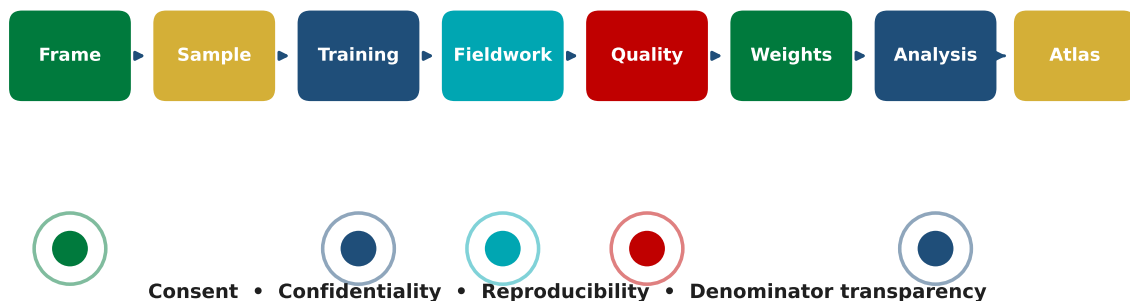
Three distinctions are essential throughout the methodology. The household survey provides descriptive

evidence on conditions reported by participating households; normalized weights adjust the relative contribution of the six strata for district interpretation; and the model-assisted household and resident totals provide planning scale rather than census counts. These forms of evidence are connected but are not interchangeable.

A secondary Bayesian synthesis was conducted only after the primary population frame was fixed. It provides a robustness and uncertainty assessment of the population denominator and does not replace the original frame, analytical weights or substantive survey results.

From Sampling Frame to Publication

A transparent chain of design, fieldwork, weighting, analysis and quality assurance



Methodology overview: From Sampling Frame to Publication

2.1 Methodological Overview

BAHDA-2026 combined two connected methodological systems. The first was a cross-sectional household assessment implemented through six strata and a 96-cluster field framework. The second was a model-assisted spatial estimation process that used seven gridded population products, household GPS observations and locally observed household sizes to estimate the distribution of households across the same six strata.

The household survey produced descriptive evidence on social, health, economic, technological, infrastructural and governance conditions. The spatial estimation supplied the planning denominator needed to compare the achieved sample with the estimated household distribution and construct the final stratum weights. The two systems are related, but they serve different purposes: the survey describes household conditions, while the spatial frame estimates the scale and distribution of the population represented.

After the primary planning frame was fixed, a four-family Bayesian synthesis was added as a secondary validation layer. This post-estimation analysis quantifies model-based uncertainty and sensitivity while leaving the published six-stratum frame and weighting system unchanged.

Seven-source household-frame workflow

1. define the corrected six-stratum operational geography;
2. prepare seven international gridded population products;
3. retain populated raster cells and represent them by cell centroids;
4. assign populated cells to their nearest valid BAHDA GPS stratum anchor;
5. aggregate population within each product and stratum;
6. convert population to households using stratum-specific observed household size;
7. calculate medians within the four product families;
8. calculate the final family-balanced estimate within each stratum;
9. sum the six stratum estimates and construct the analytical weights.

2.2 Study Design and Study Area

BAHDA-2026 used a cross-sectional, multidisciplinary household assessment design. It was descriptive, inequality-oriented and development-focused. The study estimated the distribution of household conditions at one period in time, compared major household groups and established a baseline for later monitoring. It was not designed to establish causal effects.

The operational study area covered the central urban strata of Borama, the surrounding peri-urban belt and rural coverage along the outward Djibouti and Hargeisa road corridors. These components were organised into six analytical strata: Sheikh Ahmed Salan, Sheikh Ali Jawhar, Sheikh Makahil, Sheikh Osman, Peri-Urban and Rural. Operational field organisation also used 24 zones across the study area.

2.3 Target Population, Eligibility and Units of Analysis

The target population comprised households ordinarily residing within the BAHDA operational area. The household was the primary unit of selection, interview and analysis. A household was represented through usual residence and shared living arrangements as operationalised in the questionnaire.

An informed adult respondent provided information about the household and recorded consent before substantive interviewing proceeded. Selected modules referred to specific eligible groups, including household heads, adults, children, women, persons with disability, business owners, livestock owners, crop-producing households and households reporting a recent pregnancy or birth. Indicator denominators therefore vary according to eligibility and valid response.

Of 2,923 submitted records, 27 lacked consent and were excluded. The final analytical datasets contain 2,896 consented household interviews. Conditional indicators do not use the complete sample unless all households were eligible.

2.4 Construction of the Corrected Geographic Framework

The final geographic framework separated administrative location, operational estimation strata and sampling clusters. Borama District was first located within Awdal Region. The district was then divided into four central field-labelled urban strata, a broad surrounding peri-urban belt and one rural stratum represented through two outward road corridors.

The Djibouti Road corridor extends north-west from the central town. The Hargeisa Road corridor extends south-east after Goryacawl. These corridors define the rural coverage used by the study; they are

two components of one Rural stratum and are not presented as separate seventh and eighth strata. The public map therefore retains six analytical strata.

The 96-cluster framework allocates 16 clusters to each of the six strata. Each stratum contains four zones and each zone contains four operational sub-zones/clusters, giving 16 clusters per stratum. The four urban Sheikh strata therefore contribute 64 field-labelled clusters. Peri-Urban contributes 16 clusters, with four in each of the east, south, west and north directions. Rural contributes 16 clusters, comprising eight along the Djibouti Road corridor and eight along the Hargeisa Road corridor. Peri-urban and rural analytical labels were reconstructed from household GPS observations where complete final electronic cluster variables were unavailable.

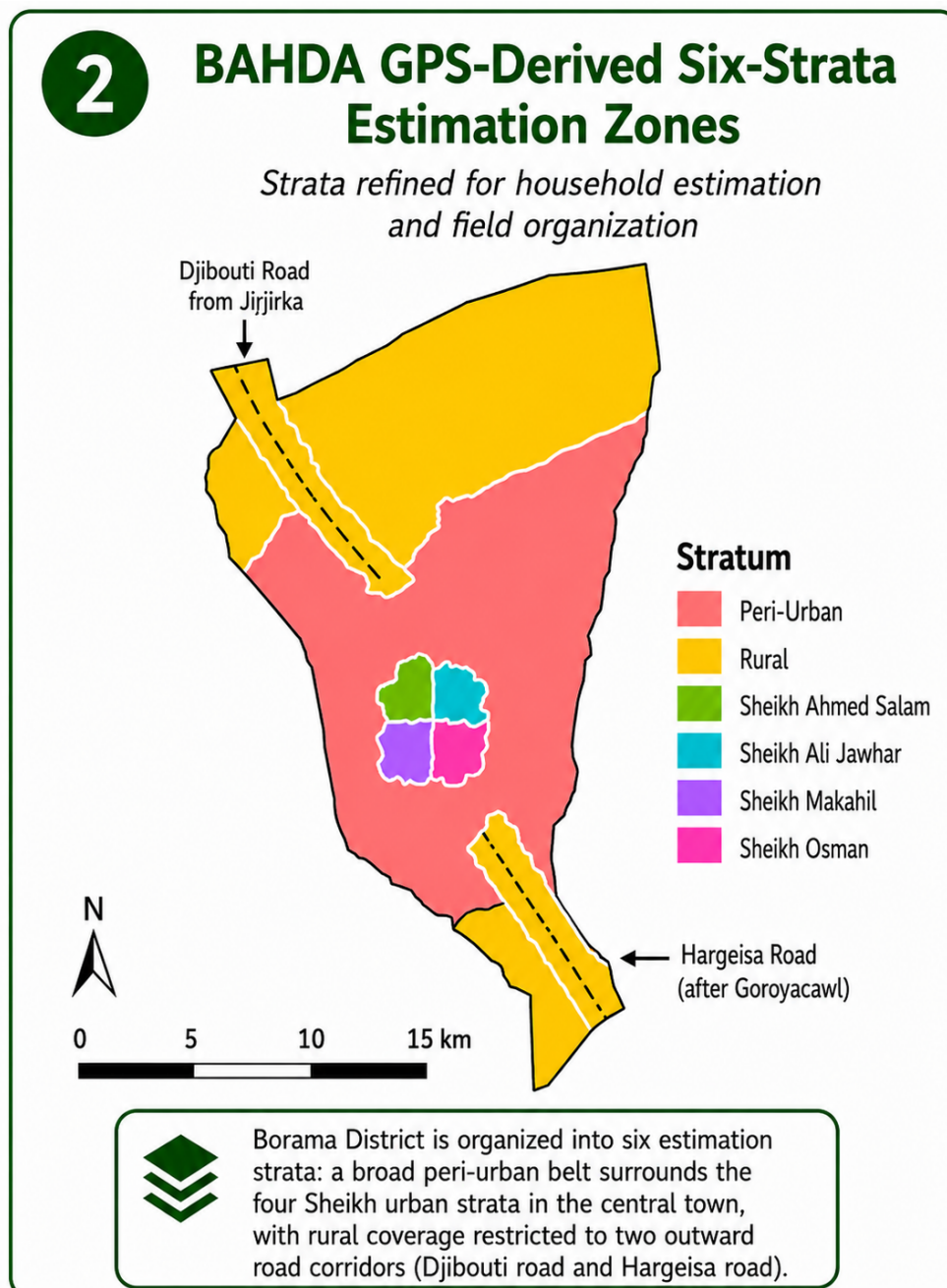


Figure 2.1. BAHDA GPS-Derived Six-Strata Estimation Zones

Note. The map shows the four urban Sheikh strata in central Borama, a broad surrounding peri-urban stratum and Rural restricted to the two outward Djibouti and Hargeisa road corridors.

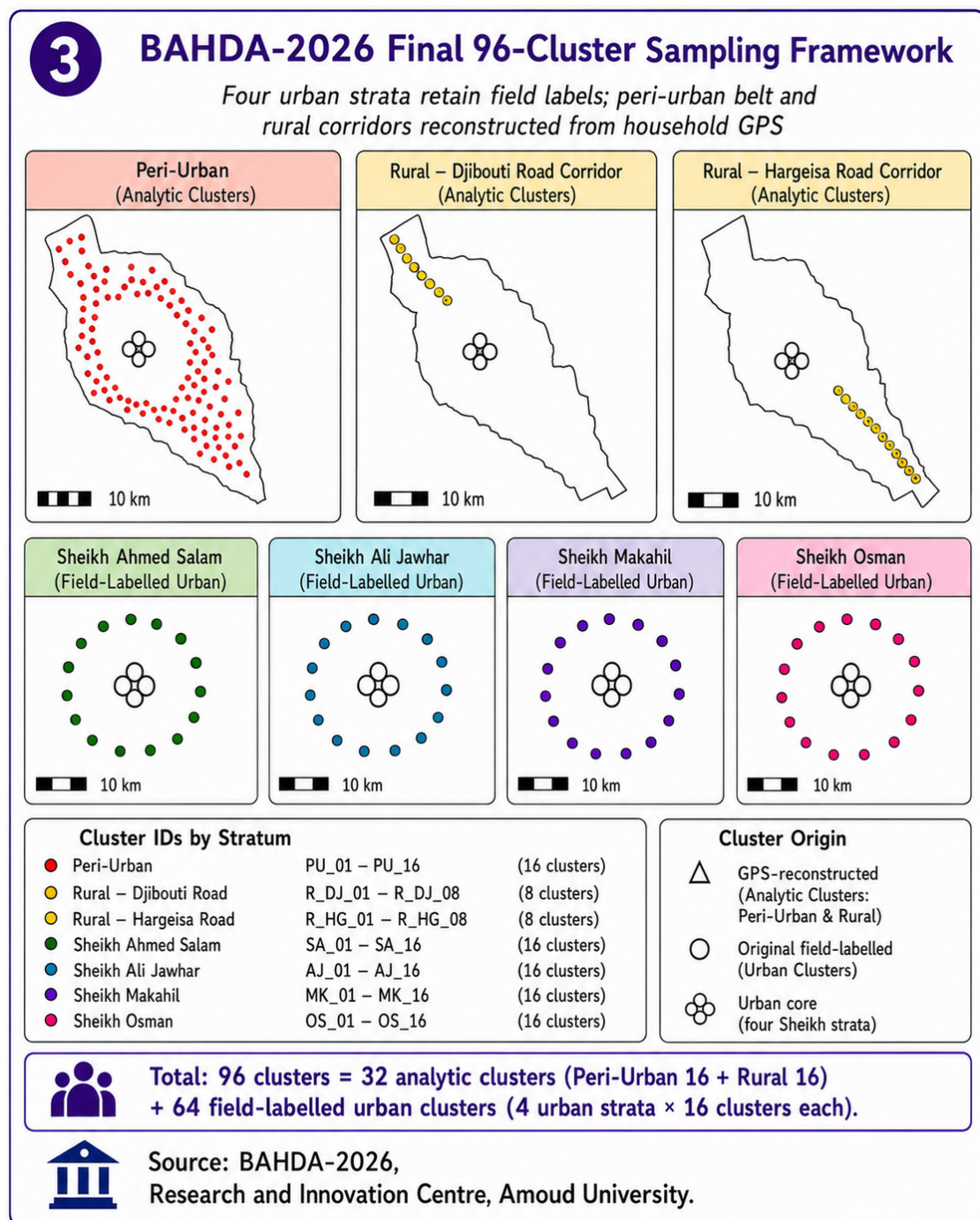


Figure 2.2. BAHDA-2026 Final 96-Cluster Sampling Framework

Note. The six strata each contribute 16 clusters. The four urban Sheikh strata contribute 64 field-labelled clusters; Peri-Urban contributes 16 analytical clusters; and Rural contributes 16 analytical clusters, divided equally between the Djibouti and Hargeisa road corridors.

The geographic reconstruction is an analytical correction. It does not imply that a missing electronic label was observed in the original field form. Original urban labels remain identified as field-labelled, while recovered peri-urban and rural labels are identified as GPS-reconstructed analytical clusters.

2.5 International Gridded Population Inputs

Seven gridded population products were used. Two were WorldPop constrained 100-metre surfaces for 2025, representing the R2025A and R2024B releases. Two were GHSL GHS-POP 2025 products

at 1-kilometre and 30-arcsecond resolution. Two were GHSL-WUP-POP 2025 products at the same two resolutions. The seventh was CIESIN GPWv4 Revision 11 for 2020, adjusted to the 2025 reference period using the archived Somalia population ratio.

The products represent four model families rather than seven fully independent methods. WorldPop products use spatial disaggregation approaches designed for fine-resolution population mapping.[25, 26] GHSL products use settlement and population modelling within the Global Human Settlement framework.[27] GPWv4 provides a gridded redistribution of population counts.[28]

The products differ in input data, model assumptions, spatial resolution, reference year, settlement masks and the allocation of population within mapped space. No one product was treated as a definitive census substitute. Their disagreement was used to describe model sensitivity.

2.6 GPWv4 Reference-Year Adjustment

The GPWv4 source represented 2020. It was scaled to the 2025 estimation period using the archived Somalia population ratio:

$$g_{2020 \rightarrow 2025} = \frac{19,654,739}{16,651,191} = 1.180380.$$

For every retained GPWv4 cell, the 2020 population value was multiplied by this factor. This temporal adjustment changed the population magnitude but did not alter the spatial pattern inherited from the GPWv4 surface.

2.7 Raster Preparation and Populated-Cell Extraction

Each product was checked for reference year, geographic coverage, resolution and coordinate reference system. The processing workflow restricted the surface to the BAHDA study extent and retained cells with positive estimated population. Empty land was not forced into a household stratum.

Each populated cell was represented by its centroid and retained with its estimated population value. This produced a set of populated spatial observations for each product. The number of populated cells varied substantially by resolution: fine WorldPop surfaces contributed many more cells than the coarser GHSL and GPWv4 products. Cell count was not used as a weight in the ensemble; population values were aggregated within each product.

Interpretation. Only populated cells were classified. This avoids assigning extensive empty land to a survey stratum merely because it falls within a broad polygon. The plotted points appear sparse at the full district scale because the figure displays populated-cell centroids and GPS anchors over a large geographic extent.

2.8 BAHDA GPS Anchors and Nearest-Stratum Assignment

Valid household GPS observations served as local anchors for the six strata. For each populated cell centroid i , the nearest valid BAHDA GPS observation j was identified using geographic distance:

$$j(i) = \arg \min_j d(i, j),$$

where $d(i, j)$ is the distance between populated-cell centroid i and household GPS point j . The populated cell inherited the stratum assigned to its nearest GPS anchor:

$$S_i = S_{j(i)}.$$

This procedure calibrated each international population surface to the locally observed pattern of BAHDA household locations. It also maintained the corrected six-stratum logic across products with different raster structures.

Nearest-anchor assignment does not imply that the nearest household is identical to the population represented by a cell. It is a spatial classification rule. Its credibility depends on the distribution and accuracy of the GPS anchors, especially in dispersed rural areas.

2.9 GPS Quality Assurance and Spatial Uncertainty

GPS quality assurance compared recorded points with official or reference polygons, field labels and the corrected analytical framework. Points outside an official polygon were treated as review flags rather than automatic exclusions because the BAHDA strata are operational analytical zones, and the corrected peri-urban and rural structure intentionally differs from a simple official-boundary overlay.

The supplied quality summary records 616 of 627 Sheikh Ahmed Salan points, all 615 Sheikh Ali Jawhar points, 605 of 616 Sheikh Makahil points and 600 of 602 Sheikh Osman points inside the corresponding official reference polygons. It also records 199 of 209 peri-urban and 174 of 227 rural QA points inside. The larger rural outside share is consistent with a dispersed corridor-based geography and requires interpretation against the operational design rather than mechanical deletion.

For every product and stratum, the processing summary records the mean distance from populated-cell centroids to the nearest BAHDA GPS anchor and the percentage of assigned population exceeding the prespecified 15-km spatial-support flag. Across the seven district product surfaces, the population-weighted mean nearest-GPS distance ranged from 9.72 km to 30.71 km, with a median of 11.91 km; the share of estimated population associated with populated cells beyond the 15-km flag ranged from 17.44% to 61.50%.

At stratum level, most urban product-stratum combinations had mean nearest-GPS distances below one kilometre, whereas distances were generally larger for peri-urban and rural classifications. At product level, WorldPop R2025A had the closest population-weighted GPS support (9.72 km), while adjusted GPWv4 had the weakest (30.71 km), with 61.50% of its estimated population beyond the 15-km flag. These indicators are spatial-support diagnostics rather than sampling confidence intervals.

Reporting note. Exact household coordinates are confidential. Public figures show protected or aggregated spatial evidence. The reproducibility archive should retain restricted GPS files and code separately from public-use datasets.

2.10 Population Aggregation by Product and Stratum

After classification, population values were summed within each product p and stratum h :

$$\hat{P}_{ph} = \sum_{i:S_i=h} P_{pi},$$

where P_{pi} is the population assigned to populated cell i in product p . This generated seven population estimates for each of the six strata.

The aggregation was performed separately for every product. Products were not rescaled to one another before stratum aggregation, except for the documented temporal adjustment of GPWv4. The resulting differences therefore reflect the source models rather than a forced common district total.

2.11 Conversion from Population to Households

Population estimates were converted to household estimates using the observed mean household size for the corresponding stratum:

$$\hat{H}_{ph} = \frac{\hat{P}_{ph}}{\bar{m}_h},$$

where $\overline{m}_h$ is the mean household size observed in stratum h .

The mean household sizes were 8.239 in Sheikh Ahmed Salan, 8.179 in Sheikh Ali Jawhar, 8.102 in Sheikh Makahil, 8.053 in Sheikh Osman, 7.791 in Peri-Urban and 8.146 in Rural. Using separate values preserved observed differences rather than imposing one district-wide household-size assumption.

Household-size validity was assessed at item level. The peri-urban conversion used 206 valid household-size observations, while the other strata used between 219 and 627. These observed means are survey estimates and contribute their own uncertainty to the model-assisted household frame.

2.12 Balancing the Four Product Families

Treating all seven products as independent and assigning them equal weight would give double influence to WorldPop, GHS-POP and GHSL-WUP because each family is represented by two releases or resolutions, while GPWv4 is represented once. BAHDA therefore balanced the evidence at family level.

For product family f and stratum h , the family estimate was the median of the product estimates belonging to that family:

$$\tilde{H}_{fh} = \text{median} \left(\hat{H}_{ph} : p \in f \right).$$

The median was used because it provides a transparent centre for closely related products without allowing one resolution or release to dominate the family. For GPWv4, the single estimate served as the family value.

2.13 Final BAHDA GPS Local Ensemble

The final household estimate for each stratum was the median of the four family estimates:

$$\hat{H}_h^{\text{BAHDA}} = \text{median} \left(\tilde{H}_{1h}, \tilde{H}_{2h}, \tilde{H}_{3h}, \tilde{H}_{4h} \right).$$

The district household estimate was the sum of the six stratum estimates:

$$\hat{H}^{\text{BAHDA}} = \sum_h \hat{H}_h^{\text{BAHDA}} = 78,209.$$

The associated stratum populations summed to 626,215 residents.

This calculation is not a simple mean or median of the seven district totals. It is a stratum-specific median of four balanced family estimates. The order of operations matters because the products allocate population differently across urban, peri-urban and rural space.

2.14 Comparison of the Eight Principal Estimates

The seven international product totals ranged from 53,492 households under GPWv4 to 95,608 under GHSL-WUP at 1 km. WorldPop produced the lower pair of current estimates, approximately 54,311 and 58,805 households. GHS-POP produced approximately 89,960 and 90,194. GHSL-WUP produced approximately 93,913 and 95,608.

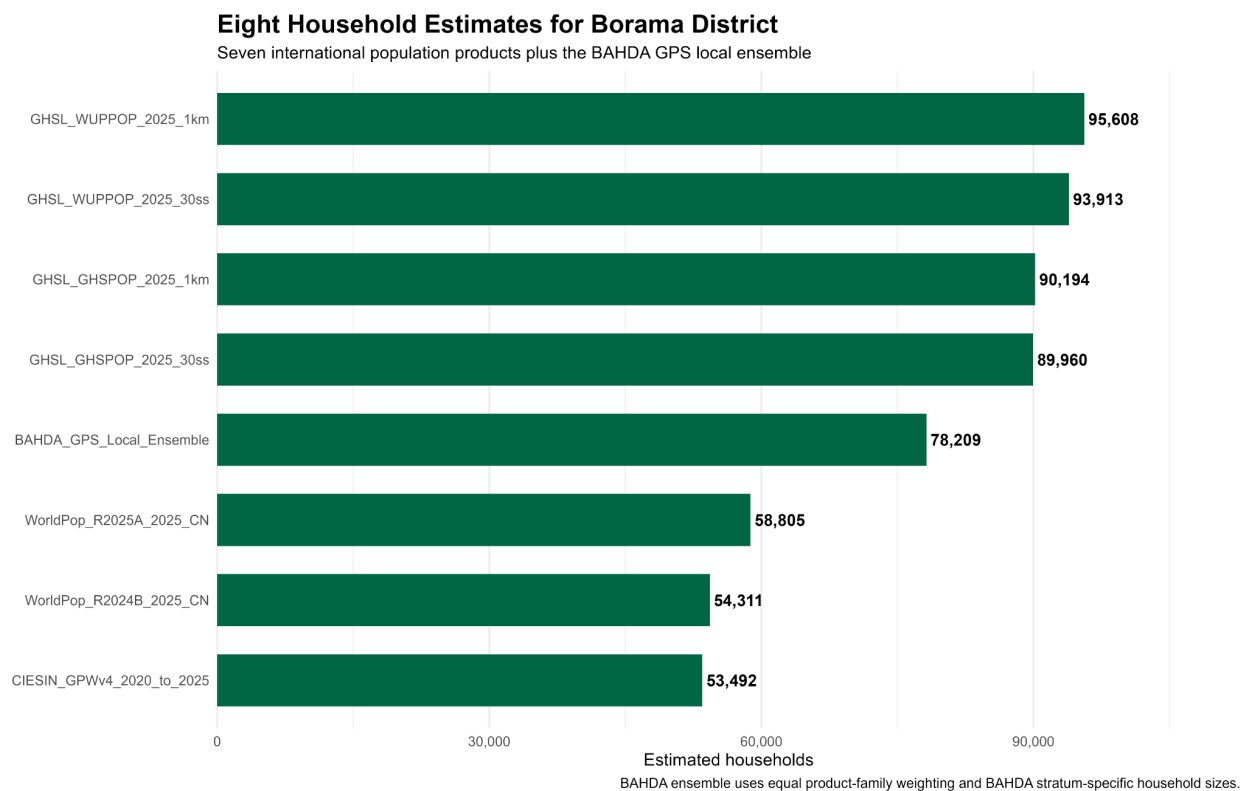


Figure 2.3. Seven international household estimates and the BAHDA GPS local ensemble

The BAHDA estimate of 78,209 households lies between the lower WorldPop/GPWv4 group and the higher GHSL group. Its position does not result from choosing the visually central district total. It results from local GPS classification, stratum-specific household-size conversion and equal influence across the four product families.

The width of the 53,492–95,608 range demonstrates why the Atlas reports the estimate as model-assisted. A single source could have shifted the planning denominator by more than 40,000 households relative to another plausible international product.

2.15 Final Estimates by Six Strata

The final ensemble estimated 31,514 peri-urban households, representing the largest stratum. Sheikh Ahmed Salan contained an estimated 12,108 households, Sheikh Makahil 10,854, Rural 8,570, Sheikh Ali Jawhar 8,444 and Sheikh Osman 6,719.

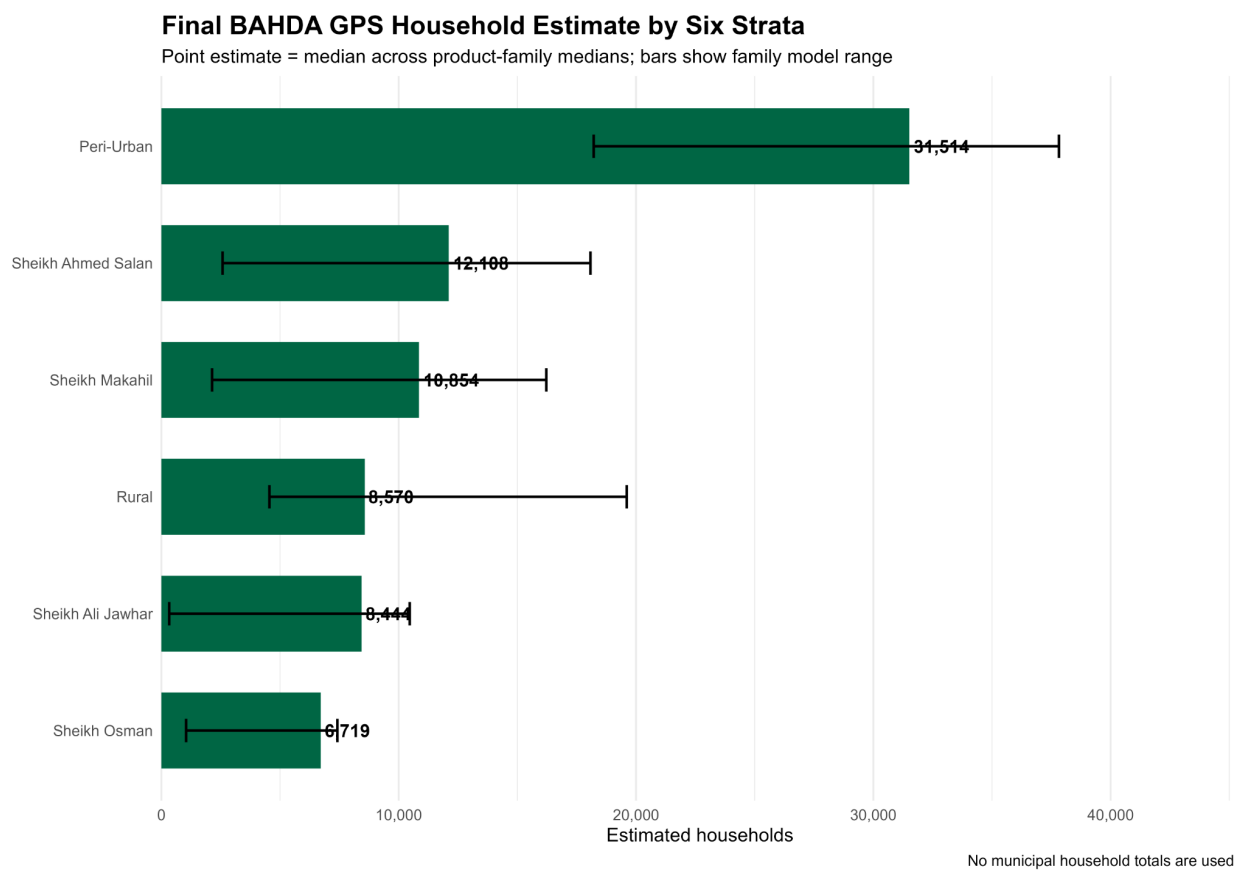


Figure 2.4. Final BAHDA GPS household estimate by six strata

The horizontal ranges show the minimum and maximum household estimates across the four product families. They are model ranges, not conventional sampling confidence intervals. The ranges are wide in several strata because the product families allocate population differently, especially between dense urban surfaces, the peri-urban belt and rural corridors.

The peri-urban point estimate is high because the corrected geography identifies a broad settlement belt outside the four central urban strata. Rural uncertainty is substantial because the product families differ sharply in the population allocated to the two outward corridors. These patterns justify reporting stratum-level model dispersion alongside the final point estimate.

2.16 Bayesian Robustness and Uncertainty Validation of the Population Frame

The primary BAHDA-2026 population frame was fixed using the seven-source, GPS-calibrated, family-balanced ensemble described above. That framework remains the principal population-estimation method used throughout the Atlas and yielded approximately 626,215 residents and 78,209 households. A secondary Bayesian analysis was then conducted to assess the robustness and uncertainty of that denominator. The Bayesian layer was used only for validation and sensitivity analysis: it did not redefine the six strata, replace the primary population frame, modify `wgt`, `wgt_raw` or `wgt_dhs`, or change any indicator reported in later chapters.

This additional validation is reported in the context of evolving official geospatial statistical practice in Somalia. The Somalia National Bureau of Statistics (SNBS) Socio-Demographic Survey 2026 describes construction of a contiguous Pre-Enumeration Area frame with WorldPop and UNFPA, training of a Bayesian spatial statistical model, 5,000 repeated simulation draws and comparison of six sampling scenarios. The SNBS report also states that disaggregated population-model estimates will be presented separately.[2] BAHDA does not retrospectively adopt the SNBS sampling design; rather, it retains its ex-

isting seven-source local ensemble and uses Bayesian synthesis as a post-estimation robustness layer.

2.16.1 Four-Family Evidence Structure

The seven gridded products represent four methodological families: WorldPop, GHS-POP, GHSL-WUP-POP and GPWv4. Products belonging to the same family were first reduced to their stratum-specific median, consistent with the primary BAHDA family-balancing rule. This prevents families represented by two releases or resolutions from receiving greater influence merely because they contribute more raster products.

Let Z_{hf} denote estimated resident population for BAHDA stratum h from model family f , where $h = 1, \dots, 6$ and $f = 1, \dots, 4$. The family estimates were analysed on the logarithmic scale:

$$z_{hf} = \log(Z_{hf} + 0.5).$$

For each stratum, a latent log-population parameter θ_h represented the population magnitude jointly supported by the four families. The observation model was

$$z_{hf} \sim \mathcal{N}(\theta_h + b_f, \sigma_f^2),$$

where b_f represents family-specific systematic deviation and σ_f^2 represents residual disagreement for family f .

The prior mean for each latent stratum population was centred on the median of the four observed family estimates:

$$m_h = \text{median}_f [\log(Z_{hf} + 0.5)], \quad \theta_h \sim \mathcal{N}(m_h, 1.0^2).$$

Family-specific deviations were assigned

$$b_f \sim \mathcal{N}(0, 0.5^2),$$

and residual family variances were assigned weakly informative inverse-gamma priors:

$$\sigma_f^2 \sim \text{Inverse-Gamma}(2.0, 0.05).$$

This formulation allows all four population families to contribute evidence without assuming that any single source is the true population.

2.16.2 Posterior Simulation and Household-Size Propagation

The principal Bayesian synthesis used a fixed random seed of 2026 and generated 6,000 iterations. The first 1,000 iterations were discarded as burn-in and 5,000 posterior draws were retained. For posterior draw b , stratum population was recovered as

$$P_h^{(b)} = \max \left[\exp \left(\theta_h^{(b)} \right) - 0.5, 0 \right],$$

and district population was obtained by summing the six strata:

$$P_{\text{BAHDA}}^{(b)} = \sum_{h=1}^6 P_h^{(b)}.$$

Posterior medians were used as the Bayesian validation point estimates and the 2.5th and 97.5th posterior percentiles defined the 95% Bayesian credible interval.

Sampling uncertainty in the observed stratum household sizes was propagated rather than treating each mean as fixed without error. For stratum h ,

$$SE(\bar{m}_h) = \frac{s_h}{\sqrt{n_h}},$$

and at each posterior iteration a household-size realization was drawn from

$$m_h^{(b)} \sim \mathcal{N}(\bar{m}_h, SE(\bar{m}_h)^2),$$

subject to a prespecified plausible range of 1–40 persons. Posterior households were then calculated as

$$H_h^{(b)} = \frac{P_h^{(b)}}{m_h^{(b)}}, \quad H_{\text{BAHDA}}^{(b)} = \sum_{h=1}^6 H_h^{(b)}.$$

Thus, the Bayesian household interval reflects both model-family uncertainty and uncertainty in the locally observed household-size means.

2.16.3 Principal Bayesian Validation Result and Concordance

The principal Bayesian synthesis produced a posterior median district population of 580,054 residents, with a 95% credible interval of 354,171–863,051. The corresponding posterior median was 71,581 households, with a 95% credible interval of 43,672–106,744. Compared with the primary BAHDA planning estimate of 626,215 residents, the Bayesian median was 46,161 residents lower, equivalent to -7.37% . Importantly, the primary BAHDA estimate lies within the Bayesian 95% credible interval.

The primary estimate occupied approximately the 64th percentile of the Bayesian posterior distribution: 64.02% of retained draws were below 626,215 and 35.98% were above it. The posterior probability of lying within $\pm 10\%$ of the primary estimate was 33.58%; the corresponding probabilities were 48.86% within $\pm 15\%$ and 63.30% within $\pm 20\%$.

Table 2.1. Primary BAHDA estimate and Bayesian robustness synthesis

Method	Population	95% interval	Households
Primary BAHDA GPS local ensemble	626,215	–	78,209
Bayesian four-family synthesis	580,054	354,171–863,051	71,581

Note. The Bayesian household 95% credible interval is 43,672–106,744. The Bayesian analysis is a model-based robustness assessment using the existing population-family evidence; it is not an independent local census or enumeration.

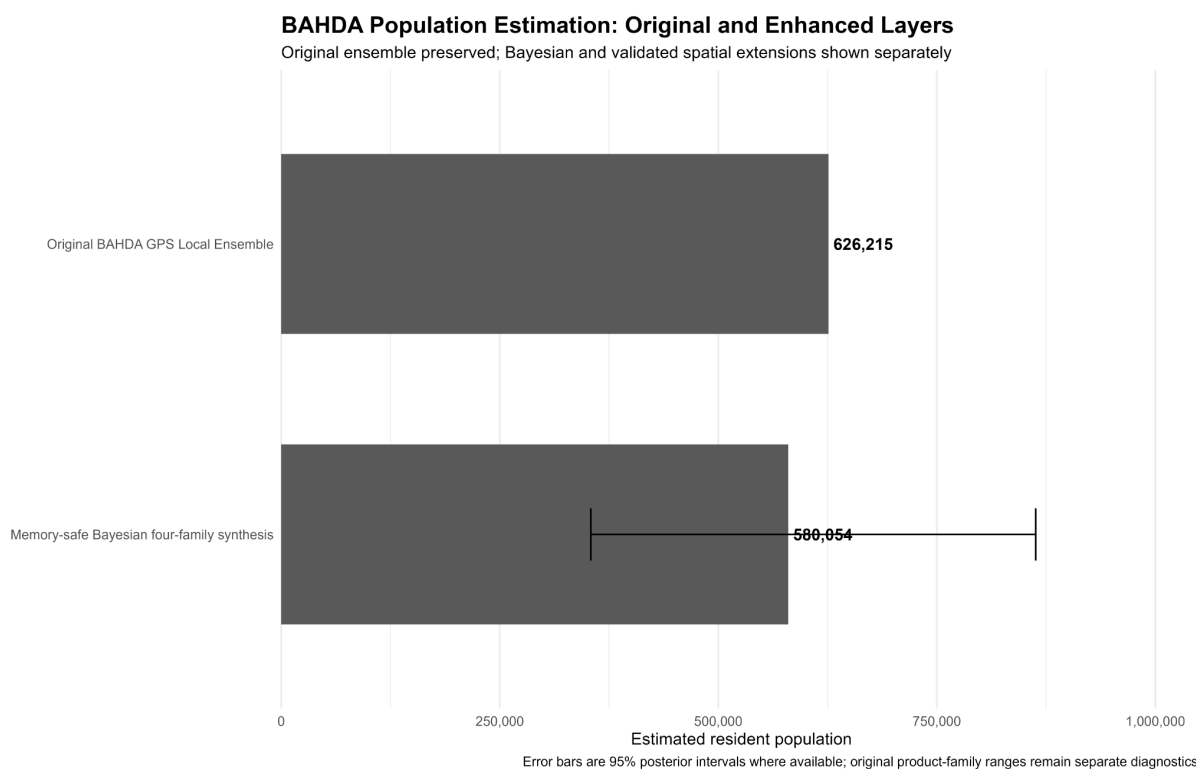


Figure 2.5. Primary BAHDA population estimate and Bayesian robustness layer

Note. The original 626,215-resident planning denominator remains primary. The Bayesian error bar is the 95% posterior credible interval; original product-family ranges remain separate model-sensitivity diagnostics.

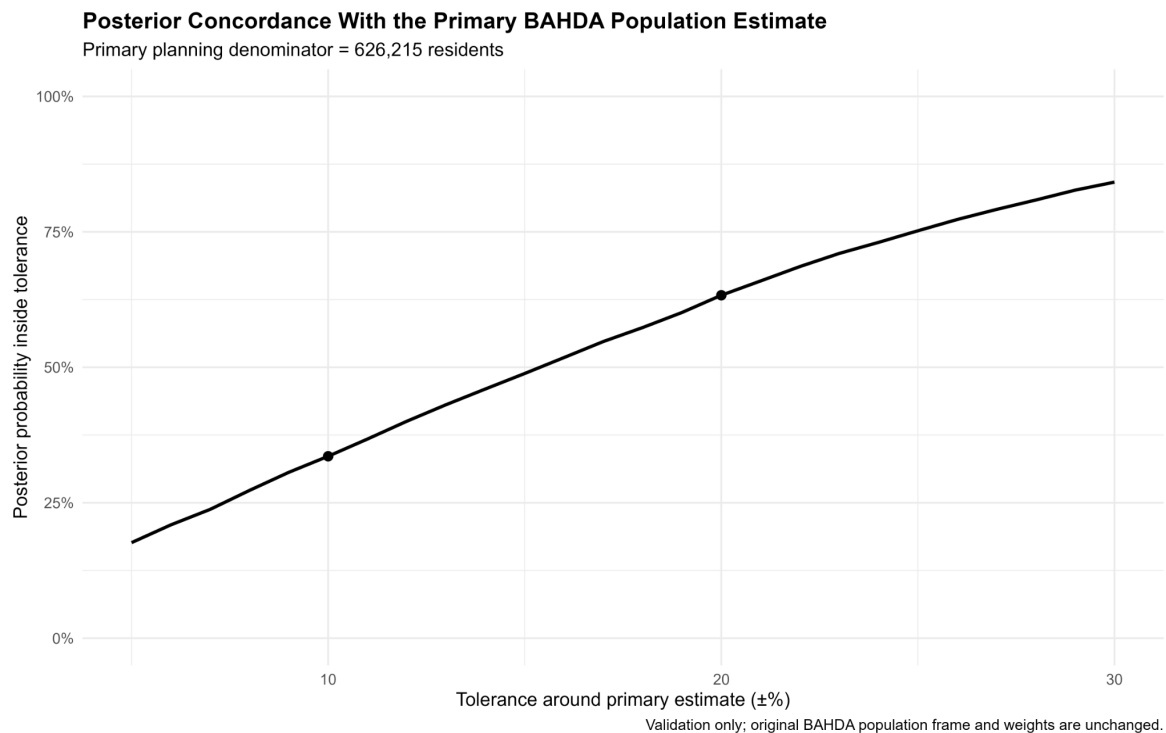


Figure 2.6. Posterior concordance with the primary BAHDA population estimate

Interpretation. The Bayesian median is close to the primary planning magnitude and the primary estimate is contained within the 95% posterior credible interval. The probability bands should be read as model-based concordance with the existing denominator, not as independent field validation.

2.16.4 MCMC Diagnostics

A separate four-chain diagnostic analysis assessed simulation behaviour under different initial random streams. Each chain used 1,000 burn-in iterations followed by 5,000 retained draws, yielding 20,000 retained diagnostic draws in total. Diagnostic assessment included trace plots, autocorrelation functions, the Gelman–Rubin potential scale reduction statistic ($\hat{R}$) and effective sample size (ESS).

Across the monitored district, stratum and family-bias parameters, the maximum $\hat{R}$ was 1.0102 and the minimum ESS was 294. All monitored parameters satisfied the conventional $\hat{R} < 1.05$ criterion; the maximum value was marginally above the more stringent 1.01 threshold. Trace plots showed substantial overlap among chains, while the autocorrelation analysis showed residual serial dependence in some parameters. The diagnostics therefore support use of the model as a secondary validation analysis while also justifying cautious interpretation of the posterior width.

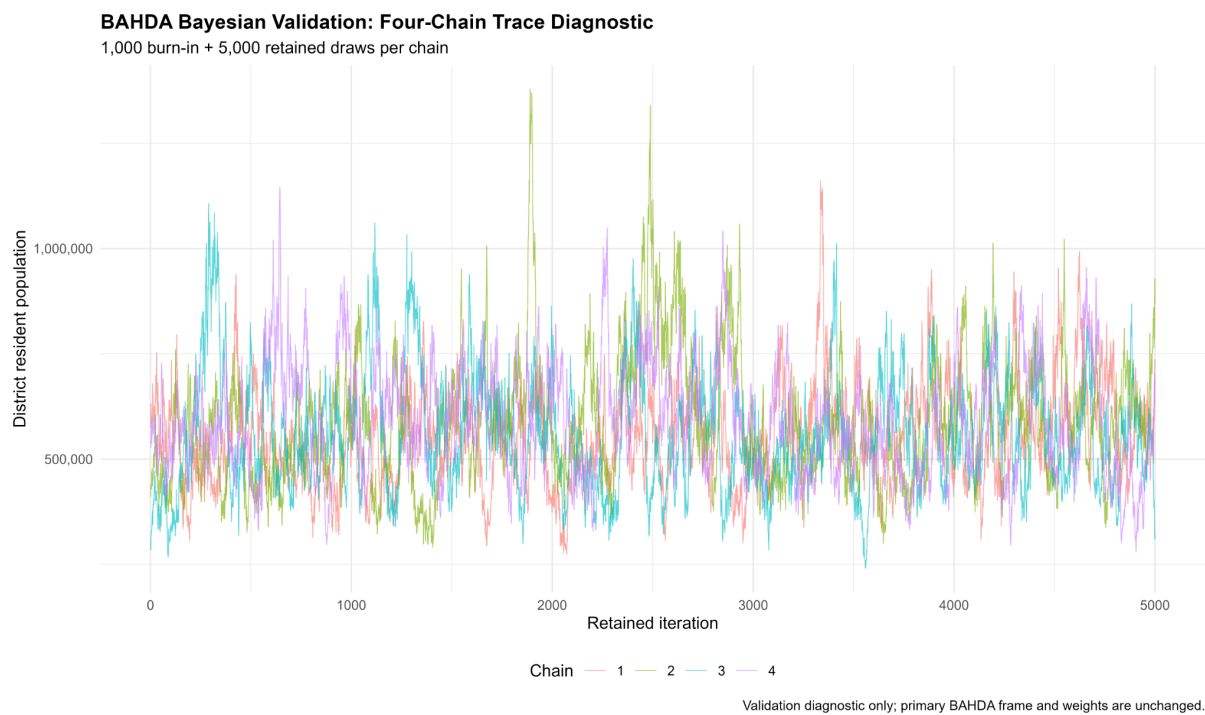


Figure 2.7. Four-chain Bayesian trace diagnostic

Note. Each diagnostic chain retained 5,000 post-burn-in draws. Numerical convergence assessment is based on $\hat{R}$ and ESS in addition to visual trace and autocorrelation review.

2.16.5 Prior-Sensitivity Analysis

The Bayesian synthesis was repeated under moderately tighter and moderately weaker prior specifications. In these independent sensitivity refits, the base specification produced a median of 594,941 residents; the tighter specification produced 606,493 residents, a 1.94% increase; and the weaker specification produced 598,498 residents, a 0.60% increase. The maximum absolute shift in posterior median population across these alternative priors was therefore 1.94%, indicating that the central synthesis was not materially driven by reasonable prior changes, although the weaker prior widened the credible interval.

Table 2.2. Prior-sensitivity analysis of the Bayesian population synthesis

Prior specification	Median population	95% CrI	Change from sensitivity baseline
Base	594,941	395,940–942,970	Reference
Moderately tighter	606,493	437,078–840,813	+1.94%
Moderately weaker	598,498	307,518–1,209,353	+0.60%

Note. These are independent sensitivity refits. Their internal baseline is used to quantify relative prior influence and does not replace the principal Bayesian synthesis result reported in Table 2.1.

2.16.6 Leave-One-Family-Out Sensitivity

A leave-one-family-out analysis tested whether the Bayesian synthesis was disproportionately dependent on one international population-model family. The full reference refit produced a median of 601,262 residents. Excluding WorldPop produced 628,227 residents (+4.48%). Excluding GHS-POP reduced the median to 452,023 (−24.82%), excluding GHSL-WUP-POP produced 457,277 (−23.95%), and excluding GPWv4 increased the median to 701,213 (+16.62%).

Table 2.3. Leave-one-population-family-out Bayesian sensitivity analysis

Specification	Median population	95% CrI	Change from full refit
All four families	601,262	358,124–982,686	Reference
Exclude WorldPop	628,227	395,139–1,023,485	+4.48%
Exclude GHS-POP	452,023	274,388–800,344	-24.82%
Exclude GHSL-WUP-POP	457,277	269,604–770,712	-23.95%
Exclude GPWv4	701,213	455,460–1,174,490	+16.62%

Note. The leave-one-family-out refits use a common internal full-family reference. Their role is sensitivity assessment, not replacement of the principal 580,054-resident Bayesian validation estimate.

The leave-one-family-out results show substantially greater sensitivity to population-family composition than to reasonable prior choice. This is consistent with the large absolute differences among the source families and strengthens the rationale for BAHDA's multi-family strategy rather than reliance on one international surface.

2.16.7 Explicit Separation of Population-Estimation Uncertainty

BAHDA reports four distinct uncertainty components rather than treating them as statistically interchangeable.

Source-model disagreement. The four family district totals ranged from 425,940 residents for GPWv4 to 759,144 for GHSL-WUP-POP. The four-family median was 588,068 residents and the coefficient of variation was 29.55%. These values quantify between-model dispersion and are not survey confidence intervals.

Table 2.4. District population and household totals by model family

Population family	Residents	Households
GPWv4	425,940	53,492
WorldPop	454,316	56,558
GHS-POP	721,820	90,077
GHSL-WUP-POP	759,144	94,761

Note. The median across the four district family totals is 588,068 residents and 73,317.5 households. The population-family coefficient of variation is 29.55%.

Bayesian synthesis uncertainty. The principal Bayesian 95% credible interval was 354,171–863,051 residents. This represents posterior uncertainty conditional on the four population-family signals and the Bayesian model assumptions.

Spatial-support uncertainty. Across the seven products, the population-weighted mean distance from populated raster cells to their nearest BAHDA GPS anchor ranged from 9.72 km to 30.71 km, with a median of 11.91 km. The analytical workflow used a 15-km spatial-support flag. Across products, 17.44% to 61.50% of estimated population was associated with populated cells whose nearest GPS anchor exceeded this threshold. WorldPop R2025A had the closest population-weighted support at 9.72 km, while adjusted GPWv4 had the weakest at 30.71 km and 61.50% of its population beyond the 15-km flag. These quantities are spatial-support diagnostics, not probability intervals.

Household-size uncertainty. Approximate 95% intervals around the observed stratum mean household sizes were 7.94–8.54 for Sheikh Ahmed Salan, 7.85–8.50 for Sheikh Ali Jawhar, 7.80–8.41 for Sheikh Makahil, 7.77–8.34 for Sheikh Osman, 7.27–8.31 for Peri-Urban and 7.74–8.55 for Rural. This uncertainty was propagated through the Bayesian household calculations.

Table 2.5. Population-estimation uncertainty framework

Component		Central	Lower	Upper	Interpretation
Source-model (residents)	disagreement	588,068	425,940	759,144	Four-family dispersion; CV 29.55%; not a probability interval.
Bayesian synthesis (residents)		580,054	354,171	863,051	95% posterior credible interval from 5,000 retained draws.
Spatial support (km)		11.91	9.72	30.71	Population-weighted nearest-GPS support across seven products; 15-km flag used.
Household-size (households)	propagation	71,581	43,672	106,744	Posterior household interval including household-size uncertainty.

2.16.8 Reproducibility and Publication Rule

The validation workflow retained a seven-source analytical manifest recording product family, release, population reference year, nominal and actual resolution, coordinate reference system, source location and local analytical file metadata. The Bayesian settings record the random seed (2026), 6,000 total iterations, 1,000 burn-in iterations, 5,000 retained draws, prior parameters and the 15-km nearest-GPS diagnostic threshold. GPWv4 was adjusted to the 2025 reference period using the documented factor 1.180380. These files form part of the BAHDA reproducibility record.

✓ Publication rule

The primary BAHDA-2026 planning frame remains **626,215 residents and 78,209 households**. Bayesian synthesis, convergence diagnostics, prior sensitivity, leave-one-family-out analysis, posterior concordance and uncertainty decomposition are reported only as robustness and uncertainty evidence. They do not replace the original six-stratum population frame, alter the published analytical weights or modify any substantive Atlas result.

The present Bayesian synthesis uses the same international population-family evidence that contributes to the primary ensemble and therefore is not independent field-enumeration validation. Independent local validation would require complete enumeration within independently selected geographic areas and comparison of observed residents with corresponding model predictions. Such independent enumeration and a B-PEU spatial model were not part of BAHDA-2026 and are not claimed in this Atlas.

2.17 Sample Size and Operational Reserve

The approved effective target was 2,700 households. A 10 percent operational reserve, equal to 270 households, was added to protect the analytical sample against refusal, absence, incomplete interviews and other field losses. The gross operational target was therefore:

$$n_{\text{gross}} = 2,700 \times 1.10 = 2,970.$$

Fieldwork produced 2,923 submissions, of which 2,896 were consented and retained. The final sample represented 97.5 percent of the gross target and 107.3 percent of the effective target.

These are operational completion measures rather than a formal household response rate. A formal response rate requires a consistent denominator of selected, occupied, eligible and approached households in every segment. That denominator was not retained completely.

2.18 Sampling Structure and Household Selection

The field system used a stratified multistage cluster design. The final framework contained 96 clusters across the six strata, with 16 clusters in every stratum. Each stratum comprised four zones with four operational sub-zones/clusters per zone. The four urban Sheikh strata contributed 64 field-labelled clusters. The Peri-Urban stratum contributed 16 clusters (four each in the east, south, west and north directions), while the Rural stratum contributed 16 clusters (eight along the Djibouti Road and eight along

the Hargeisa Road). Peri-urban and rural analytical labels were GPS-reconstructed where complete final electronic cluster variables were unavailable.

In urban areas, residential blocks were used for field movement. The first household was selected through a lottery-based random start, after which enumerators applied a fixed interval of three by passing two households and approaching the next. The procedure was intended to distribute interviews through the assigned block and reduce interviewer discretion.

In peri-urban and rural residential concentrations, eligible households were counted and numbered. One household was selected by lottery where fewer than ten households were present, and two distinct households were selected without replacement where ten or more were present. Teams then moved to another concentration to preserve spatial spread.

Exact household inclusion probabilities would require the archived number of eligible households and number selected in every block or concentration. These complete denominators were not consistently available in the final analytical package. The resulting weight is therefore described as a model-assisted stratum weight rather than an exact segment-level design weight.

2.19 Achieved Sample Distribution

The four urban strata contributed 2,460 consented households: 627 from Sheikh Ahmed Salan, 615 from Sheikh Ali Jawhar, 616 from Sheikh Makahil and 602 from Sheikh Osman. Peri-Urban contributed 217 households and Rural 219.

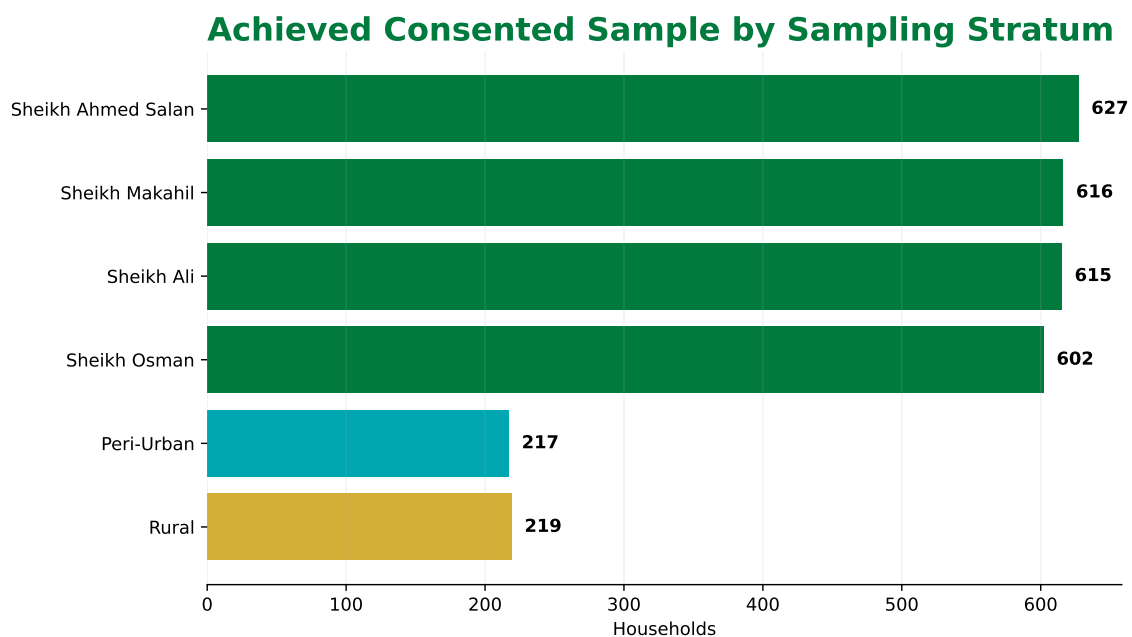


Figure 2.8. Achieved consented sample by sampling stratum

The achieved sample was intentionally strong in the four urban strata, but it did not reproduce the model-assisted household distribution. Urban households represented 84.9 percent of the sample, compared with an estimated 48.7 percent of the household frame. Peri-urban households represented 7.5 percent of the sample but 40.3 percent of the estimated frame. Rural households represented 7.6 percent of the sample and 11.0 percent of the frame.

2.20 Construction of the Analytical Weights

For stratum h , the raw expansion factor was:

$$w_h = \frac{H_h}{n_h},$$

where H_h is the model-assisted number of households and n_h is the achieved consented sample. The factor was normalized by the average expansion represented by the full sample:

$$w_h^* = \frac{w_h}{78,209/2,896}.$$

The normalized variable is stored as `wgt`. It has a mean of one and sums to 2,896. The raw expansion factor is stored as `wgt_raw`; a DHS-style integer-scaled form is stored as `wgt_dhs`.

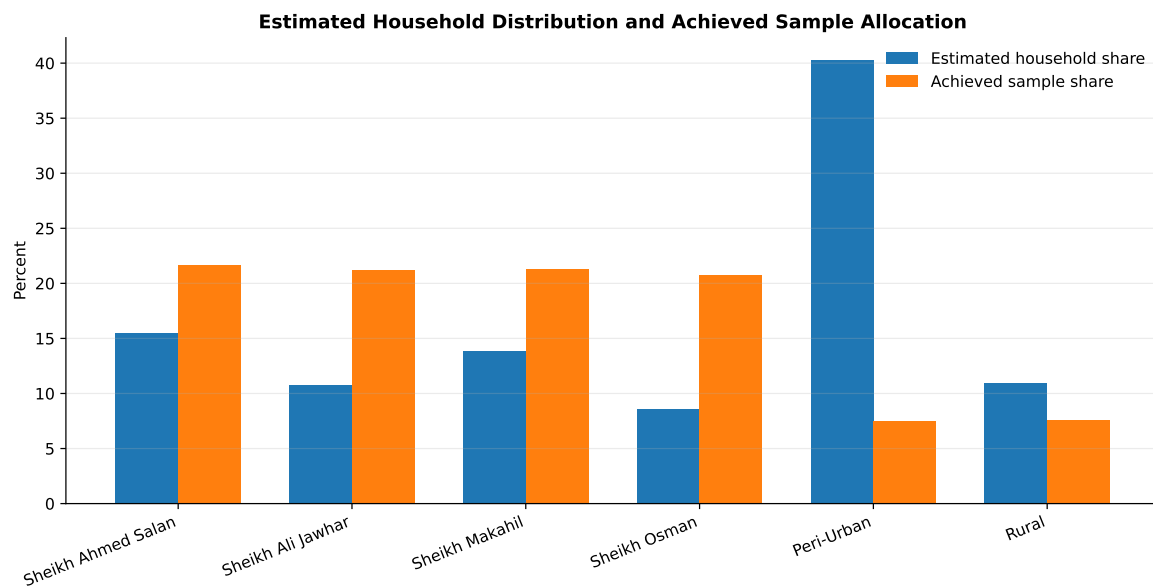


Figure 2.9. Estimated household distribution and achieved sample allocation

The largest adjustment applies to the peri-urban stratum because its estimated household share is substantially larger than its achieved sample share. The normalized peri-urban weight is approximately 5.378. The rural weight is approximately 1.449. The four urban weights range from approximately 0.413 to 0.715 and therefore reduce their contribution to district-wide estimates.

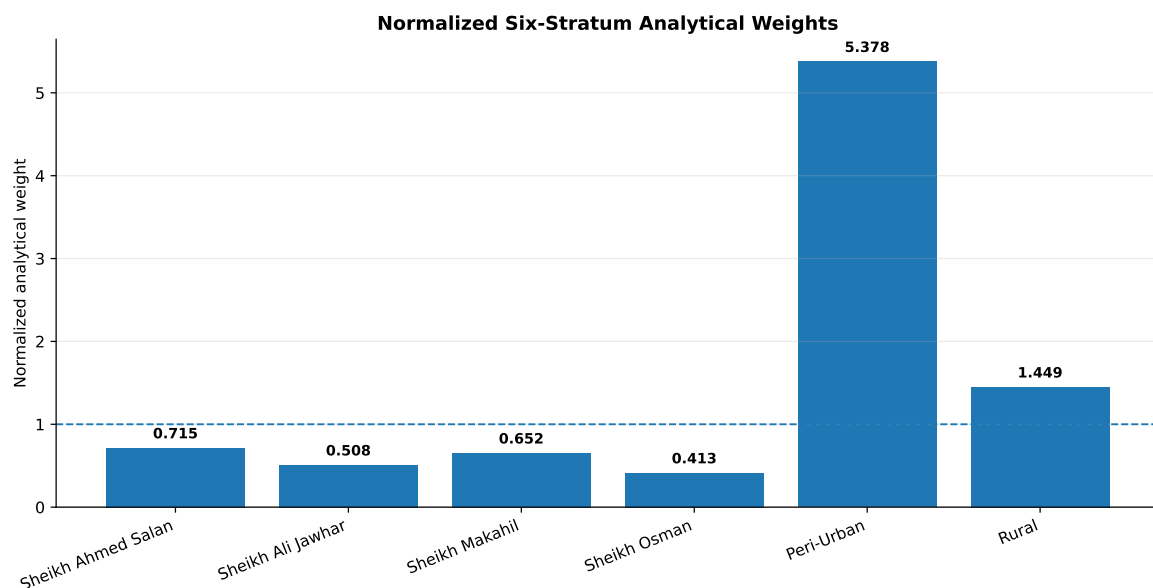


Figure 2.10. Normalized six-stratum analytical weights

2.21 Demonstrated Effect of Weighting

When the six strata are grouped as Urban, Peri-Urban and Rural, the residence distribution changes substantially after weighting. The unweighted sample is 84.9 percent urban, 7.5 percent peri-urban and 7.6 percent rural. The weighted household frame is approximately 48.7 percent urban, 40.3 percent peri-urban and 11.0 percent rural.

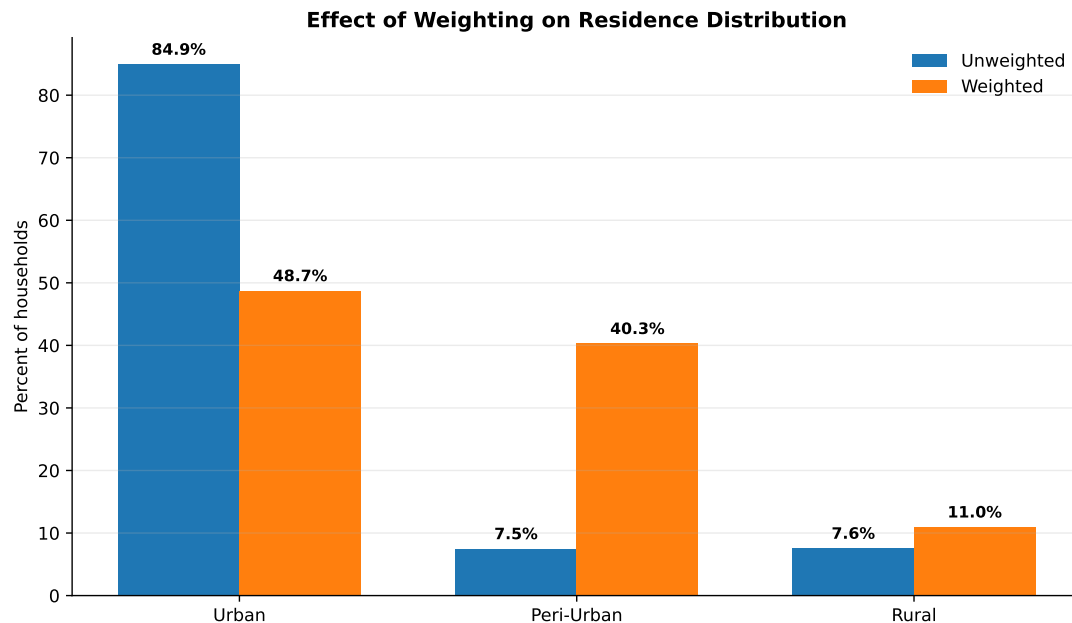


Figure 2.11. Effect of weighting on the residence distribution

This change confirms that overall district findings should use the normalized analytical weight. It also explains why weighted and unweighted percentages can differ, especially for indicators strongly associated with residence. A difference is not automatically an error; it can be the expected result of correcting disproportionate stratum representation.

Normalized weighted counts may contain decimals and are not observed household counts. Estimated numbers of affected households require separate application of the planning totals and appropriate uncertainty analysis.

2.22 Questionnaire Development, Validation and Translation

Questionnaire development began with contributions from academic departments and schools. The modules were reviewed for conceptual relevance, duplication, respondent burden, sensitivity and analytical usefulness. Deans, faculty representatives and the BAHDA Task Force harmonised wording and response categories and organised the content into five pillars.

The questionnaire was translated into Somali. Translation was treated as a substantive validation stage. Review considered whether technical concepts remained understandable, response options were culturally and contextually appropriate, and trained enumerators could administer each question consistently.

Question types included categorical responses, ordered scales, numeric fields, free text, observations, conditional questions and multiple-response items. Skip patterns restricted modules to eligible households. The final approved framework contains 312 item-level analyses across the five pillars.

2.23 Training, Piloting and Field Preparation

Survey Team Capacity Building

Before field deployment, BAHDA-2026 implemented structured preparation for enumerators, supervisors, coordinators and technical personnel. Training covered the study objectives, research ethics and informed consent, questionnaire administration, neutral interviewing, question intent, skip patterns, household identification, KoboToolbox, device use, GPS procedures, timestamps, field communication, quality assurance, supervision and escalation of field problems. Classroom sessions were combined with practical exercises and field simulation so that teams could familiarise themselves with the operational workflow before deployment across the six sampling strata.

Piloting was iterative. The principal pilot period of 14–15 May 2026 produced 986 records, while the broader pilot-related dataset contained 1,191 records. Feedback informed revisions to wording, routing, questionnaire burden, identifiers, metadata, location capture, GPS procedures and KoboToolbox version control.



(a) Enumerator orientation and research procedures



(b) Digital fieldwork and questionnaire preparation



(c) Hands-on mapping, devices and operational preparation

Plate 2.1. Survey Team Capacity Building and Operational Readiness

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.

2.24 Digital Data Collection and Field Implementation

Data were collected electronically through KoboToolbox on mobile devices. The digital form incorporated question routing, coded responses, timestamps, enumerator information, household identifiers and GPS coordinates. Electronic collection reduced later data-entry requirements and allowed submissions to be reviewed during implementation.

Teams were deployed through the geographic framework under supervisors, faculty coordinators and the central implementation team. Field coordination supported access, transport, troubleshooting, cluster coverage and submission monitoring.

Instrument Development and Fieldwork Quality Assurance

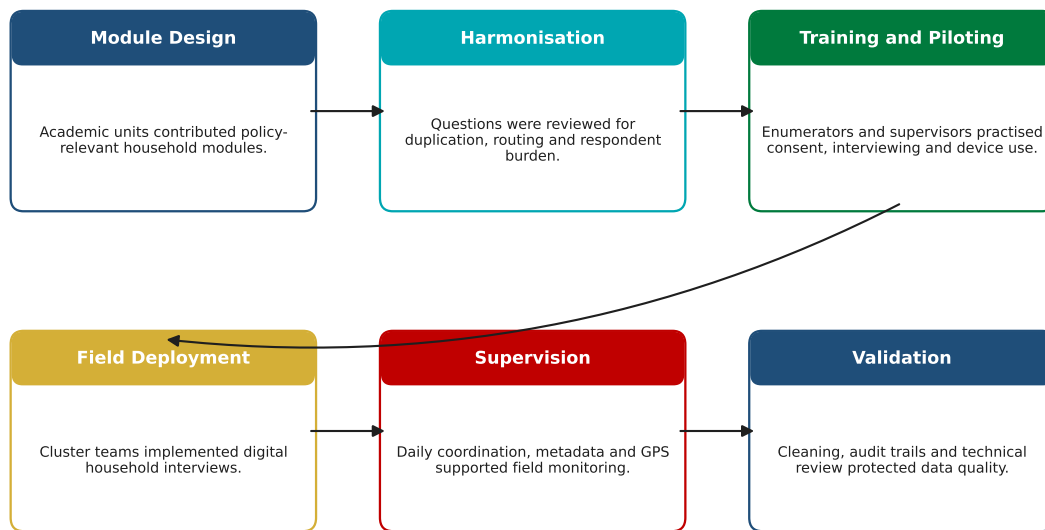


Figure 2.12. Fieldwork and quality-assurance workflow



(a) Enumerator division and field-team organisation



(b) Coordinated deployment to assigned areas



(c) Transport and movement of field teams

Plate 2.2. Enumerator Deployment and Transport Coordination

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.



(a) Sheikh Ali Jawhar



(b) Central Borama operational area



(c) Sheikh Makahil



(d) Sheikh Osman

Plate 2.3. Urban Field Deployment Across Selected BAHDA Sampling Strata

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.



(a) Direct institutional field supervision



(b) Supervisory presence during deployment

Plate 2.4. Direct institutional field supervision and Supervisory presence during deployment

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.

Field Supervision and Quality Assurance



(a) Peri-urban deployment



(b) Rural field team in Quljeed



(c) Transport to rural operational areas

Plate 2.5. Peri-Urban and Rural Field Deployment

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.

2.25 Field Supervision and Quality Assurance

Quality assurance was applied throughout the survey lifecycle. It included multidisciplinary instrument review, Somali translation, training observation, pilot testing, supervisor review, digital validation, GPS capture, submission monitoring, consent filtering, duplicate assessment, identifier review, range checks, missingness assessment and analytical reconciliation.

Supervisors monitored household assignment, consent, questionnaire completion, GPS capture and submission consistency. The central team reviewed volumes, timestamps, metadata and unusual records and followed up where required. GPS flags and reconstructed geographic labels were retained transparently rather than being presented as original field information.

2.26 Data Management and Harmonisation

The data-management workflow preserved the original submissions while creating harmonised analytical variables. Procedures included consent filtering, duplicate and identifier review, range checks, label harmonisation, missingness assessment, recoding of multiple-response items, construction of derived indicators and production of pillar-specific datasets.

Common variables included household identifier, stratum, residence, household size, respondent characteristics, household-head characteristics, GPS information, consent, wealth measures and analytical weights. This ensured that all five pillar chapters used a consistent household and geographic framework.

Stata files were used as the final pillar analytical datasets. R and Python production systems generated item tables, figures, heatmaps, audits and publication inputs. Short titles were used in figures, while full questionnaire wording was retained in metadata and the indicator framework.

2.27 Derived Indicators

Food insecurity was summarised from eight Food Insecurity Experience Scale items, producing a raw score and ordinal and binary classifications. Household wealth was estimated using a pooled asset-based principal-components approach and expressed as a continuous score, quintiles and a bottom-40 versus upper-60 classification.

Residence was defined as Urban for the four named urban strata, Peri-Urban for the peri-urban stratum and Rural for the rural stratum. Derived indicators and recoding decisions are documented in the analytical code and should remain unchanged when reproducing the published estimates.

2.28 Corrected Multiple-Response Analysis

The final package contains 13 multiple-response questions and 78 genuine binary option variables. Kobo also stored one unsuffixed parent field for each question containing combined selections. Direct comparison with the pillar datasets and consented raw data confirmed that the option-specific binary variables were the valid analytical fields, while the parent fields were not response options.

The final multiple-response procedure therefore excludes parent fields, uses full option labels, defines one eligible denominator for each question, reports weighted and unweighted percentages of cases and responses, audits “None plus another option” contradictions, and retains raw and cleaned-sensitivity outputs. The audit identified 257 question-level contradictions, which are documented rather than silently removed.

Corrected Multiple-Response Analysis

All genuine options remain separate in tables, figures and subgroup analysis.

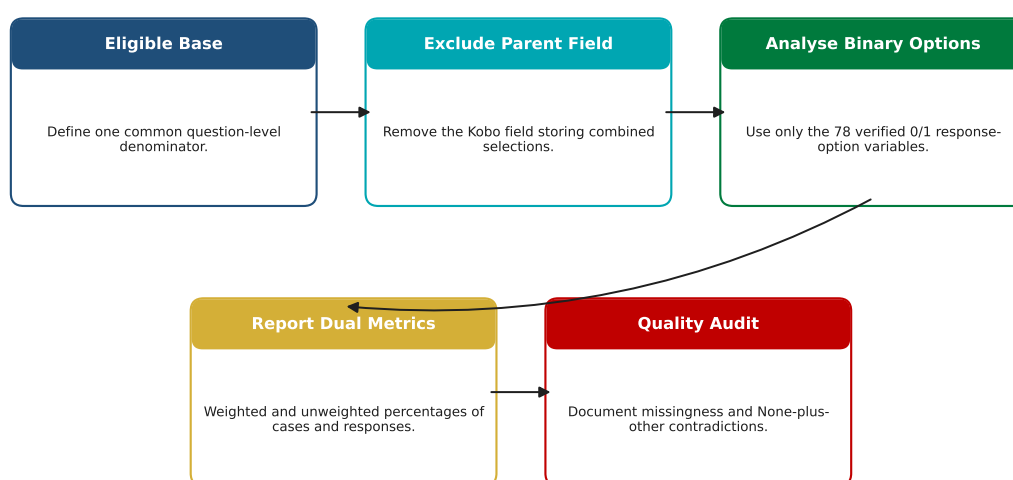


Figure 2.13. Corrected multiple-response analysis

2.29 Statistical Analysis and Reporting

The principal analysis is descriptive. Categorical variables are summarised with unweighted counts, normalized weighted counts, unweighted percentages and weighted percentages. Numeric variables are summarised with valid sample size, weighted and unweighted means, standard deviations, medians and observed ranges where appropriate.

Weighted percentages are the principal district-level results. Unweighted counts and percentages remain visible to show the observed sample and assess the effect of weighting. Stratum-specific estimates are calculated within strata. Conditional modules use eligible valid-response denominators. Multiple-response categories are treated as separate selections and are not expected to sum to 100 percent.

Household wealth quintiles are relative to the BAHDA analytical population and are not directly equivalent to quintiles in another survey. Selected findings are compared by residence, wealth, sex of household head and original stratum. Inferential analysis, where used, is interpreted cautiously because complete segment-level household probabilities are unavailable. For the same reason, formal design-based confidence intervals are not used as the principal reporting standard in this edition; future rounds should preserve complete selection probabilities so that uncertainty can be estimated directly from the final survey design.

Weighted, Unweighted and Subgroup Analysis Framework

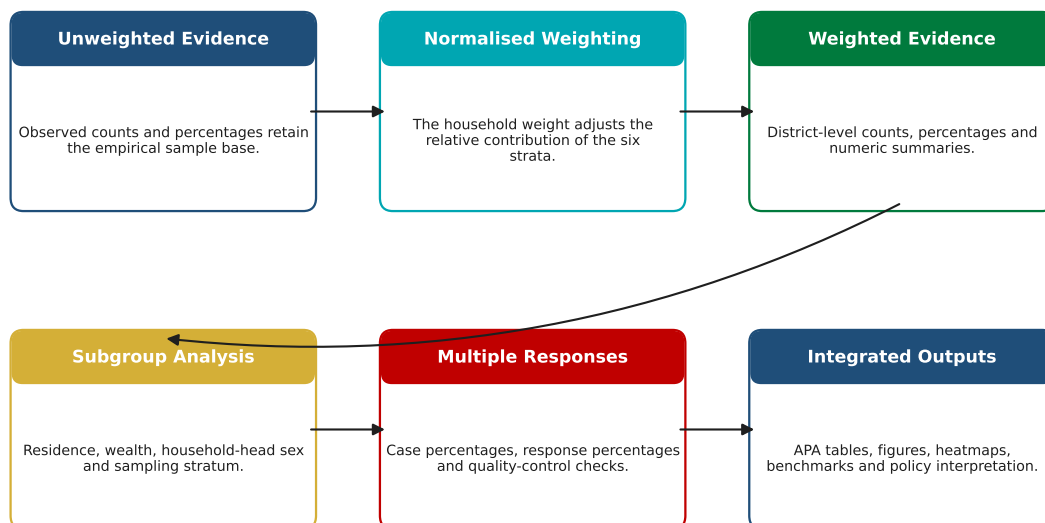


Figure 2.14. Weighted, unweighted and subgroup analysis

2.30 Somaliland Benchmark Harmonisation

Chapter 8 compares thirty indicators with Awdal and Somaliland findings from the Somaliland Health and Demographic Survey 2020 and the Somaliland Integrated Household Budget Survey 2022. Each comparison records source, year, geography, unit, numerator, denominator and an interpretation note. Comparability codes distinguish direct, harmonised and contextual comparisons.

The benchmark is not a trend analysis. Surveys differ in year, design, residence composition, eligible population, wording, reference period and weighting. Apparent differences are interpreted only within these limitations.

2.31 Ethical Considerations and Confidentiality

Participation was voluntary and required informed consent. Enumerators explained the assessment, respected non-participation and were trained in confidentiality, neutral administration and avoidance of coercion. Only consented records were included in the analytical datasets.

Published outputs use de-identified household records. Exact household GPS coordinates are protected. Public maps use aggregated, reconstructed or otherwise protected spatial evidence. Access to detailed analytical or spatial data should follow Amoud University data-governance procedures.

The ethical and participant-protection procedures documented for BAHDA-2026 were formally acknowledged by the Amoud University Institutional Review Board in its *Institutional Ethics and Participant Protection Statement – BAHDA-2026*, Ref. **AU/IRB/21EC/2026**, dated **10 August 2026**. The statement confirms voluntary participation, informed consent, confidentiality, de-identification and aggregated spatial reporting. It also records that documentary confirmation of a formal prior IRB protocol approval number was unavailable; accordingly, no retrospective approval number was created or assigned. Ref. AU/IRB/21EC/2026 is the reference number of the institutional ethics and participant-protection statement, not a retrospective protocol approval number.

2.32 Methodological Strengths and Limitations

Major strengths include multidisciplinary institutional ownership, a large consented sample, inclusion of urban, peri-urban and rural communities, a corrected GPS-supported geographic framework, digital data collection, repeated piloting, field supervision, explicit denominator reporting, dual weighted and unweighted analysis, and transparent use of seven population products.

The family-balanced ensemble prevents product families represented by multiple releases or resolutions from receiving excessive influence. Stratum-specific household-size conversion and GPS-based classification make the planning frame locally responsive. The population denominator is further supported by a separately reported Bayesian four-family validation layer with multi-chain diagnostics, prior-sensitivity analysis, leave-one-family-out analysis, posterior concordance and explicit separation of source-model, Bayesian, spatial-support and household-size uncertainty. The complete numerical record is retained in the detailed tables and reproducibility files.

Limitations include the model-assisted rather than census-based household frame; substantial disagreement among gridded population families; sensitivity of Bayesian refits to family composition; GPS support that becomes less local in dispersed areas; observed household-size uncertainty; incomplete block and residential-concentration listing denominators; inability to calculate a formal household response rate; and the absence of exact segment-level design weights. The Bayesian synthesis uses the same international model-family evidence and is therefore not independent field-enumeration validation. Survey findings may also be affected by recall, proxy reporting, social desirability and item-specific missingness. Cross-sectional associations do not establish causality.



(a) RIC technical planning and analytical coordination



(b) Review of analytical outputs and publication evidence

Plate 2.6. RIC technical planning and analytical coordination and Review of analytical outputs and publication evidence

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.

Data Review, Statistical Analysis and Technical Interpretation

Reporting note. Methodological transparency is a central quality principle. Limitations, reconstructed labels, model ranges, denominators and weighting assumptions are reported so that users can judge the appropriate strength of inference.

2.33 Reproducibility and Future Improvements

The reproducibility package should retain the seven-source manifest, archived raster filenames, GPW growth adjustment, processing scripts, restricted GPS-quality files, populated-cell assignments, household-size summaries, product-by-stratum estimates, family medians, final ensemble estimates, Bayesian analytical settings, posterior summaries, four-chain diagnostics, prior-sensitivity results,

leave-one-family-out outputs, concordance probabilities, uncertainty summaries, weighting code, Kobo XLSForm, item dictionary, codebook, data-cleaning scripts and final de-identified analytical datasets.

Future BAHDA rounds should assign stable numeric codes to every stratum, zone, cluster, segment, enumerator and selected household before deployment. They should preserve the number of listed and selected households in each segment and record selected, occupied, eligible, attempted, completed, refused, absent and ineligible dispositions. These improvements would permit exact base weights, non-response adjustment, full response-rate tables and more complete survey-design variance estimation. A future population-validation round could additionally conduct complete enumeration within independently selected geographic validation areas, allowing direct empirical comparison between observed residents and BAHDA population-model predictions.

2.34 Detailed Methodological Tables

The tables in this section provide the auditable numerical record supporting the spatial household frame, sample adjustment and analytical weighting. They should be read with the methodological narrative above.

Table 2.6. BAHDA-2026 design and operational profile

Methodological feature	BAHDA-2026 specification
Study design	Cross-sectional, multidisciplinary household assessment.
Operational geography	Six strata: four field-labelled urban strata, a surrounding peri-urban belt and one rural stratum represented through two outward road corridors.
Cluster framework	96 clusters: 16 clusters in each of six strata; 64 field-labelled urban clusters, 16 peri-urban analytical clusters, and 16 rural analytical clusters (8 Djibouti Road + 8 Hargeisa Road).
Effective household target	2,700 households.
Gross operational target	2,970 households after adding a 10% operational reserve.
Submitted records	2,923 household submissions.
Consented analytical sample	2,896 households.
Population evidence	Seven gridded population products grouped into four model families.
Model-assisted frame	78,209 households and 626,215 residents.
Primary district estimates	Normalized six-stratum analytical weights; unweighted counts retained.

Table 2.7. Seven gridded population products used in the BAHDA ensemble

Product	Family	Year	Role and archived description
WorldPop_R2025A_2025_CN	WorldPop	2025	WorldPop current constrained 100m.
WorldPop_R2024B_2025_CN	WorldPop	2025	WorldPop previous constrained 100m release.
GHSL_GHSPop_2025_1km	GHSL_GHSPop	2025	GHSL GHS-POP R2023A 1km.
GHSL_GHSPop_2025_30ss	GHSL_GHSPop	2025	GHSL GHS-POP R2023A 30 arcsec.
GHSL_WUPPop_2025_1km	GHSL_WUP	2025	GHSL-WUP-POP R2025A 1km.
GHSL_WUPPop_2025_30ss	GHSL_WUP	2025	GHSL-WUP-POP R2025A 30 arcsec.
CIESIN_GPWv4_2020_to_2025	GPWv4	2020	CIESIN GPWv4 Rev11 density 2020; scaled to 2025 using World Bank Somalia population growth.

Note. The exact local file paths are archived in the geospatial reproducibility package. The two WorldPop, two GHS-POP and two GHSL-WUP products were balanced through family medians before the final ensemble was calculated.

Table 2.8. Adjustment of the GPWv4 2020 surface to the 2025 reference period

Somalia population 2020	Somalia population 2025	Growth factor	Method
16,651,191	19,654,739	1.180380	Population ratio

Note. The archived manifest identifies the method as the World Bank Somalia 2020-to-2025 population ratio. The adjustment aligns the GPWv4 reference year with the 2025 estimation period; it does not change GPWv4 spatial allocation.

Table 2.9. Observed household size used for stratum-specific conversion

Stratum	Valid <i>n</i>	Mean	SD	Median
Sheikh Ahmed Salan	627	8.239	3.855	8
Sheikh Ali Jawhar	615	8.179	4.113	8
Sheikh Makahil	616	8.102	3.841	8
Sheikh Osman	602	8.053	3.594	7
Peri-Urban	206	7.791	3.833	7
Rural	219	8.146	3.037	8

Note. The population estimate for each product and stratum was divided by the corresponding observed mean household size. Valid household-size denominators differ slightly from the full analytical sample because of item-level validity.

Table 2.10. GPS inside-outside quality-assurance summary

Stratum	Inside official polygon	Outside official polygon	QA records	Inside (%)
Sheikh Ahmed Salan	616	11	627	98.2
Sheikh Ali Jawhar	615	0	615	100.0
Sheikh Makahil	605	11	616	98.2
Sheikh Osman	600	2	602	99.7
Peri-Urban	199	10	209	95.2
Rural	174	53	227	76.7

Note. These are spatial quality flags, not automatic exclusion rules. The BAHDA strata are operational analytical zones rather than official administrative boundaries. Records outside an official polygon were reviewed against GPS location, field assignment and the corrected stratum logic.

Table 2.11. Seven-source population and household estimates by BAHDA stratum

Product	Stratum	Population	Mean HH size	Estimated HH	Populated cells	Mean nearest GPS (km)	Population flagged (%)
WorldPop R2025A	Peri-Urban	112,146	7.791	14,394	19,421	3.11	4.87
WorldPop R2025A	Rural	74,350	8.146	9,127	13,989	5.97	13.96
WorldPop R2025A	Ahmed Salan	83,429	8.239	10,126	1,239	0.11	0.00
WorldPop R2025A	Ali Jawhar	77,020	8.179	9,417	1,259	0.14	0.00
WorldPop R2025A	Makahil	64,320	8.102	7,938	983	0.09	0.00
WorldPop R2025A	Osman	62,836	8.053	7,803	1,640	0.30	0.00
WorldPop R2024B	Peri-Urban	171,707	7.791	22,038	19,425	4.08	6.80
WorldPop R2024B	Rural	124,418	8.146	15,273	13,992	5.16	10.64
WorldPop R2024B	Ahmed Salan	33,157	8.239	4,024	1,239	0.33	0.00
WorldPop R2024B	Ali Jawhar	35,995	8.179	4,401	1,259	0.35	0.00
WorldPop R2024B	Makahil	32,103	8.102	3,962	983	0.23	0.00
WorldPop R2024B	Osman	37,151	8.053	4,613	1,640	0.99	0.00
GHS-POP 1 km	Peri-Urban	271,325	7.791	34,824	915	1.78	0.79
GHS-POP 1 km	Rural	37,100	8.146	4,554	643	8.79	24.17
GHS-POP 1 km	Ahmed Salan	117,119	8.239	14,215	71	0.93	0.00
GHS-POP 1 km	Ali Jawhar	85,402	8.179	10,442	19	0.10	0.00
GHS-POP 1 km	Makahil	141,587	8.102	17,475	32	0.33	0.00
GHS-POP 1 km	Osman	69,932	8.053	8,684	48	0.08	0.00
GHS-POP 30 arcsec	Peri-Urban	277,724	7.791	35,646	1,069	1.88	0.67
GHS-POP 30 arcsec	Rural	37,036	8.146	4,546	753	8.51	23.71
GHS-POP 30 arcsec	Ahmed Salan	165,322	8.239	20,065	97	0.51	0.00

Continued on next page

Table 2.11 continued

Product	Stratum	Population	Mean HH size	Estimated HH	Populated cells	Mean nearest GPS (km)	Population flagged (%)
GHS-POP arcsec	30 Ali Jawhar	77,850	8.179	9,518	22	0.09	0.00
GHS-POP arcsec	30 Makahil	113,748	8.102	14,039	42	0.25	0.00
GHS-POP arcsec	30 Osman	49,495	8.053	6,146	65	0.12	0.00
GHSL-WUP km	1 Peri-Urban	298,949	7.791	38,370	1,235	1.75	0.71
GHSL-WUP km	1 Rural	40,378	8.146	4,957	899	8.94	24.59
GHSL-WUP km	1 Ahmed Salan	121,716	8.239	14,773	70	0.94	0.00
GHSL-WUP km	1 Ali Jawhar	90,181	8.179	11,026	22	0.10	0.00
GHSL-WUP km	1 Makahil	143,609	8.102	17,725	49	0.33	0.00
GHSL-WUP km	1 Osman	70,518	8.053	8,757	57	0.08	0.00
GHSL-WUP arcsec	30 Peri-Urban	290,434	7.791	37,277	1,821	1.89	0.74
GHSL-WUP arcsec	30 Rural	40,091	8.146	4,922	1,268	8.92	24.62
GHSL-WUP arcsec	30 Ahmed Salan	176,257	8.239	21,392	118	0.57	0.00
GHSL-WUP arcsec	30 Ali Jawhar	80,987	8.179	9,902	24	0.10	0.00
GHSL-WUP arcsec	30 Makahil	119,243	8.102	14,717	61	0.24	0.00
GHSL-WUP arcsec	30 Osman	45,924	8.053	5,703	76	0.19	0.00
GPWv4 to 2025	Peri-Urban	216,546	7.791	27,793	2,242	9.89	26.79
GPWv4 to 2025	Rural	159,719	8.146	19,607	1,575	11.57	34.71
GPWv4 to 2025	Ahmed Salan	21,245	8.239	2,579	272	1.78	0.00
GPWv4 to 2025	Ali Jawhar	2,720	8.179	333	24	1.15	0.00
GPWv4 to 2025	Makahil	17,305	8.102	2,136	89	1.67	0.00
GPWv4 to 2025	Osman	8,405	8.053	1,044	78	4.65	0.00

Note. The population-flag percentage uses the prespecified 15-km nearest-GPS spatial-support threshold documented in the final Bayesian analytical settings and reproducibility files. The flag is a diagnostic of local spatial support, not a sampling confidence interval or automatic exclusion rule.

Table 2.12. District totals from the seven international population products

Product	Population	Estimated households
GHSL-WUP 1 km	765,351	95,608
GHSL-WUP 30 arcsec	752,936	93,913
GHS-POP 1 km	722,465	90,194
GHS-POP 30 arcsec	721,175	89,960
WorldPop R2025A	474,101	58,805
WorldPop R2024B	434,531	54,311
GPWv4 to 2025	425,940	53,492
BAHDA GPS local ensemble	626,215	78,209

Note. The BAHDA estimate is not the arithmetic mean of these seven district totals. It is produced separately by stratum after balancing the four product families.

Table 2.13. Product-family median household estimates by stratum

Stratum	Product family	Family population	Family households
Sheikh Ahmed Salan	WorldPop	58,293.0	7,075.0
Sheikh Ahmed Salan	GHSL_GHSPop	141,220.5	17,140.0
Sheikh Ahmed Salan	GHSL_WUP	148,986.5	18,082.5
Sheikh Ahmed Salan	GPWv4	21,245.0	2,579.0
Sheikh Ali Jawhar	WorldPop	56,507.5	6,909.0
Sheikh Ali Jawhar	GHSL_GHSPop	81,626.0	9,980.0
Sheikh Ali Jawhar	GHSL_WUP	85,584.0	10,464.0
Sheikh Ali Jawhar	GPWv4	2,720.0	333.0
Sheikh Makahil	WorldPop	48,211.5	5,950.0
Sheikh Makahil	GHSL_GHSPop	127,667.5	15,757.0
Sheikh Makahil	GHSL_WUP	131,426.0	16,221.0
Sheikh Makahil	GPWv4	17,305.0	2,136.0
Sheikh Osman	WorldPop	49,993.5	6,208.0
Sheikh Osman	GHSL_GHSPop	59,713.5	7,415.0
Sheikh Osman	GHSL_WUP	58,221.0	7,230.0
Sheikh Osman	GPWv4	8,405.0	1,044.0
Peri-Urban	WorldPop	141,926.5	18,216.0
Peri-Urban	GHSL_GHSPop	274,524.5	35,235.0
Peri-Urban	GHSL_WUP	294,691.5	37,823.5
Peri-Urban	GPWv4	216,546.0	27,793.0
Rural	WorldPop	99,384.0	12,200.0
Rural	GHSL_GHSPop	37,068.0	4,550.0
Rural	GHSL_WUP	40,234.5	4,939.5
Rural	GPWv4	159,719.0	19,607.0

Note. For families represented by two products, the value is the within-family median. GPWv4 contributes one family estimate.

Table 2.14. Final BAHDA household and population estimates by six strata

Stratum	Households	Population	Family minimum HH	Family maximum HH	Family CV (%)
Sheikh Ahmed Salan	12,108	99,757	2,579	18,082	67.9
Sheikh Ali Jawhar	8,444	69,067	333	10,464	67.4
Sheikh Makahil	10,854	87,940	2,136	16,221	70.6
Sheikh Osman	6,719	54,107	1,044	7,415	54.8
Peri-Urban	31,514	245,535	18,216	37,824	29.6
Rural	8,570	69,809	4,550	19,607	69.0
Total	78,209	626,215	-	-	-

Note. The final point estimate is the median across the four family estimates within each stratum. Family minimum, maximum and coefficient of variation describe model dispersion; they are not survey confidence intervals.

Table 2.15. Model-assisted frame, achieved sample and final analytical weights

Stratum	Estimated HH	HH share (%)	Consented HH	Sample share (%)	Raw weight	Normalized weight
Sheikh Ahmed Salan	12,108	15.5	627	21.7	19.311	0.715067
Sheikh Ali Jawhar	8,444	10.8	615	21.2	13.730	0.508411
Sheikh Makahil	10,854	13.9	616	21.3	17.620	0.652456
Sheikh Osman	6,719	8.6	602	20.8	11.161	0.413285
Peri-Urban	31,514	40.3	217	7.5	145.226	5.377564
Rural	8,570	11.0	219	7.6	39.132	1.449034
Total/mean	78,209	100.0	2,896	100.0	-	1.000000 mean

Note. The normalized weight sums to the analytical sample size and has a mean of one. It corrects disproportionate representation across the six strata but does not reconstruct unavailable segment-level household inclusion probabilities.

Table 2.16. Operational completion and consent profile

Metric	Number/rate	Interpretation
Effective household target	2,700	Approved minimum analytical target.
Operational reserve	270	Ten percent of the effective target.
Gross operational target	2,970	Effective target plus reserve.
Submitted records	2,923	98.4% of the gross operational target.
Consented analytical interviews	2,896	97.5% of the gross target and 107.3% of the effective target.
Non-consented submissions	27	0.9% of submitted records.
Consent rate among submissions	99.1%	2,896 divided by 2,923.

Note. These are operational completion and consent metrics, not a formal household response rate. A formal response rate requires the number of selected, occupied, eligible and approached households in every segment.

2.35 Chapter Summary

BAHDA-2026 completed 2,896 consented household interviews within a corrected six-stratum and 96-cluster operational framework. The planning frame combined seven international population products, household GPS calibration and stratum-specific household-size conversion. Closely related products were balanced within four model families before the final stratum estimates were calculated. The resulting model-assisted frame contains approximately 78,209 households and 626,215 residents.

A complementary Bayesian synthesis of the four population-model families yielded a principal posterior median of 580,054 residents (95% CrI 354,171–863,051), placing the primary BAHDA estimate inside the posterior interval. Prior sensitivity was small (maximum median change 1.94%), while leave-one-family-out refits showed materially greater sensitivity to source-family composition (maximum absolute change 24.82%). The Bayesian layer is therefore retained as robustness and uncertainty evidence only; it does not alter the original population frame or analytical weights.

Because the achieved sample distribution differed substantially from the estimated household distribution, the final dataset applies normalized six-stratum analytical weights. The methodology is strengthened by institutional questionnaire development, Somali translation, training, piloting, digital fieldwork, GPS-supported quality assurance and reproducible analytical documentation. Its limitations are made explicit: the planning totals are not census counts, the Bayesian synthesis is not independent local enumeration, the weights are not complete segment-level design weights, and the cross-sectional survey does not establish causality.

Policy alignment: Use weighted estimates for principal district interpretation, unweighted counts to assess sample support, stratum results for geographic differences, and model-assisted totals only as transparent planning estimates.

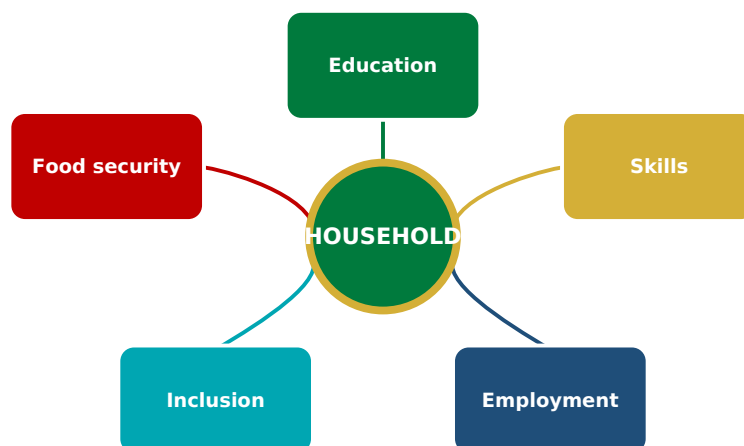


Social Development

People, learning, livelihoods, inclusion and household food security

Social Development

Five connected domains shaping household well-being



Social Development at a Glance

Key evidence, inequalities and development implications

Policy alignment: NDP III Social Development; Agenda 2063 Goals 1, 2, 17 and 18; SDGs 1, 2, 4, 5, 8 and 10



Average Household Size

8.0 mean

Unweighted mean: 8.1.



School Attendance Among Children

41.5%

All eligible children attending school; unweighted estimate: 48.3%.



Adult Literacy Within the Household

80.7%

Unweighted estimate: 84.6%.



Post-Primary Education Within the Household

62.9%

Unweighted estimate: 76.2%.



Vocational and Technical Training

43.9%

Unweighted estimate: 54.0%.



Employment Status of the Household Head

43.5%

Self-employment; unweighted estimate: 40.4%.



Household Remittance Receipt

30.7%

Unweighted estimate: 41.1%.



Household Disability Prevalence

25.1%

Unweighted estimate: 25.2%.



Concern About Insufficient Food

29.6%

Unweighted estimate: 28.8%.



Household Food Depletion

21.4%

Unweighted estimate: 21.9%.

Chapter Overview

Social development is where household capabilities become visible: whether children can learn, adults can build useful skills, people can participate in secure livelihoods, persons with disabilities can participate without avoidable barriers, and families can obtain sufficient and nutritious food. BAHDA-2026 examines these conditions as an interconnected household system rather than as isolated outcomes. The chapter moves from household structure through education, skills, employment, inclusion and food security, before examining how these opportunities and vulnerabilities differ across wealth, residence, household leadership and geographic location.

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

Policy alignment: NDP III Social Development; Agenda 2063 Goals 1, 2, 17 and 18; SDGs 1, 2, 4, 5, 8 and 10

Social Development

Five connected domains shaping household well-being

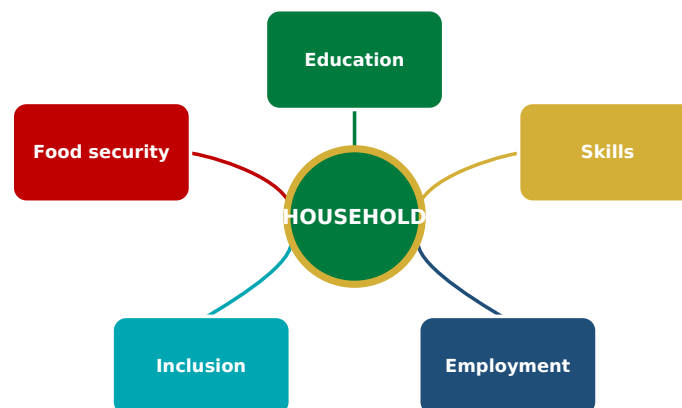


Figure 3.1. Social Development Framework



Household Demographics and Population Profile

Household composition and leadership provide the demographic foundation for every other development indicator.

3.1 Household Demographics and Population Profile



Average Household Size

8.0 mean

Unweighted mean: 8.1.



Sex of Household Head

50.5%

Female-headed households; unweighted estimate: 52.2%.



Highest level of education completed by the Household Head

46.1%

Post-primary education of the household head; unweighted estimate: 56.6%.

Households are the starting point of social development. Their size, leadership, age profile and educational background provide the context within which families pursue education, work, care responsibilities and access to services. This section establishes that demographic foundation before examining the specific capabilities and vulnerabilities that follow.

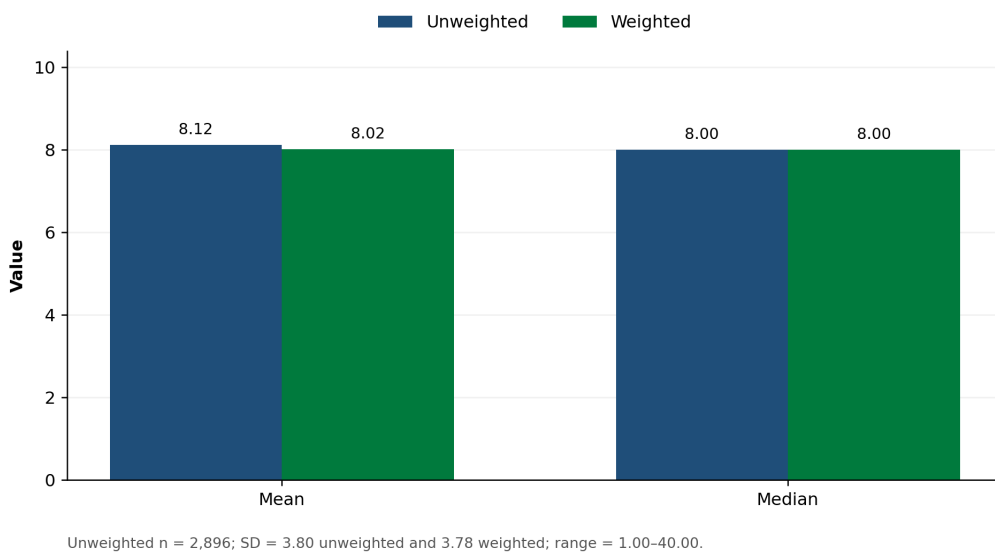
Average Household Size had a weighted mean of 8.0, compared with an unweighted mean of 8.1 based on 2,896 valid observations.

For **Sex of Household Head**, *Female-headed households* accounted for 50.5% in the weighted results and 52.2% in the unweighted results.

Post-primary education was reported for 46.1% of household heads in the weighted results, comprising secondary education (16.0%), TVET (3.3%) and university education (26.8%). The corresponding unweighted post-primary estimate was 56.6%.

Household Size

Weighted and unweighted numeric summary

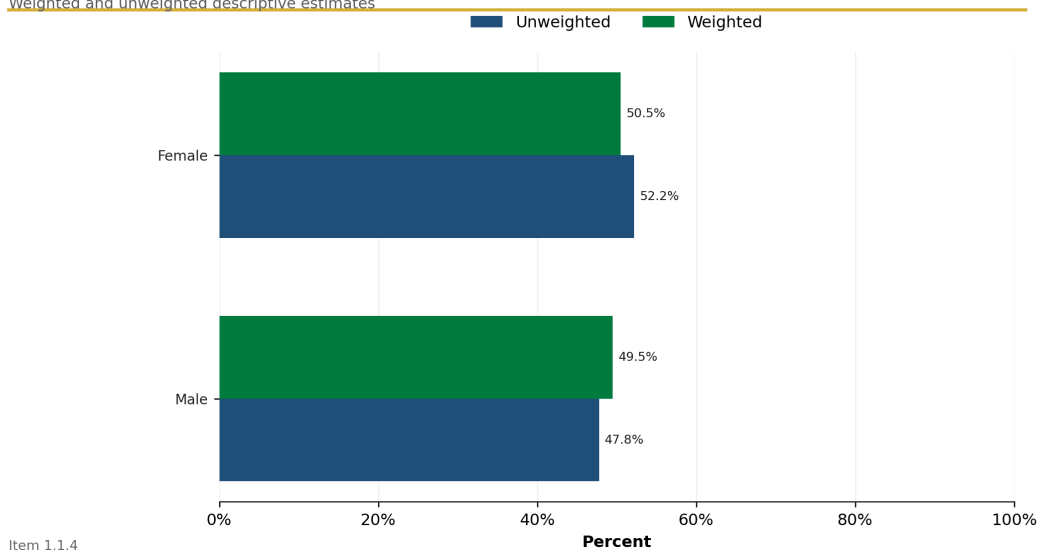


Item 1.1.7

Figure 3.2. Household Size

Sex of Household Head

Weighted and unweighted descriptive estimates



Item 1.1.4

Figure 3.3. Sex of Household Head



Inequality lens

Borama households averaged 8.0 members, 50.5% were female-headed, and only 46.1% of household heads had post-primary education. These differences show that household capabilities and responsibilities are not evenly distributed.



Development implication

Planning should account for household size, headship and educational capability when targeting social support, information, education and livelihood programmes.

Household Composition and Human Capital Profile

The remaining indicators complete the household profile by showing respondent characteristics and the educational background of household heads, providing context for the social outcomes examined across the pillar.

Respondent Sex

Weighted and unweighted descriptive estimates

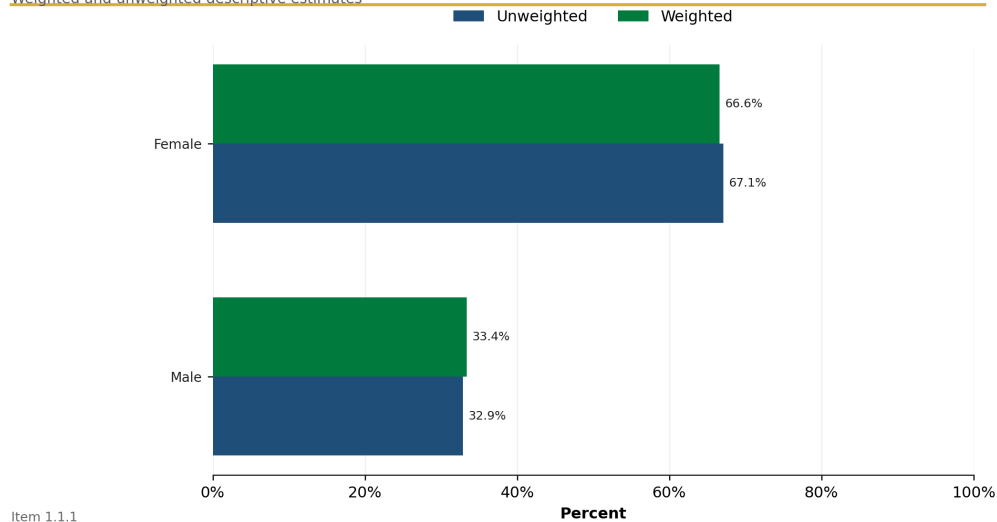


Figure 3.4. Respondent Sex

Respondent Age

Weighted and unweighted numeric summary

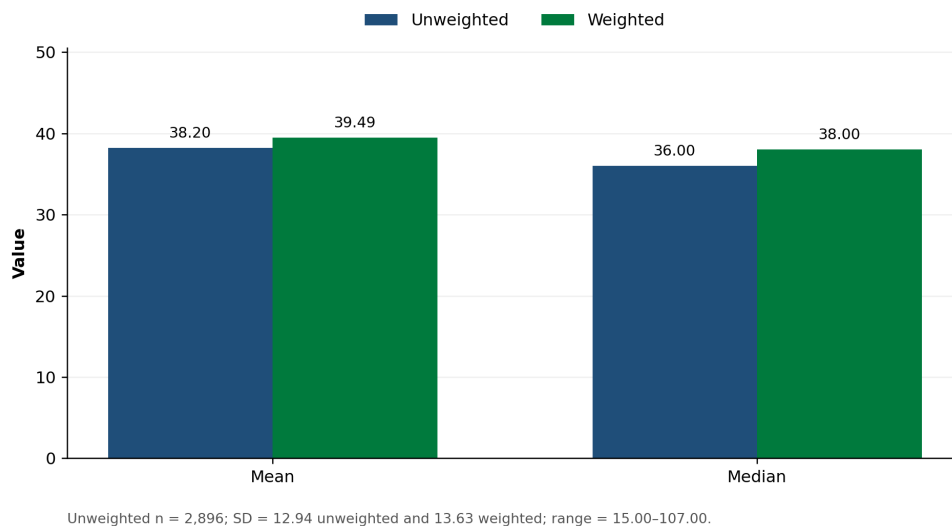
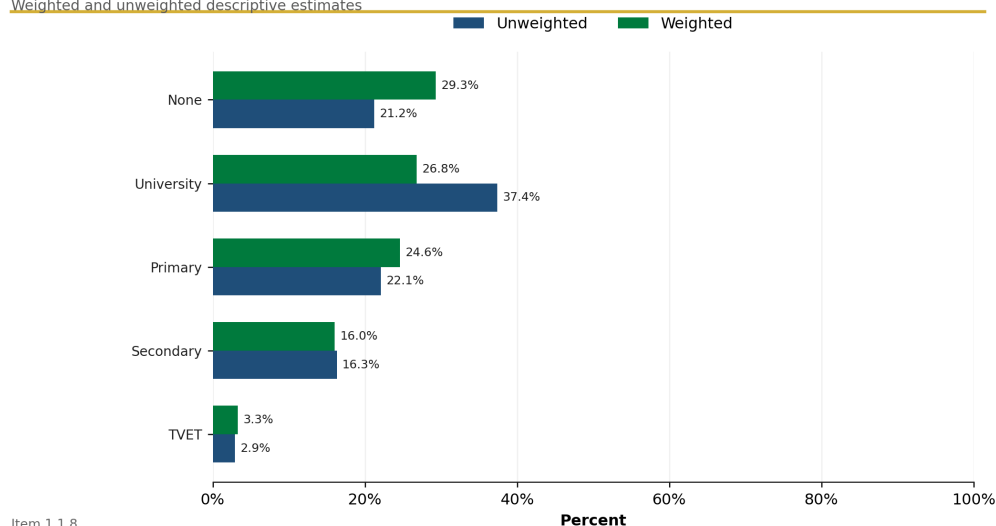


Figure 3.5. Respondent Age

Highest level of education completed by the HH Head

Weighted and unweighted descriptive estimates



Item 1.1.8

Figure 3.6. Highest Level of Education Completed by the Household Head

Detailed tables for Household Demographics and Population Profile

Table 1.1.1

Respondent Sex

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Female	1,942	67.1	1,928.3	66.6
Male	954	32.9	967.7	33.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.1.2

Respondent Age

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	38.195
Weighted mean	39.490
Unweighted standard deviation	12.943
Weighted standard deviation	13.630
Unweighted median	36.000
Weighted median	38.000
Minimum	15.000
Maximum	107.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 1.1.3*Relationship of respondent to household head*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Household head	1,104	38.1	1,142.9	39.5
Spouse	828	28.6	967.7	33.4
Parent	424	14.6	404.1	14.0
Son/Daughter	484	16.7	347.1	12.0
Other relative	36	1.2	20.6	0.7
Other	20	0.7	13.6	0.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.1.4*Sex of Household Head*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Female	1,512	52.2	1,462.8	50.5
Male	1,384	47.8	1,433.2	49.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.1.5*Age of Household Head*

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	43.956
Weighted mean	44.236
Unweighted standard deviation	13.006
Weighted standard deviation	13.491
Unweighted median	43.000
Weighted median	43.000
Minimum	18.000
Maximum	100.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 1.1.6*Marital Status of Head*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Married	1,662	57.4	1,876.5	64.8
Polygamous	739	25.5	630.9	21.8
Single	250	8.6	201.4	7.0
Widowed	148	5.1	115.6	4.0

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Divorced	97	3.3	71.7	2.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.1.7*Average Household Size*

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	8.121
Weighted mean	8.021
Unweighted standard deviation	3.800
Weighted standard deviation	3.781
Unweighted median	8.000
Weighted median	8.000
Minimum	1.000
Maximum	40.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 1.1.8*Highest level of education completed by the Household Head*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Missing/unspecified	615	21.2	847.2	29.3
University	1,084	37.4	775.6	26.8
Primary	640	22.1	712.4	24.6
Secondary	473	16.3	464.0	16.0
TVET	84	2.9	96.8	3.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Education, Literacy and School Participation

Learning access, school participation and household educational resources shape long-term opportunity.

3.2 Education, Literacy and School Participation



School Attendance Among Children

41.5%

All eligible children attending school; unweighted estimate: 48.3%.



Adult Literacy Within the Household

80.7%

Unweighted estimate: 84.6%.



Post-Primary Education Within the Household

62.9%

Unweighted estimate: 76.2%.



Do children have access to the internet for educational purposes

62.7%

Unweighted estimate: 75.7%.

Education turns household potential into future opportunity. This section examines whether children participate in schooling, whether adults possess literacy and post-primary education, and whether distance, learning resources, school conditions and digital access support continued learning. The emphasis is therefore not simply on school availability, but on whether households can translate access into meaningful participation.

For **School Attendance Among Children**, *All eligible children attending school* accounted for 41.5% in the weighted results and 48.3% in the unweighted results.

Adult Literacy Within the Household was reported by 80.7% of eligible households in the weighted results, compared with 84.6% in the unweighted results.

Post-Primary Education Within the Household was reported by 62.9% of eligible households in the weighted results, compared with 76.2% in the unweighted results.

Do children have access to the internet for educational purposes was reported by 62.7% of eligible households in the weighted results, compared with 75.7% in the unweighted results.

School Attendance Among Children

Weighted and unweighted descriptive estimates

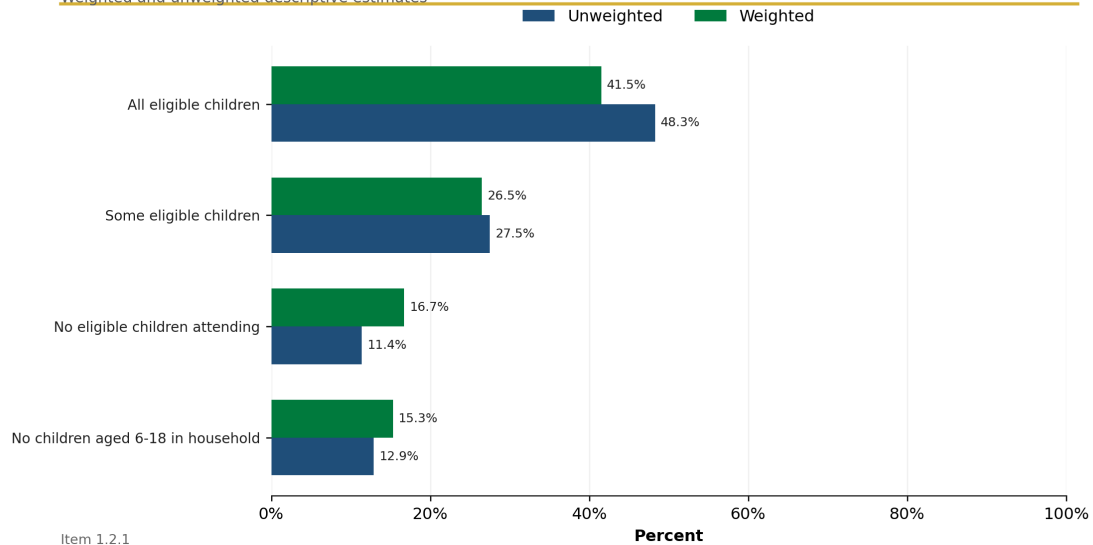


Figure 3.7. School Attendance Among Children

Adult Household Member (15+) possess basic literacy skills (can

Weighted and unweighted descriptive estimates

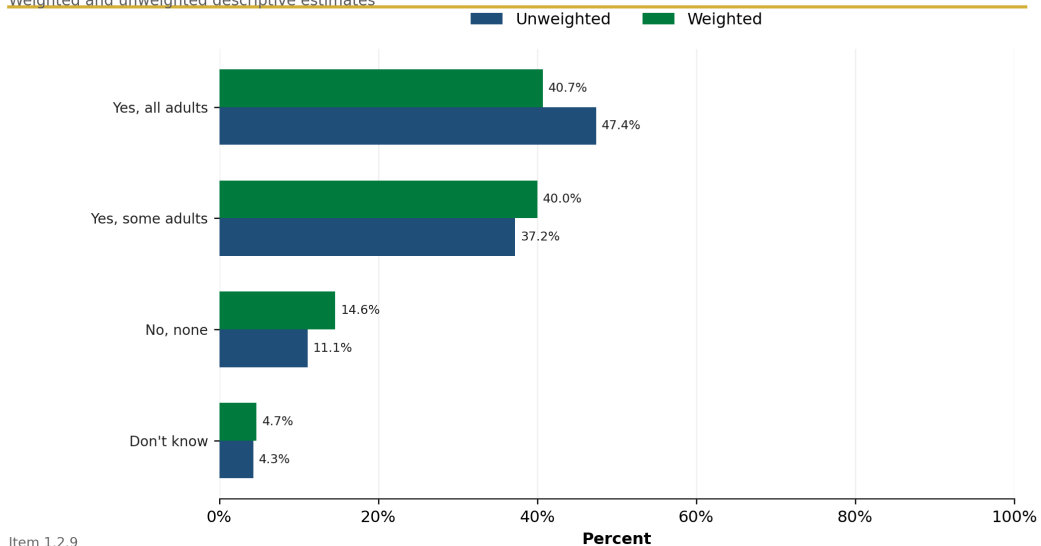


Figure 3.8. Adult Literacy Within the Household

Inequality lens

Only 41.5% of households with school-age children reported that all eligible children were attending school, despite 80.7% reporting some or all adults as literate. This highlights a gap between existing household educational capability and full participation of children in schooling.

Development implication

Education responses should reduce barriers related to distance, affordability and learning resources, with priority given to households and locations experiencing the greatest participation gaps.

Barriers, Access and Schooling Conditions

Beyond participation rates, these indicators show the conditions shaping educational access, including reasons for non-attendance, distance to school and the types of schools used by households.

For children not attending school (6-18), what is the primary

Weighted and unweighted descriptive estimates

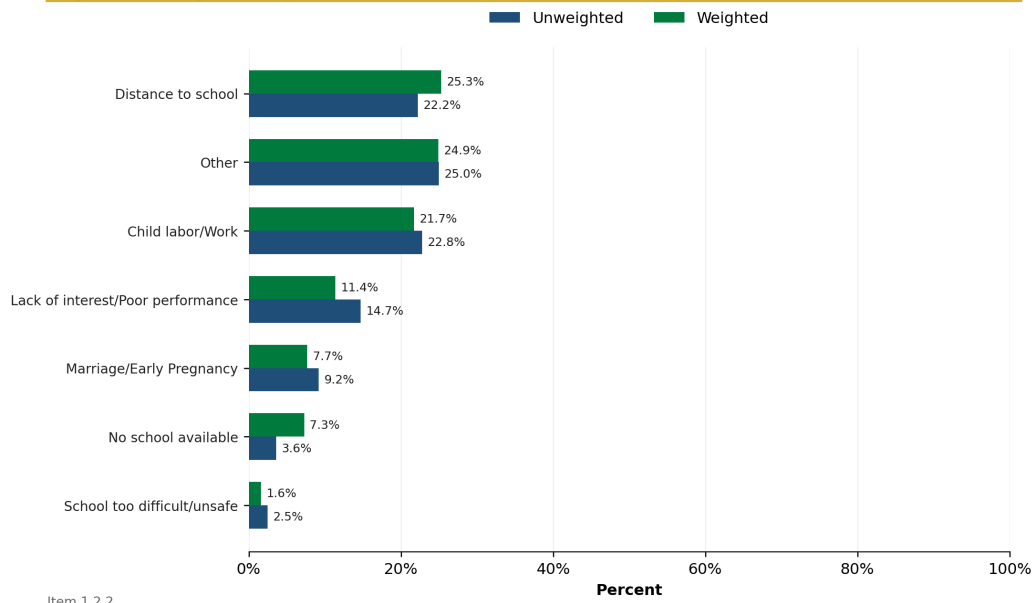


Figure 3.9. Reasons for School Non-Attendance

Distance from home to the nearest school children attend (in km)

Weighted and unweighted descriptive estimates

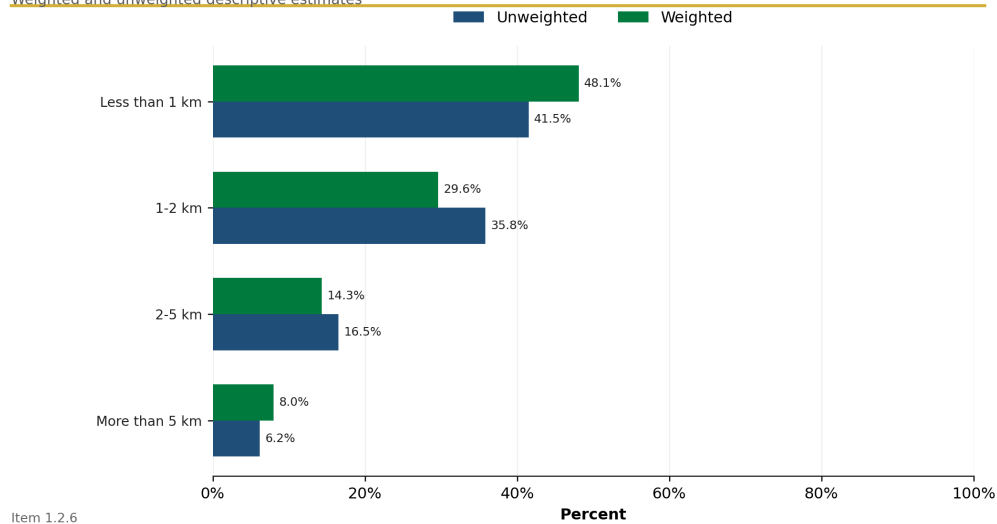


Figure 3.10. Distance from Home to the Nearest School Children Attend (in km)

Type of school primary school-aged children (6-13) attend

Weighted and unweighted descriptive estimates

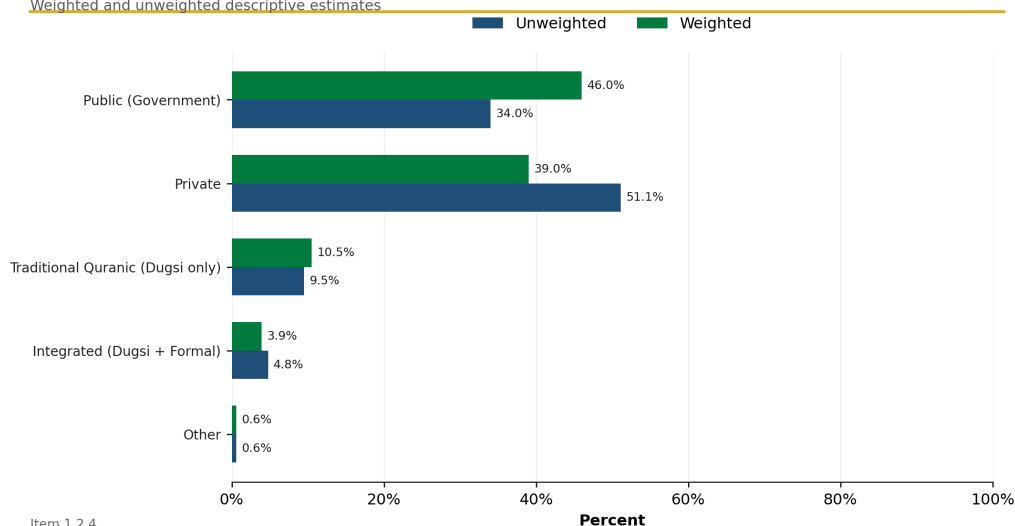


Figure 3.11. Type of Primary School

Detailed tables for Education, Literacy and School Participation

Table 1.2.1

School Attendance Among Children

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
All eligible children	1,398	48.3	1,200.6	41.5
Some eligible children	796	27.5	767.9	26.5
No eligible children attending	329	11.4	483.7	16.7
No children aged 6-18 in household	373	12.9	443.9	15.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.2

For children not attending school (6-18), what is the primary

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Distance to school	250	22.2	316.5	25.3
Other	281	25.0	312.2	24.9
Child labor/Work	257	22.8	271.6	21.7
Lack of interest/Poor performance	165	14.7	142.6	11.4
Marriage/Early Pregnancy	103	9.2	96.2	7.7
No school available	41	3.6	91.9	7.3
School too difficult/unsafe	28	2.5	20.4	1.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.4*Type of school primary school-aged children (6-13) attend*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Public (Government)	745	34.0	905.4	46.0
Private	1,121	51.1	766.9	39.0
Traditional Quranic (Dugsi only)	208	9.5	206.5	10.5
Integrated (Dugsi + Formal)	106	4.8	77.5	3.9
Other	14	0.6	12.1	0.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.6*Distance from home to the nearest school children attend (in km)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Less than 1 km	911	41.5	946.1	48.1
1-2 km	785	35.8	582.6	29.6
2-5 km	362	16.5	281.8	14.3
More than 5 km	136	6.2	158.0	8.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.7*Any child (6-18) attending school receive school meals or food*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,361	62.0	1,339.6	68.1
Yes	833	38.0	628.8	31.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.8*Perceived School Safety*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, very safe	1,278	58.2	1,172.8	59.6
Mostly safe	518	23.6	477.7	24.3
Somewhat unsafe	232	10.6	158.0	8.0
Don't know	94	4.3	101.6	5.2
Very unsafe	72	3.3	58.3	3.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.9*Adult Literacy Within the Household*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, all adults	1,374	47.4	1,177.3	40.7
Yes, some adults	1,076	37.2	1,158.9	40.0
No, none	321	11.1	422.5	14.6
Don't know	125	4.3	137.3	4.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.10*Post-Primary Education Within the Household*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, university/higher education	1,073	37.1	787.0	27.2
Yes, secondary complete	712	24.6	657.4	22.7
No, primary only	425	14.7	601.8	20.8
No formal education	265	9.2	473.6	16.4
Yes, secondary incomplete	421	14.5	376.3	13.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.11*Availability of sufficient learning materials (books, pens,*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, always	1,105	50.4	857.1	43.5
Sometimes	777	35.4	746.0	37.9
No	312	14.2	365.4	18.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.12*Rating of the quality of teaching your children receive at school*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate	739	33.7	737.1	37.4
High	638	29.1	541.3	27.5
Very High	653	29.8	512.6	26.0
Low	113	5.2	112.7	5.7
Very Low	26	1.2	34.1	1.7
Don't know	25	1.1	30.6	1.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.13*Do children have access to the internet for educational purposes*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, never	535	24.4	734.1	37.3
Yes, sometimes	848	38.7	674.4	34.3
Yes, always	811	37.0	560.0	28.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.14*Any child (6-18) receive additional tutoring or remedial classes*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,125	51.3	1,198.3	60.9
Yes	1,069	48.7	770.1	39.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.15*Boys and girls in the household equally encouraged to attend*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, equally encouraged	2,157	74.5	2,282.8	78.8
Boys more encouraged	516	17.8	446.4	15.4
Girls more encouraged	223	7.7	166.8	5.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.16*How do children typically travel to school*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Walk alone	1,035	47.2	1,103.1	56.0
Walk with peers or siblings	587	26.8	476.7	24.2
Use transportation (e.g., bus, Bajaj)	332	15.1	219.7	11.2
Accompanied by an adult	240	10.9	168.9	8.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.17*Main medium of instruction*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Somali	1,114	50.8	1,219.6	62.0
English	911	41.5	625.6	31.8
Arabic	169	7.7	123.2	6.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.2.18*Any child attend Early Childhood Education (ECE)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,642	56.7	1,925.1	66.5
Yes	1,254	43.3	970.9	33.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Skills, Training and Learning Opportunities

Skills development and access to further learning affect employability and household adaptability.

3.3 Skills, Training and Learning Opportunities



Vocational and Technical Training

43.9%

Unweighted estimate: 54.0%.



Household Member (15+) wish to pursue further education or skills

62.1%

Unweighted estimate: 64.6%.



Satisfaction With Educational Opportunities

53.6%

Satisfied or very satisfied; unweighted estimate: 58.8%.

Skills are the bridge between learning and livelihood opportunity. This section examines participation in vocational and technical training, demand for further learning, access to skills and employment information, and satisfaction with available opportunities. Together, these indicators show whether households can convert educational aspiration into practical capability.

Vocational and Technical Training was reported by 43.9% of eligible households in the weighted results, compared with 54.0% in the unweighted results.

Household Member (15+) wish to pursue further education or skills was reported by 62.1% of eligible households in the weighted results, compared with 64.6% in the unweighted results.

For **Satisfaction With Educational Opportunities**, *Satisfied or very satisfied* accounted for 53.6% in the weighted results and 58.8% in the unweighted results.

Youth Vocational Training Completion

Weighted and unweighted descriptive estimates

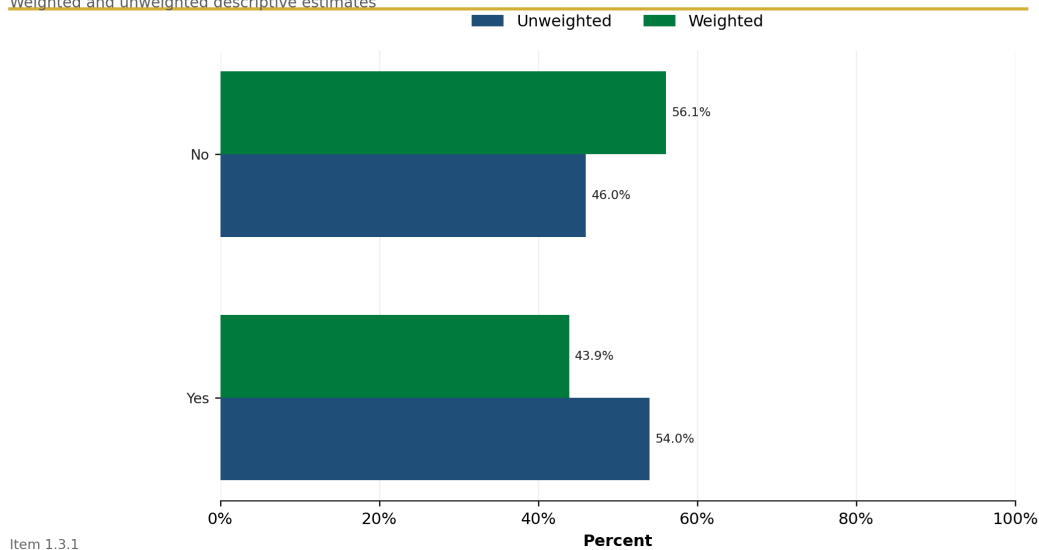


Figure 3.12. Youth Vocational Training Completion

Household Member (15+) wish to pursue further education or skills

Weighted and unweighted descriptive estimates

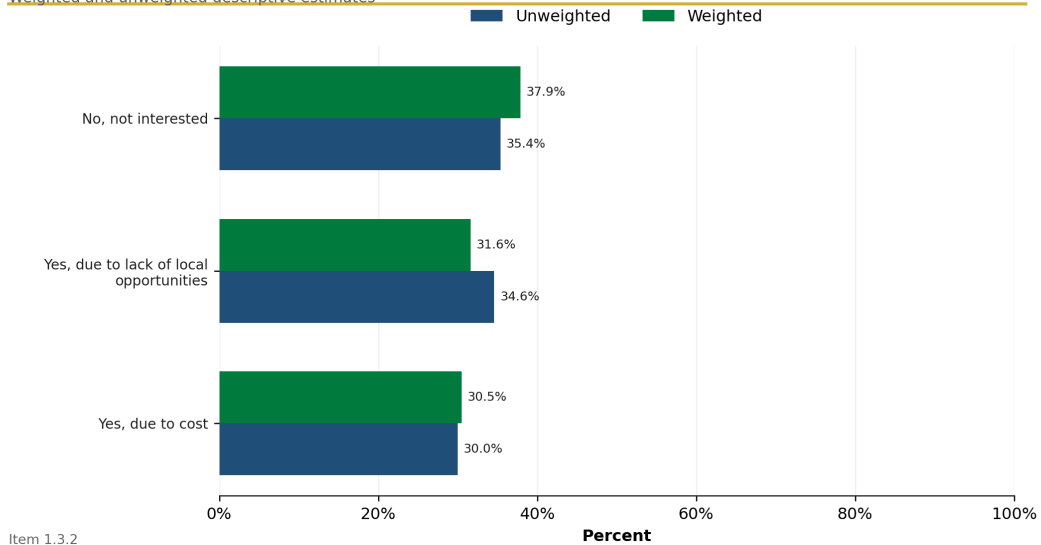


Figure 3.13. Demand for Further Education and Skills



Inequality lens

Vocational or technical training reached 43.9%, while 62.1% reported demand for further education or skills. Lack of local opportunities (31.6%) and cost (30.5%) were prominent constraints.



Development implication

Expand affordable and locally accessible skills programmes, accompanied by stronger information and employment-linkage services, particularly for underserved households and communities.

Skills Access and Learning Opportunities

These indicators show whether demand for further learning is matched by access to skills and employment information and by households' assessment of the opportunities available to them.

Access to Skills and Employment Information

Weighted and unweighted descriptive estimates

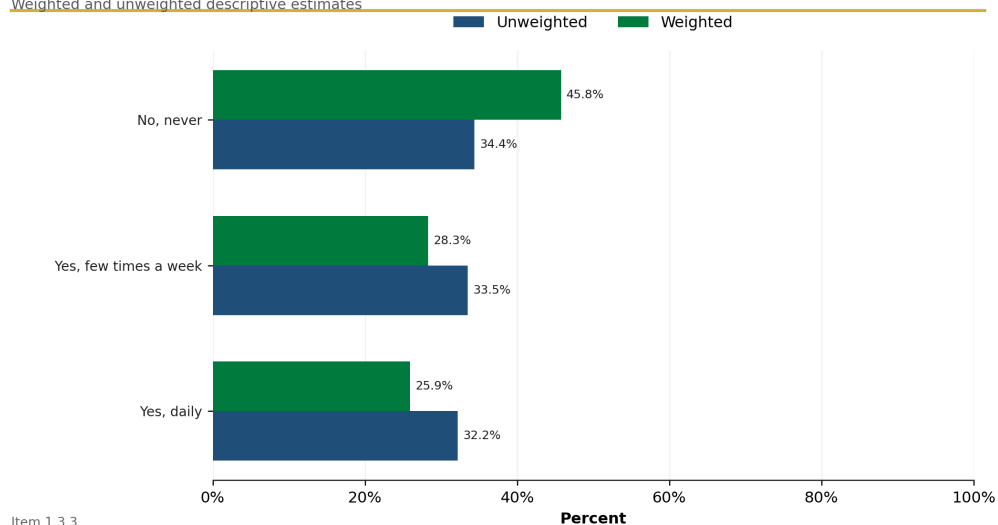


Figure 3.14. Access to Skills and Employment Information

Satisfaction With Educational Opportunities

Weighted and unweighted descriptive estimates

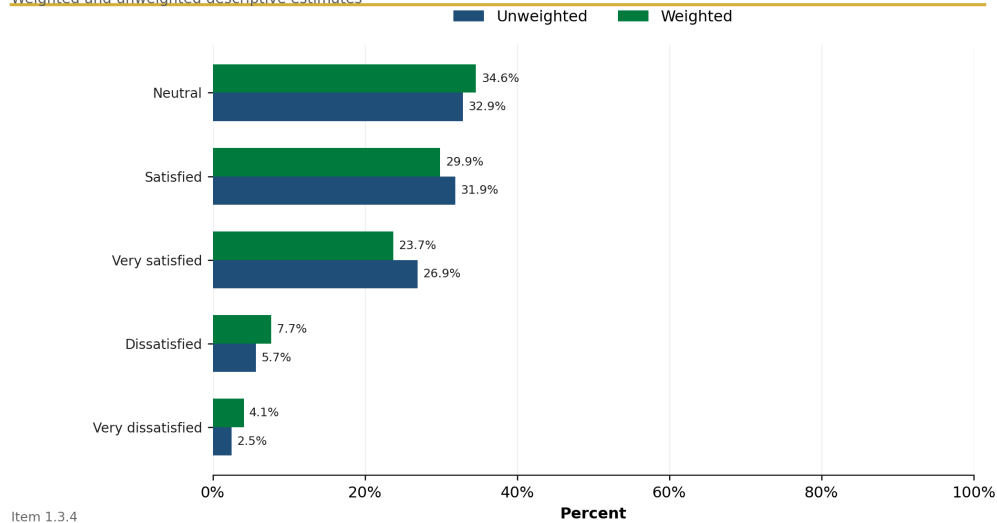


Figure 3.15. Satisfaction With Educational Opportunities

Section 1.3 Weighted Indicator Profile

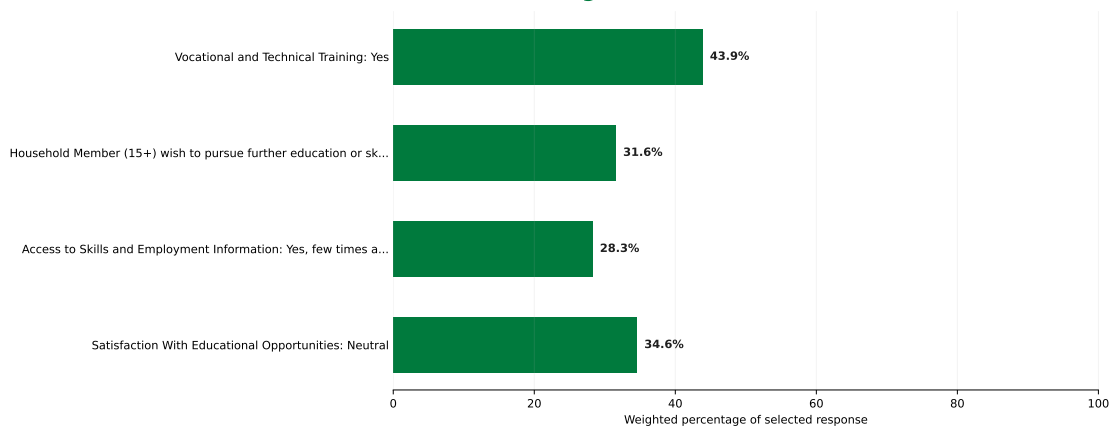


Figure 3.16. Section 1.3 Indicator Profile

Detailed tables for Skills, Training and Learning Opportunities

Table 1.3.1

Vocational and Technical Training

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,332	46.0	1,624.0	56.1
Yes	1,564	54.0	1,272.0	43.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.3.2*Household Member (15+) wish to pursue further education or skills*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, not interested	1,025	35.4	1,097.1	37.9
Yes, due to lack of local opportunities	1,002	34.6	916.4	31.6
Yes, due to cost	869	30.0	882.5	30.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.3.3*Access to Skills and Employment Information*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, never	995	34.4	1,326.7	45.8
Yes, few times a week	969	33.5	818.2	28.3
Yes, daily	932	32.2	751.2	25.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.3.4*Satisfaction With Educational Opportunities*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral	954	32.9	1,003.2	34.6
Satisfied	924	31.9	866.7	29.9
Very satisfied	779	26.9	685.9	23.7
Dissatisfied	166	5.7	221.6	7.7
Very dissatisfied	73	2.5	118.6	4.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Employment, Livelihoods and Income Sources

Employment status, income sources and remittances show how households participate in the local economy.

3.4 Employment, Livelihoods and Income Sources



Employment Status of the Household Head

43.5%

Self-employment; unweighted estimate: 40.4%.



Primary Household Income Source

38.1%

Informal wage labour; unweighted estimate: 35.5%.



Household Remittance Receipt

30.7%

Unweighted estimate: 41.1%.



Adult Unemployment Experience

46.2%

Unweighted estimate: 53.2%.

Economic participation matters most when it provides a dependable livelihood. This section examines employment status, primary income sources, unemployment and remittances to distinguish participation in work from the security and resilience that income can provide. The findings therefore reveal not only how households engage with Borama's economy, but also how unevenly livelihood security is distributed. For **Employment Status of the Household Head**, *Self-employment* accounted for 43.5% in the weighted results and 40.4% in the unweighted results.

For **Primary Household Income Source**, *Informal wage labour* accounted for 38.1% in the weighted results and 35.5% in the unweighted results.

Household Remittance Receipt was reported by 30.7% of eligible households in the weighted results, compared with 41.1% in the unweighted results.

Adult Unemployment Experience was reported by 46.2% of eligible households in the weighted results, compared with 53.2% in the unweighted results.

Employment Status of Household Head

Weighted and unweighted descriptive estimates

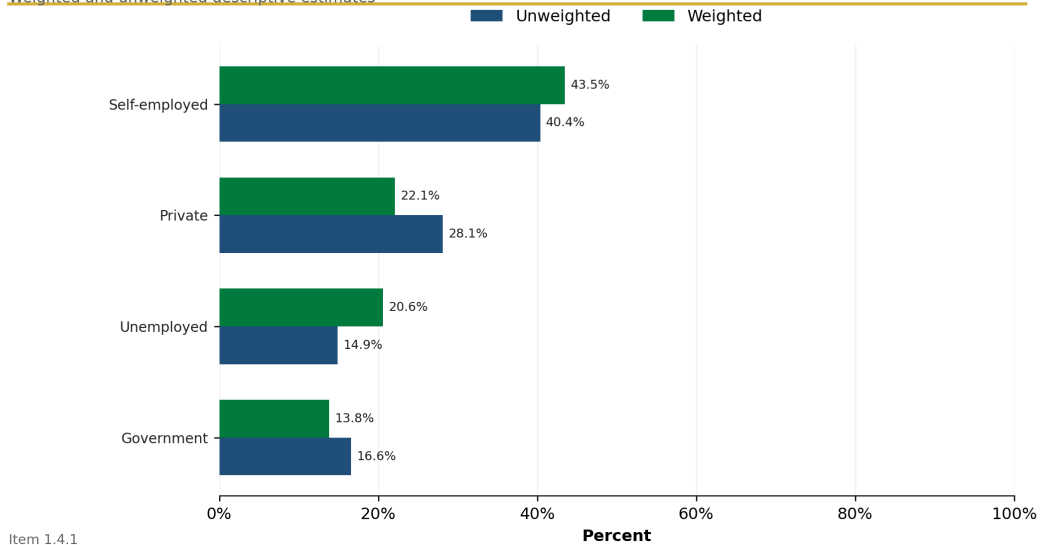


Figure 3.17. Employment Status of Household Head

Primary Household Income Source

Weighted and unweighted descriptive estimates

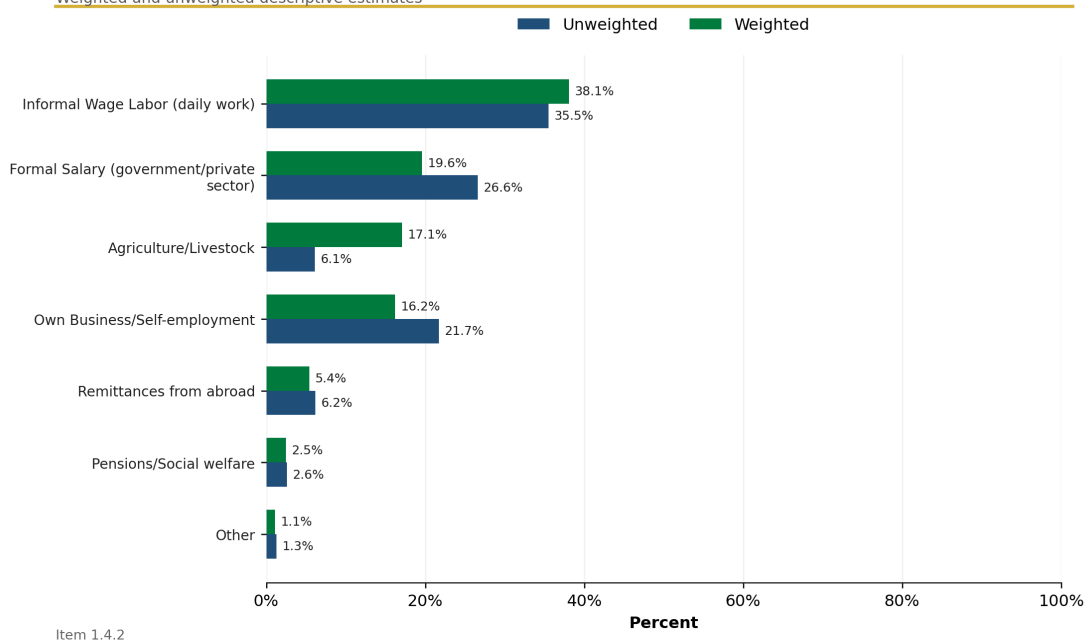


Figure 3.18. Primary Household Income Source



Inequality lens

Adult unemployment affected 46.2% of households; 43.5% of household heads were self-employed, while 38.1% relied primarily on informal wage labour. Only 30.7% received remittances, indicating uneven livelihood security.



Development implication

Development strategies should move beyond employment creation alone toward stable, diversified and productive livelihoods, linking skills, enterprise development and income protection.

Livelihood Security and Household Support

The following indicators deepen the employment picture by examining unemployment experience, remittance receipt and the importance of external support to household livelihoods.

Adult Unemployment Experience

Weighted and unweighted descriptive estimates

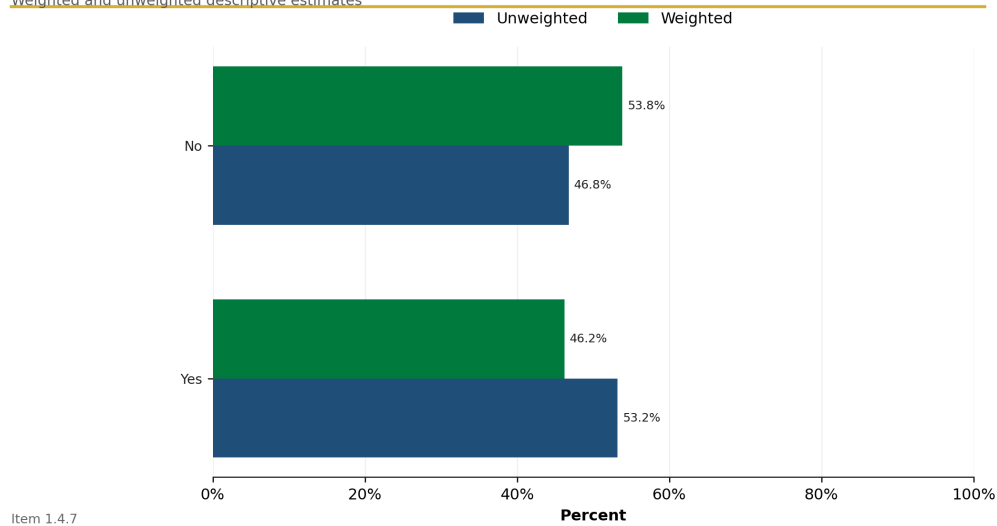


Figure 3.19. Adult Unemployment Experience

Household Remittance Receipt

Weighted and unweighted descriptive estimates

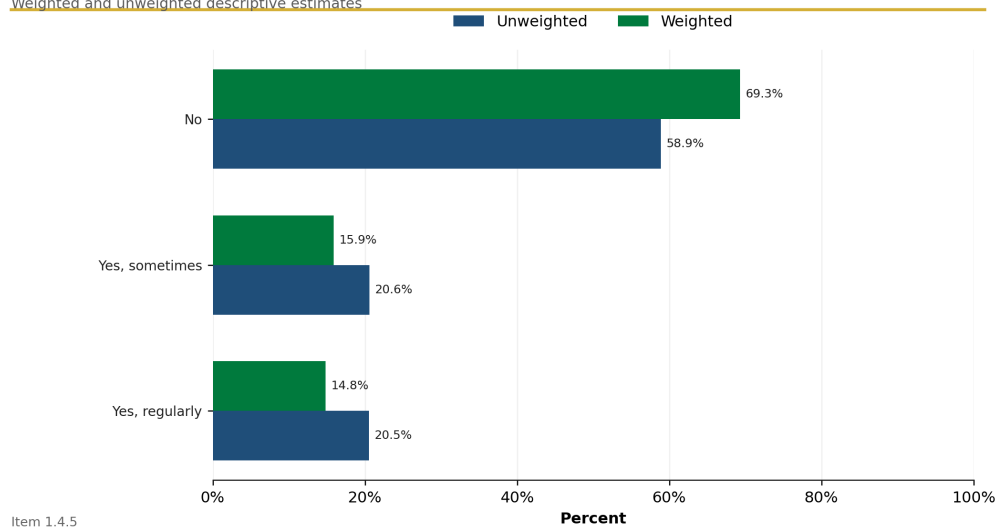


Figure 3.20. Household Remittance Receipt

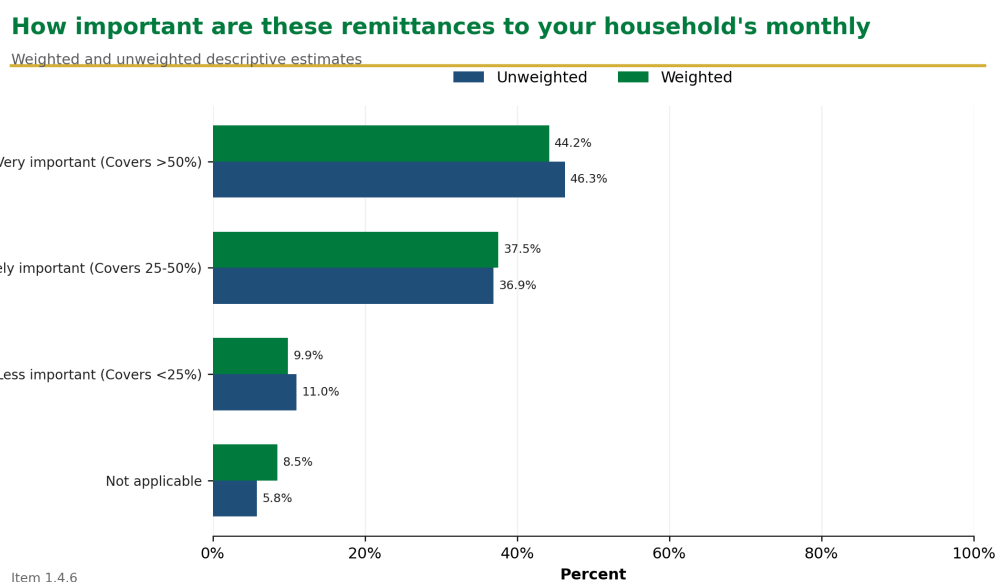


Figure 3.21. Importance of Remittances

Detailed tables for Employment, Livelihoods and Income Sources

Table 1.4.1

Employment Status of the Household Head

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Self-employed	1,169	40.4	1,259.8	43.5
Private	815	28.1	641.3	22.1
Unemployed	432	14.9	595.5	20.6
Government	480	16.6	399.3	13.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.4.2

Primary Household Income Source

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Informal Wage Labor (daily work)	1,027	35.5	1,102.3	38.1
Formal Salary (government/private sector)	771	26.6	567.7	19.6
Agriculture/Livestock	178	6.1	494.5	17.1
Own Business/Self-employment	628	21.7	470.2	16.2
Remittances from abroad	179	6.2	156.9	5.4
Pensions/Social welfare	74	2.6	72.7	2.5
Other	39	1.3	31.8	1.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.4.4*The primary income earner in your household currently employed*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, formally employed	1,220	42.1	1,010.4	34.9
Yes, self-employed	904	31.2	878.2	30.3
No, unemployed but actively seeking work	412	14.2	459.6	15.9
No, unemployed and not seeking work	178	6.1	299.4	10.3
Not applicable	182	6.3	248.5	8.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.4.5*Household Remittance Receipt*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,705	58.9	2,006.7	69.3
Yes, sometimes	597	20.6	460.0	15.9
Yes, regularly	594	20.5	429.3	14.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.4.6*How important are these remittances to your household's monthly*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Very important (Covers >50%)	551	46.3	392.7	44.2
Moderately important (Covers 25-50%)	440	36.9	333.1	37.5
Less important (Covers <25%)	131	11.0	87.7	9.9
Not applicable	69	5.8	75.9	8.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.4.7*Adult Unemployment Experience*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,355	46.8	1,556.6	53.8
Yes	1,541	53.2	1,339.4	46.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.4.8*Satisfaction With the local economic environment and business*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral	1,063	36.7	1,107.9	38.3
Satisfied	647	22.3	586.6	20.3
Very Satisfied	518	17.9	470.9	16.3
Dissatisfied	395	13.6	389.2	13.4
Don't know	110	3.8	171.6	5.9
Very Dissatisfied	163	5.6	169.8	5.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Disability, Inclusion and Social Protection

Disability and accessibility indicators reveal whether development systems include households with additional support needs.

3.5 Disability, Inclusion and Social Protection



Household Disability Prevalence

25.1%

Unweighted estimate: 25.2%.



Disability-Related Barriers

39.3%

Any health or school access barrier; un-weighted estimate: 40.2%.



Children with Disability or Special Needs

10.2%

with disability or special needs; unweighted estimate: 12.2%.

Inclusion is tested by whether people with additional support needs can participate on equal terms. This section examines household disability, barriers to health and education, accessibility within the home, and school participation among children with disabilities or special educational needs. The focus is therefore on accessibility and participation—not disability alone.

Household Disability Prevalence was reported by 25.1% of eligible households in the weighted results, compared with 25.2% in the unweighted results.

For **Disability-Related Barriers**, *Any health or school access barrier* accounted for 39.3% in the weighted results and 40.2% in the unweighted results.

For **Household Accessibility Features**, the leading weighted selections were None of the above (45.9%), Ramp or step-free access to the main entrance (31.8%) and Wide doorways for wheelchair access (18.8%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Any member have a chronic disability

Weighted and unweighted descriptive estimates

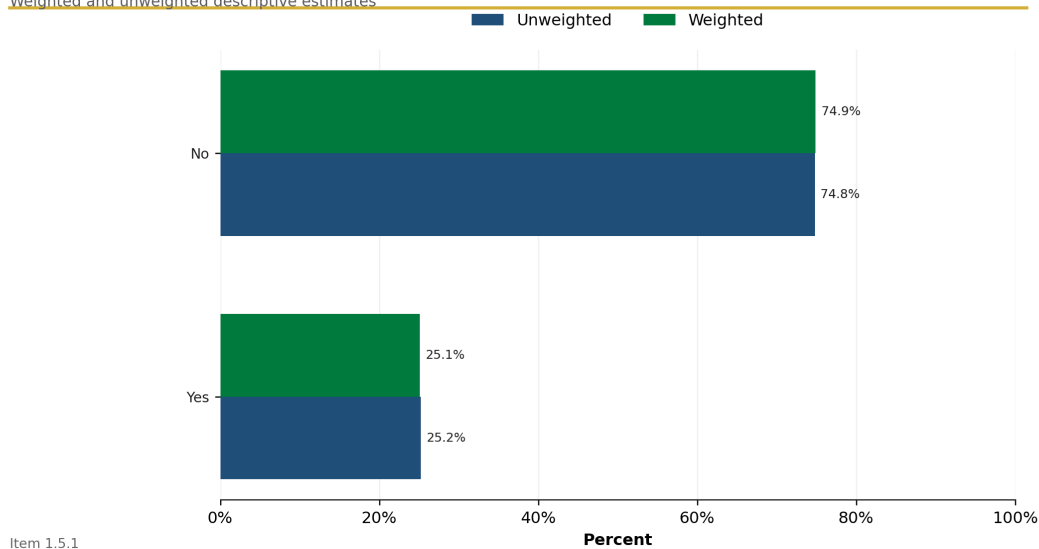


Figure 3.22. Household Disability Prevalence

Disability-Related Barriers

Weighted and unweighted descriptive estimates

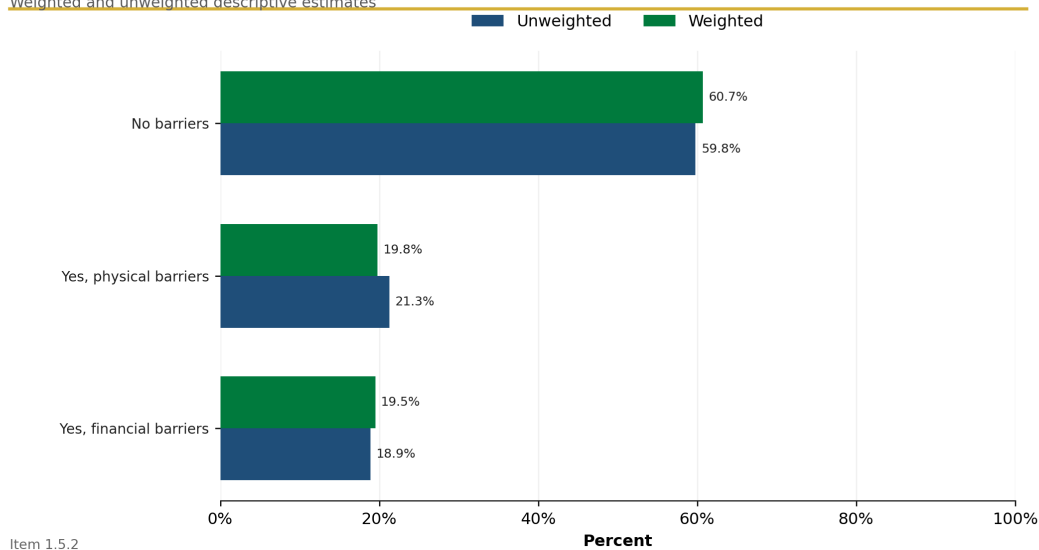


Figure 3.23. Disability-Related Barriers

Accessibility, Participation and Support Needs

These indicators move from the presence of disability to the conditions of inclusion, examining children with disabilities or special needs, school participation and accessibility within the household environment.

Children With Disability or Special Needs

Weighted and unweighted descriptive estimates

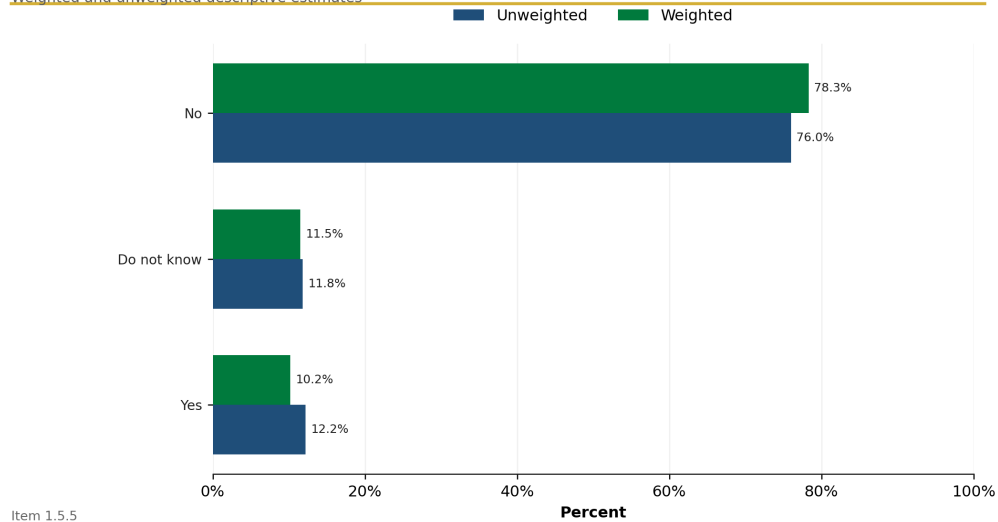


Figure 3.24. Children With Disability or Special Needs

What type of disability exists in the child

Weighted and unweighted descriptive estimates

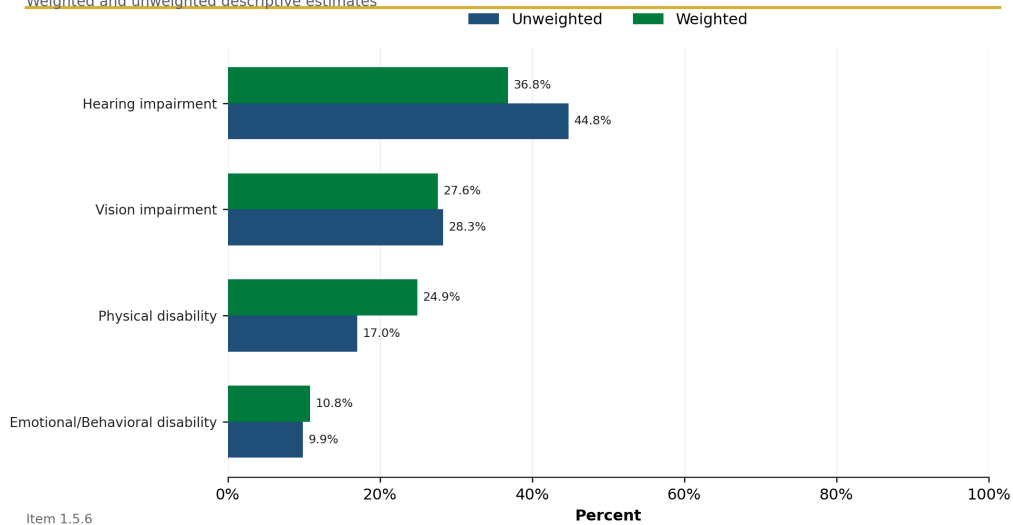


Figure 3.25. Type of Child Disability

Is this child attending school

Weighted and unweighted descriptive estimates

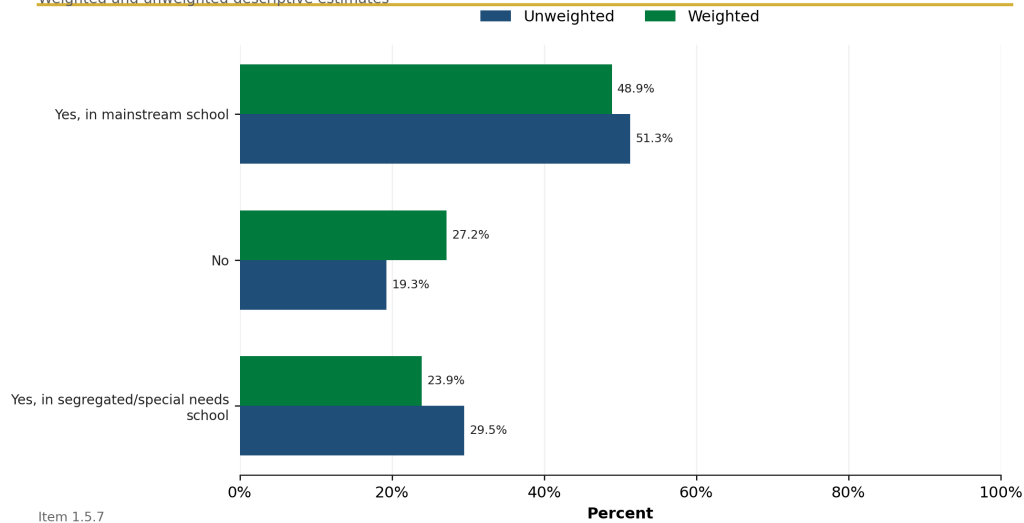


Figure 3.26. School Attendance of Children With Disability

Multiple-response evidence

Multiple-response interpretation. Cases (%) is the percentage of eligible households selecting each option. Because a household could select more than one option, Cases (%) may sum to more than 100%. Responses (%) shows each option's share of all selections and sums to approximately 100%.

Household Accessibility Features

Weighted and unweighted estimates; multiple responses allowed

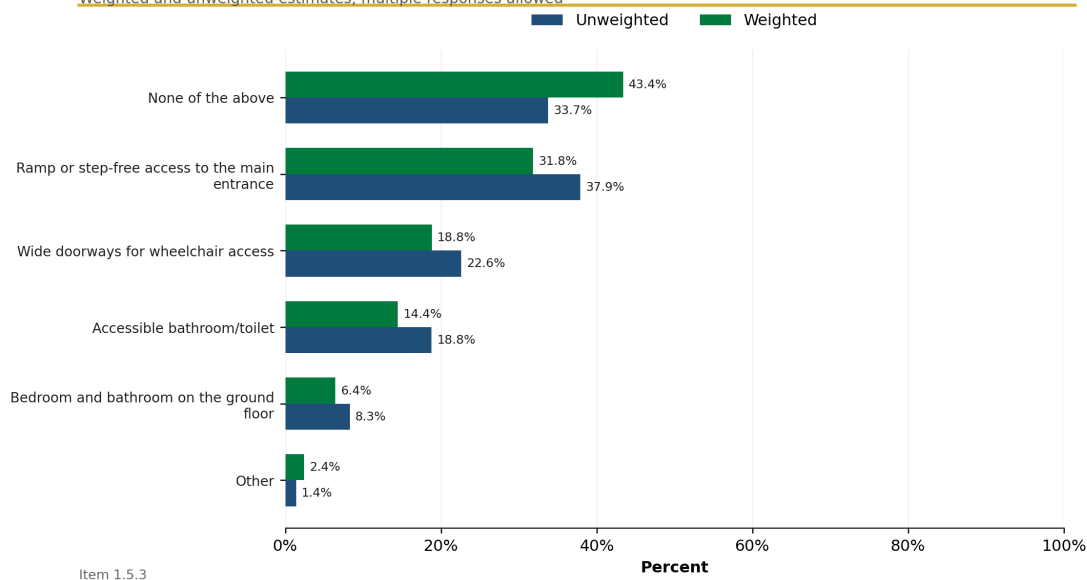


Figure 3.27. Household Accessibility Features

Detailed tables for Disability, Inclusion and Social Protection

Table 1.5.1

Household Disability Prevalence

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,165	74.8	2,168.4	74.9
Yes	731	25.2	727.6	25.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.5.2

Disability-Related Barriers

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No barriers	1,731	59.8	1,758.2	60.7
Yes, physical barriers	617	21.3	573.1	19.8
Yes, financial barriers	548	18.9	564.7	19.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.5.3

Household Accessibility Features

Response option	Unweighted Responses			Weighted Responses		
	n	Cases (%)	(%)	n	Cases (%)	(%)
None of the above	1,072	37.0	29.4	1,330.6	45.9	38.3
Ramp or step-free access to the main entrance	1,097	37.9	30.1	921.3	31.8	26.5
Wide doorways for wheelchair access	655	22.6	18.0	544.6	18.8	15.7
Accessible bathroom/toilet	544	18.8	14.9	418.2	14.4	12.1
Bedroom and bathroom on the ground floor	240	8.3	6.6	185.7	6.4	5.4
Other	40	1.4	1.1	69.8	2.4	2.0

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 1.5.5*Children With Disability or Special Needs*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,201	76.0	2,267.8	78.3
Do not know	342	11.8	333.7	11.5
Yes	353	12.2	294.5	10.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.5.6*What type of disability exists in the child*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Hearing impairment	158	44.8	108.2	36.8
Vision impairment	100	28.3	81.3	27.6
Physical disability	60	17.0	73.3	24.9
Emotional/Behavioral disability	35	9.9	31.7	10.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.5.7*Is this child attending school*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, in mainstream school	181	51.3	144.1	48.9
No	68	19.3	80.1	27.2
Yes, in segregated/special needs school	104	29.5	70.3	23.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Inequality lens

Chronic disability affected 25.1% of households, while 10.2% reported a child with disability or special needs. Among affected children, 27.2% were not attending school, and 45.9% of households reported none of the listed accessibility features.

Development implication

Inclusive development requires accessible homes, schools and services, together with educational and social-support mechanisms that prevent disability from becoming exclusion.



Food Security and Household Vulnerability

Food insecurity experiences and coping strategies provide a direct measure of household economic strain and resilience.

3.6 Food Security and Household Vulnerability



Food Insecurity Experience

31.0%

Unweighted estimate: 28.8%.



Meal Skipping Due to Food or Financial Constraints

30.6%

Unweighted estimate: 26.4%.



Severe Household Food Insecurity

11.8%

Unweighted estimate: 9.9%.



Food-Shortage Coping Strategies

42.8%

Borrow food / take loans; unweighted estimate: 41.0%.

Food security provides one of the clearest signals of household vulnerability. This section follows the progression from concern about having enough food and difficulty affording a healthy diet to meal reduction, food depletion, hunger and household coping responses. Read together, these indicators reveal both the depth of food insecurity and the strategies families use when resources become insufficient.

The summary measures for Food Insecurity Experience and Severe Household Food Insecurity are de-

rived from the eight Food Insecurity Experience Scale items described in Chapter 2 under Derived Indicators.

Concern About Insufficient Food was reported by 29.6% of eligible households in the weighted results, compared with 28.8% in the unweighted results.

Meal Skipping Due to Food or Financial Constraints was reported by 30.6% of eligible households in the weighted results, compared with 26.4% in the unweighted results.

Household Food Depletion was reported by 21.4% of eligible households in the weighted results, compared with 21.9% in the unweighted results.

For **Food-Shortage Coping Strategies**, the leading weighted selections were Borrow food / take loans (42.8%), Sell assets / livestock (31.0%) and Reduce meal size / Skip meals (27.6%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Concern About Insufficient Food

Weighted and unweighted descriptive estimates

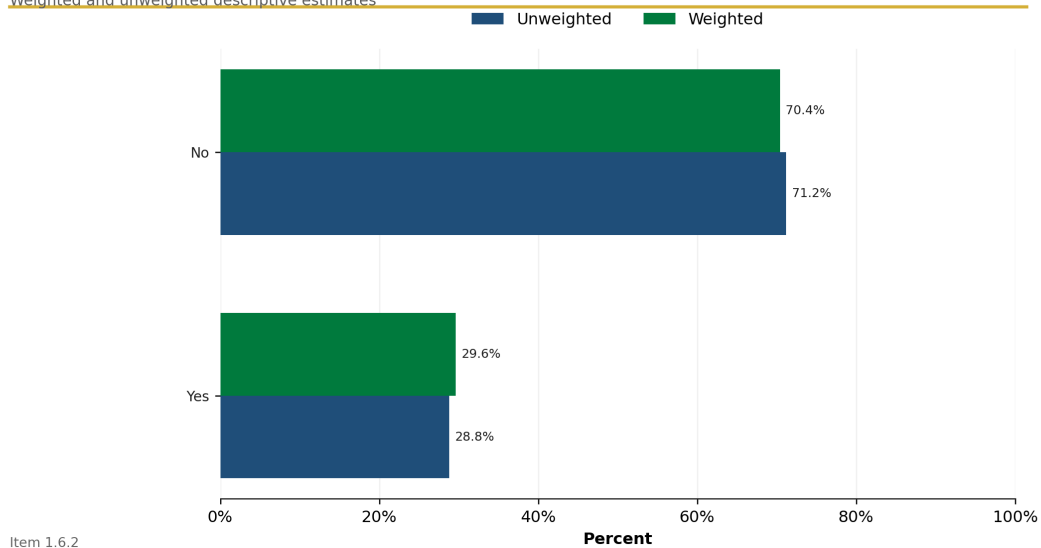


Figure 3.28. Concern About Insufficient Food

You have to skip a meal because there was not enough money or food

Weighted and unweighted descriptive estimates

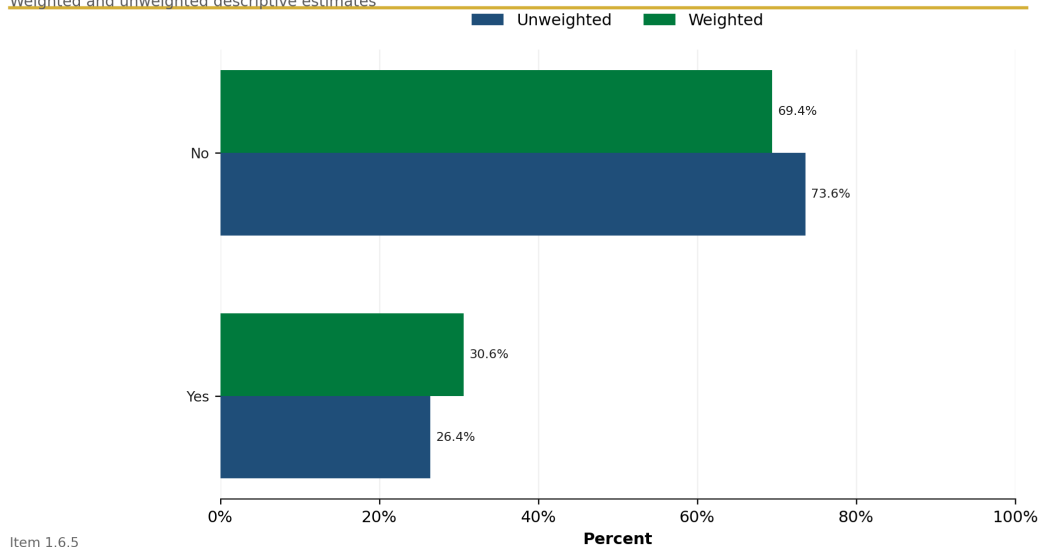


Figure 3.29. Meal Skipping

Inequality lens

Food insecurity was substantial: 36.4% could not afford healthy food, 30.6% skipped meals and 21.9% went a whole day without eating. Coping included borrowing food or taking loans (42.8%) and selling assets or livestock (31.0%).

Development implication

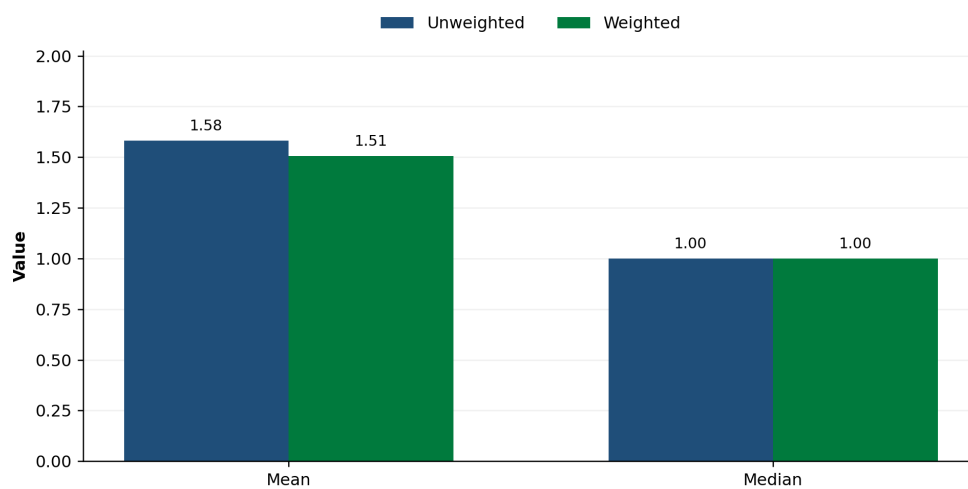
Food-security responses should combine immediate assistance with income protection, livelihood resilience and affordable nutritious food, reducing reliance on coping strategies that weaken future household security.

Food Access, Dietary Stress and Coping

These indicators trace household food vulnerability from affordability and dietary quality to food sources and coping responses, showing how food stress can deepen as household resources become constrained.

Number of times has the household moved residence in the last 5

Weighted and unweighted numeric summary



Unweighted n = 2,896; SD = 0.76 unweighted and 0.73 weighted; range = 1.00-3.00.

Item 1.6.1

Figure 3.30. Household Residential Mobility

Inability to Afford Healthy Food

Weighted and unweighted descriptive estimates

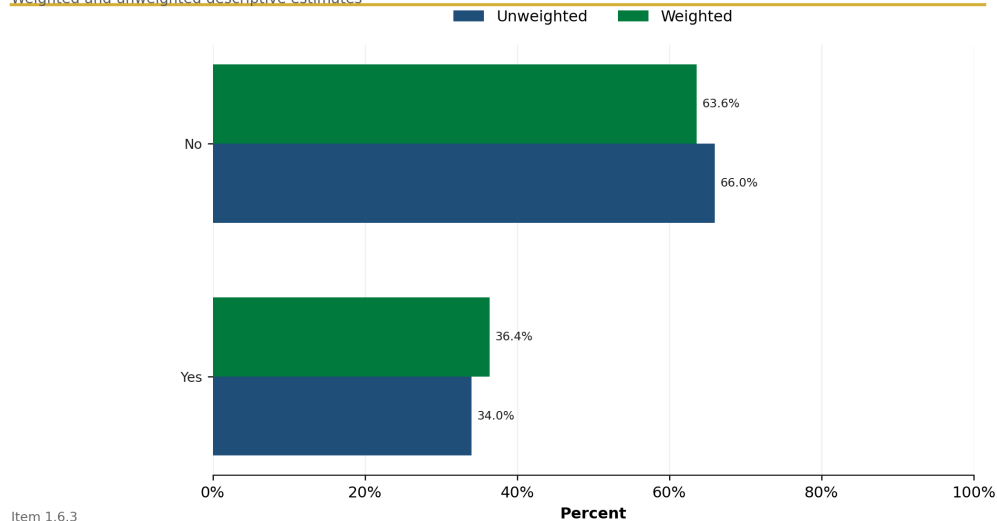


Figure 3.31. Inability to Afford Healthy Food

You eat only a few kinds of foods due to lack of resources

Weighted and unweighted descriptive estimates

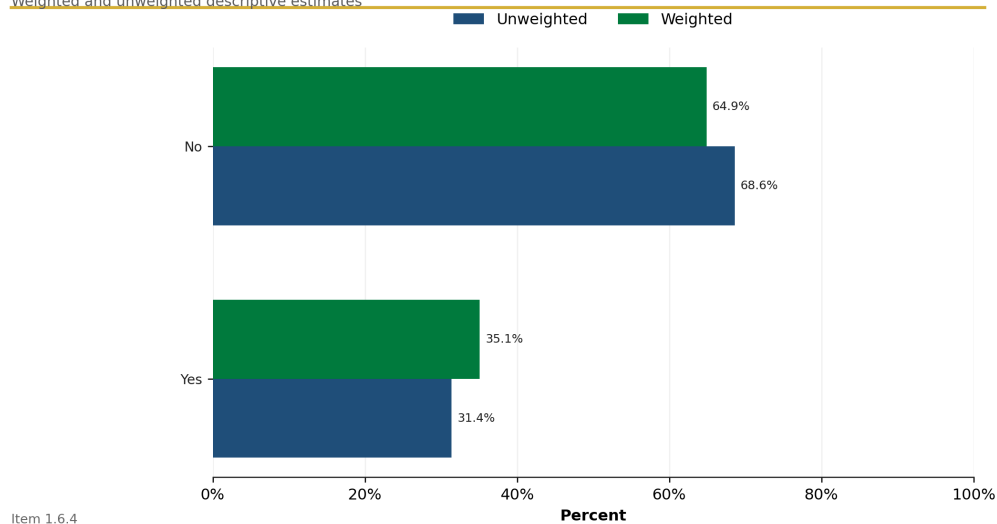


Figure 3.32. Limited Dietary Diversity

Multiple-response evidence

Multiple-response interpretation. Cases (%) is the percentage of eligible households selecting each option. Because a household could select more than one option, Cases (%) may sum to more than 100%. Responses (%) shows each option's share of all selections and sums to approximately 100%.

Main Household Food Sources

Weighted and unweighted estimates; multiple responses allowed

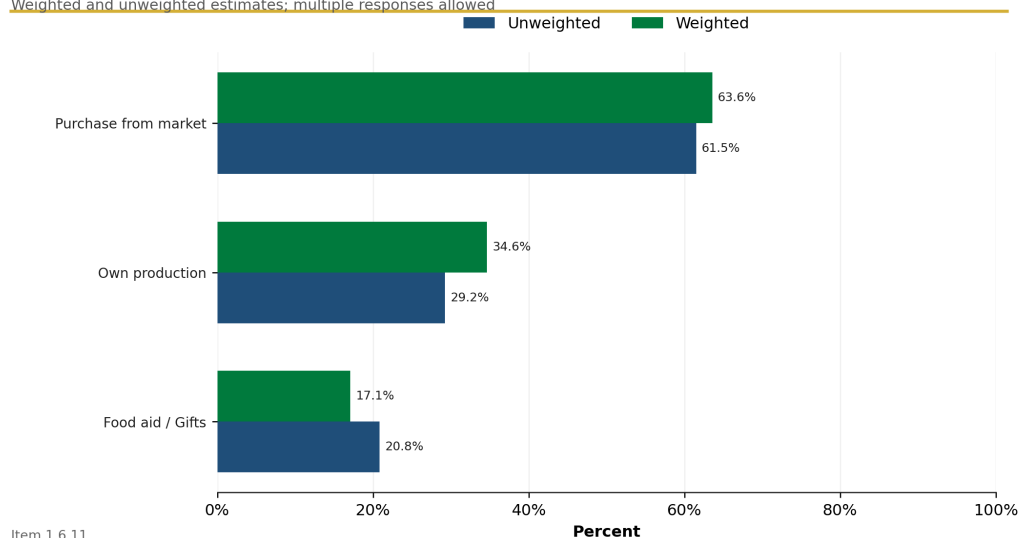


Figure 3.33. Main Household Food Sources

Food-Shortage Coping Strategies

Weighted and unweighted estimates; multiple responses allowed

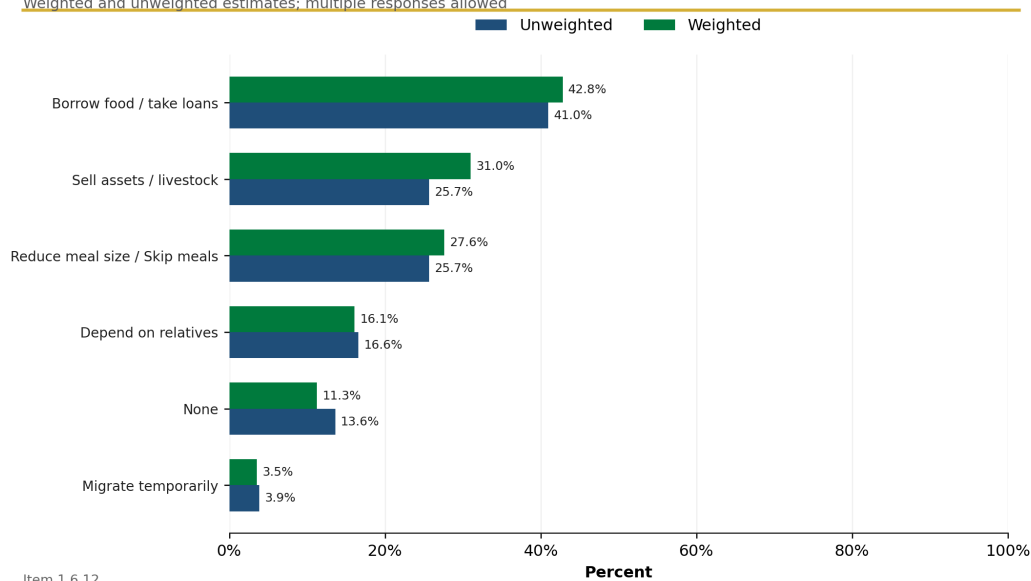


Figure 3.34. Food-Shortage Coping Strategies

Detailed tables for Food Security and Household Vulnerability

Table 1.6.1

Number of times has the household moved residence in the last 5

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	1.582
Weighted mean	1.507
Unweighted standard deviation	0.761

Statistic	Value
Weighted standard deviation	0.733
Unweighted median	1.000
Weighted median	1.000
Minimum	1.000
Maximum	3.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 1.6.2*Concern About Insufficient Food*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,062	71.2	2,039.1	70.4
Yes	834	28.8	856.9	29.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.3*Inability to Afford Healthy Food*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,910	66.0	1,842.7	63.6
Yes	986	34.0	1,053.3	36.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.4*You eat only a few kinds of foods due to lack of resources*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,987	68.6	1,878.3	64.9
Yes	909	31.4	1,017.7	35.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.5*You have to skip a meal because there was not enough money or food*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,131	73.6	2,010.3	69.4
Yes	765	26.4	885.7	30.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.6*You eat less than you thought you should because of lack of money*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,013	69.5	1,908.0	65.9
Yes	883	30.5	988.0	34.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.7*Household Food Depletion*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,261	78.1	2,276.3	78.6
Yes	635	21.9	619.7	21.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.8*Were you hungry but did not eat because there was not enough food*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,192	75.7	2,139.4	73.9
Yes	704	24.3	756.6	26.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.9*You go a whole day without eating*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,278	78.7	2,261.2	78.1
Yes	618	21.3	634.8	21.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.10*Number of meals do household members usually eat per day*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Three or more	1,891	65.3	1,893.8	65.4
Two meals	624	21.5	702.5	24.3
One meal	381	13.2	299.7	10.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 1.6.11*Main Household Food Sources*

Response option	Unweighted Responses			Weighted Responses		
	n	Cases (%)	(%)	n	Cases (%)	(%)
Purchase from market	1,781	61.5	55.1	1,840.8	63.6	55.1
Own production	847	29.2	26.2	1,002.4	34.6	30.0
Food aid / Gifts	603	20.8	18.7	495.1	17.1	14.8

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 1.6.12*Food-Shortage Coping Strategies*

Response option	Unweighted Responses			Weighted Responses		
	n	Cases (%)	(%)	n	Cases (%)	(%)
Borrow food / take loans	1,187	41.0	31.8	1,240.6	42.8	31.9
Sell assets / livestock	743	25.7	19.9	897.9	31.0	23.1
Reduce meal size / Skip meals	743	25.7	19.9	799.1	27.6	20.5
Depend on relatives	481	16.6	12.9	466.4	16.1	12.0
None	472	16.3	12.6	384.5	13.3	9.9
Migrate temporarily	112	3.9	3.0	102.3	3.5	2.6

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

3.7 Chapter Inequality Synthesis

District averages can conceal who is being left behind. The chapter therefore closes by comparing selected Social Development indicators across residence, wealth quintile, sex of household head and the six sampling strata. These comparisons identify where disadvantage is concentrated and where different forms of vulnerability may overlap; they describe inequality patterns but do not establish their causes.

Pillar 1: Priority Indicators by Residence

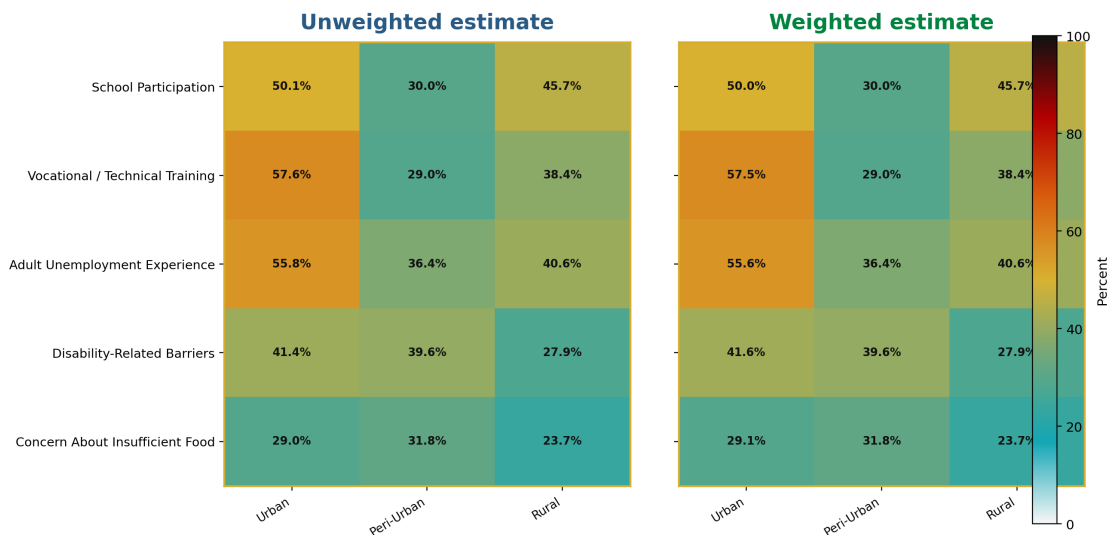


Figure 3.35. Social Development indicators by Residence

Pillar 1: Priority Indicators by Wealth Quintile

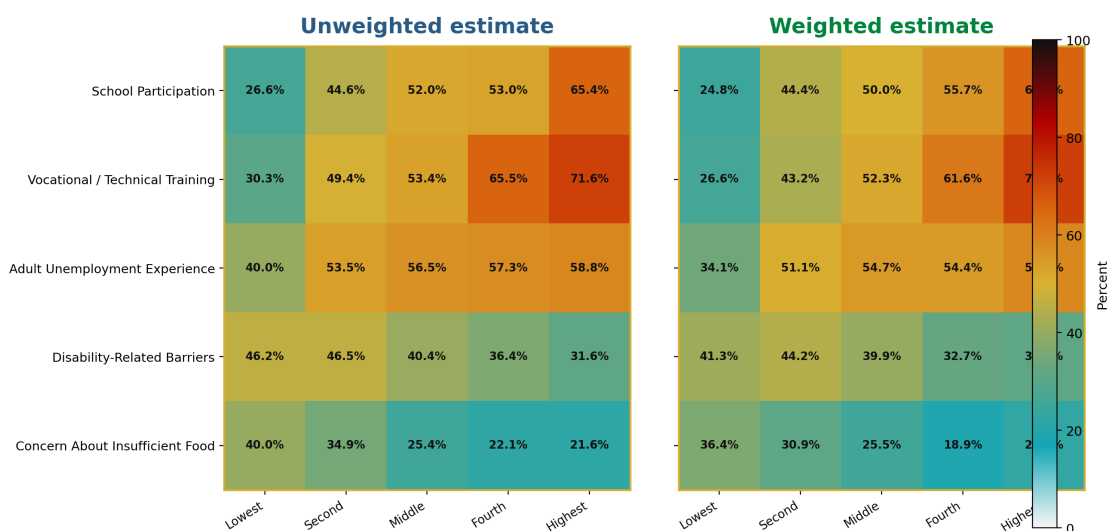


Figure 3.36. Social Development indicators by Wealth Quintile

Pillar 1: Priority Indicators by Sex of Household Head



Figure 3.37. Social Development indicators by Sex of Household Head

Pillar 1: Priority Indicators by Sampling Stratum

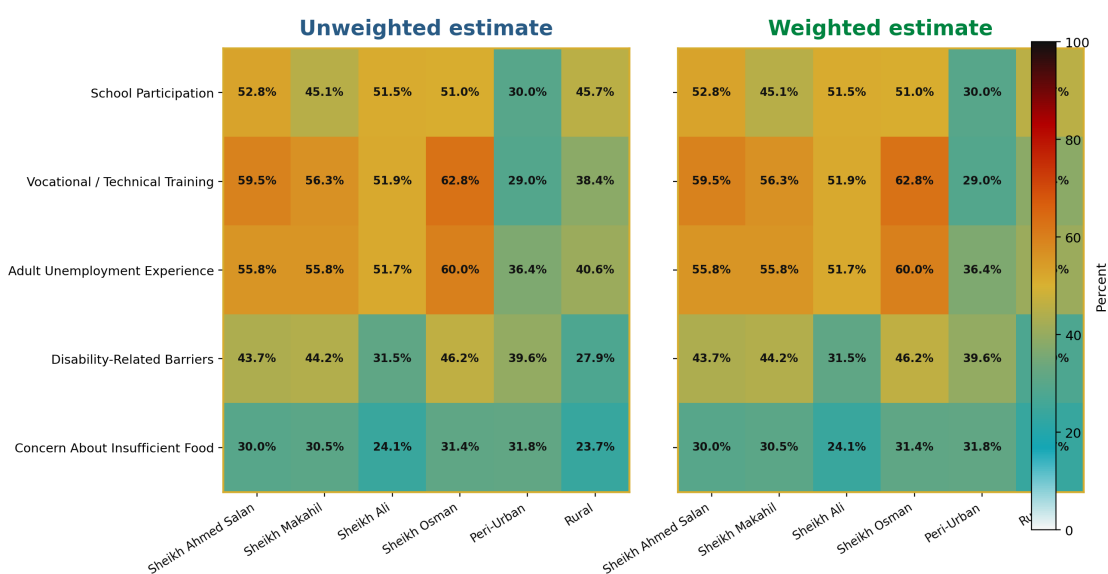


Figure 3.38. Social Development indicators by Sampling Stratum

Inequality lens

Social disadvantage in Borama is multidimensional. Limited school participation, unmet demand for skills, unemployment, disability-related exclusion and food insecurity can occur within the same households, while household resources and opportunities vary across wealth, residence, household leadership and geographic location.

Development implication

Social development should therefore move from isolated sector programmes toward integrated, people-and-place-based support that connects education, skills, employment, disability inclusion, food security and social protection. Priority should be given to households experiencing multiple overlapping disadvantages, with future BAHDA monitoring used to assess whether these gaps narrow over time.

Pillar Closing Perspective

Social development in Borama is a story of both capability and unfinished opportunity. Many households possess important strengths in literacy, education, skills, work and community resilience, yet substantial gaps remain in full school participation, access to training, livelihood security, disability inclusion and food security. These disadvantages do not occur neatly one at a time; they can overlap within the same households and places. The central development challenge is therefore not simply to improve district averages, but to ensure that progress reaches households currently facing the greatest combination of barriers. BAHDA-2026 provides the baseline from which that progress can now be measured.

Pillar message: Social progress is strongest when learning, livelihood security, inclusion and food security advance together—and when those gains reach the households furthest behind.

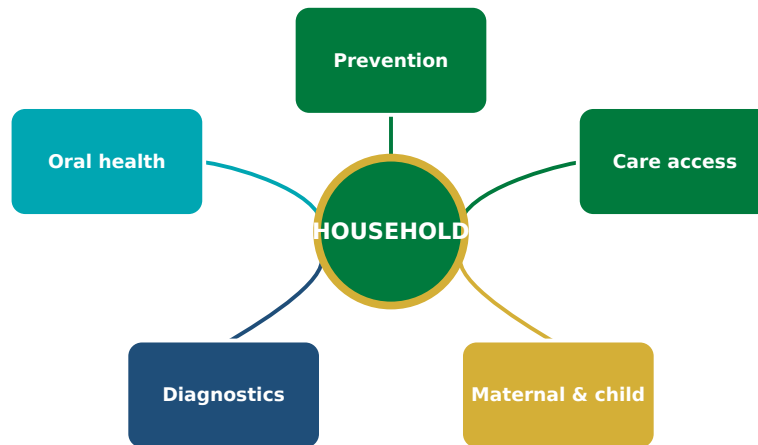


Health Development

Health status, care access, maternal and child health, medicines and oral health

Health Development

Five connected domains shaping household well-being



Health Development at a Glance

Key evidence, inequalities and development implications

Policy alignment: NDP III Social Development; Agenda 2063 Goal 3; SDGs 3 and 6



Adult Hypertension Diagnosis

33.5%

Unweighted estimate: 39.7%.



Adult Diabetes Diagnosis

25.2%

Unweighted estimate: 33.1%.



Travel Time for Emergency Care

52.7%

Hospital reachable within 30 minutes; unweighted estimate: 59.8%.



Household Health Insurance

12.9%

Unweighted estimate: 18.3%.



Antenatal Care Visits

23.4%

Four or more antenatal-care visits; unweighted estimate: 22.8%.



Place of Last Delivery

82.8%

Health-facility delivery; unweighted estimate: 88.0%.



Postnatal Check Within 48 Hours

52.7%

Postnatal check for mother and baby within 48 hours; unweighted estimate: 58.9%.



Full Vaccination Among Children Under Five

85.9%

Unweighted estimate: 87.6%.



Medicine Affordability Barrier

45.5%

Unweighted estimate: 44.0%.



Dental Care Avoided Because of Cost

34.1%

Unweighted estimate: 37.5%.

Chapter Overview

Health development is reflected not only in the illnesses households experience, but also in whether people can prevent disease, reach timely care, afford medicines and diagnostics, protect mothers and children, maintain mental well-being and obtain essential oral-health services. BAHDA-2026 therefore examines chronic disease and care access; maternal, newborn and child health; nutrition, mental well-being and public-health risks; pharmacy, laboratory and diagnostic services; and oral health as connected parts of one household health system.[36, 37, 38, 39, 40, 41, 42, 43]

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

Policy alignment: NDP III Social Development; Agenda 2063 Goal 3; SDGs 3 and 6

Health Development

Five connected domains shaping household well-being

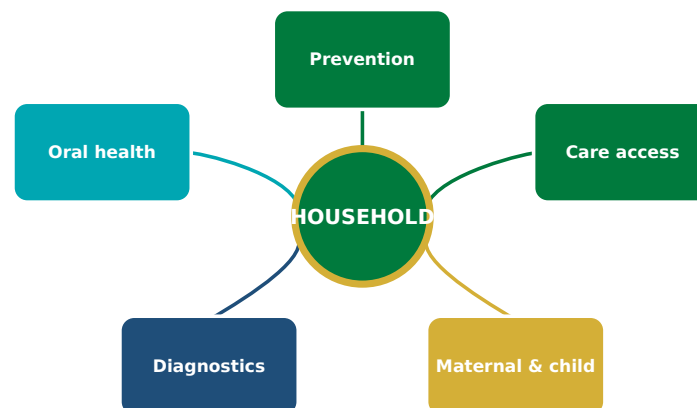


Figure 4.1. Health Development Framework



General Health, Chronic Disease and Care Access

Chronic conditions, emergency access and health coverage indicate the reach and responsiveness of the health system.

4.1 General Health, Chronic Disease and Care Access

**Adult Hypertension Diagnosis****33.5%**

Unweighted estimate: 39.7%.

**Adult Diabetes Diagnosis****25.2%**

Unweighted estimate: 33.1%.

**Travel Time for Emergency Care****52.7%**

Hospital reachable within 30 minutes; unweighted estimate: 59.8%.

**Household Health Insurance****12.9%**

Unweighted estimate: 18.3%.

Health security begins with the ability to prevent, recognise and manage illness before it becomes an emergency. This section examines household chronic-disease burden alongside emergency travel time and financial protection, showing how health need and access can coexist within the same household.

Adult Hypertension Diagnosis was reported by 33.5% of eligible households in the weighted results, compared with 39.7% in the unweighted results.

Adult Diabetes Diagnosis was reported by 25.2% of eligible households in the weighted results, compared with 33.1% in the unweighted results.

For **Travel Time for Emergency Care**, *Hospital reachable within 30 minutes* accounted for 52.7% in the weighted results and 59.8% in the unweighted results.

Household Health Insurance was reported by 12.9% of eligible households in the weighted results, compared with 18.3% in the unweighted results.

Adult Hypertension Diagnosis

Weighted and unweighted descriptive estimates

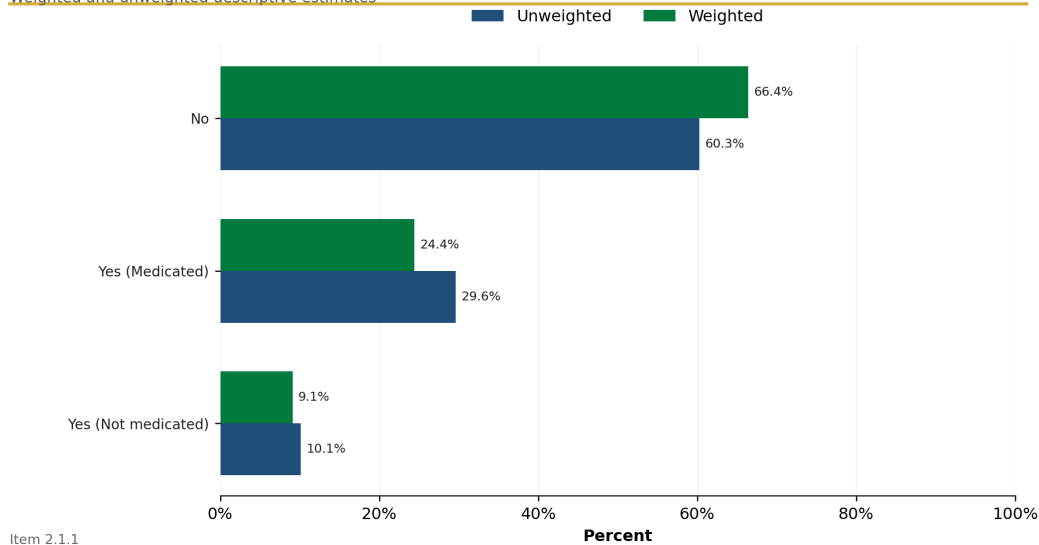


Figure 4.2. Adult Hypertension Diagnosis

Adult Diabetes Diagnosis

Weighted and unweighted descriptive estimates

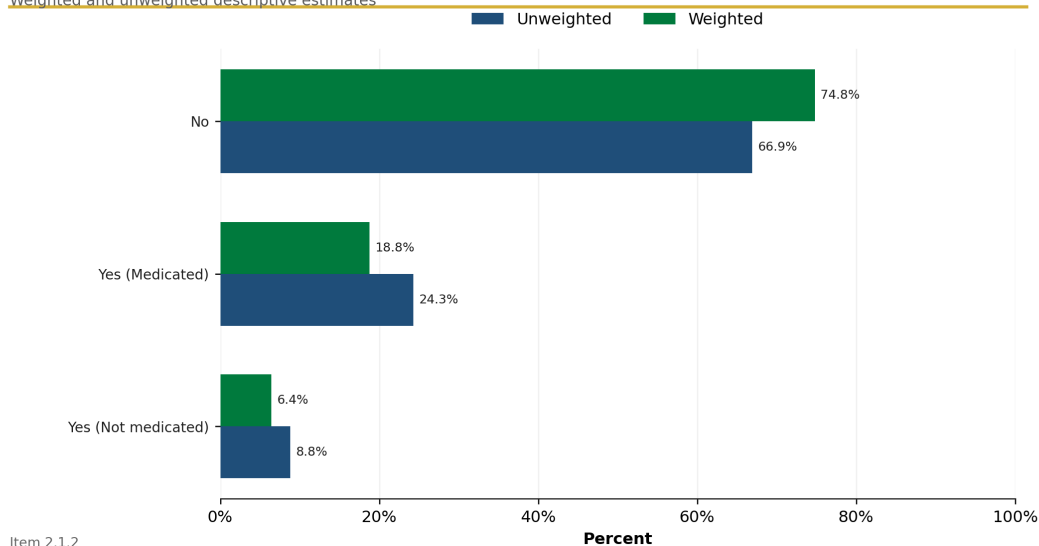


Figure 4.3. Adult Diabetes Diagnosis

Inequality lens

Adult hypertension was reported by 33.5% of households and diabetes by 25.2%, while only 52.7% reported that emergency hospital care was reachable within 30 minutes and 12.9% had health insurance or an employer-supported scheme. These figures show that health need is not matched uniformly by timely access or financial protection.

Development implication

Health planning should combine NCD prevention and continuity of care with faster emergency access and stronger financial protection, prioritising households and locations where disease burden and access barriers overlap.

Chronic-Care Management and Care-Seeking Patterns

The remaining indicators show how households manage long-term conditions, experience chronic pain and choose between traditional and formal sources of care, adding continuity and care-seeking behaviour to the headline access measures.

Do those with chronic conditions take their medication every day

Weighted and unweighted descriptive estimates

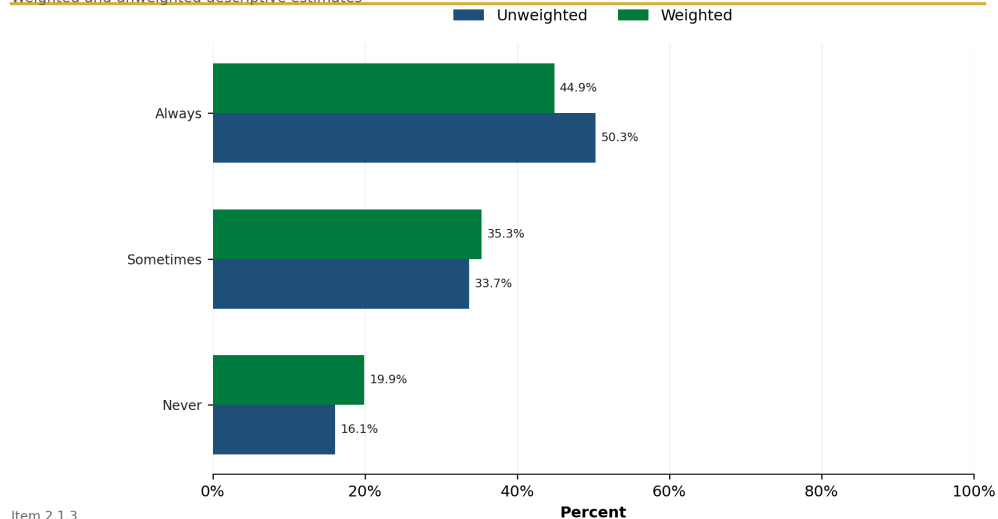


Figure 4.4. Daily Use of Chronic-Disease Medication

Any member suffer from Chronic Pain (long-term joint or muscle

Weighted and unweighted descriptive estimates

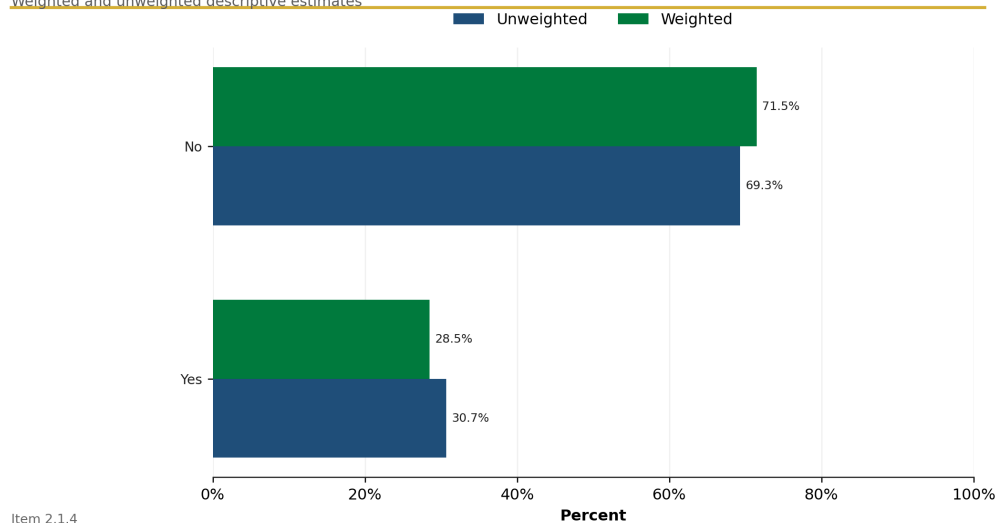


Figure 4.5. Chronic Pain in the Household

Preference for Traditional or Formal Care

Weighted and unweighted descriptive estimates

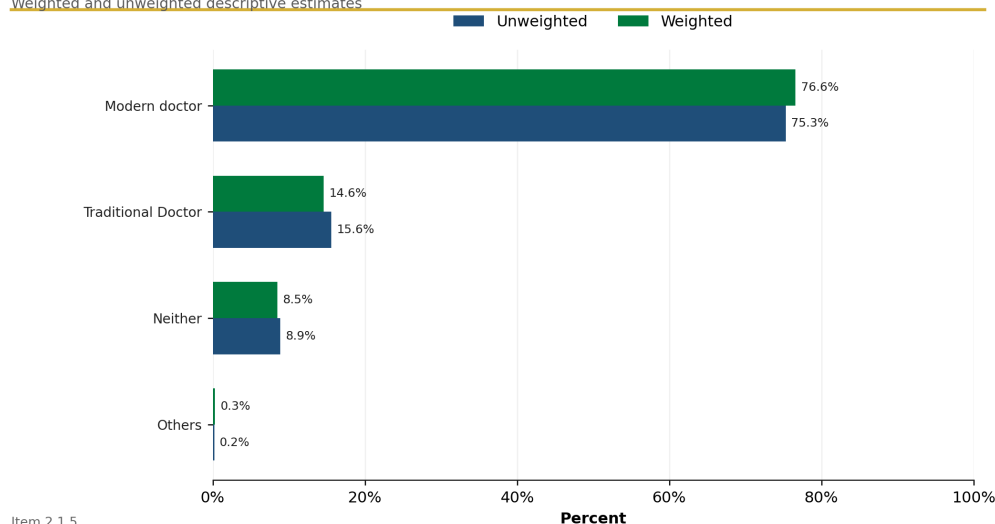


Figure 4.6. Preference for Traditional or Formal Care

Detailed tables for General Health, Chronic Disease and Care Access

Table 2.1.1

Adult Hypertension Diagnosis

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,745	60.3	1,924.3	66.4
Yes (Medicated)	858	29.6	706.9	24.4
Yes (Not medicated)	293	10.1	264.8	9.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.2

Adult Diabetes Diagnosis

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,938	66.9	2,166.4	74.8
Yes (Medicated)	703	24.3	544.0	18.8
Yes (Not medicated)	255	8.8	185.6	6.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.3

Do those with chronic conditions take their medication every day

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Always	687	50.3	515.0	44.9

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Sometimes	460	33.7	404.7	35.3
Never	220	16.1	227.9	19.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.4*Any member suffer from Chronic Pain (long-term joint or muscle*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,006	69.3	2,069.3	71.5
Yes	890	30.7	826.7	28.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.5*Preference for Traditional or Formal Care*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Modern doctor	2,181	75.3	2,217.3	76.6
Traditional Doctor	451	15.6	423.9	14.6
Neither	258	8.9	245.5	8.5
Others	6	0.2	9.3	0.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.7*Household Health-Monitoring Device*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,818	62.8	2,141.6	74.0
Yes, BP	471	16.3	331.7	11.5
Yes, Sugar	401	13.8	291.6	10.1
Both	206	7.1	131.1	4.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.8*Was surgery needed for any member of this household in the last*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,128	73.5	2,277.7	78.7

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	768	26.5	618.3	21.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.9

If surgery was needed, was it performed

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	573	74.6	464.1	75.1
No	195	25.4	154.2	24.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.10

If surgery was needed but not performed, what was the main barrier

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Cost	89	45.6	84.3	54.6
Fear/No Trust	40	20.5	25.5	16.5
Facility Unavailable	34	17.4	24.8	16.1
Waiting List	25	12.8	15.4	10.0
Other	7	3.6	4.2	2.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.12

Where was the last surgery or emergency care received

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Private Clinic	473	52.5	374.7	48.1
Public Hospital	344	38.2	326.8	41.9
Facility outside Borama	84	9.3	77.9	10.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.13

Has any member required Emergency Care in the last 12 months

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,092	72.2	2,175.9	75.1
Yes	804	27.8	720.1	24.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.14*Travel Time for Emergency Care*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Less than 30 mins	481	59.8	379.3	52.7
30-60 mins	236	29.4	208.7	29.0
More than 60 mins	87	10.8	132.1	18.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.15*Think doctors service available to everywhere and everyone*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,296	79.3	2,058.7	71.1
No	570	19.7	806.2	27.8
Others	30	1.0	31.1	1.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.17*Any child show significant delay in speech, learning, or social*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,324	80.2	2,428.0	83.8
Yes	572	19.8	468.0	16.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.18*Household Health Insurance*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,366	81.7	2,521.7	87.1
Yes	530	18.3	374.3	12.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.1.19*Satisfaction With the Doctors in Borama facilities? (1-5 Scale)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Satisfied (4)	892	30.8	899.0	31.0

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral (3)	868	30.0	895.4	30.9
Very satisfied (5)	618	21.3	593.2	20.5
Dissatisfied (2)	383	13.2	378.0	13.1
Very dissatisfied (1)	135	4.7	130.3	4.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Maternal, Newborn and Child Health

Pregnancy, delivery, postnatal care, vaccination and child health practices shape survival and healthy development.

4.2 Maternal, Newborn and Child Health



Antenatal Care Visits

23.4%

Four or more antenatal-care visits; unweighted estimate: 22.8%.



Place of Last Delivery

82.8%

Health-facility delivery; unweighted estimate: 88.0%.



Postnatal Check Within 48 Hours

52.7%

Postnatal check for mother and baby within 48 hours; unweighted estimate: 58.9%.



Full Vaccination Among Children Under Five

85.9%

Unweighted estimate: 87.6%.

Maternal and child health depends on continuity across pregnancy, delivery, the early postnatal period and childhood prevention. This section examines that continuum to identify where high service use is sustained and where women, newborns and children may still be lost between stages of care.

For **Antenatal Care Visits**, *Four or more antenatal-care visits* accounted for 23.4% in the weighted results and 22.8% in the unweighted results.

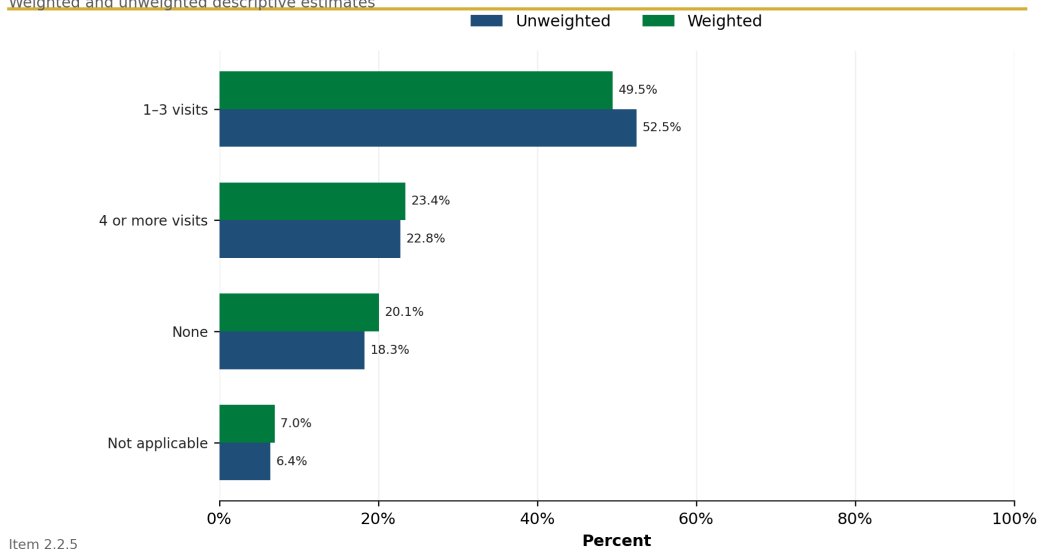
For **Place of Last Delivery**, *Health-facility delivery* accounted for 82.8% in the weighted results and 88.0% in the unweighted results.

For **Postnatal Check Within 48 Hours**, *Postnatal check for mother and baby within 48 hours* accounted for 52.7% in the weighted results and 58.9% in the unweighted results.

Full Vaccination Among Children Under Five was reported by 85.9% of eligible households in the weighted results, compared with 87.6% in the unweighted results.

For the last pregnancy in this household, how many Antenatal Care

Weighted and unweighted descriptive estimates



Item 2.2.5

Figure 4.7. Antenatal Care Visits

Where did the last delivery in this household take place

Weighted and unweighted descriptive estimates

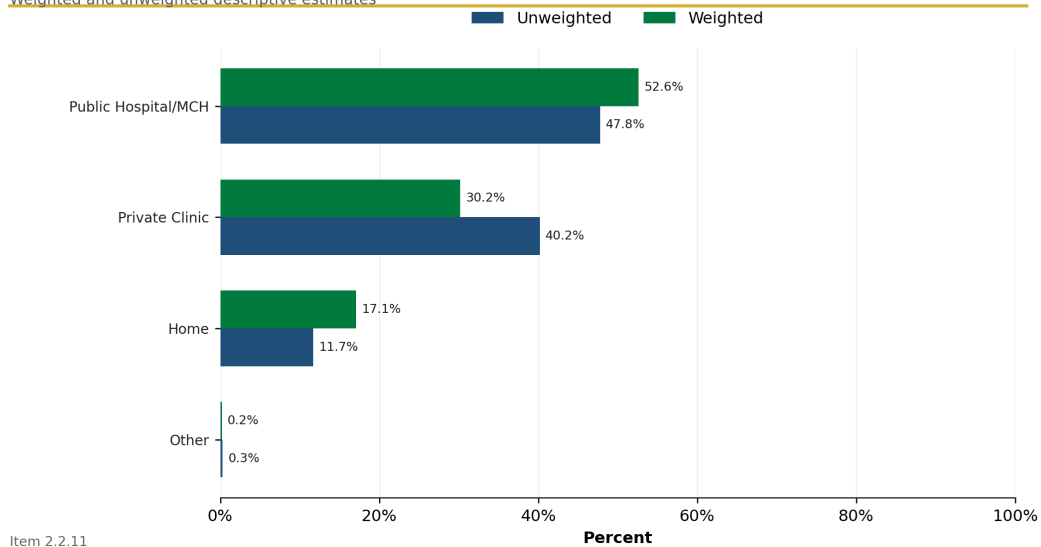


Figure 4.8. Place of Delivery

Inequality lens

Health-facility delivery was high at 82.8% and full vaccination among eligible children under five reached 85.9%, yet only 23.4% reported four or more antenatal-care visits and 52.7% reported a postnatal check for both mother and baby within 48 hours. The pattern points to uneven continuity across the maternal and child health pathway.

Development implication

Maternal and child health programmes should strengthen the complete continuum of care, with particular attention to adequate antenatal contact and timely postnatal follow-up while sustaining high facility-delivery and vaccination coverage.

Maternal Care Continuity and Child Health Protection

These indicators extend the continuum beyond the headline measures by showing pregnancy exposure, the presence of young children and the household context in which antenatal, delivery, postnatal and vaccination services are required.

Recent Pregnancy or Live Birth

Weighted and unweighted descriptive estimates

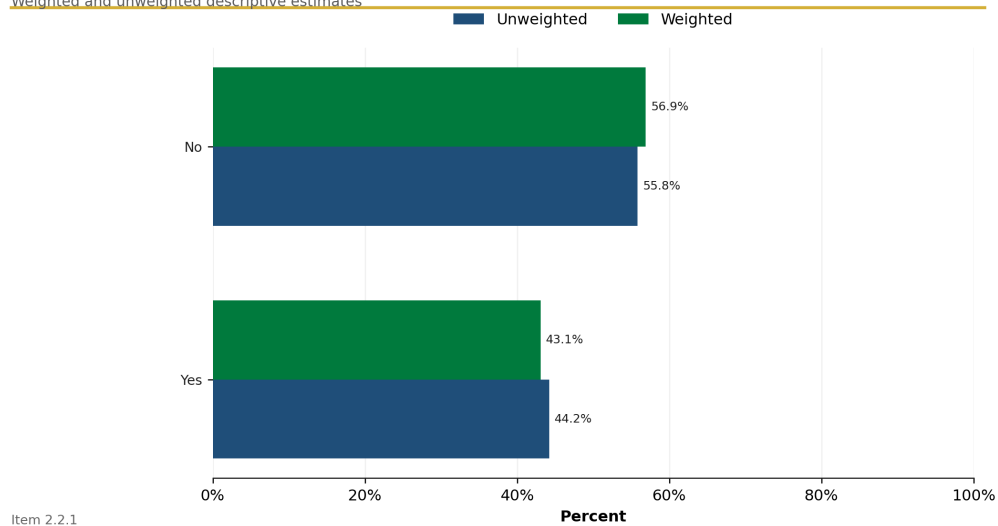


Figure 4.9. Recent Pregnancy or Live Birth

Children Under Five in the Household

Weighted and unweighted descriptive estimates

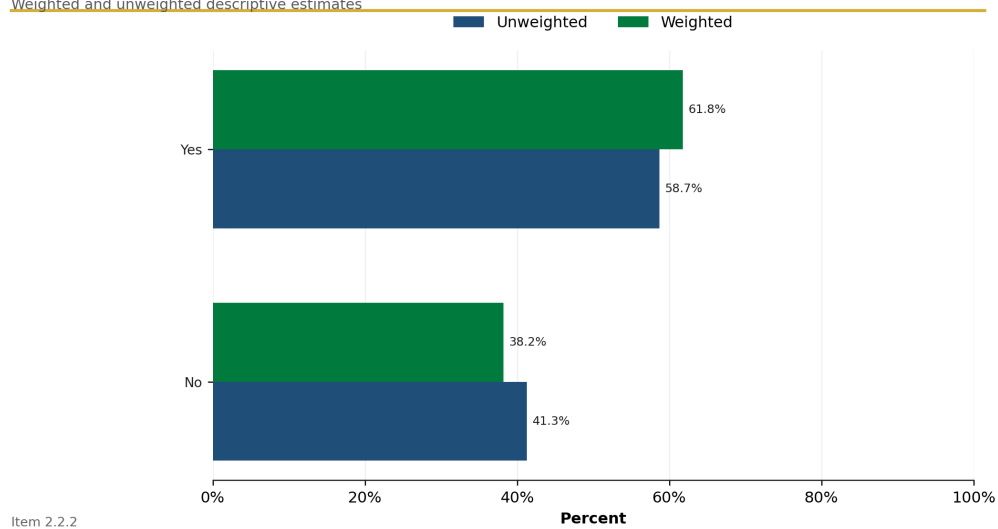


Figure 4.10. Children Under Five in the Household

Children Under Two in the Household

Weighted and unweighted descriptive estimates

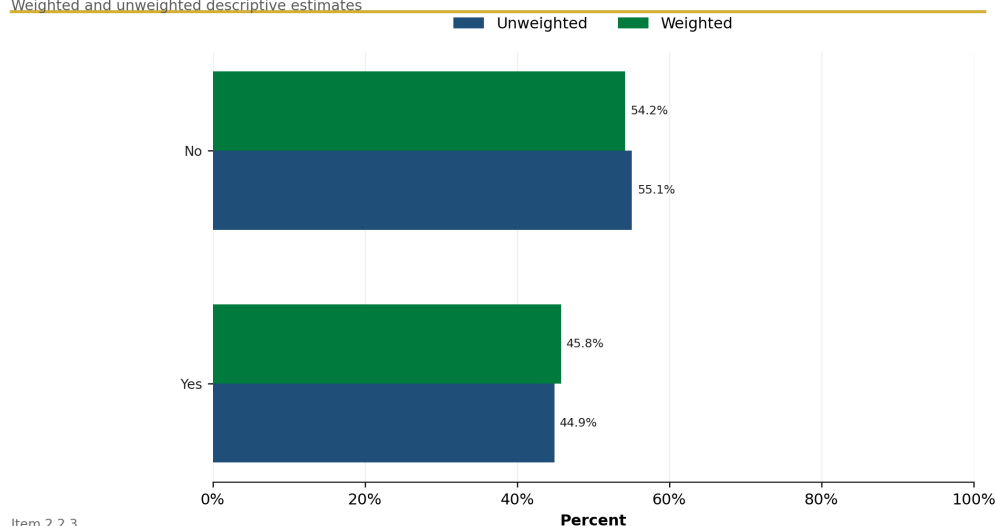


Figure 4.11. Children Under Two in the Household

Detailed tables for Maternal, Newborn and Child Health

Table 2.2.1

Recent Pregnancy or Live Birth

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,617	55.8	1,647.0	56.9
Yes	1,279	44.2	1,249.0	43.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.2

Children Under Five in the Household

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,699	58.7	1,789.1	61.8
No	1,197	41.3	1,106.9	38.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.3

Children Under Two in the Household

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,597	55.1	1,568.8	54.2
Yes	1,299	44.9	1,327.2	45.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.4*Number of pregnancies have you carried*

Statistic	Value
Valid unweighted n	701.000
Unweighted mean	1.870
Weighted mean	1.917
Unweighted standard deviation	0.805
Weighted standard deviation	0.824
Unweighted median	2.000
Weighted median	2.000
Minimum	1.000
Maximum	3.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 2.2.5*Antenatal Care Visits*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
1-3 visits	368	52.5	330.2	49.5
4 or more visits	160	22.8	156.3	23.4
Missing/unspecified	128	18.3	134.2	20.1
Not applicable	45	6.4	47.0	7.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.6*During the last pregnancy, was the mother informed about danger*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, informed	322	45.9	284.5	42.6
No, not informed	258	36.8	246.3	36.9
Don't know	73	10.4	91.3	13.7
Not applicable	48	6.8	45.5	6.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.7*During the last pregnancy, did the mother receive any supplements*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, neither	215	30.7	236.1	35.4
Tetanus injections	237	33.8	231.5	34.7
Iron/Folic Acid	160	22.8	105.6	15.8

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Micronutrients	89	12.7	94.4	14.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.8*Distance to Nearest Maternity or MCH Clinic*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Less than 2 km	372	53.1	293.1	43.9
2-5 km	215	30.7	198.2	29.7
More than 5 km	114	16.3	176.3	26.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.9*Maternal Transport to a Health Facility*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Walking	236	33.7	234.3	35.1
Private car	231	33.0	204.6	30.6
Public transport	198	28.2	201.0	30.1
Ambulance	36	5.1	27.8	4.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.10*Who provided the majority of the advice during the last pregnancy*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Professional Nurse/Midwife	363	51.8	351.1	52.6
Female health worker	224	32.0	169.6	25.4
No one	68	9.7	93.9	14.1
Community mobilizers	46	6.6	53.1	7.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.11*Place of Last Delivery*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Public Hospital/MCH	335	47.8	350.9	52.6

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Private Clinic	282	40.2	201.8	30.2
Home	82	11.7	113.9	17.1
Other	2	0.3	1.1	0.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.13*Who assisted with the last delivery? (Select the highest*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Qualified Nurse/Midwife	332	47.4	322.7	48.3
Doctor	262	37.4	216.5	32.4
Relative/Neighbor	34	4.9	69.4	10.4
Auxiliary Midwife/Nurse	73	10.4	59.1	8.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.14*How was the condition of the newborn immediately after delivery*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Cried	548	78.2	548.7	82.2
Difficult breathing	103	14.7	72.5	10.9
No response	50	7.1	46.4	7.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.15*What was the birth weight of the newborn*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
2.5–3 kg	314	44.8	295.8	44.3
Less than 2.5 kg	215	30.7	219.3	32.9
3–4 kg	126	18.0	113.6	17.0
More than 4 kg	46	6.6	38.9	5.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.16*Postnatal Check Within 48 Hours*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, both	413	58.9	351.8	52.7
No, neither	141	20.1	193.3	29.0
Yes, only baby	106	15.1	81.5	12.2
Yes, only mother	41	5.8	41.1	6.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.17*Use of Traditional Herbs During Labour*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	416	59.3	391.4	58.6
Yes	227	32.4	223.7	33.5
Not applicable	58	8.3	52.5	7.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.18*Has this household ever experienced the loss of a newborn within*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,027	70.0	2,050.6	70.8
Yes	633	21.9	615.2	21.2
Prefer not to say	236	8.1	230.2	7.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.19*Was the last child born in this household exclusively breastfed*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	798	75.3	815.8	76.4
No, water/food already started	125	11.8	96.8	9.1
Still under 6 months and breastfeeding	76	7.2	92.6	8.7
Not applicable	61	5.8	62.4	5.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.20*Full Vaccination Among Children Under Five*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, reported by mother	760	44.7	836.9	46.8
Yes, card seen	729	42.9	699.3	39.1
No, partial or none	165	9.7	188.3	10.5
No children under 5	45	2.6	64.5	3.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.21*When a child is sick with a fever or cough, what is the first*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Take to health facility	804	47.3	768.1	42.9
Go to pharmacy	639	37.6	654.3	36.6
Use home/traditional remedies	189	11.1	271.6	15.2
Wait and see	67	3.9	95.0	5.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.22*Child Growth-Chart Availability*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	438	33.7	540.7	40.7
Yes, for all	431	33.2	397.8	30.0
Yes, for some	358	27.6	313.3	23.6
Not applicable	72	5.5	75.4	5.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.23*Any adult in the household have basic knowledge of first aid*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No knowledge	1,335	46.1	1,655.7	57.2
Yes, trained	802	27.7	626.1	21.6
Yes, basic knowledge	759	26.2	614.2	21.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.24*Know and use modern family planning methods (e.g., pills,*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Not known	520	34.3	602.1	41.5
Known but not used	444	29.3	358.8	24.7
Known and used	392	25.9	339.9	23.4
Prefer not to say	159	10.5	150.9	10.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.25*If family planning is not used, what is the main reason*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Not applicable	367	32.7	394.6	35.5
Religious/cultural reasons	261	23.2	291.1	26.2
Desire for more children	228	20.3	228.5	20.5
Health concerns/side effects	172	15.3	116.5	10.5
Husband/family opposition	95	8.5	81.1	7.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.26*Rating of your level of trust in the advice provided by midwives*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Trust midwives more	1,793	61.9	1,776.0	61.3
Trust traditional healers more	526	18.2	496.6	17.1
Trust both equally	368	12.7	395.5	13.7
Trust neither	209	7.2	227.8	7.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.27*Ever felt that a nurse/midwife in Borama treated you*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Always	1,011	34.9	946.1	32.7
Sometimes	976	33.7	929.4	32.1
Rarely/Never	581	20.1	630.3	21.8
Not applicable	328	11.3	390.1	13.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.2.28*Satisfaction With Nursing Care*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Satisfied	949	32.8	1,002.1	34.6
Very satisfied	957	33.0	888.7	30.7
Neutral	807	27.9	794.8	27.4
Dissatisfied	122	4.2	135.4	4.7
Very dissatisfied	61	2.1	75.0	2.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Nutrition, Mental Well-Being and Public Health Risks

Nutrition, psychosocial well-being and health-risk awareness broaden the assessment beyond clinical service use.

4.3 Nutrition, Mental Well-Being and Public Health Risks



**Any member suffer from frequent
Clinical Depression or Anxiety**

13.2%

Unweighted estimate: 17.0%.



**Any member of the household use
Tobacco or Khat daily**

55.5%

Daily tobacco or khat use; unweighted estimate: 47.0%.



Recent Emotional-Distress Frequency

38.0%

Emotional distress at least sometimes; unweighted estimate: 38.9%.



Satisfaction With the public health and environment in your area

49.8%

Higher satisfaction ratings; unweighted estimate: 53.5%.

Household health extends beyond diagnosed disease to psychosocial well-being, substance-related risks, nutrition and preventive awareness. This section examines those less visible dimensions of health that can affect functioning, care-seeking and long-term household resilience.

Any member suffer from frequent Clinical Depression or Anxiety was reported by 13.2% of eligible households in the weighted results, compared with 17.0% in the unweighted results.

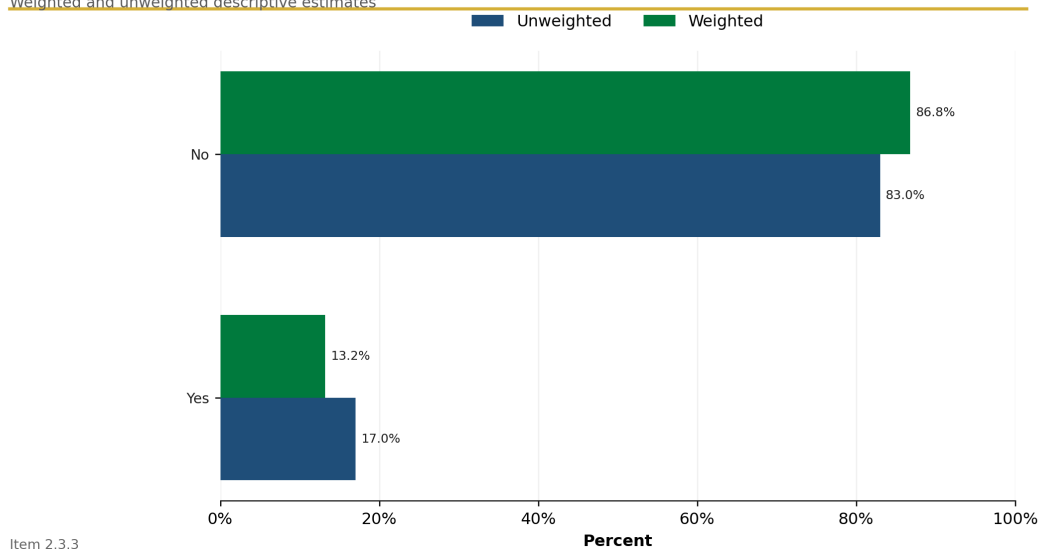
For **Any member of the household use Tobacco or Khat daily**, *Daily tobacco or khat use* accounted for 55.5% in the weighted results and 47.0% in the unweighted results.

For **Recent Emotional-Distress Frequency**, *Emotional distress at least sometimes* accounted for 38.0% in the weighted results and 38.9% in the unweighted results.

For **Satisfaction With the public health and environment in your area**, *Higher satisfaction ratings* accounted for 49.8% in the weighted results and 53.5% in the unweighted results.

Any member suffer from frequent Clinical Depression or Anxiety

Weighted and unweighted descriptive estimates



Item 2.3.3

Figure 4.12. Depression or Anxiety

Any member of the household use Tobacco or Khat daily

Weighted and unweighted descriptive estimates

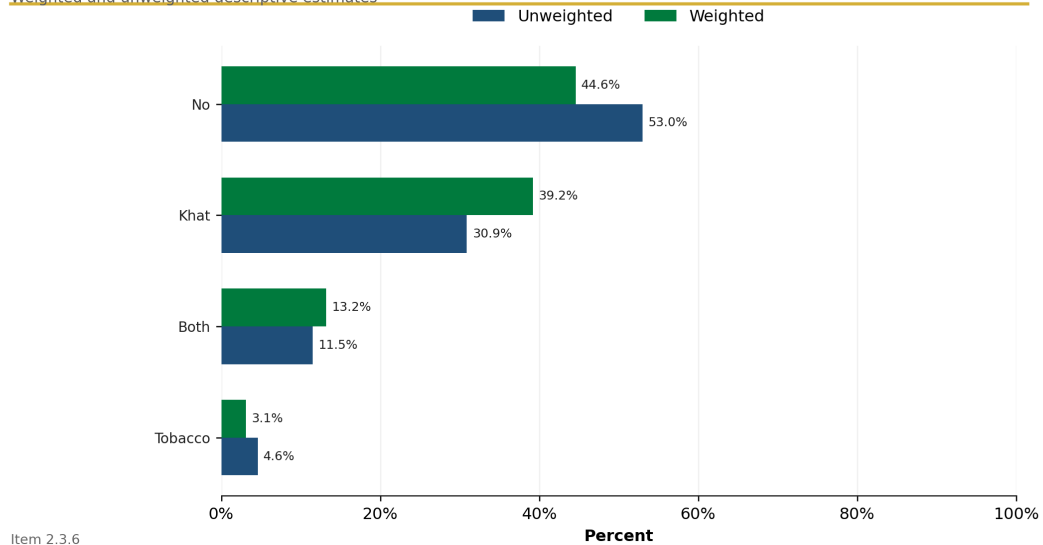


Figure 4.13. Daily Tobacco or Khat Use



Inequality lens

Depression or anxiety was reported in 13.2% of households, 38.0% reported emotional distress at least sometimes, and daily tobacco or khat use affected 55.5%. At the same time, only 49.8% reported higher satisfaction with the local public-health environment, indicating substantial preventive and psychosocial health needs.



Development implication

Public-health action should integrate mental-health support, tobacco and khat risk reduction, nutrition and preventive health communication with accessible referral pathways rather than treating these concerns as isolated household behaviours.

Psychosocial Well-Being and Preventive Risk Awareness

The supporting indicators broaden the picture to neurological and behavioural conditions, anaemia and other public-health risks, helping distinguish reported symptoms from knowledge, prevention and environmental well-being.

Household Epilepsy Prevalence

Weighted and unweighted descriptive estimates

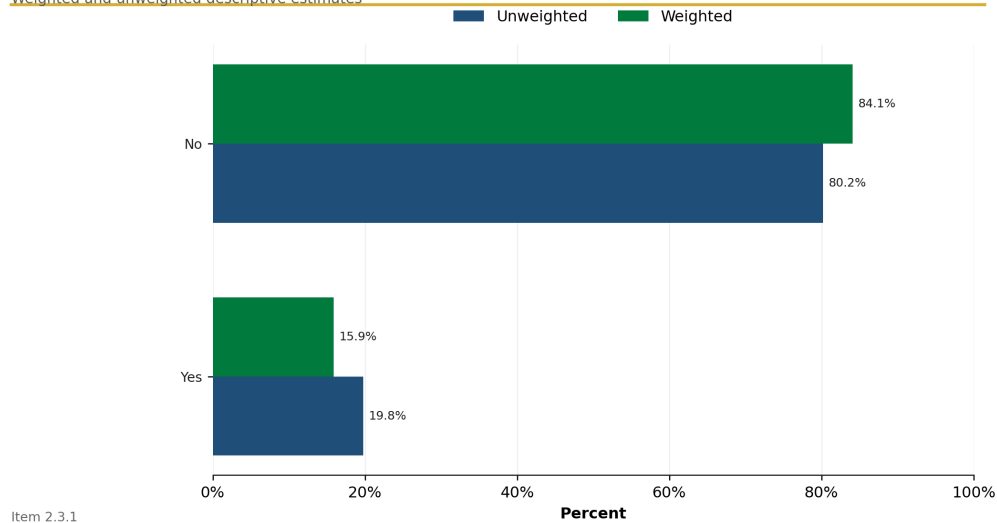


Figure 4.14. Household Epilepsy Prevalence

Any member show unusual behavior (talking to self, hearing

Weighted and unweighted descriptive estimates

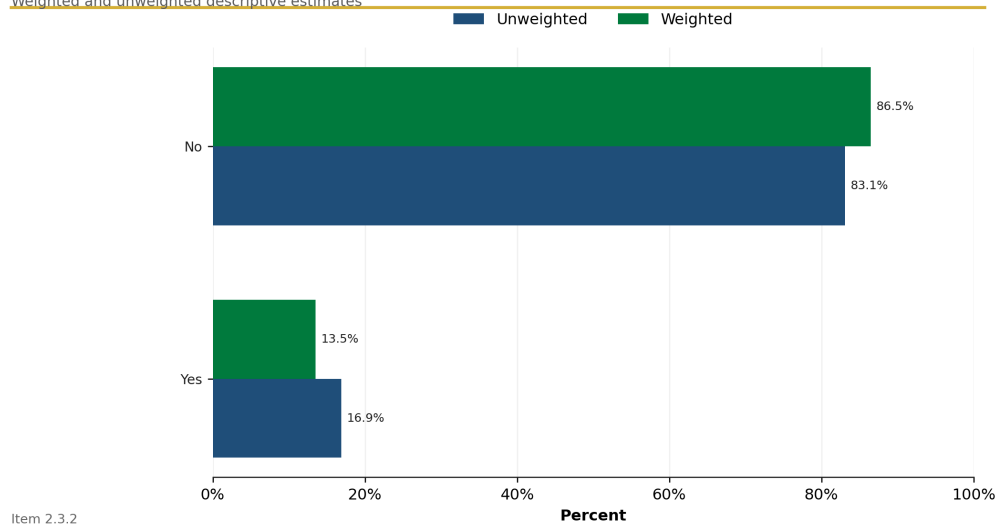


Figure 4.15. Unusual Behaviour or Psychotic Symptoms

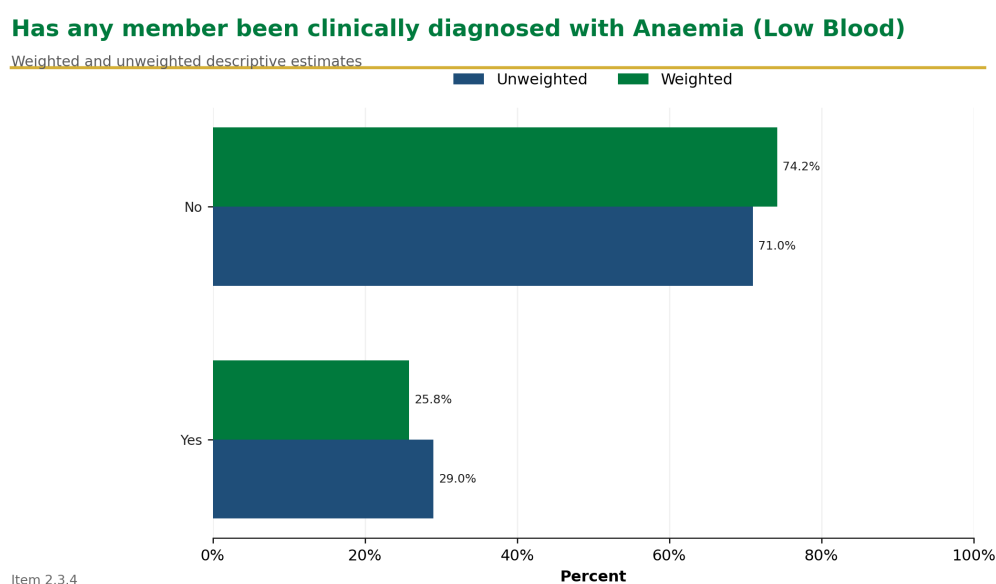


Figure 4.16. Anaemia Diagnosis

Detailed tables for Nutrition, Mental Well-Being and Public Health Risks

Table 2.3.1

Household Epilepsy Prevalence

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,324	80.2	2,434.1	84.1
Yes	572	19.8	461.9	15.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.2

Any member show unusual behavior (talking to self, hearing

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,406	83.1	2,504.1	86.5
Yes	490	16.9	391.9	13.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.3

Any member suffer from frequent Clinical Depression or Anxiety

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,405	83.0	2,514.6	86.8
Yes	491	17.0	381.4	13.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.4*Has any member been clinically diagnosed with Anaemia (Low Blood)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,057	71.0	2,148.4	74.2
Yes	839	29.0	747.6	25.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.5*Know the Warning Signs of a Stroke (Face/Arm/Speech)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,038	70.4	2,256.3	77.9
Yes	858	29.6	639.7	22.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.6*Any member of the household use Tobacco or Khat daily*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,534	53.0	1,290.2	44.6
Khat	895	30.9	1,136.2	39.2
Both	333	11.5	381.1	13.2
Tobacco	134	4.6	88.4	3.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.7*You aware of any Cancer Screening services*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,111	72.9	2,266.5	78.3
Yes	785	27.1	629.5	21.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.8*Has the youngest child ever been measured with MUAC (arm tape)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Never	858	50.5	1,065.6	59.6

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Green	445	26.2	386.3	21.6
Yellow	271	16.0	229.5	12.8
Red	125	7.4	107.6	6.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.9*Has the youngest child (under 5) received Vitamin A or deworming*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	837	49.3	1,005.5	56.2
Yes	862	50.7	783.6	43.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.10*Recent Emotional-Distress Frequency*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Not at all	1,771	61.2	1,795.0	62.0
Sometimes	822	28.4	747.1	25.8
Often	179	6.2	197.3	6.8
Always	124	4.3	156.6	5.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.11*In the last month, have you found it hard to wind down or relax*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Not at all	1,588	54.8	1,625.1	56.1
Sometimes	918	31.7	829.2	28.6
Often	231	8.0	242.1	8.4
Always	159	5.5	199.6	6.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.12*Experienced a severe trauma (war, accident, or sudden*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,044	70.6	2,180.2	75.3
Yes	852	29.4	715.8	24.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.13

What is the most common cause of mental illness in this community

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Medical/Brain problem	1,608	55.5	1,612.0	55.7
Jinn/Isha	481	16.6	465.2	16.1
Drugs/Khat	380	13.1	419.0	14.5
Trauma/Stress	427	14.7	399.9	13.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.3.14

Satisfaction With the public health and environment in your area

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral (3)	848	29.3	887.4	30.6
Satisfied (4)	960	33.1	869.7	30.0
Very satisfied (5)	590	20.4	573.1	19.8
Dissatisfied (2)	375	12.9	391.4	13.5
Very dissatisfied (1)	123	4.2	174.3	6.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Pharmacy, Laboratory and Diagnostic Services

Medicine affordability, dispensing practices and diagnostic access influence treatment quality and safety.

4.4 Pharmacy, Laboratory and Diagnostic Services



Availability of essential medicines at the nearest pharmacy

50.6%

Essential medicines always available; un-weighted estimate: 58.1%.


Medicine Affordability Barrier
45.5%

Unweighted estimate: 44.0%.


**Knowledge of antibiotic resistance
(medicines stop working if**
34.2%

Unweighted estimate: 39.8%.


**When a member has a fever (e.g.
malaria), do they seek laboratory**
17.1%

Regular laboratory testing before fever medication; unweighted estimate: 21.5%.

Effective treatment depends on more than reaching a health facility. Medicines must be available and affordable, people need reliable guidance on safe use, and diagnostic testing must be accessible when clinically required. This section examines those practical conditions of treatment quality.

For **Availability of essential medicines at the nearest pharmacy**, *Essential medicines always available* accounted for 50.6% in the weighted results and 58.1% in the unweighted results.

Medicine Affordability Barrier was reported by 45.5% of eligible households in the weighted results, compared with 44.0% in the unweighted results.

Knowledge of antibiotic resistance (medicines stop working if was reported by 34.2% of eligible households in the weighted results, compared with 39.8% in the unweighted results.

For **When a member has a fever (e.g. malaria), do they seek laboratory**, *Regular laboratory testing before fever medication* accounted for 17.1% in the weighted results and 21.5% in the unweighted results.

Availability of essential medicines at the nearest pharmacy

Weighted and unweighted descriptive estimates

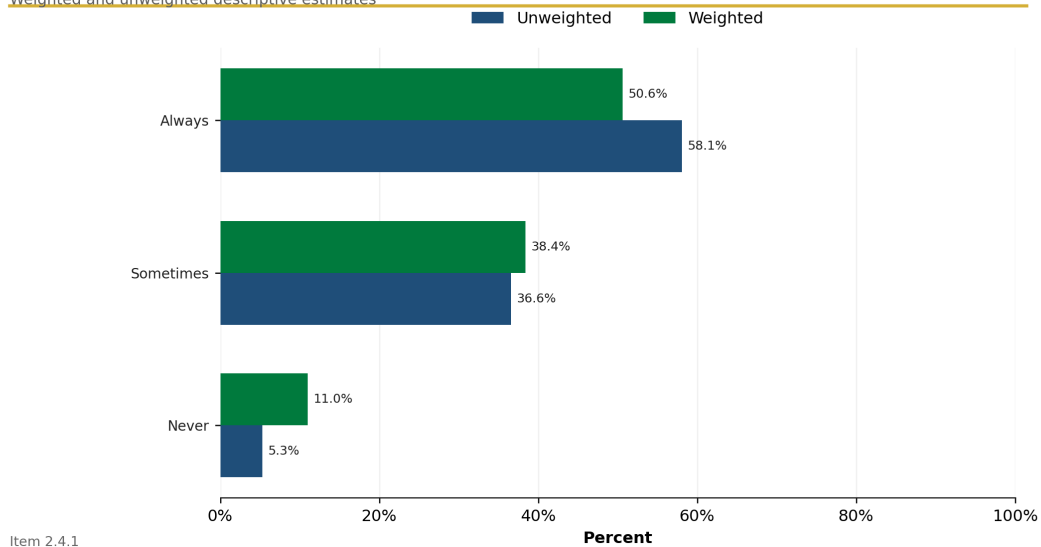


Figure 4.17. Availability of Essential Medicines

Cost prevent you from buying the full course of prescribed

Weighted and unweighted descriptive estimates

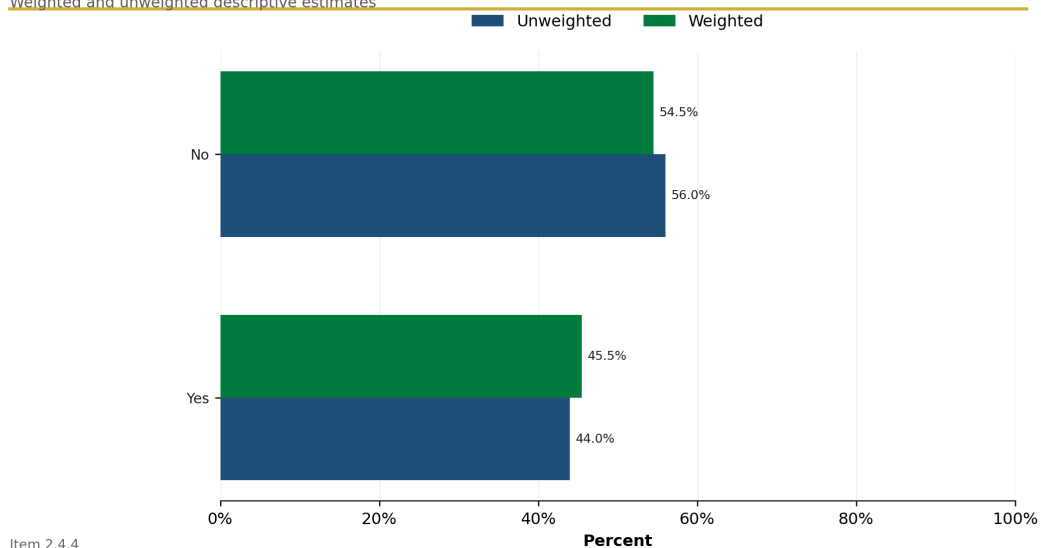


Figure 4.18. Medicine Affordability Barrier

Inequality lens

Essential medicines were reported as always available by 50.6% of households, while cost prevented 45.5% from obtaining the full prescribed course. Knowledge of antibiotic resistance was 34.2%, and only 17.1% reported regular laboratory testing before fever medication, revealing gaps in affordability, medicine literacy and diagnostic practice.

Development implication

Pharmacy and diagnostic policy should address medicine affordability and reliable supply while strengthening counselling, antimicrobial-awareness and appropriate laboratory testing so that access translates into safe and effective treatment.

Medicine Access, Safe Use and Diagnostic Readiness

These indicators show the physical and behavioural pathway from reaching a pharmacy to obtaining medicines safely and using diagnostic services appropriately, complementing the headline affordability and availability measures.

Distance to the nearest licensed pharmacy

Weighted and unweighted descriptive estimates

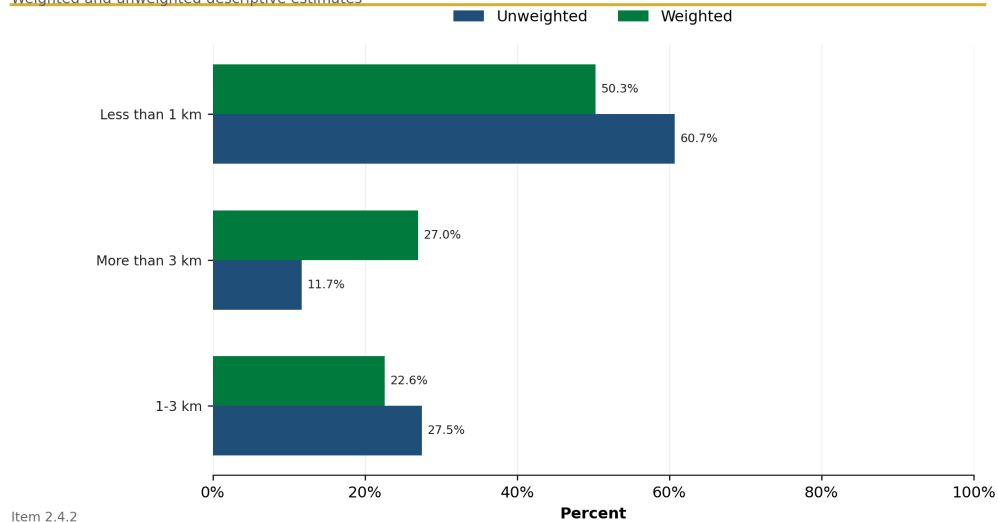


Figure 4.19. Distance to the Nearest Licensed Pharmacy

Primary Source of Medicines

Weighted and unweighted descriptive estimates

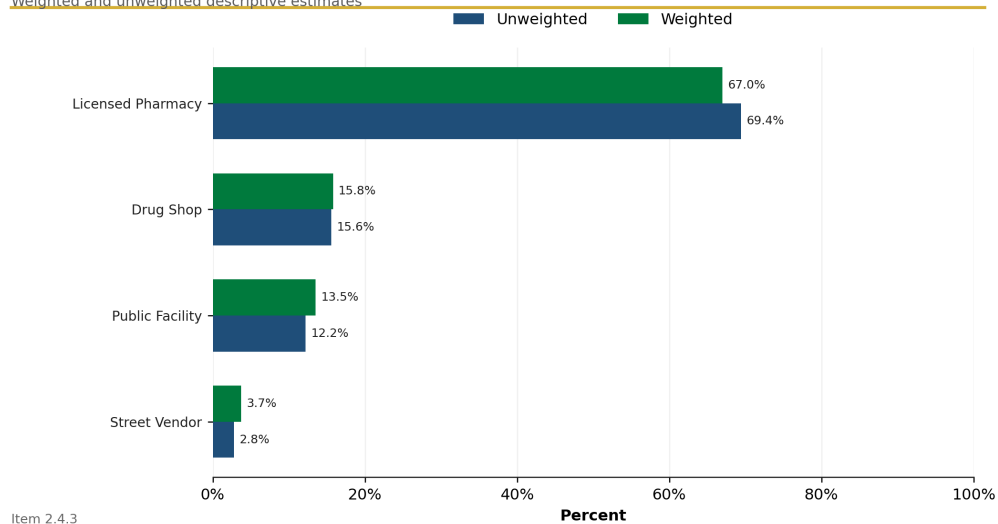


Figure 4.20. Primary Source of Medicines

Average waiting time at the pharmacy before being served

Weighted and unweighted descriptive estimates

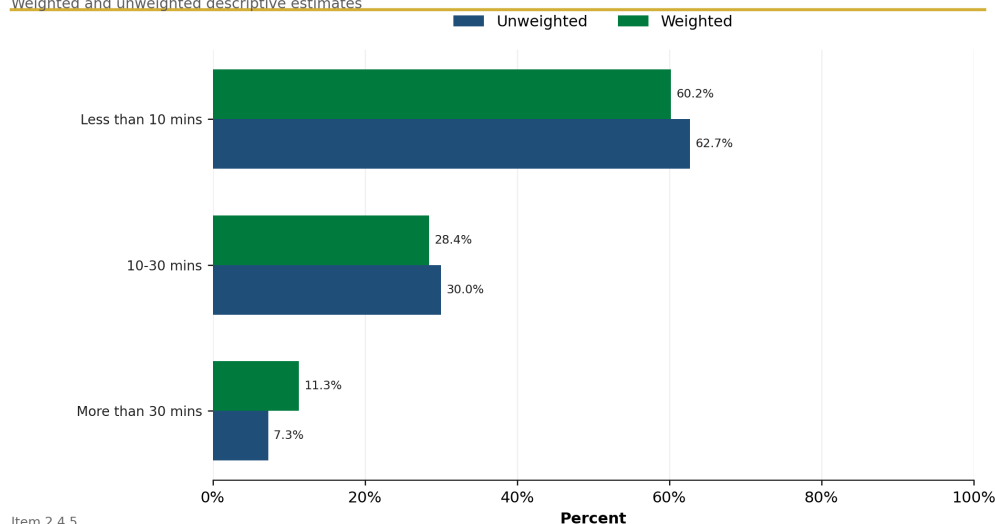


Figure 4.21. Pharmacy Waiting Time

Detailed tables for Pharmacy, Laboratory and Diagnostic Services

Table 2.4.1

Availability of essential medicines at the nearest pharmacy

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Always	1,683	58.1	1,464.7	50.6
Sometimes	1,059	36.6	1,112.1	38.4
Never	154	5.3	319.3	11.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.2

Distance to the nearest licensed pharmacy

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Less than 1 km	1,759	60.7	1,457.1	50.3
More than 3 km	340	11.7	783.3	27.0
1-3 km	797	27.5	655.6	22.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.3

Primary Source of Medicines

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Licensed Pharmacy	2,010	69.4	1,939.7	67.0

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Drug Shop	452	15.6	458.3	15.8
Public Facility	353	12.2	389.8	13.5
Street Vendor	81	2.8	108.2	3.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.4

Medicine Affordability Barrier

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,621	56.0	1,579.5	54.5
Yes	1,275	44.0	1,316.5	45.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.5

Average waiting time at the pharmacy before being served

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Less than 10 mins	1,816	62.7	1,744.5	60.2
10-30 mins	869	30.0	823.3	28.4
More than 30 mins	211	7.3	328.2	11.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.6

Buy medicines without a doctor's prescription

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Sometimes	1,470	50.8	1,474.9	50.9
Often	922	31.8	883.1	30.5
Never	504	17.4	538.0	18.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.7

Medicine-Sharing Practices

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,455	50.2	1,511.0	52.2
No	1,441	49.8	1,385.0	47.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.8*Stop taking a prescribed medicine as soon as you feel better*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,962	67.7	2,006.1	69.3
No	934	32.3	889.9	30.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.9*Knowledge of antibiotic resistance (medicines stop working if*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,743	60.2	1,905.9	65.8
Yes	1,153	39.8	990.1	34.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.10*Use of traditional/herbal medicines instead of pharmacy drugs*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Sometimes	1,374	47.4	1,404.2	48.5
Never	939	32.4	925.6	32.0
Often	583	20.1	566.2	19.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.11*Check expiry dates on the packaging before using medicines*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Always	1,409	48.7	1,255.9	43.4
Sometimes	1,061	36.6	1,094.4	37.8
Never	426	14.7	545.7	18.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.12*Awareness of counterfeit (fake) medicines in the local market*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,505	52.0	1,712.8	59.1

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,391	48.0	1,183.2	40.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.13*Safe Home Medicine Storage*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,045	70.6	1,960.5	67.7
No	851	29.4	935.5	32.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.14*How do you mainly dispose of expired or unused medicines*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Trash/Open Dump	1,986	68.6	1,892.4	65.3
Flush/Burn	372	12.8	597.2	20.6
Return to Pharmacy	538	18.6	406.4	14.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.15*Adverse Drug Reactions*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,021	69.8	2,144.6	74.1
Yes	875	30.2	751.4	25.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.16*Did you report it to a health professional*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	512	58.5	449.5	59.8
No	306	35.0	258.5	34.4
Not applicable	57	6.5	43.5	5.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.17*Receive counseling/explanation on how to use your medicines*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Always	1,368	47.2	1,246.6	43.0
Sometimes	1,240	42.8	1,226.4	42.3
Never	288	9.9	423.0	14.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.18*The instructions/labels on the medicine packaging easy to read*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,338	46.2	1,563.9	54.0
Yes	1,558	53.8	1,332.1	46.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.19*Level of trust in the pharmacist's medical advice*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate	1,698	58.6	1,683.7	58.1
High	1,012	34.9	953.5	32.9
Low	186	6.4	258.8	8.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.20*Overall satisfaction with pharmacy services in Borama*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Satisfied	960	33.1	1,001.7	34.6
Neutral	951	32.8	917.5	31.7
Very satisfied	783	27.0	746.8	25.8
Dissatisfied	156	5.4	170.4	5.9
Very dissatisfied	46	1.6	59.7	2.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.21*Perceived Benefit of Early Laboratory Testing*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Strongly Agree	1,609	55.6	1,587.3	54.8
Agree	1,033	35.7	1,064.9	36.8
Disagree	228	7.9	218.1	7.5
Strongly Disagree	26	0.9	25.6	0.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.22*Frequency of Laboratory Testing*

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	1.656
Weighted mean	1.661
Unweighted standard deviation	0.475
Weighted standard deviation	0.473
Unweighted median	2.000
Weighted median	2.000
Minimum	1.000
Maximum	2.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 2.4.23*What is the most significant barrier to seeking laboratory*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Cost	1,206	41.6	1,305.0	45.1
Distance	737	25.4	869.1	30.0
Long time to wait lab result	414	14.3	308.7	10.7
Lack of Trust	339	11.7	232.3	8.0
Facility Availability	200	6.9	181.0	6.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.24*Preparedness for Infectious-Disease Outbreaks*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,807	62.4	1,642.9	56.7
No	776	26.8	886.9	30.6

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Do not know	313	10.8	366.2	12.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.25*Adult HIV or TB Screening*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,855	64.1	2,007.8	69.3
Yes, one	443	15.3	353.0	12.2
Yes, both	347	12.0	271.3	9.4
Don't know	251	8.7	263.9	9.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.26*Has any member been tested for Hepatitis B (before vaccination)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,957	67.6	2,074.2	71.6
Yes	593	20.5	467.1	16.1
Do not know	346	11.9	354.8	12.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.27*When a member has a fever (e.g. malaria), do they seek laboratory*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Never	1,407	48.6	1,682.7	58.1
Occasionally	865	29.9	718.0	24.8
Yes, regularly	624	21.5	495.4	17.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.28*You aware that diseases can be transmitted through unsafe lab*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,130	73.5	2,015.1	69.6
No	766	26.5	880.9	30.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.29*HbA1c Testing Among Adults With Diabetes*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,941	67.0	2,162.5	74.7
Yes	955	33.0	733.5	25.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.30*For sugar/lipid tests, was the member instructed to fast (no*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,305	45.1	1,425.0	49.2
Yes	1,236	42.7	1,117.8	38.6
Not applicable	355	12.3	353.1	12.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.31*Has any member ever been tested for Creatinine (kidney function)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,824	63.0	1,940.8	67.0
Yes	1,072	37.0	955.2	33.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.32*Has any member undergone Liver Function Tests (LFT) to monitor*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,178	75.2	2,352.0	81.2
Yes	718	24.8	544.0	18.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.33*Has any member (especially women/children) ever been diagnosed*

Status

No valid result was generated.
Matched variable: none

Table 2.4.34

Have male members (40+) had a PSA test OR have female members had

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,823	62.9	1,912.5	66.0
Don't know	665	23.0	677.0	23.4
Yes	408	14.1	306.4	10.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.35

Know mothers in this household should be tested for Rh blood type

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,472	50.8	1,447.9	50.0
No	1,008	34.8	1,057.1	36.5
Don't understand question	416	14.4	391.1	13.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.36

Has any member of this household ever donated blood at a hospital

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,594	55.0	1,794.8	62.0
Yes	1,302	45.0	1,101.2	38.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.37

What other lab tests do you visit for testing

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
H. pylori	1,833	63.3	1,879.4	64.9
Vit D	584	20.2	503.5	17.4
Other	227	7.8	309.7	10.7
RF	252	8.7	203.3	7.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.39*How much do you trust the accuracy of results from local private*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Trust Private	1,680	58.0	1,393.1	48.1
Trust Public	587	20.3	772.1	26.7
Trust Both	487	16.8	568.1	19.6
Trust Neither	142	4.9	162.7	5.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.4.40*Rating of the hygiene and cleanliness of the laboratory*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Good	1,213	41.9	1,250.3	43.2
Excellent	961	33.2	912.2	31.5
Fair	638	22.0	632.0	21.8
Poor	84	2.9	101.6	3.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Oral Health

Oral-health symptoms, care-seeking and affordability are important components of overall household well-being.

4.5 Oral Health



Self-Reported Dental Caries Experience

65.9%

Unweighted estimate: 66.8%.



Households Reporting Infant Oral Mutilation

39.4%

At least one child; unweighted estimate: 36.3%.



Sugary Food/Drink Identified as Main Caries Cause

59.6%

Unweighted estimate: 59.6%.



IOM Considered Dangerous or Very Dangerous

57.7%

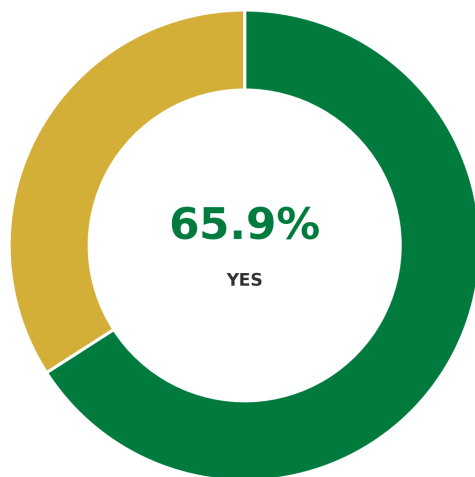
Unweighted estimate: 57.7%.

Oral health affects pain, nutrition, daily functioning and household expenditure, yet care may be delayed by cost, fear or harmful practices. Two burden indicators stand out in the corrected results. **Self-reported dental caries experience** was reported by 65.9% in the weighted results, compared with 66.8% in the unweighted sample. This item records whether the respondent had ever experienced dental caries and should therefore be interpreted as self-reported lifetime experience rather than clinically examined caries prevalence. **Infant Oral Mutilation (IOM / Ilka Dacawo)** was reported in 39.4% of households in the weighted results, compared with 36.3% unweighted; this is a household-level measure indicating that at least one child was reported to have undergone IOM.

Knowledge and perceptions provide additional context. **Too much sugary food or drink** was identified as the main perceived cause of dental caries by 59.6% of households in the weighted results, followed by poor oral hygiene at 25.7%, not knowing at 8.4%, and weak teeth since childhood at 6.4%. IOM was considered dangerous or very dangerous by 57.7% in both the weighted and unweighted results. Dental care was avoided because of cost by 34.1% in the weighted results, compared with 37.5% in the unweighted results.

Among the 1,052 households that reported at least one child had undergone IOM, the corrected conditional distribution shows that 29.9% weighted reported one affected child, 27.1% reported two, and 18.4% reported three; smaller proportions reported larger numbers of affected children.

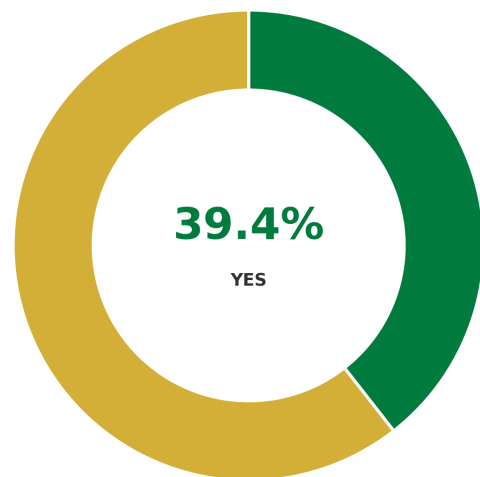
Self-Reported Dental Caries Experience



No: 34.1% | Unweighted Yes: 66.8%

Green = Yes; gold = No

Households Reporting Infant Oral Mutilation



No: 60.6% | Unweighted Yes: 36.3%

At least one child in the household; green = Yes

Figure 4.22. Main Oral-Health Results: Self-Reported Dental Caries Experience and Household Infant Oral Mutilation

In your opinion, how dangerous is IOM to a child's health

Weighted and unweighted descriptive estimates

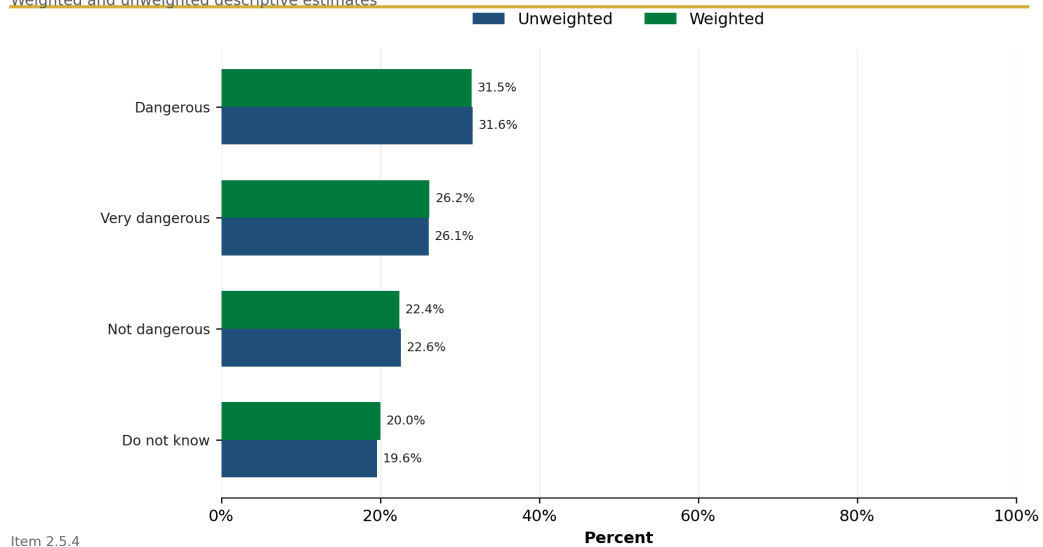


Figure 4.23. Perceived Danger of Infant Oral Mutilation

In the last 12 months, has any household member avoided seeking

Weighted and unweighted descriptive estimates

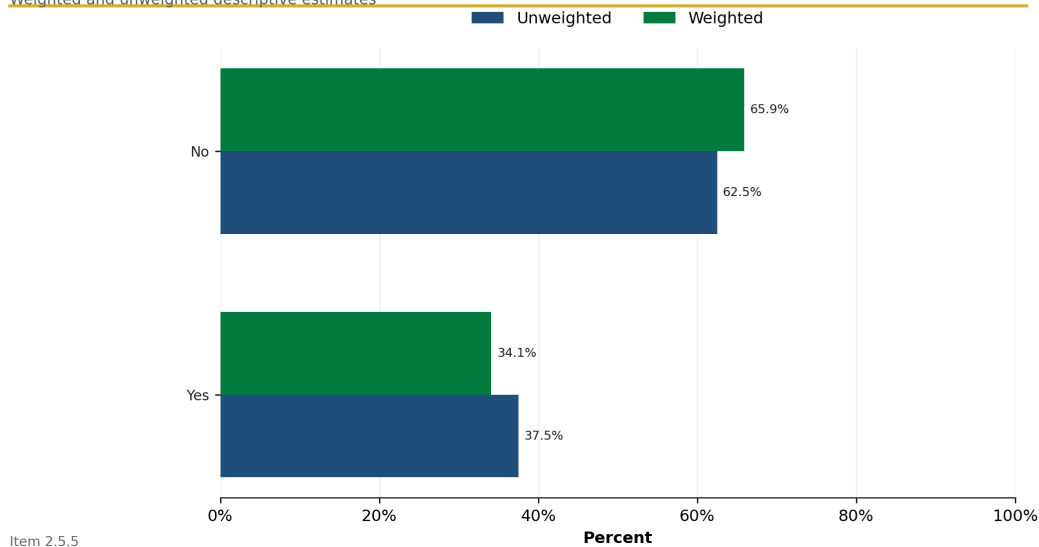


Figure 4.24. Dental-Care Avoidance



Inequality lens

The corrected oral-health results show a substantial household burden: self-reported dental caries experience reached 65.9%, while 39.4% of households reported that at least one child had undergone IOM. Cost-related dental-care avoidance remained important at 34.1%, showing that prevention, harmful practices and affordability need to be addressed together.

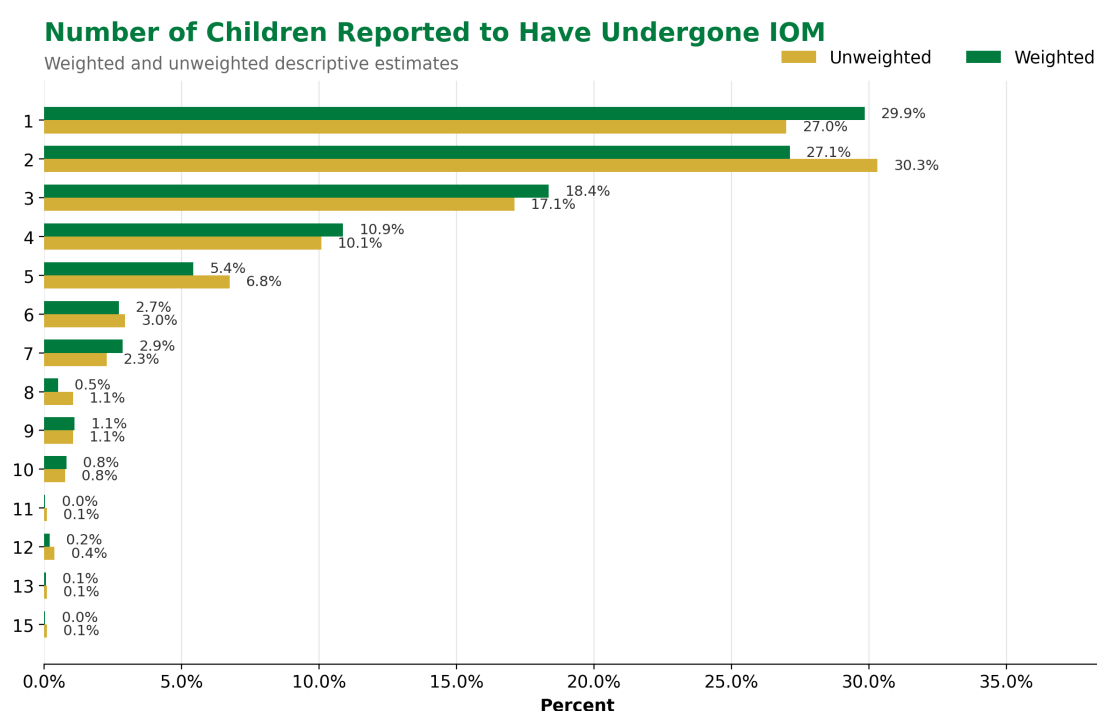


Development implication

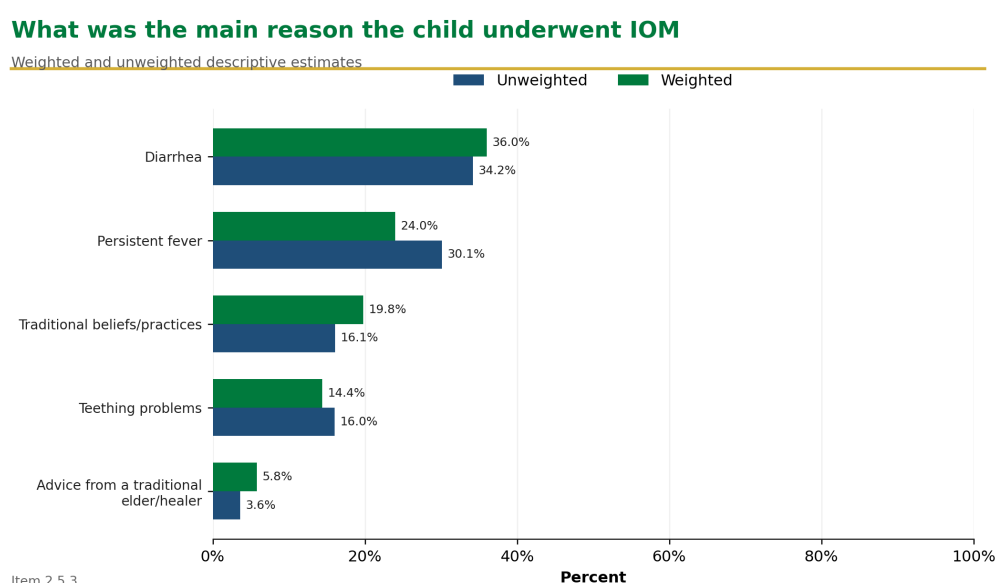
Oral-health action should combine affordable dental services, preventive education on sugar exposure and oral hygiene, and culturally appropriate engagement on infant oral mutilation, with clear referral pathways for children and adults.

Oral-Health Practices, Barriers and Prevention

The supporting figures show the corrected conditional number of children affected by infant oral mutilation and the reported reasons for the practice, adding behavioural and cultural context to the two main oral-health burden findings.



Item 2.5.2

Figure 4.25. Children Affected by Infant Oral Mutilation

Item 2.5.3

Figure 4.26. Reasons for Infant Oral Mutilation

Detailed tables for Oral Health

Table 2.5.1

Has any child in this household undergone Infant Oral Mutilation (IOM / Ilka Dacawo)?

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,052	36.3	1,142.2	39.4
No	1,844	63.7	1,753.8	60.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. This is a household-level measure: “Yes” indicates that at least one child in the household was reported to have undergone IOM. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.2

How many children in this household underwent Infant Oral Mutilation (IOM)?

Number of children	Unweighted n	Unweighted %	Weighted n	Weighted %
1	284	27.0	341.0	29.9
2	319	30.3	309.8	27.1
3	180	17.1	209.7	18.4
4	106	10.1	124.1	10.9
5	71	6.7	62.0	5.4
6	31	2.9	31.2	2.7
7	24	2.3	32.6	2.9
8	11	1.0	5.9	0.5
9	11	1.0	12.7	1.1
10	8	0.8	9.3	0.8
11	1	0.1	0.4	0.0
12	4	0.4	2.3	0.2
13	1	0.1	0.7	0.1
15	1	0.1	0.5	0.0

Note. This conditional item is based on households reporting that at least one child had undergone IOM (unweighted n=1,052; normalized weighted n=1,142.2). Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.3

What was the main reason the child underwent IOM

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Diarrhea	360	34.2	411.2	36.0
Persistent fever	317	30.1	273.8	24.0
Traditional beliefs/practices	169	16.1	226.1	19.8
Teething problems	168	16.0	164.6	14.4
Advice from a traditional elder/healer	38	3.6	66.5	5.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.4

In your opinion, how dangerous is IOM to a child's health

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Dangerous	916	31.6	912.3	31.5
Very dangerous	757	26.1	757.9	26.2
Not dangerous	655	22.6	647.8	22.4
Do not know	568	19.6	578.0	20.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.5*Dental Care Avoided Because of Cost*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,810	62.5	1,908.3	65.9
Yes	1,086	37.5	987.7	34.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.6*What was the main reason dental care was not sought*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Treatment is expensive	560	56.3	593.1	60.4
Long distance	151	15.2	156.4	15.9
No insurance / financial support	187	18.8	153.6	15.7
Fear of treatment	71	7.1	57.0	5.8
Preference for traditional treatment	26	2.6	21.6	2.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.7*Where do you prefer to go when you have tooth pain*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Professional dental clinic	1,811	62.5	1,716.1	59.3
Pharmacy / medicines	773	26.7	833.0	28.8
Traditional healer	169	5.8	184.1	6.4
Home remedies	143	4.9	162.8	5.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.8*Ever avoided dental care because of fear or a bad*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,933	66.7	1,908.9	65.9
No	963	33.3	987.1	34.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.9*Believe that frequent intake of sugary foods or drinks increases*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,107	72.8	2,106.6	72.7
No	590	20.4	568.2	19.6
Do not know	199	6.9	221.2	7.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.10*How often do children or people in the household usually brush*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Twice a day	1,673	57.8	1,578.2	54.5
Once a day	776	26.8	899.4	31.1
Sometimes	246	8.5	225.1	7.8
Do not know	201	6.9	193.3	6.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.11*It important to brush teeth before going to sleep at night*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,067	71.4	2,068.4	71.4
No	522	18.0	500.4	17.3
Do not know	307	10.6	327.3	11.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.12*At what age should a child start brushing teeth*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
After 3 years of age	1,231	42.5	1,233.4	42.6
As soon as the first teeth erupt	828	28.6	784.8	27.1
Only when permanent teeth appear	606	20.9	660.1	22.8
Do not know	231	8.0	217.7	7.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.13*Have you ever had dental caries (holes or cavities in the teeth)?*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,933	66.8	1,908.9	65.9
No	963	33.3	987.1	34.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. This item measures self-reported lifetime dental-caries experience rather than clinically examined caries prevalence. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.14*What do you think is the main cause of dental caries?*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Do not know	204	7.0	242.8	8.4
Poor oral hygiene	725	25.0	743.0	25.7
Too much sugary food/drink	1,725	59.6	1,725.0	59.6
Weak teeth since childhood	242	8.4	185.2	6.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.15*Which teeth are most commonly affected by dental caries*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Molars	2,176	75.1	2,221.3	76.7
All teeth equally	252	8.7	270.4	9.3
Front teeth	303	10.5	240.1	8.3
Do not know	165	5.7	164.2	5.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.16*How can dental caries be prevented*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Regular brushing with fluoride toothpaste	1,402	48.4	1,418.4	49.0
Avoid sugary foods/drinks	1,004	34.7	992.6	34.3
All of the above	289	10.0	292.4	10.1
Regular dental check-up	201	6.9	192.6	6.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.17*What is the best treatment for dental caries*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Dental filling by a dentist	1,720	59.4	1,686.4	58.2
Extraction	708	24.4	659.8	22.8
Do not know	273	9.4	324.8	11.2
Traditional medicines	195	6.7	224.9	7.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.18*Dental Pain Affecting Daily Activities*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,866	64.4	1,863.9	64.4
No	1,030	35.6	1,032.1	35.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.19*Has dental caries affected your ability to eat certain foods*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,852	64.0	1,851.5	63.9
No	1,044	36.0	1,044.5	36.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.20*Has tooth decay or cavities affected your smile*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,481	51.1	1,530.9	52.9
No	1,415	48.9	1,365.1	47.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 2.5.21*In your opinion, how much does oral health affect overall quality*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Very much	1,604	55.4	1,660.7	57.3

Table continued

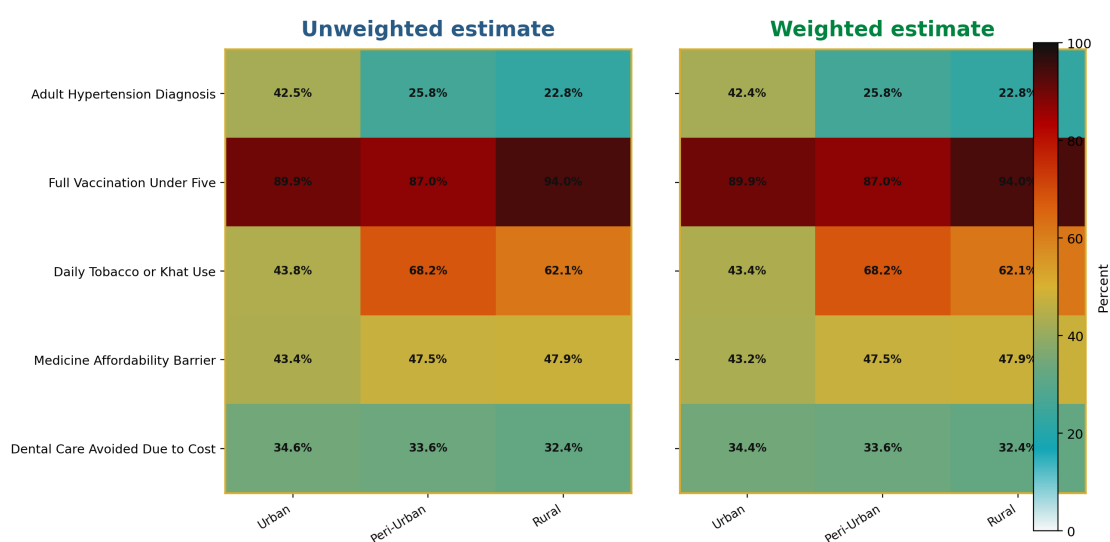
Response	Unweighted n	Unweighted %	Weighted n	Weighted %
A little	788	27.2	770.0	26.6
No effect	299	10.3	238.2	8.2
Do not know	205	7.1	227.1	7.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

4.6 Chapter Inequality Synthesis

District averages can conceal who is being left behind. The chapter therefore closes by comparing representative indicators from across the pillar by residence, wealth quintile, sex of household head and the six sampling strata. The heatmaps use indicator-specific valid denominators and show both weighted and unweighted estimates; they describe inequality patterns but do not establish their causes.

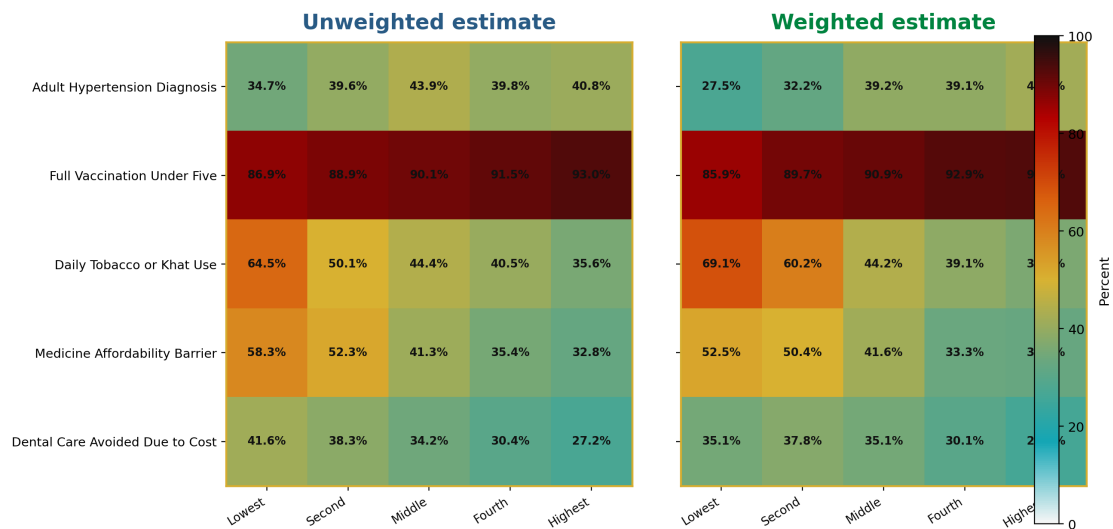
Pillar 2: Priority Indicators by Residence



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 4.27. Health Development indicators by Residence

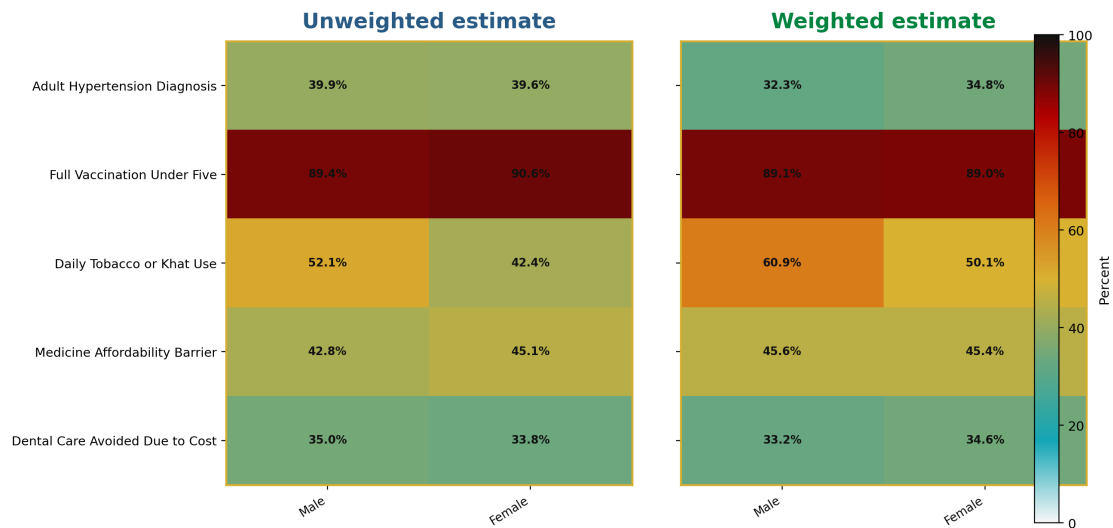
Pillar 2: Priority Indicators by Wealth Quintile



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 4.28. Health Development indicators by Wealth Quintile

Pillar 2: Priority Indicators by Sex of Household Head



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 4.29. Health Development indicators by Sex of Household Head

Pillar 2: Priority Indicators by Sampling Stratum

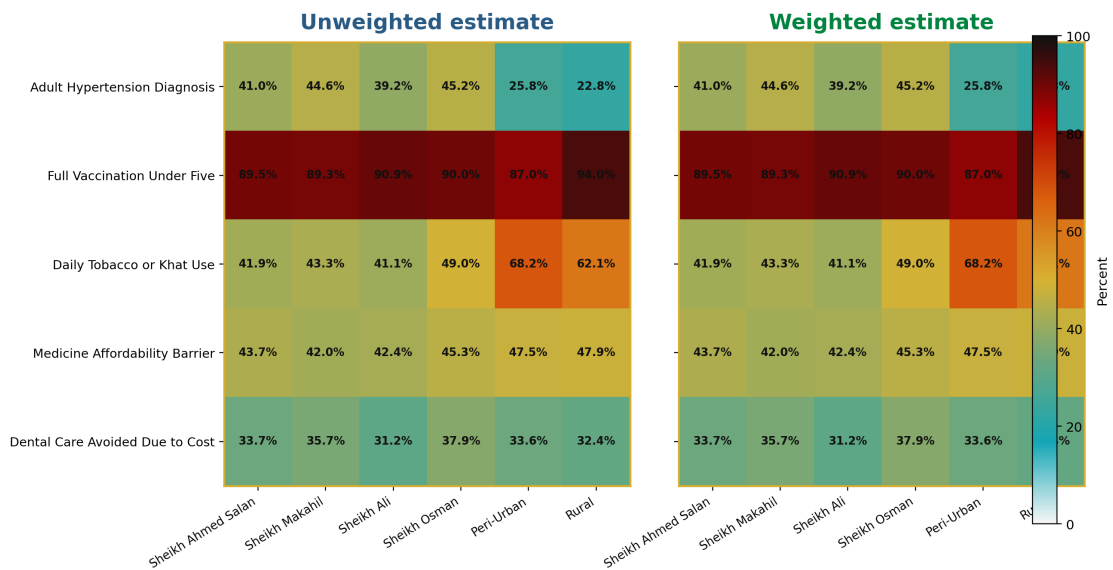


Figure 4.30. Health Development indicators by Sampling Stratum

Inequality lens

Health disadvantage in Borama is multidimensional. Chronic disease, gaps in maternal and post-natal continuity, psychosocial and substance-related risks, medicine-cost barriers, limited diagnostic practice and oral-care avoidance may overlap within the same households and vary across wealth, residence, household leadership and geographic location.

Development implication

Health development should therefore connect prevention, primary care, maternal-child services, financial protection, medicines, diagnostics, mental health and oral health through coordinated people-and-place-based planning, with future BAHDA rounds used to monitor whether access gaps narrow.

Pillar Closing Perspective

Health development in Borama combines important strengths with clear points of fragility. High levels of facility delivery and childhood vaccination coexist with chronic disease, incomplete antenatal and postnatal continuity, medicine-cost barriers, psychosocial risks and obstacles to oral care. The central challenge is to make access continuous, affordable and preventive across the life course, especially for households facing several barriers at once.

Pillar message: Health progress is strongest when prevention, timely care, affordability and continuity advance together across every stage of household life.

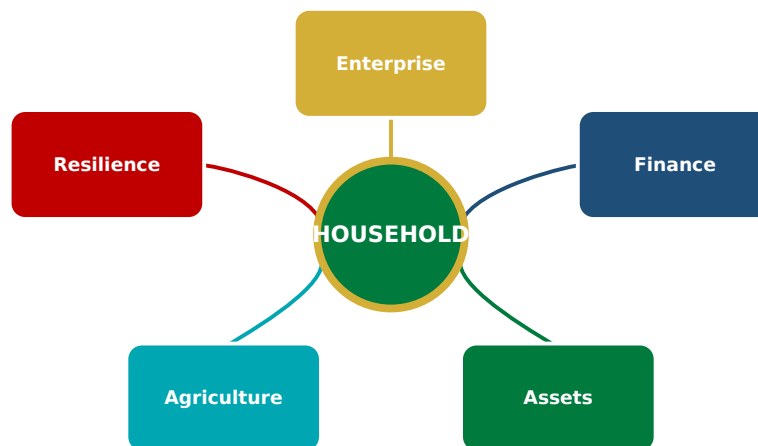


Economic Development

Enterprise, finance, household resilience, agriculture and livestock

Economic Development

Five connected domains shaping household well-being



Economic Development at a Glance

Key evidence, inequalities and development implications

Policy alignment: NDP III Economic Development; Agenda 2063 Goals 1, 4, 5 and 20; SDGs 1, 2, 8, 9 and 10



Household Enterprise Ownership

27.2%

Unweighted estimate: 34.3%.



Primary Business Constraint

31.1%

High taxes and fees; unweighted estimate: 37.6%.



Formal Financial-Institution Use

22.8%

Unweighted estimate: 32.1%.



Mobile-Money Use

87.9%

Unweighted estimate: 90.4%.



Regular Household Saving

50.5%

Unweighted estimate: 64.2%.



Average Monthly Household Expenditure

55.9%

Monthly household expenditure below USD 300; unweighted estimate: 47.1%.



Pressure From Rising Food and Fuel Prices

58.8%

At least moderately affected by rising prices; unweighted estimate: 53.3%.



Recent Household Economic Shock

39.3%

Unweighted estimate: 40.6%.



Access to Agricultural Land

55.4%

Any agricultural land access; unweighted estimate: 48.1%.



Livestock Ownership

49.2%

Unweighted estimate: 33.4%.

Chapter Overview

Economic development is reflected in how households generate income, use financial services, build assets, withstand shocks and manage productive resources. BAHDA-2026 examines enterprise and business development; financial inclusion, saving and credit; household assets, expenditure and resilience; and agriculture, livestock and productive resources as connected components of household economic security.[48, 49, 45, 47]

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

Policy alignment: NDP III Economic Development; Agenda 2063 Goals 1, 4, 5 and 20; SDGs 1, 2, 8, 9 and 10

Economic Development

Five connected domains shaping household well-being

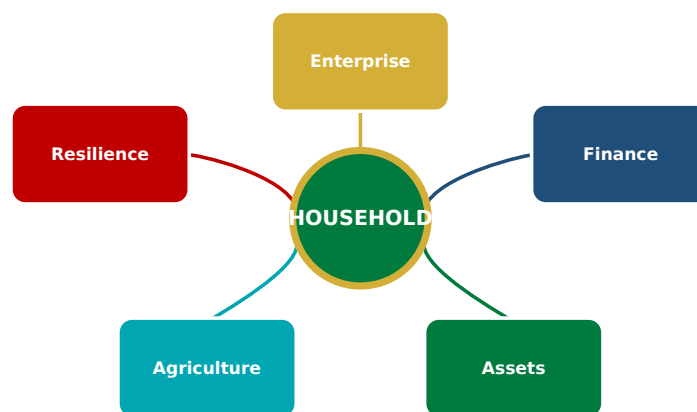


Figure 5.1. Economic Development Framework



Enterprise and Business Development

Household enterprises connect livelihoods to markets, records, taxation and local business conditions.

5.1 Enterprise and Business Development



Household Enterprise Ownership

27.2%

Unweighted estimate: 34.3%.



Primary Business Constraint

31.1%

High taxes and fees; unweighted estimate: 37.6%.



Your household's business keep financial records

74.2%

Any business financial records; unweighted estimate: 79.2%.

Household enterprise can create income and employment, but its development depends on record keeping, licensing, taxation, market access and the wider local business environment. This section examines both participation in enterprise and the conditions that determine whether small businesses can become more stable and productive.

Household Enterprise Ownership was reported by 27.2% of eligible households in the weighted results, compared with 34.3% in the unweighted results.

For **Primary Business Constraint**, *High taxes and fees* accounted for 31.1% in the weighted results and 37.6% in the unweighted results.

For **Your household's business keep financial records**, *Any business financial records* accounted for 74.2% in the weighted results and 79.2% in the unweighted results.

Household Member own or operate a Small or Medium Enterprise (SME)

Weighted and unweighted descriptive estimates

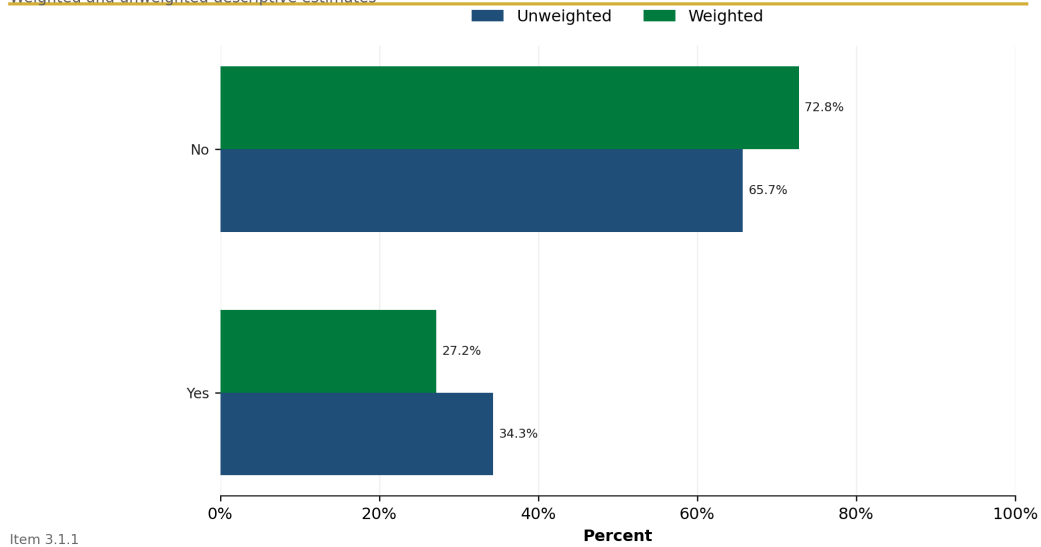


Figure 5.2. Household Enterprise Ownership

What is the biggest challenge currently facing your household's

Weighted and unweighted descriptive estimates

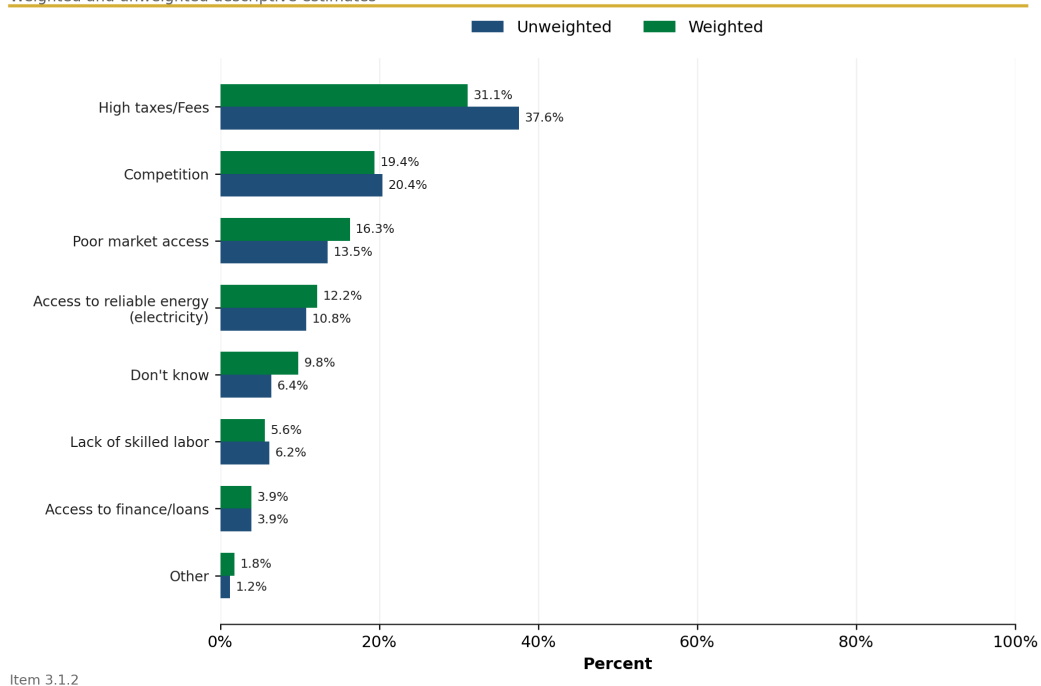


Figure 5.3. Primary Business Constraint

Inequality lens

Household enterprise ownership reached 27.2%, while 31.1% identified high taxes and fees as the primary business constraint. Among operating businesses, 74.2% reported keeping some form of financial records, showing that entrepreneurial activity coexists with important business-environment constraints.

🎯 Development implication

Enterprise development should combine practical business services, proportionate licensing and fee systems, record-keeping support and stronger market connections so that household businesses can move from survival activity toward resilient growth.

Enterprise Capacity, Formalisation and Market Access

The remaining indicators show how household businesses manage records, taxes or licences and access markets, helping distinguish simple enterprise ownership from the capacity to operate and grow sustainably.

Your household's business keep financial records

Weighted and unweighted descriptive estimates

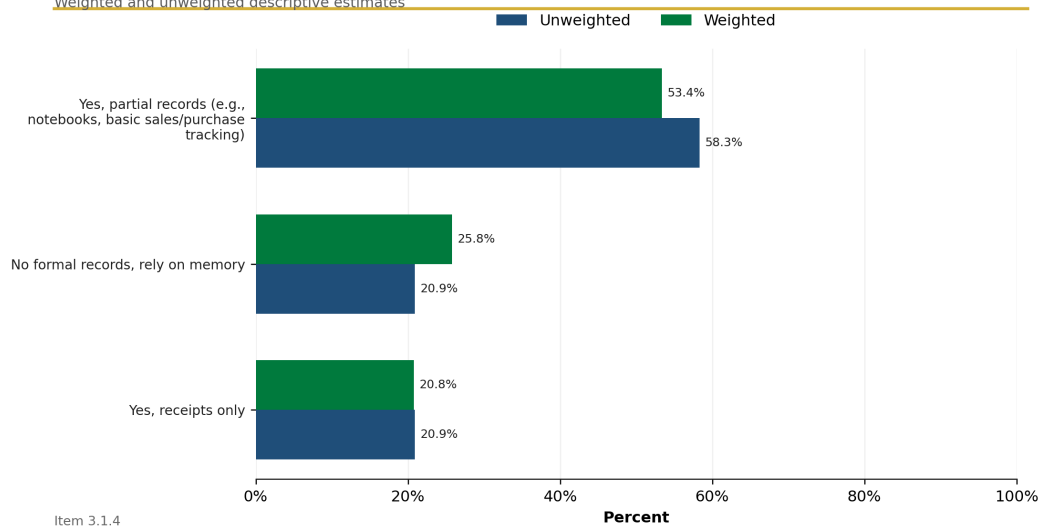


Figure 5.4. Business Financial Records

Your household's business pay local government taxes or business

Weighted and unweighted descriptive estimates

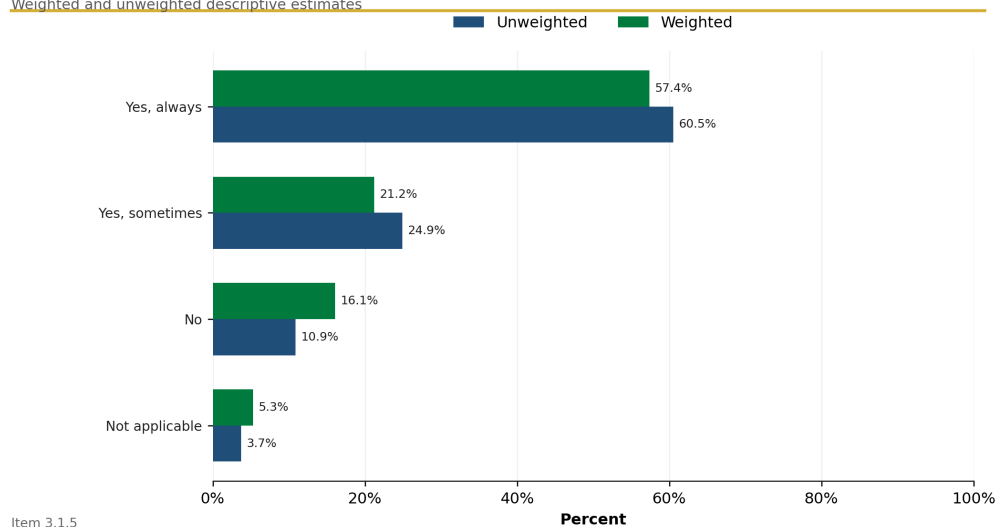


Figure 5.5. Business Tax or Licence Payment

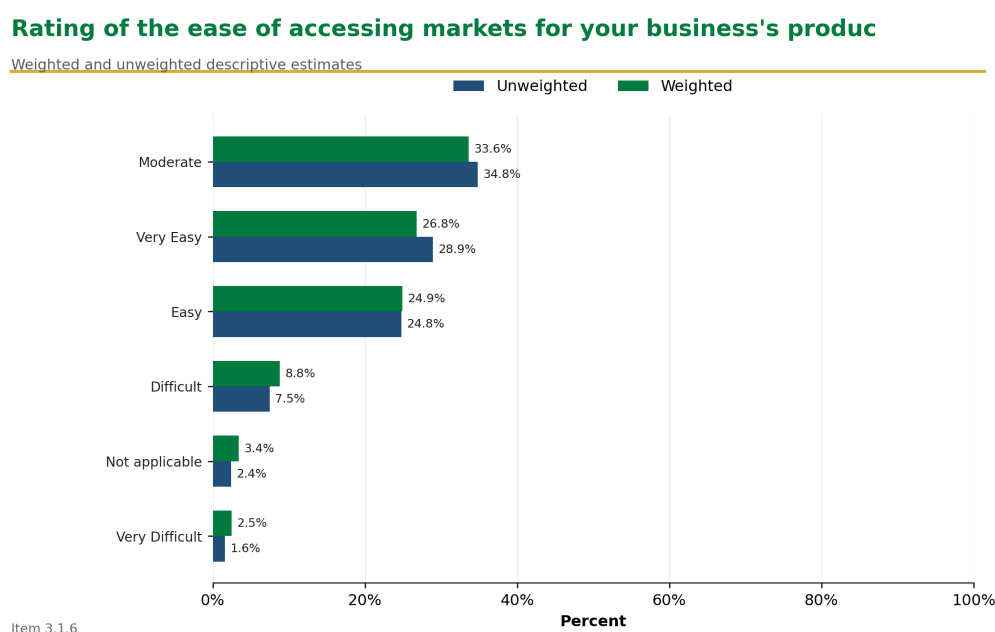


Figure 5.6. Market Access for Household Businesses

Detailed tables for Enterprise and Business Development

Table 3.1.1

Household Enterprise Ownership

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,904	65.7	2,109.3	72.8
Yes	992	34.3	786.7	27.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.1.2

Primary Business Constraint

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
High taxes/Fees	373	37.6	244.7	31.1
Competition	202	20.4	152.9	19.4
Poor market access	134	13.5	128.3	16.3
Access to reliable energy (electricity)	107	10.8	95.7	12.2
Don't know	63	6.4	77.2	9.8
Lack of skilled labor	62	6.2	43.7	5.6
Access to finance/loans	39	3.9	30.3	3.9
Other	12	1.2	14.0	1.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.1.4*Your household's business keep financial records*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, partial records (e.g., notebooks, basic sales/purchase tracking)	578	58.3	420.3	53.4
No formal records, rely on memory	207	20.9	202.9	25.8
Yes, receipts only	207	20.9	163.5	20.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.1.5*Your household's business pay local government taxes or business*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, always	600	60.5	451.3	57.4
Yes, sometimes	247	24.9	166.7	21.2
No	108	10.9	126.8	16.1
Not applicable	37	3.7	42.0	5.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.1.6*Rating of the ease of accessing markets for your business's produc*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate	345	34.8	264.3	33.6
Very Easy	287	28.9	210.5	26.8
Easy	246	24.8	196.2	24.9
Difficult	74	7.5	69.4	8.8
Not applicable	24	2.4	27.0	3.4
Very Difficult	16	1.6	19.4	2.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Financial Inclusion, Savings and Credit

Financial services, mobile money, saving and credit affect the ability of households to manage risk and invest.

5.2 Financial Inclusion, Savings and Credit

**Formal Financial-Institution Use****22.8%**

Unweighted estimate: 32.1%.

**Mobile-Money Use****87.9%**

Unweighted estimate: 90.4%.

**Regular Household Saving****50.5%**

Unweighted estimate: 64.2%.

**Sought or received a loan/credit from a formal****37.3%**

Unweighted estimate: 46.4%.

Financial inclusion is not defined by transactions alone. Households need secure places to save, appropriate credit and the knowledge to use financial tools safely. This section examines the contrast between widespread mobile-money use and more limited formal financial participation.

Formal Financial-Institution Use was reported by 22.8% of eligible households in the weighted results, compared with 32.1% in the unweighted results.

Mobile-Money Use was reported by 87.9% of eligible households in the weighted results, compared with 90.4% in the unweighted results.

Regular Household Saving was reported by 50.5% of eligible households in the weighted results, compared with 64.2% in the unweighted results.

Sought or received a loan/credit from a formal was reported by 37.3% of eligible households in the weighted results, compared with 46.4% in the unweighted results.

Formal Financial-Institution Use

Weighted and unweighted descriptive estimates

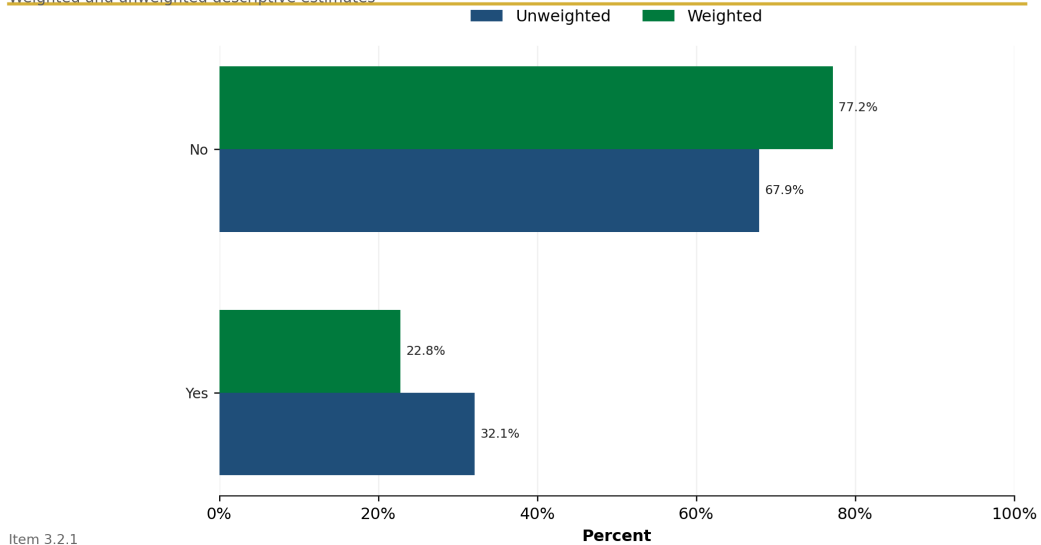


Figure 5.7. Formal Financial-Institution Use

Your household use mobile money services (e.g., Zaad, E-Dahab)

Weighted and unweighted descriptive estimates

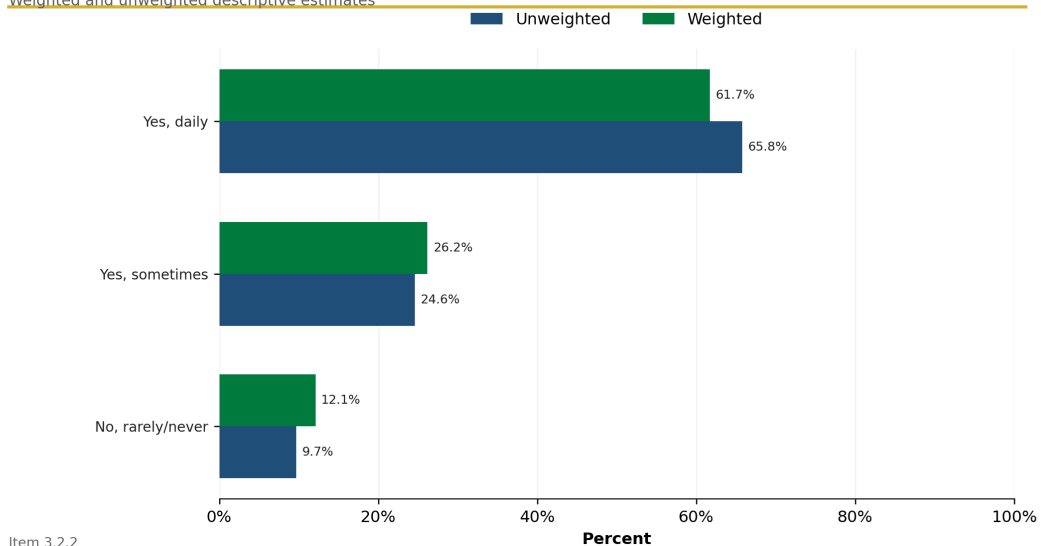


Figure 5.8. Mobile-Money Use

Inequality lens

Mobile-money use was widespread at 87.9%, yet formal financial-institution use was only 22.8%. Regular saving was reported by 50.5% and loan or credit use by 37.3%, indicating a highly digital financial environment in which deeper formal inclusion and financial resilience remain uneven.

Development implication

Financial policy should build on mobile-money reach while expanding safe savings, appropriate formal finance, responsible credit and practical financial literacy, especially for households with limited buffers against shocks.

Financial Access, Saving and Household Investment

These indicators extend the financial-inclusion picture by examining household credit and financial literacy alongside formal access, mobile money and saving behaviour.

Adult Household Member regularly save money (e.g., in a bank, mobi

Weighted and unweighted descriptive estimates

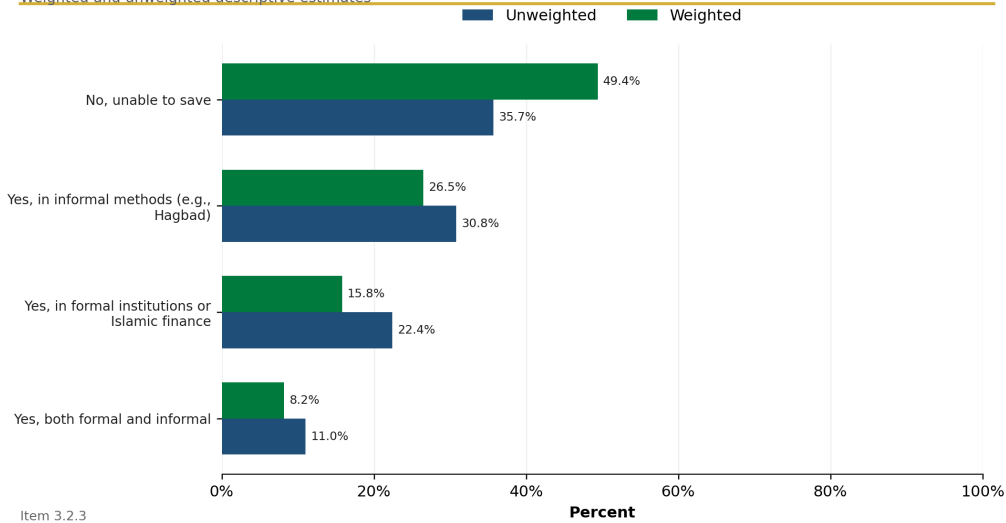


Figure 5.9. Adult Household Member Regularly Save Money

Has your household sought or received a loan/credit from a formal

Weighted and unweighted descriptive estimates

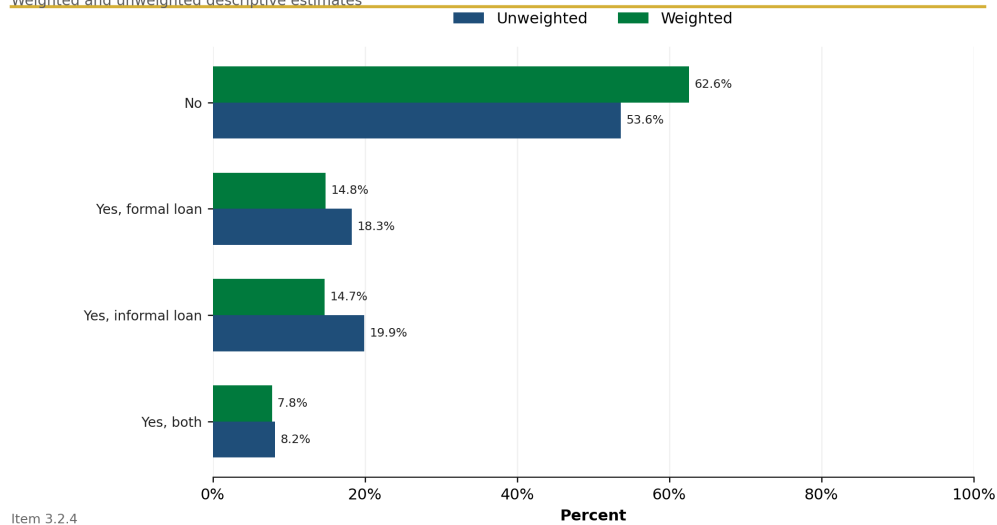


Figure 5.10. Household Loan or Credit Use

Rating of the financial literacy of your household head (knowledge)

Weighted and unweighted descriptive estimates

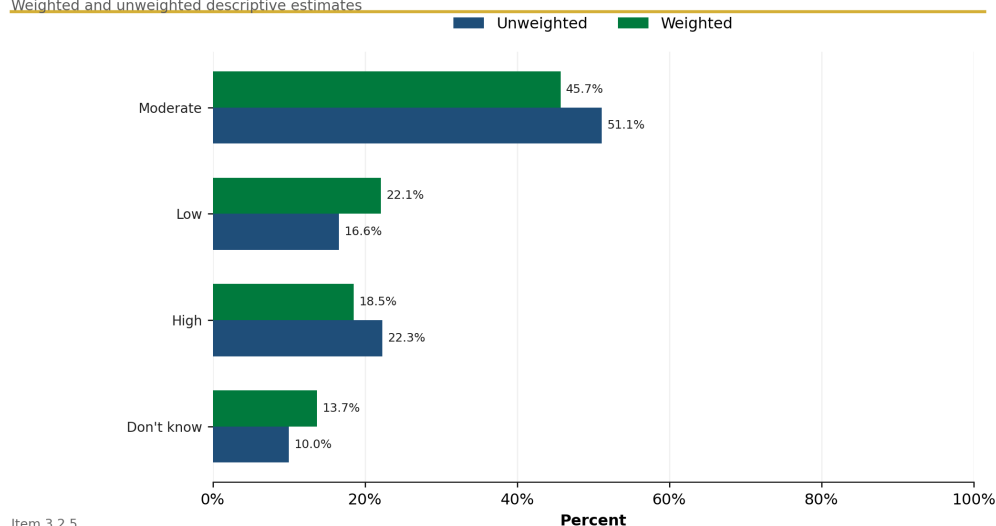


Figure 5.11. Financial Literacy of Household Head

Detailed tables for Financial Inclusion, Savings and Credit

Table 3.2.1

Formal Financial-Institution Use

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,965	67.9	2,236.8	77.2
Yes	931	32.1	659.2	22.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.2.2

Mobile-Money Use

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, daily	1,905	65.8	1,786.6	61.7
Yes, sometimes	711	24.6	757.7	26.2
No, rarely/never	280	9.7	351.7	12.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.2.3

Regular Household Saving

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, unable to save	1,035	35.7	1,431.1	49.4
Yes, in informal methods (e.g., Hagbad)	893	30.8	768.7	26.5

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, in formal institutions or Islamic finance	650	22.4	457.6	15.8
Yes, both formal and informal	318	11.0	238.6	8.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.2.4

Sought or received a loan/credit from a formal

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,552	53.6	1,813.6	62.6
Yes, formal loan	530	18.3	428.5	14.8
Yes, informal loan	577	19.9	427.1	14.7
Yes, both	237	8.2	226.8	7.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.2.5

Rating of the financial literacy of your household head (knowledge)

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate	1,481	51.1	1,323.7	45.7
Low	480	16.6	639.3	22.1
High	646	22.3	536.2	18.5
Don't know	289	10.0	396.8	13.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Household Assets, Expenditure and Economic Resilience

Assets, expenditure pressures and economic shocks reveal household capacity to absorb changing costs and income losses.

5.3 Household Assets, Expenditure and Economic Resilience



Average Monthly Household Expenditure

55.9%

Monthly household expenditure below USD 300; unweighted estimate: 47.1%.



Pressure From Rising Food and Fuel Prices

58.8%

At least moderately affected by rising prices;
unweighted estimate: 53.3%.



Recent Household Economic Shock

39.3%

Unweighted estimate: 40.6%.



Household Owns Private Vehicle

20.99%

Unweighted estimate: 30.46%.

Economic resilience is revealed when household resources are tested by rising prices or sudden losses. This section brings together expenditure, assets and recent shocks to show how strongly households can absorb pressure without reducing essential consumption or disposing of productive resources.

For **Average Monthly Household Expenditure**, *Monthly household expenditure below USD 300* accounted for 55.9% in the weighted results and 47.1% in the unweighted results.

For **Pressure From Rising Food and Fuel Prices**, *At least moderately affected by rising prices* accounted for 58.8% in the weighted results and 53.3% in the unweighted results.

Recent Household Economic Shock was reported by 39.3% of eligible households in the weighted results, compared with 40.6% in the unweighted results.

For **Confidence in the Household Economic Future**, *Confident or very confident* accounted for 45.2% in the weighted results and 49.5% in the unweighted results.

Roughly, what was your household's total average monthly

Weighted and unweighted descriptive estimates

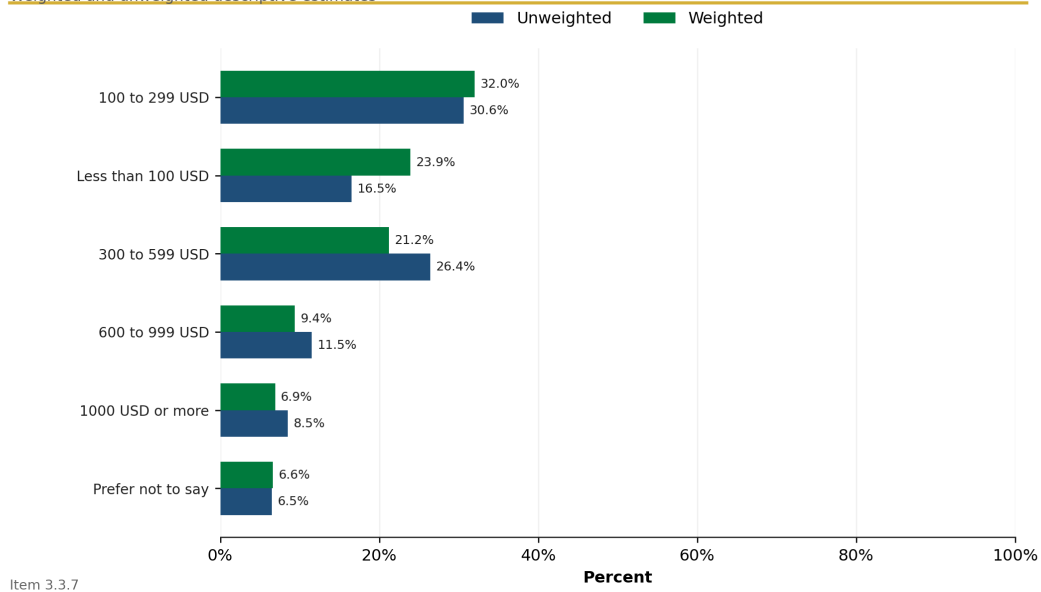


Figure 5.12. Average Monthly Household Expenditure

Severity of Rising Food and Fuel Prices

Weighted and unweighted descriptive estimates

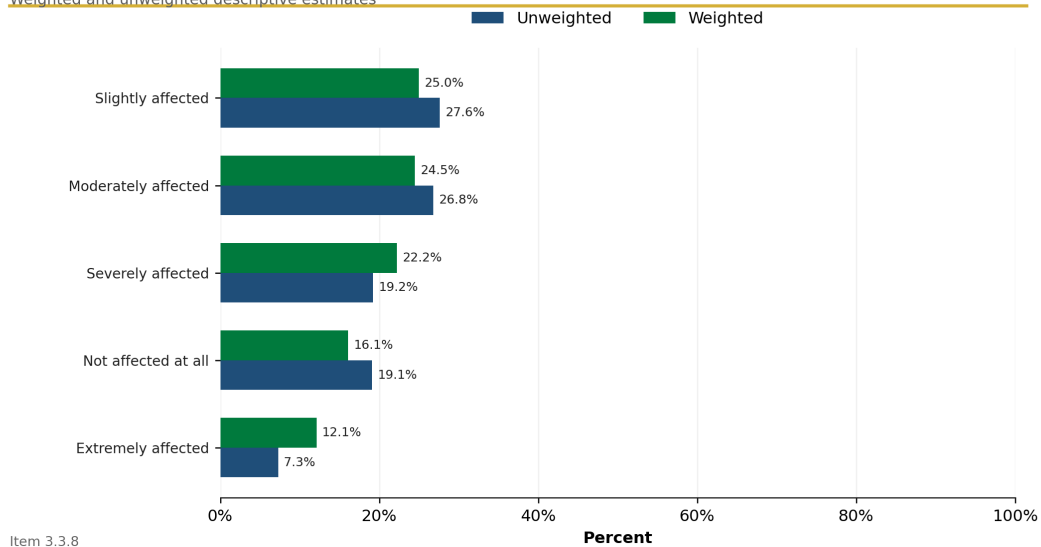


Figure 5.13. Severity of Rising Food and Fuel Prices

Inequality lens

About 55.9% of households reported monthly expenditure below USD 300, 58.8% were at least moderately affected by rising food and fuel prices, and 39.3% experienced a recent economic shock. Private vehicle ownership was 21.0%, illustrating uneven asset buffers against recurring cost and income pressures.

Development implication

Economic-resilience measures should combine savings and shock-responsive support with livelihood diversification, asset protection and measures that reduce exposure to food and fuel price pressure.

Household Assets, Cost Pressure and Shock Absorption

The supporting indicators show ownership of selected household assets alongside expenditure pressure, providing a broader view of material capacity and the buffers available when income or prices change.

Household Ownership of a radio or television

Weighted and unweighted descriptive estimates

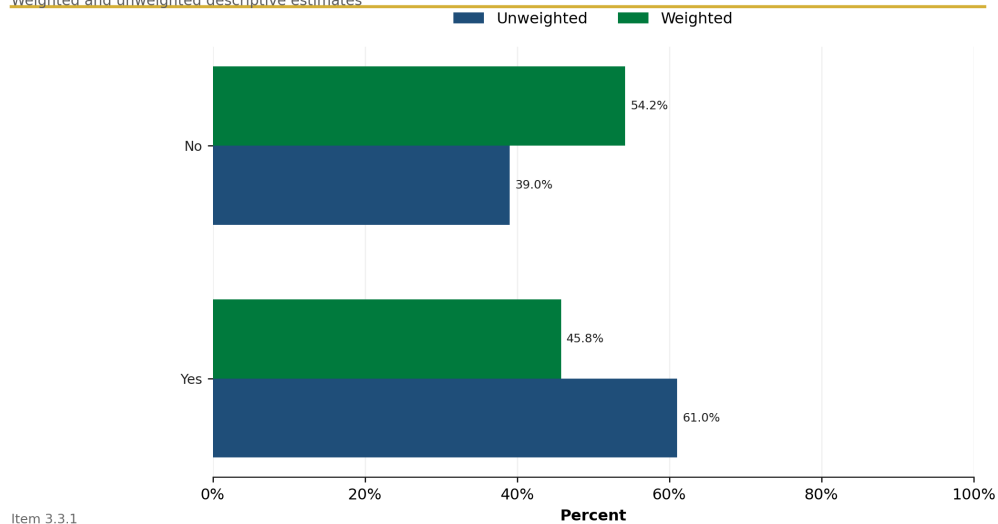


Figure 5.14. Household Ownership of A Radio or Television

Household Ownership of a refrigerator or freezer

Weighted and unweighted descriptive estimates

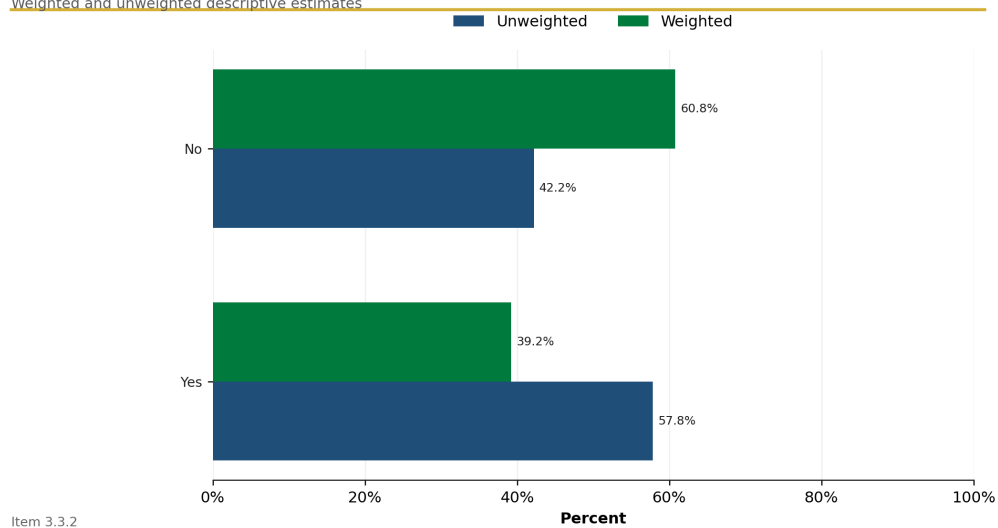


Figure 5.15. Refrigerator or Freezer Ownership

Household Ownership of a modern bed with mattress

Weighted and unweighted descriptive estimates

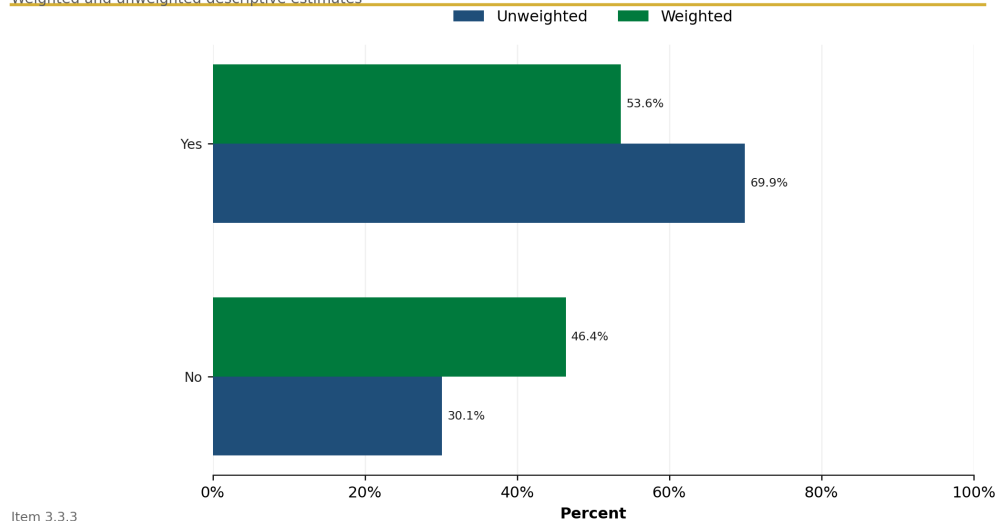


Figure 5.16. Modern Bed Ownership

Detailed tables for Household Assets, Expenditure and Economic Resilience

Table 3.3.1

Household Ownership of a radio or television

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,130	39.0	1,568.8	54.2
Yes	1,766	61.0	1,327.2	45.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.2

Household Ownership of a refrigerator or freezer

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,223	42.2	1,761.0	60.8
Yes	1,673	57.8	1,135.0	39.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.3

Household Ownership of a modern bed with mattress

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,025	69.9	1,553.1	53.6
No	871	30.1	1,342.9	46.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.4*Household Ownership of an electric or gas cooking stove*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,391	48.0	1,944.5	67.1
Yes	1,505	52.0	951.5	32.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.5*Household Ownership of a private vehicle (car/truck)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,014	69.5	2,288.0	79.0
Yes	882	30.5	608.0	21.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.6*Household Ownership of a motorbike or bicycle*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,380	82.2	2,498.6	86.3
Yes	516	17.8	397.4	13.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.7*Average Monthly Household Expenditure*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
100 to 299 USD	886	30.6	927.4	32.0
Less than 100 USD	479	16.5	693.0	23.9
300 to 599 USD	764	26.4	613.1	21.2
600 to 999 USD	332	11.5	273.3	9.4
1000 USD or more	246	8.5	198.7	6.9
Prefer not to say	189	6.5	190.6	6.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.8*Pressure From Rising Food and Fuel Prices*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Slightly affected	800	27.6	725.3	25.0
Moderately affected	777	26.8	710.2	24.5
Severely affected	557	19.2	642.6	22.2
Not affected at all	552	19.1	466.1	16.1
Extremely affected	210	7.3	351.8	12.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.9*Recent Household Economic Shock*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,720	59.4	1,759.2	60.7
Yes	1,176	40.6	1,136.8	39.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.3.10*Confidence in the Household Economic Future*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral	1,106	38.2	1,191.6	41.1
Confident	812	28.0	737.4	25.5
Very Confident	622	21.5	571.0	19.7
Worried	245	8.5	257.8	8.9
Very Worried	111	3.8	138.3	4.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Agriculture, Livestock and Productive Resources

Land, crops, livestock and productive constraints remain central to the livelihoods of many households.

5.4 Agriculture, Livestock and Productive Resources

**Access to Agricultural Land****55.4%**

Any agricultural land access; unweighted estimate: 48.1%.

**Main Crops Cultivated****65.5%**

Sorghum; unweighted estimate: 51.8%.

**Livestock Ownership****49.2%**

Unweighted estimate: 33.4%.

**Main Livestock Problems****72.3%**

Drought / water shortage; unweighted estimate: 63.5%.

Land, crops and livestock remain important productive assets, but their value depends on water, inputs, animal health, markets and resilience to climate stress. This section examines both access to productive resources and the constraints that determine what households can obtain from them.

For **Access to Agricultural Land**, Any *agricultural land access* accounted for 55.4% in the weighted results and 48.1% in the unweighted results.

For **Main Crops Cultivated**, the leading weighted selections were Sorghum (65.5%), Maize (35.4%) and Wheat (27.0%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Livestock Ownership was reported by 49.2% of eligible households in the weighted results, compared with 33.4% in the unweighted results.

For **Main Livestock Problems**, the leading weighted selections were Drought / water shortage (72.3%), Shortage of feed / High cost of feed (46.5%) and Livestock diseases (22.8%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Access to Agricultural Land

Weighted and unweighted descriptive estimates

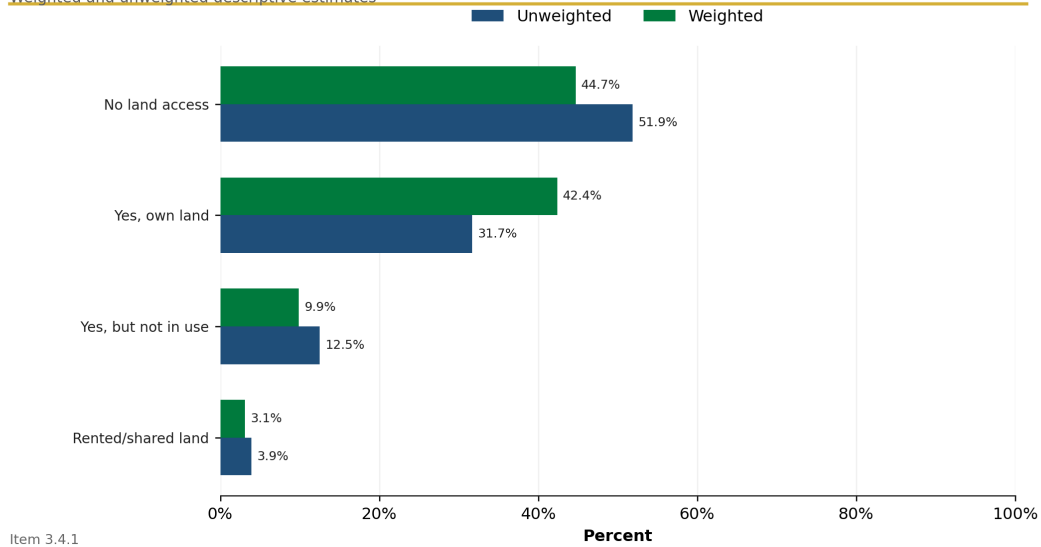


Figure 5.17. Access to Agricultural Land

Main Crops Cultivated

Weighted and unweighted estimates; multiple responses allowed

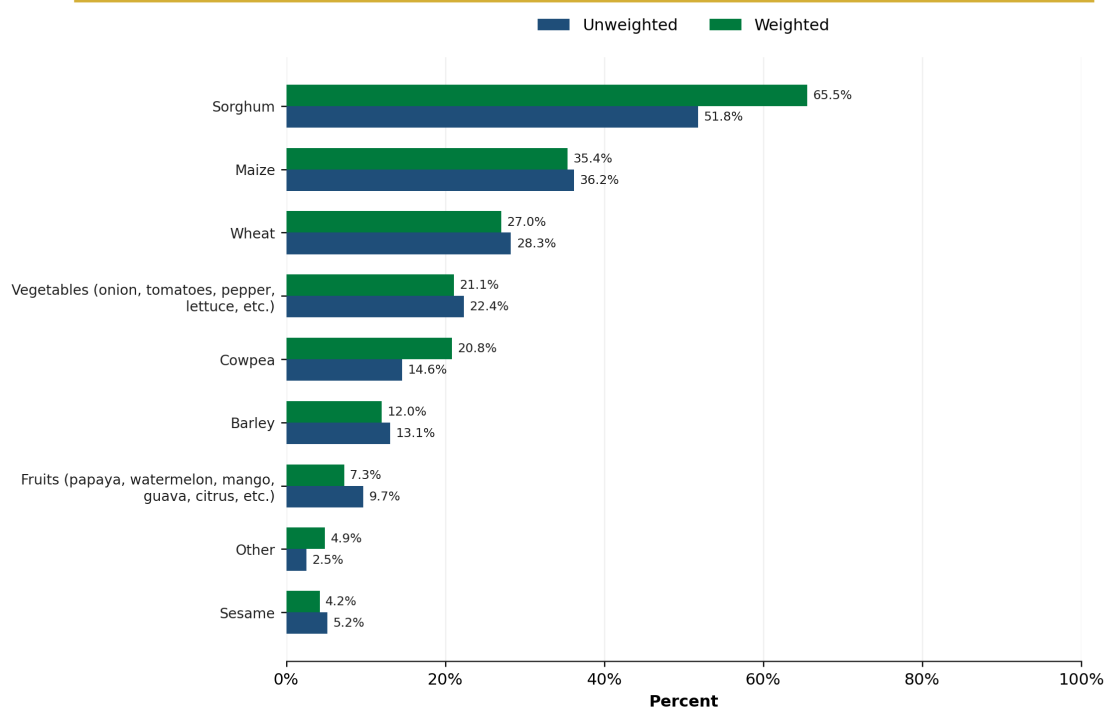


Figure 5.18. Main Crops Cultivated

Inequality lens

Agricultural land access reached 55.4% and livestock ownership 49.2%. Sorghum was the most frequently reported crop at 65.5% among relevant households, while drought or water shortage was reported as a leading livestock problem by 72.3%, highlighting the central role of climate and water constraints in productive livelihoods.

🕒 Development implication

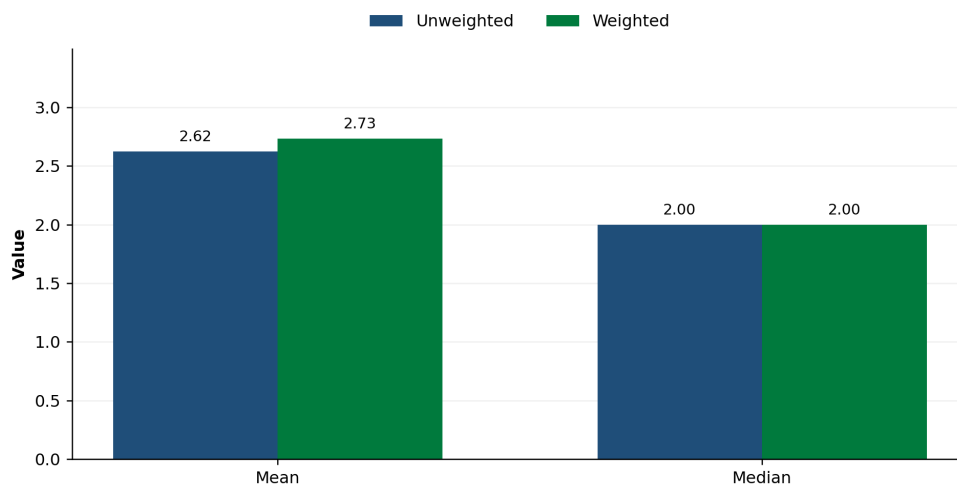
Agriculture and livestock programmes should prioritise reliable water, climate-resilient production, animal health, appropriate inputs, post-harvest support and market access so that productive assets translate into stable household income.

Productive Resources, Climate Constraints and Market Resilience

The remaining indicators examine land size, agricultural activity, production change, input use, post-harvest constraints and livestock composition, showing the production system behind the headline measures of land and livestock access.

Agricultural Land Size

Weighted and unweighted numeric summary



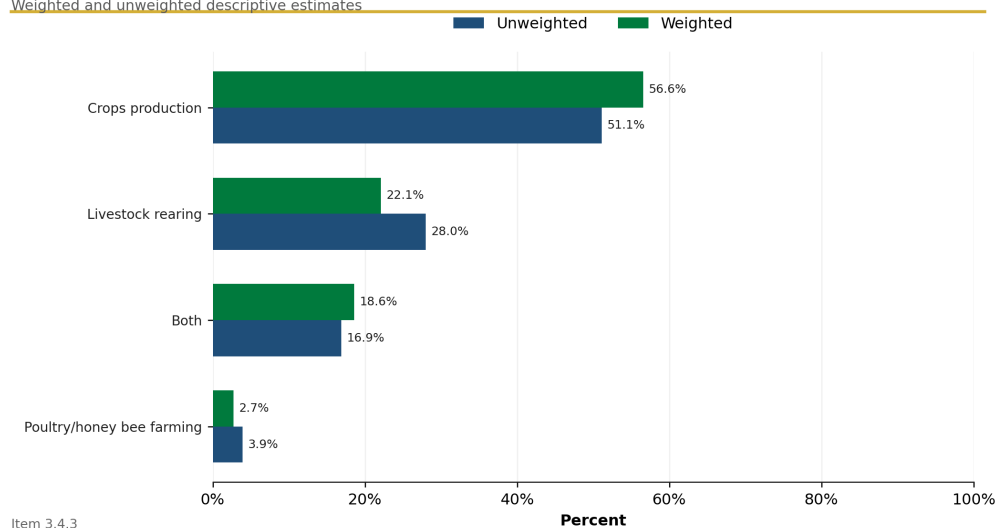
Unweighted n = 1,393; SD = 1.45 unweighted and 1.50 weighted; range = 1.00-5.00.

Item 3.4.2

Figure 5.19. Agricultural Land Size

Primary agricultural activity carried out on that land

Weighted and unweighted descriptive estimates



Item 3.4.3

Figure 5.20. Primary Agricultural Activity

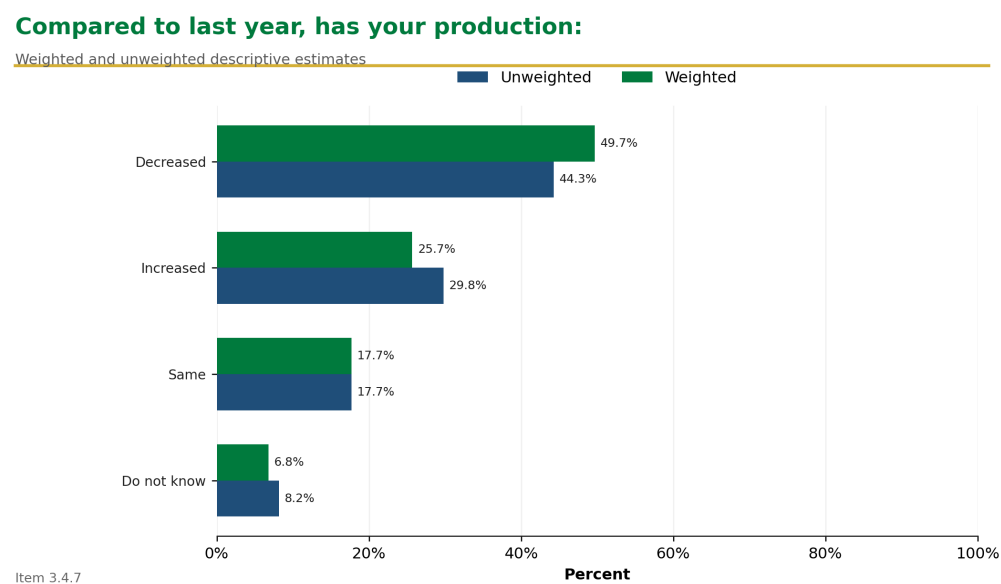


Figure 5.21. Change in Agricultural Production

Multiple-response evidence

Multiple-response interpretation. Cases (%) is the percentage of eligible households selecting each option. Because a household could select more than one option, Cases (%) may sum to more than 100%. Responses (%) shows each option’s share of all selections and sums to approximately 100%.

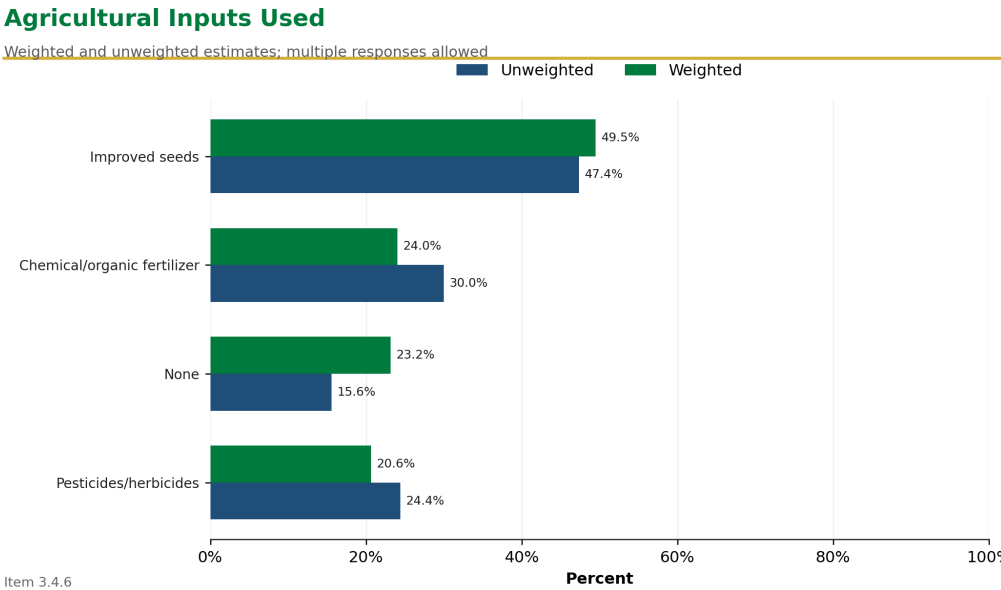


Figure 5.22. Agricultural Inputs Used

Crop and Post-Harvest Constraints

Weighted and unweighted estimates; multiple responses allowed

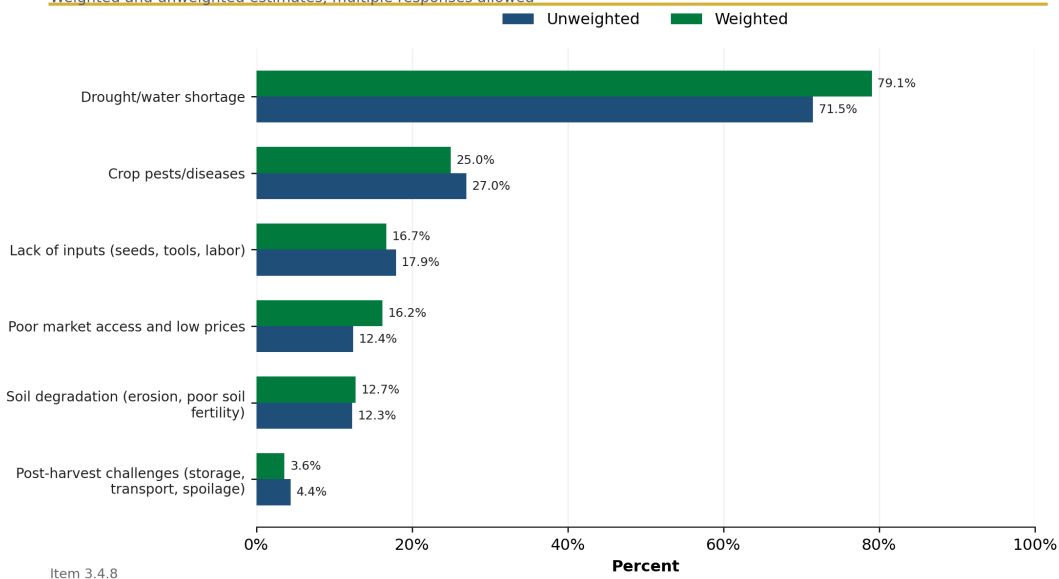


Figure 5.23. Crop and Post-Harvest Constraints

Livestock Types Owned

Weighted and unweighted estimates; multiple responses allowed

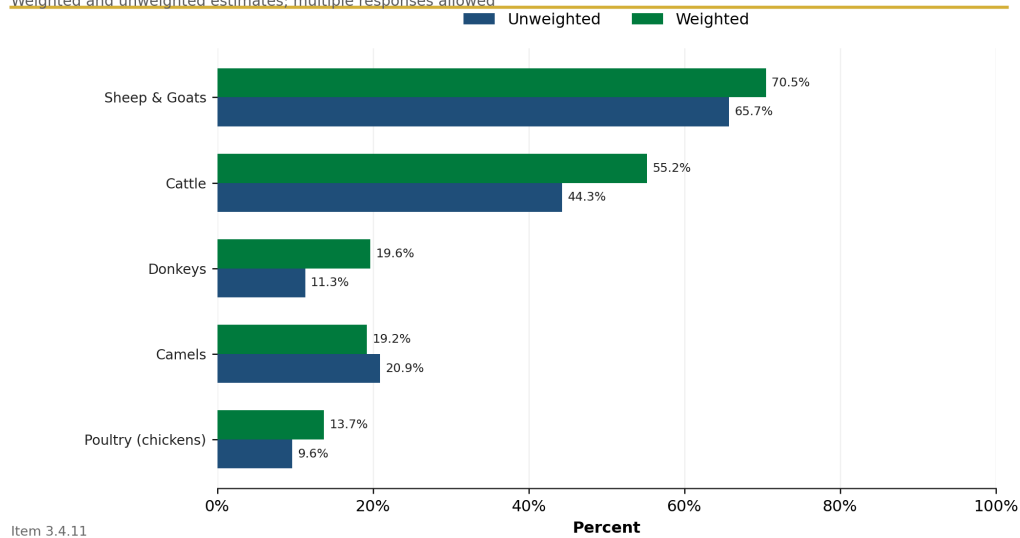
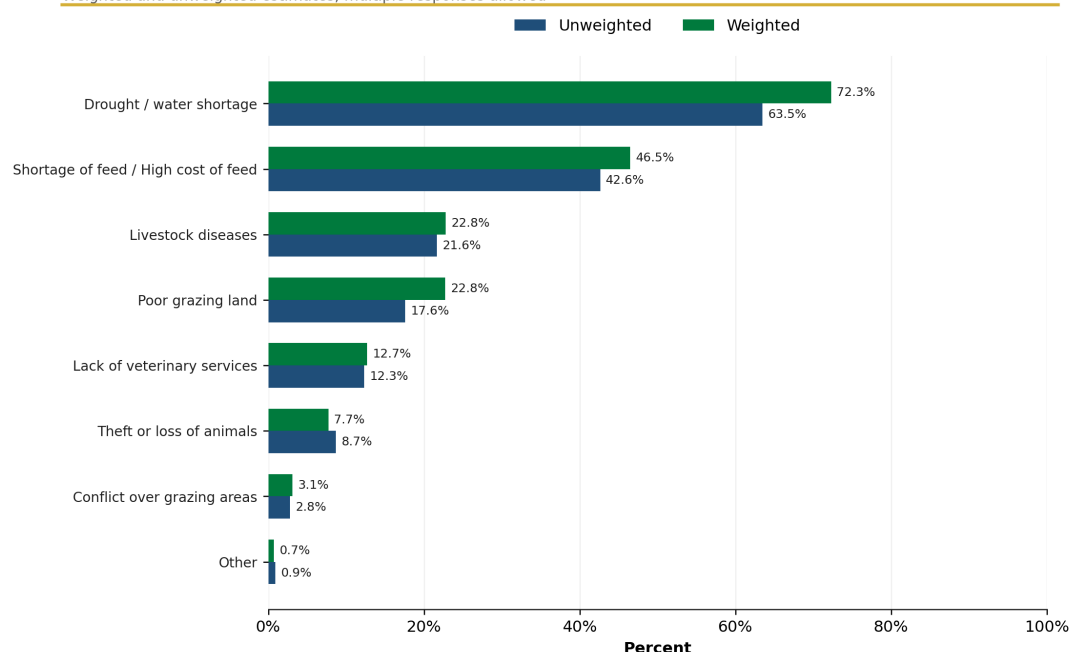


Figure 5.24. Livestock Types Owned

Main Livestock Problems

Weighted and unweighted estimates; multiple responses allowed



Item 3.4.17

Figure 5.25. Main Livestock Problems

Detailed tables for Agriculture, Livestock and Productive Resources

Table 3.4.1

Access to Agricultural Land

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No land access	1,503	51.9	1,293.5	44.7
Yes, own land	918	31.7	1,228.2	42.4
Yes, but not in use	362	12.5	285.8	9.9
Rented/shared land	113	3.9	88.5	3.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.4.2

Agricultural Land Size

Statistic	Value
Valid unweighted n	1,393.000
Unweighted mean	2.624
Weighted mean	2.734
Unweighted standard deviation	1.449
Weighted standard deviation	1.500
Unweighted median	2.000
Weighted median	2.000
Minimum	1.000

Statistic	Value
Maximum	5.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 3.4.3

Primary agricultural activity carried out on that land

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Crops production	712	51.1	907.7	56.6
Livestock rearing	390	28.0	354.3	22.1
Both	236	16.9	297.6	18.6
Poultry/honey bee farming	55	3.9	42.9	2.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.4.4

Main Crops Cultivated

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Sorghum	491	51.8	28.2	790.1	65.5	33.1
Maize	343	36.2	19.7	426.7	35.4	17.9
Wheat	268	28.3	15.4	325.8	27.0	13.6
Vegetables (onion, tomatoes, pepper, lettuce, etc.)	212	22.4	12.2	254.0	21.1	10.6
Cowpea	138	14.6	7.9	251.0	20.8	10.5
Barley	124	13.1	7.1	144.9	12.0	6.1
Fruits (papaya, watermelon, mango, guava, citrus, etc.)	92	9.7	5.3	88.0	7.3	3.7
Other	24	2.5	1.4	58.9	4.9	2.5
Sesame	49	5.2	2.8	50.9	4.2	2.1

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 3.4.6

Agricultural Inputs Used

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Improved seeds	660	47.4	39.5	793.4	49.5	41.6
None	253	18.2	15.1	398.8	24.9	20.9
Chemical/organic fertilizer	418	30.0	25.0	385.2	24.0	20.2
Pesticides/herbicides	340	24.4	20.3	330.9	20.6	17.3

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 3.4.7

Compared to last year, has your production

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Decreased	617	44.3	796.1	49.7
Increased	415	29.8	412.6	25.7
Same	247	17.7	284.3	17.7
Do not know	114	8.2	109.5	6.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.4.8

Crop and Post-Harvest Constraints

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Drought/water shortage	678	71.5	49.1	952.9	79.1	51.6
Crop pests/diseases	256	27.0	18.5	300.7	25.0	16.3
Lack of inputs (seeds, tools, labor)	170	17.9	12.3	201.3	16.7	10.9
Poor market access and low prices	118	12.4	8.5	195.2	16.2	10.6
Soil degradation (erosion, poor soil fertility)	117	12.3	8.5	153.5	12.7	8.3
Post-harvest challenges (storage, transport, spoilage)	42	4.4	3.0	43.8	3.6	2.4

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 3.4.9

Your household use irrigation methods for crop production

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	399	42.1	673.5	55.9
Yes	549	57.9	531.9	44.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.4.10*Livestock Ownership*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,930	66.6	1,469.7	50.8
Yes	966	33.4	1,426.3	49.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 3.4.11*Livestock Types Owned*

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Sheep & Goats	635	65.7	43.3	1,005.6	70.5	39.5
Cattle	428	44.3	29.2	787.4	55.2	31.0
Donkeys	109	11.3	7.4	280.2	19.6	11.0
Camels	202	20.9	13.8	274.5	19.2	10.8
Poultry (chickens)	93	9.6	6.3	195.8	13.7	7.7

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 3.4.12*Number of cattle does your household own*

Statistic	Value
Valid unweighted n	428.000
Unweighted mean	10.505
Weighted mean	9.013
Unweighted standard deviation	25.255
Weighted standard deviation	16.130
Unweighted median	6.000
Weighted median	6.000
Minimum	1.000
Maximum	500.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 3.4.13*Number of sheep and goats does your household own*

Statistic	Value
Valid unweighted n	635.000
Unweighted mean	24.419
Weighted mean	24.687

Statistic	Value
Unweighted standard deviation	39.196
Weighted standard deviation	31.143
Unweighted median	12.000
Weighted median	18.000
Minimum	0.000
Maximum	500.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 3.4.14

Number of camels does your household own

Statistic	Value
Valid unweighted n	202.000
Unweighted mean	19.688
Weighted mean	15.090
Unweighted standard deviation	42.411
Weighted standard deviation	31.562
Unweighted median	9.000
Weighted median	7.000
Minimum	0.000
Maximum	500.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 3.4.15

Number of donkeys does your household own

Statistic	Value
Valid unweighted n	109.000
Unweighted mean	2.413
Weighted mean	2.248
Unweighted standard deviation	1.657
Weighted standard deviation	1.563
Unweighted median	2.000
Weighted median	2.000
Minimum	0.000
Maximum	10.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 3.4.16*Number of poultry/chickens does your household own*

Statistic	Value
Valid unweighted n	93.000
Unweighted mean	9.839
Weighted mean	10.949
Unweighted standard deviation	8.015
Weighted standard deviation	8.277
Unweighted median	8.000
Weighted median	8.000
Minimum	0.000
Maximum	40.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 3.4.17*Main Livestock Problems*

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Drought / water shortage	613	63.5	37.3	1,030.9	72.3	38.3
Shortage of feed / High cost of feed	412	42.6	25.1	663.2	46.5	24.7
Livestock diseases	209	21.6	12.7	324.9	22.8	12.1
Poor grazing land	170	17.6	10.3	324.5	22.8	12.1
Lack of veterinary services	119	12.3	7.2	181.0	12.7	6.7
Theft or loss of animals	84	8.7	5.1	110.3	7.7	4.1
Conflict over grazing areas	27	2.8	1.6	44.1	3.1	1.6
Other	9	0.9	0.5	10.2	0.7	0.4

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 3.4.19*Main water source for agricultural/livestock use*

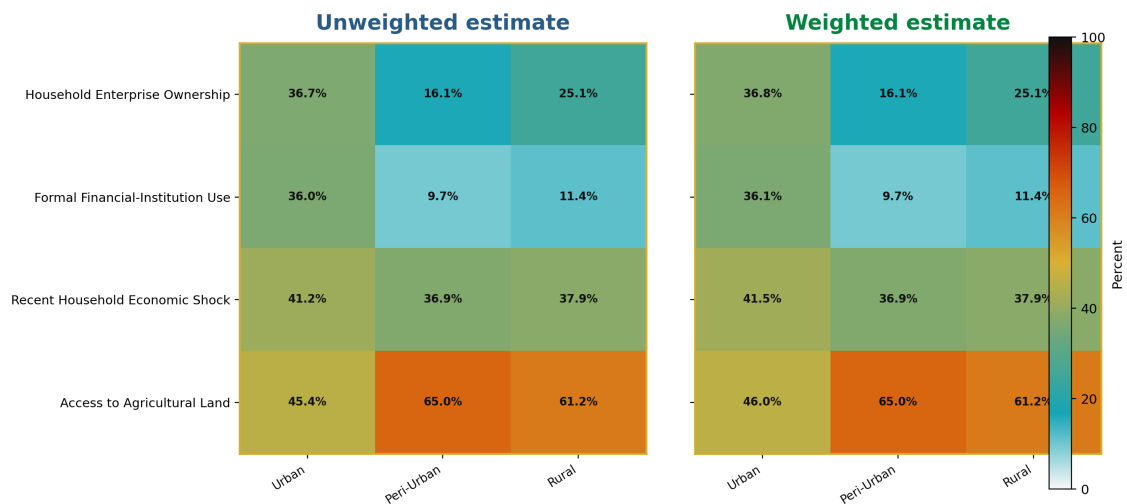
Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Rain-fed	1,068	36.9	1,069.5	36.9
Communal well	817	28.2	925.6	32.0
Own well	717	24.8	620.7	21.4
River / Trucked water	294	10.2	280.3	9.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

5.5 Chapter Inequality Synthesis

District averages can conceal who is being left behind. The chapter therefore closes by comparing representative indicators from across the pillar by residence, wealth quintile, sex of household head and the six sampling strata. The heatmaps use indicator-specific valid denominators and show both weighted and unweighted estimates; they describe inequality patterns but do not establish their causes.

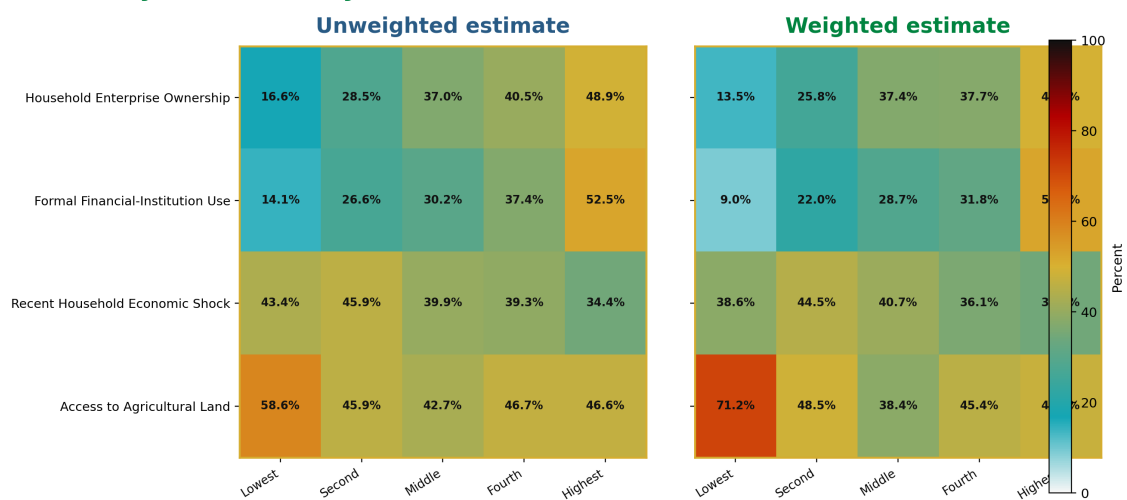
Pillar 3: Priority Indicators by Residence



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 5.26. Economic Development indicators by Residence

Pillar 3: Priority Indicators by Wealth Quintile



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 5.27. Economic Development indicators by Wealth Quintile

Pillar 3: Priority Indicators by Sex of Household Head

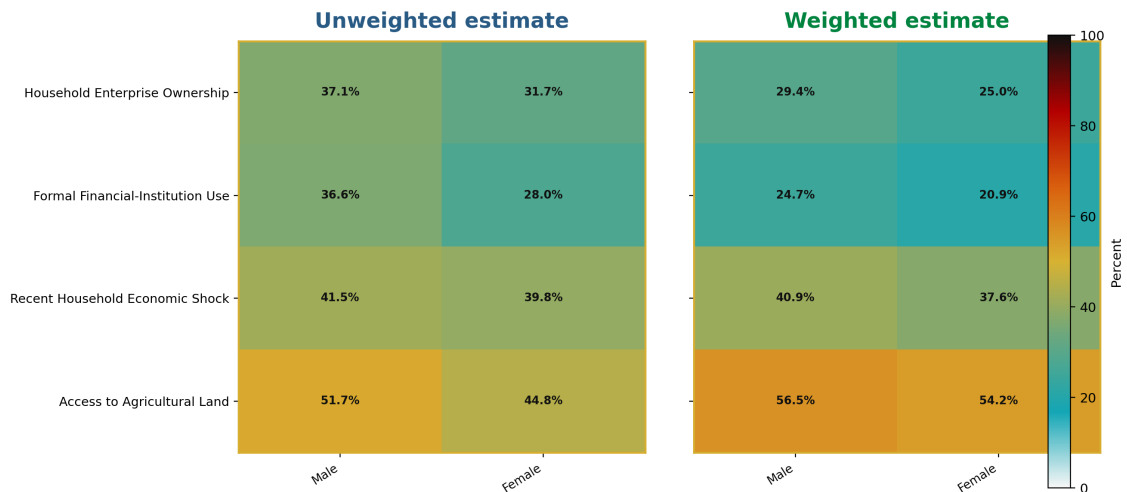


Figure 5.28. Economic Development indicators by Sex of Household Head

Pillar 3: Priority Indicators by Sampling Stratum

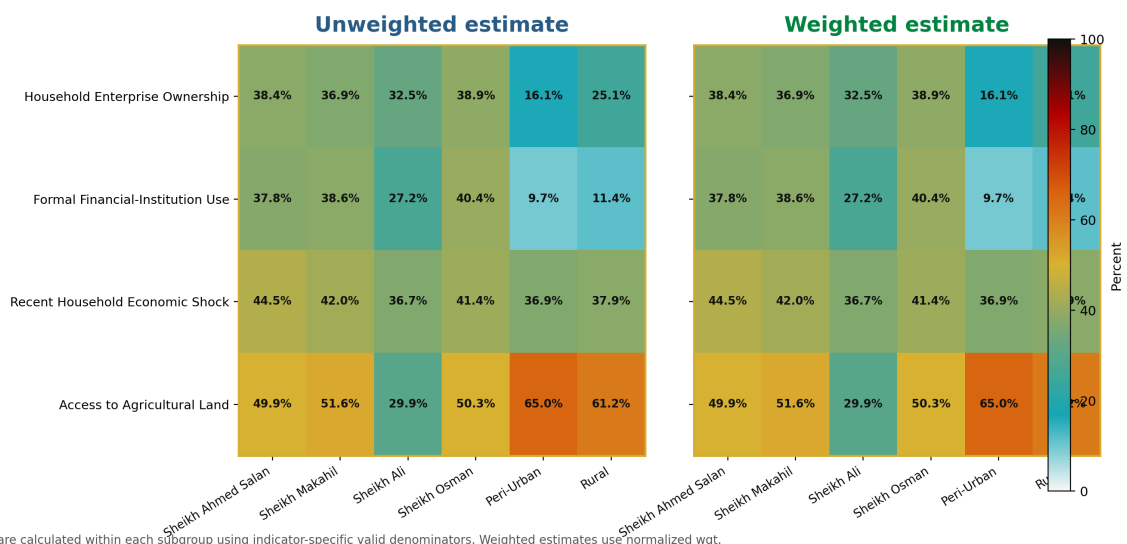


Figure 5.29. Economic Development indicators by Sampling Stratum



Inequality lens

Economic inequality in Borama reflects unequal access to enterprise opportunities, formal finance, savings and assets, as well as differing exposure to price pressure, shocks and climate-sensitive productive constraints. These economic dimensions can reinforce one another across wealth groups and locations.



Development implication

Economic development should connect enterprise services, financial inclusion, household resilience and productive-resource support rather than addressing finance, business and agriculture separately. Targeting should combine household economic capacity with place-specific market and climate constraints.

Pillar Closing Perspective

Borama's household economy shows substantial initiative: enterprises operate, mobile money is widespread, households save and many maintain land or livestock connections. Yet the same households face limited formal finance, rising living costs, economic shocks and severe water and climate constraints. Building resilience therefore requires turning existing participation into more secure, productive and diversified economic opportunity.

Pillar message: Economic progress is strongest when enterprise, finance, assets and productive livelihoods reinforce one another and protect households against shocks.

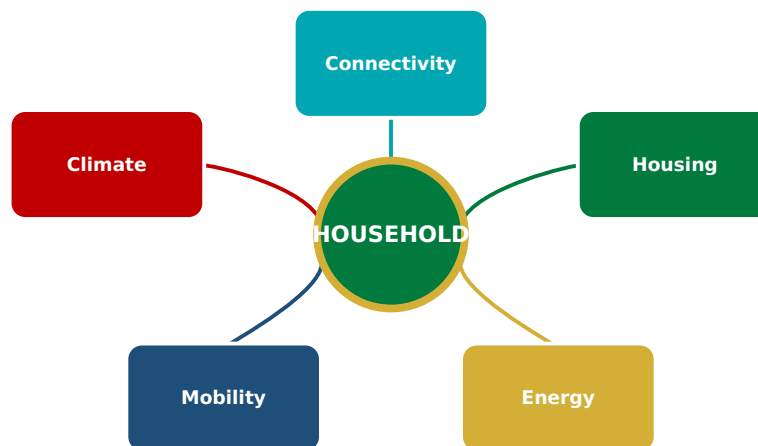


Technology, Infrastructure and Environment

Digital inclusion, housing, energy, mobility, climate and environmental resilience

Technology, Infrastructure and Environment

Five connected domains shaping household well-being



Technology, Infrastructure and Environment at a Glance

Key evidence, inequalities and development implications

Policy alignment: NDP III Economic Infrastructure and Climate Change; Agenda 2063 Goals 7 and 10; SDGs 6, 7, 9, 11, 12, 13 and 15



Household Smartphone Ownership

77.4%

Unweighted estimate: 84.5%.



Computer or Tablet Ownership

33.3%

Unweighted estimate: 49.1%.



Internet Reliability

79.6%

Reliable or moderately reliable internet; unweighted estimate: 83.7%.



Internet-Cost Barrier

63.4%

Internet cost reported as a barrier; unweighted estimate: 62.2%.



Income From Online Platforms or Digital Work

28.0%

Unweighted estimate: 38.5%.



Digital Literacy of the Household Head

58.0%

At least moderate digital literacy; unweighted estimate: 70.5%.



Housing Tenure

66.7%

Owner-occupied housing; unweighted estimate: 61.2%.



Perceived Structural Safety of the Home

73.7%

Higher structural-safety ratings; unweighted estimate: 78.6%.



Household Flooding or Rainwater Intrusion

27.9%

Unweighted estimate: 30.6%.



Observed Changes in Weather Patterns

59.7%

Unweighted estimate: 57.0%.

Chapter Overview

Technology, infrastructure and environmental conditions shape whether households can connect, move, live safely and adapt to change. BAHDA-2026 therefore examines ICT access and digital readiness; digital skills and productive use; housing and settlement conditions; energy, roads, transport and urban infrastructure; and environment, climate and resilience as one enabling system for household development.[46, 31, 51, 50]

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

Policy alignment: NDP III Economic Infrastructure and Climate Change; Agenda 2063 Goals 7 and 10; SDGs 6, 7, 9, 11, 12, 13 and 15

Technology, Infrastructure and Environment

Five connected domains shaping household well-being

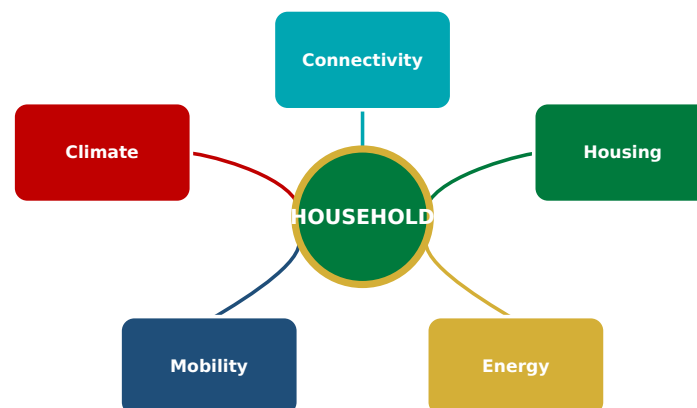


Figure 6.1. Technology, Infrastructure and Environment Framework



ICT Access, Internet and Digital Readiness

Device ownership, connectivity and internet reliability define the household foundation for digital participation.

6.1 ICT Access, Internet and Digital Readiness

**Household Smartphone Ownership****77.4%**

Unweighted estimate: 84.5%.

**Computer or Tablet Ownership****33.3%**

Unweighted estimate: 49.1%.

**Internet Reliability****79.6%**

Reliable or moderately reliable internet; unweighted estimate: 83.7%.

**Internet-Cost Barrier****63.4%**

Internet cost reported as a barrier; unweighted estimate: 62.2%.

Digital participation begins with access to functioning devices and a connection that households can afford and rely on. This section distinguishes ownership from effective connectivity by examining smartphones, computers or tablets, internet reliability and cost barriers together.

Household Smartphone Ownership was reported by 77.4% of eligible households in the weighted results, compared with 84.5% in the unweighted results.

Computer or Tablet Ownership was reported by 33.3% of eligible households in the weighted results, compared with 49.1% in the unweighted results.

For **Internet Reliability**, *Reliable or moderately reliable internet* accounted for 79.6% in the weighted results and 83.7% in the unweighted results.

For **Internet-Cost Barrier**, *Internet cost reported as a barrier* accounted for 63.4% in the weighted results and 62.2% in the unweighted results.

Household Smartphone Ownership

Weighted and unweighted descriptive estimates

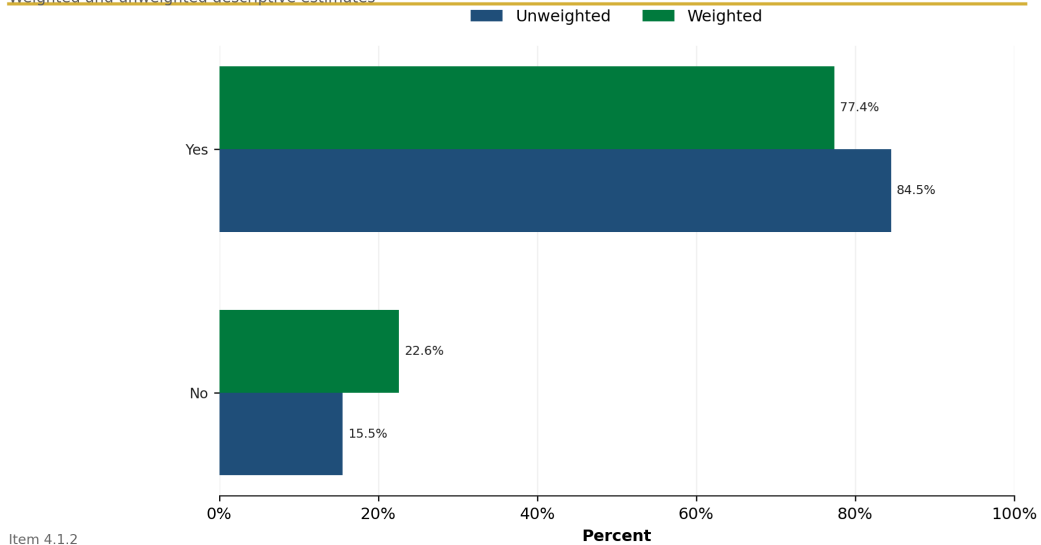


Figure 6.2. Household Smartphone Ownership

Household Computer or Tablet Ownership

Weighted and unweighted descriptive estimates

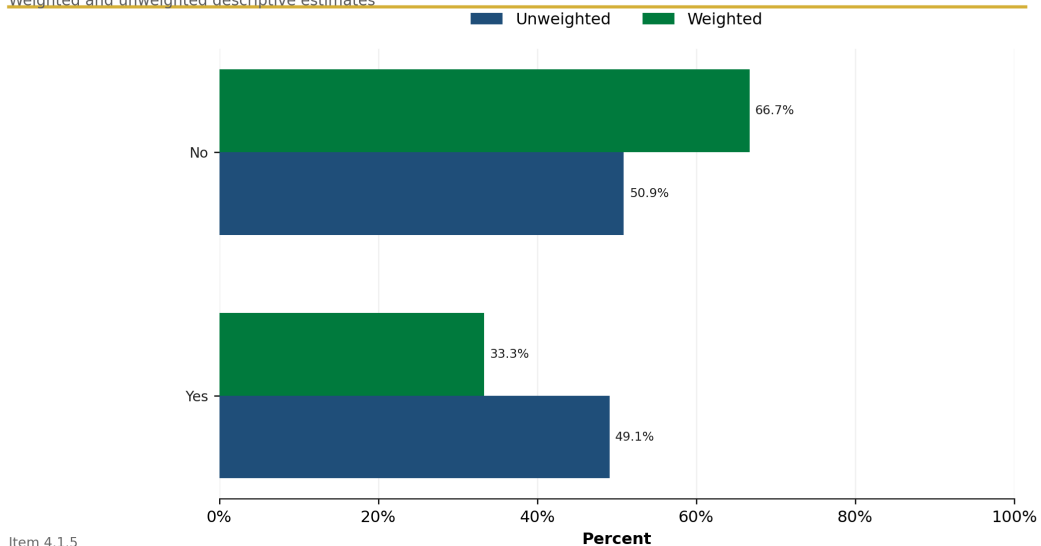


Figure 6.3. Household Computer or Tablet Ownership

Inequality lens

Smartphone ownership reached 77.4% and internet reliability was rated positively by 79.6% of relevant households, but computer or tablet ownership was only 33.3% and 63.4% identified internet cost as a significant barrier. Digital access is therefore broad but not equally affordable or device-rich.

Development implication

Digital infrastructure policy should pair network coverage with affordability, reliable service and access to appropriate devices, especially for households whose connectivity is limited by cost rather than physical availability.

Connectivity Quality, Device Access and Affordability

The supporting indicators show basic-phone ownership and the number of working devices available within households, adding depth to the distinction between nominal access and usable digital capacity.

Household Ownership of a functional basic mobile phone

Weighted and unweighted descriptive estimates

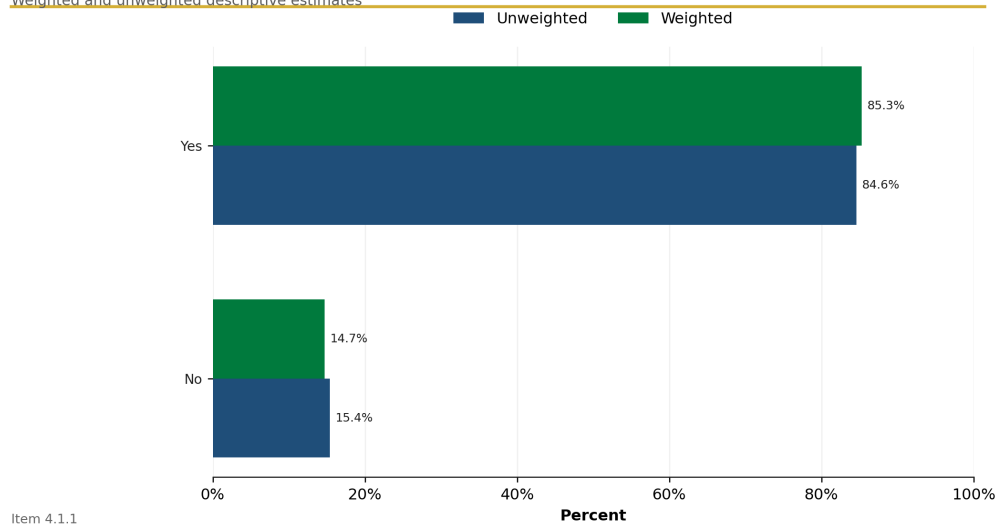
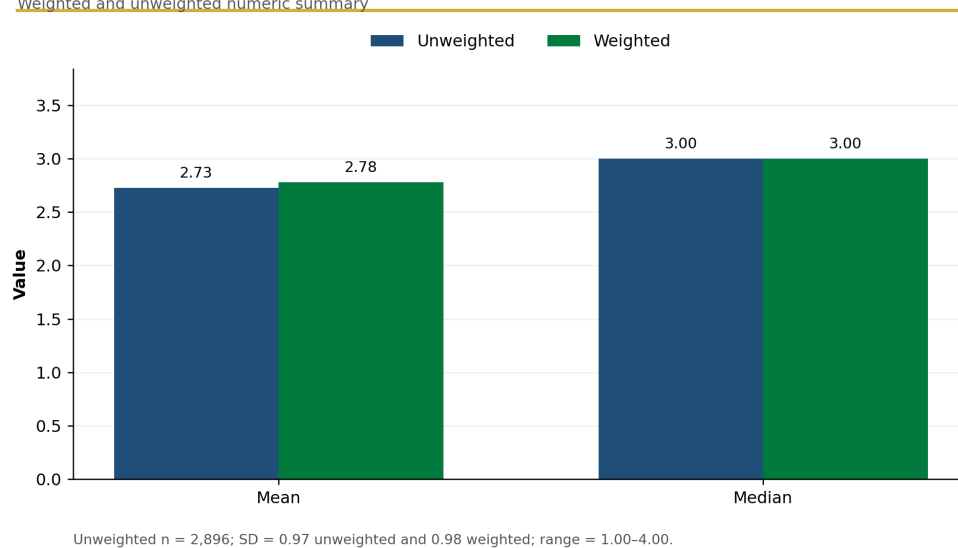


Figure 6.4. Basic Mobile-Phone Ownership

Number of Working Mobile Phones

Weighted and unweighted numeric summary



Item 4.1.3

Figure 6.5. Number of Working Mobile Phones

Number of Working Smartphones

Weighted and unweighted numeric summary

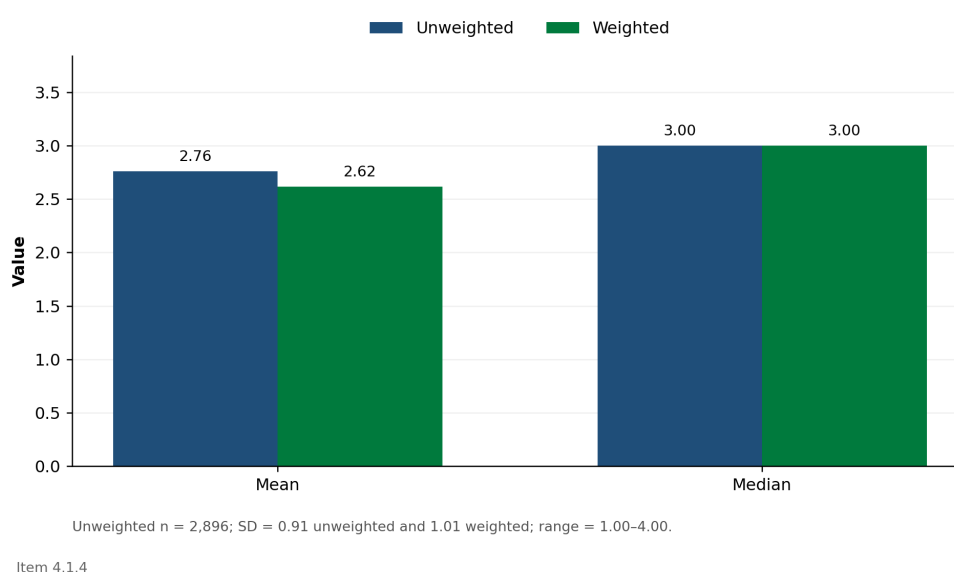


Figure 6.6. Number of Working Smartphones

Detailed tables for ICT Access, Internet and Digital Readiness

Table 4.1.1

Household Ownership of a functional basic mobile phone

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,449	84.6	2,471.3	85.3
No	447	15.4	424.7	14.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.1.2

Household Smartphone Ownership

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	2,448	84.5	2,242.5	77.4
No	448	15.5	653.5	22.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.1.3

Number of Working Mobile Phones

Statistic	Value
Valid unweighted n	2,896.000

Statistic	Value
Unweighted mean	2.727
Weighted mean	2.780
Unweighted standard deviation	0.967
Weighted standard deviation	0.978
Unweighted median	3.000
Weighted median	3.000
Minimum	1.000
Maximum	4.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 4.1.4

Number of Working Smartphones

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	2.760
Weighted mean	2.617
Unweighted standard deviation	0.914
Weighted standard deviation	1.010
Unweighted median	3.000
Weighted median	3.000
Minimum	1.000
Maximum	4.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 4.1.5

Computer or Tablet Ownership

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,474	50.9	1,930.2	66.7
Yes	1,422	49.1	965.8	33.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.1.6

Main way your household accesses the internet at home

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Mobile data on smartphone	853	29.5	961.3	33.2
No internet access	312	10.8	653.4	22.6
Home Wi-Fi/Fiber connection	1,010	34.9	622.7	21.5
Mobile data on feature phone	630	21.8	601.5	20.8

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Public Wi-Fi/Cyber Cafe	91	3.1	57.0	2.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.1.7

Internet Reliability

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderately reliable	1,040	40.2	956.0	42.6
Very reliable	1,124	43.5	829.0	37.0
Often unreliable	262	10.1	276.4	12.3
Very unreliable	158	6.1	181.2	8.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.1.8

Internet-Cost Barrier

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, a major barrier	769	29.8	723.7	32.3
Yes, a minor barrier	836	32.4	697.6	31.1
No, not a barrier	836	32.4	667.7	29.8
Not applicable (No internet)	143	5.5	153.6	6.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.1.9

On a typical day, approximately how much time does the main

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
More than 3 hours	1,180	45.7	894.7	39.9
1 to 3 hours	750	29.0	691.6	30.8
Less than 1 hour	362	14.0	358.6	16.0
Not applicable	171	6.6	153.6	6.9
Does not use social media	121	4.7	144.1	6.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Digital Skills, Online Work and Innovation

Digital literacy and productive internet use determine whether connectivity translates into practical opportunity.

6.2 Digital Skills, Online Work and Innovation



Income From Online Platforms or Digital Work

28.0%

Unweighted estimate: 38.5%.



Household Member aged 15 or above use the internet for business

33.7%

Unweighted estimate: 45.6%.



Digital Literacy of the Household Head

58.0%

At least moderate digital literacy; unweighted estimate: 70.5%.



Any household member aged 15 or above interested in learning new

49.2%

Interest in or exposure to digital training; unweighted estimate: 61.3%.

Connectivity creates development value only when people can use it confidently and productively. This section examines digital literacy, business and health-information use, online income and demand for further skills to assess whether access is translating into practical opportunity.

Income From Online Platforms or Digital Work was reported by 28.0% of eligible households in the weighted results, compared with 38.5% in the unweighted results.

Household Member aged 15 or above use the internet for business was reported by 33.7% of eligible households in the weighted results, compared with 45.6% in the unweighted results.

For **Digital Literacy of the Household Head**, *At least moderate digital literacy* accounted for 58.0% in the weighted results and 70.5% in the unweighted results.

For **Any household member aged 15 or above interested in learning new**, *Interest in or exposure to digital training* accounted for 49.2% in the weighted results and 61.3% in the unweighted results.

Household Member aged 15 or above earn money through online

Weighted and unweighted descriptive estimates

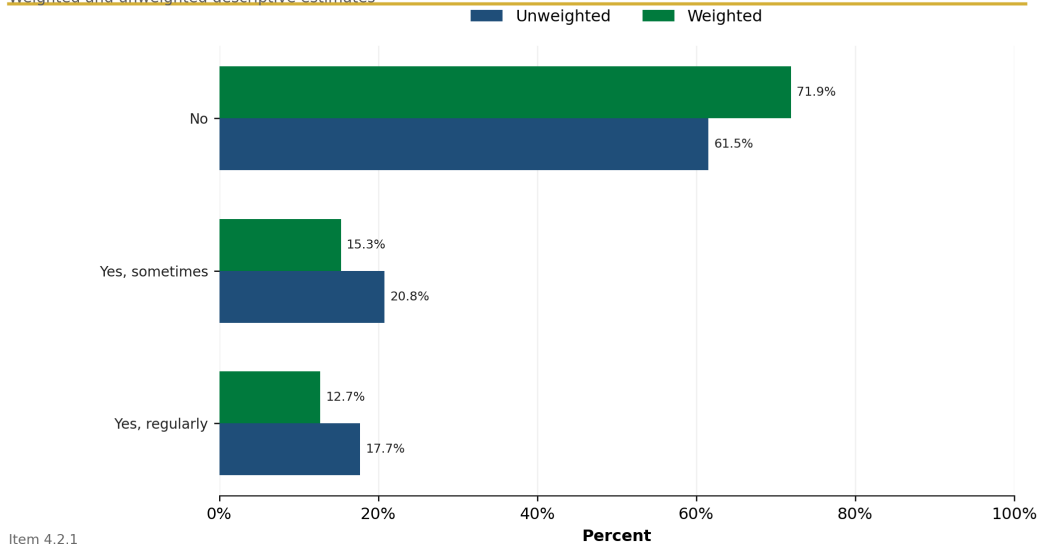


Figure 6.7. Income From Online Platforms or Digital Work

Household Member aged 15 or above use the internet for business

Weighted and unweighted descriptive estimates

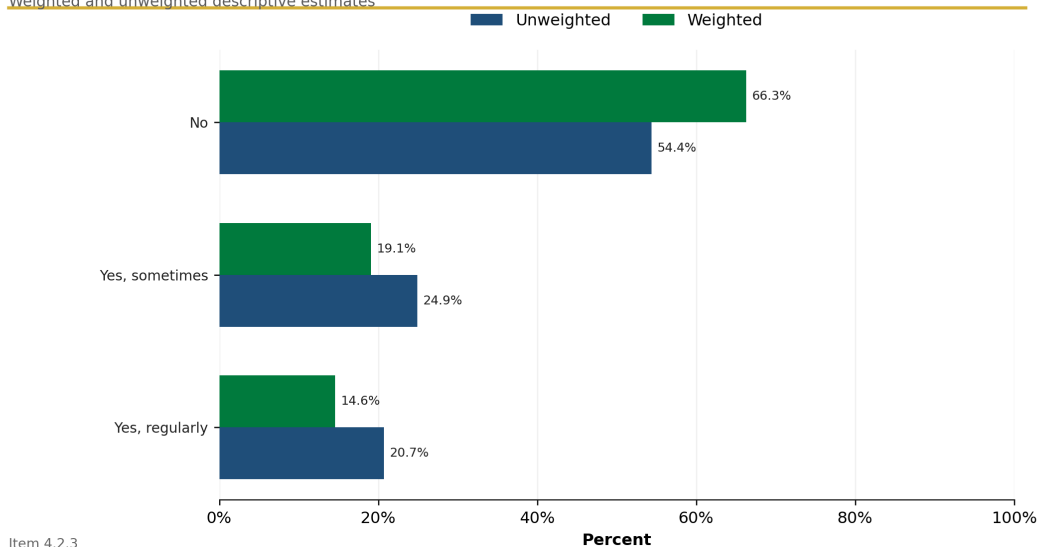


Figure 6.8. Internet Use for Business



Inequality lens

Only 28.0% reported income from online platforms or digital work and 33.7% reported internet use for business, while moderate or high digital literacy among household heads was 58.0%. Demand for new digital skills reached 49.2%, indicating a sizeable gap between connectivity and productive digital participation.

🕒 Development implication

Digital-development programmes should move beyond connectivity toward practical skills, online-work pathways, enterprise use and safe digital participation, with training designed for households that are connected but not yet economically benefiting.

Digital Capability, Productive Use and Opportunity

These indicators show how households use the internet for business and health information, whether access is perceived as gender-equitable and how household heads rate their own digital capability.

Do women and men in the household have equal access to digital

Weighted and unweighted descriptive estimates

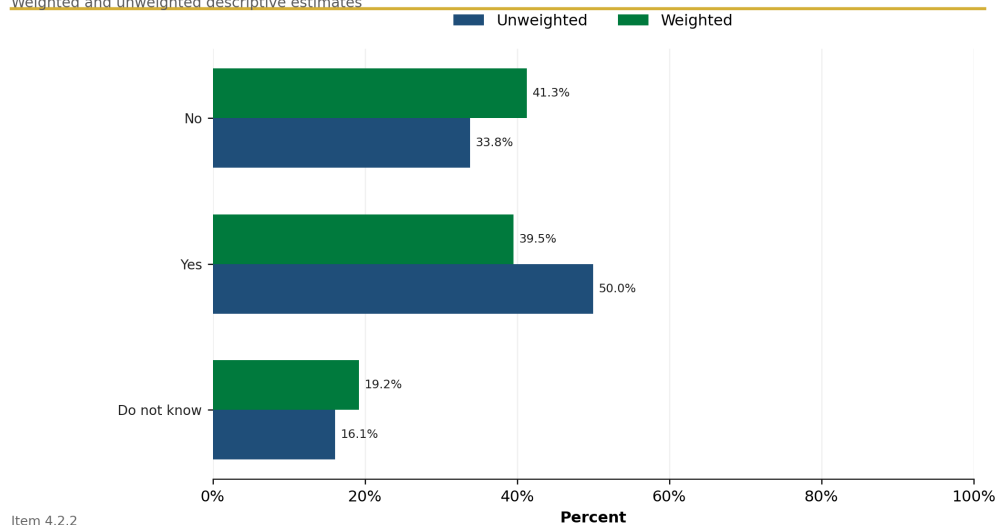


Figure 6.9. Gender Equality in Digital Access

Household Member use the internet to look for health information,

Weighted and unweighted descriptive estimates

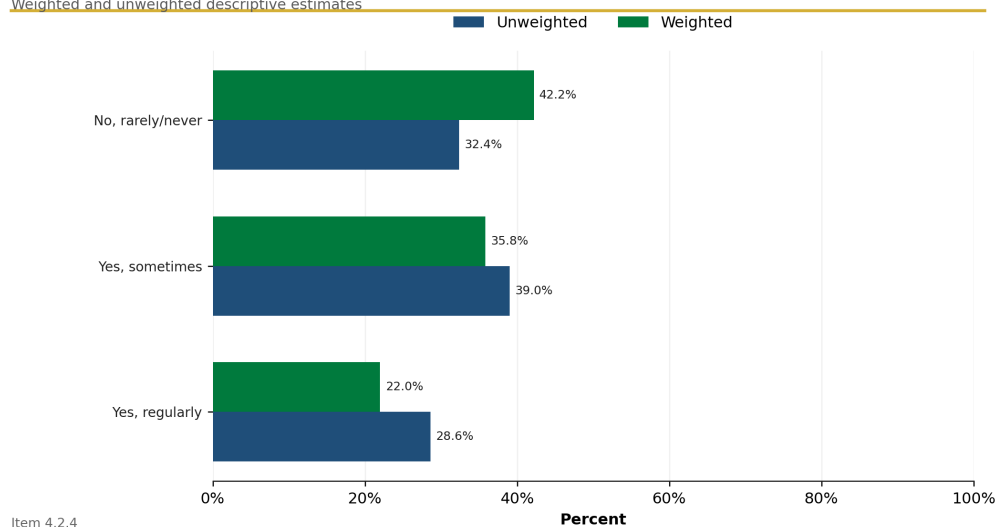


Figure 6.10. Internet Use for Health Information

Rating of the digital literacy of the household head, such as

Weighted and unweighted descriptive estimates

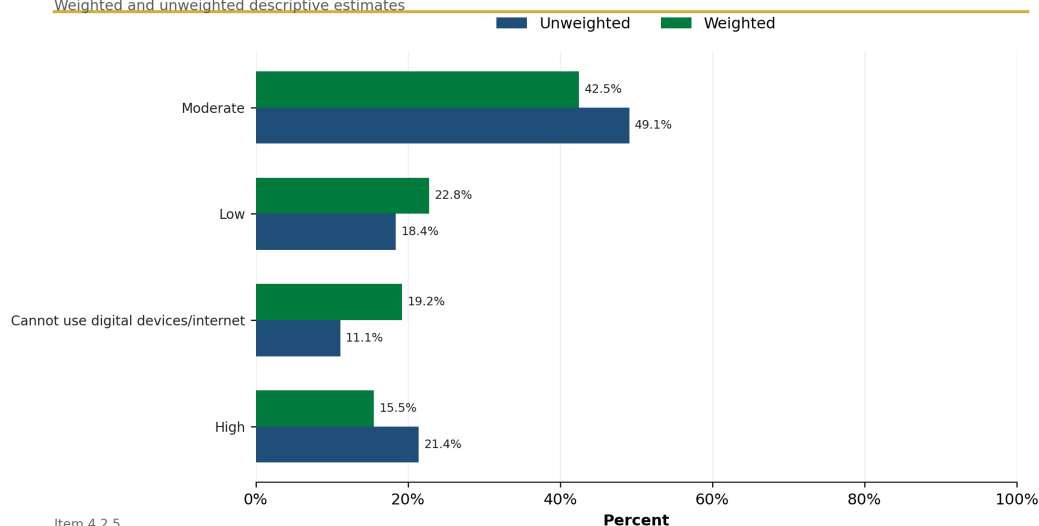


Figure 6.11. Rating of the Digital Literacy of Household Head, Such As

Detailed tables for Digital Skills, Online Work and Innovation

Table 4.2.1

Income From Online Platforms or Digital Work

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,781	61.5	2,083.6	71.9
Yes, sometimes	602	20.8	444.3	15.3
Yes, regularly	513	17.7	368.0	12.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.2

Do women and men in the household have equal access to digital

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	980	33.8	1,194.8	41.3
Yes	1,449	50.0	1,144.0	39.5
Do not know	467	16.1	557.2	19.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.3

Household Member aged 15 or above use the internet for business

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,575	54.4	1,919.5	66.3

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, sometimes	722	24.9	554.4	19.1
Yes, regularly	599	20.7	422.1	14.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.4

Household Member use the internet to look for health information,

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, rarely/never	837	32.4	946.1	42.2
Yes, sometimes	1,008	39.0	802.1	35.8
Yes, regularly	739	28.6	494.4	22.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.5

Digital Literacy of the Household Head

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate	1,423	49.1	1,231.5	42.5
Low	533	18.4	660.2	22.8
Cannot use digital devices/internet	321	11.1	555.1	19.2
High	619	21.4	449.2	15.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.6

Internet-Enabled Employment Opportunities

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,934	66.8	2,179.9	75.3
Yes	962	33.2	716.1	24.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.8

Any household member aged 15 or above interested in learning new

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,119	38.6	1,468.8	50.7
Interested but not trained	922	31.8	800.4	27.6

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, interested or trained	855	29.5	626.9	21.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.9

Take steps to protect their online privacy

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, sometimes	839	32.5	658.1	29.3
Do not know	473	18.3	568.5	25.3
Yes, always	801	31.0	567.0	25.3
No, rarely/never	471	18.2	449.0	20.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.2.10

Feel confident in evaluating whether

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderately confident	1,086	42.0	908.8	40.5
Very confident	830	32.1	661.3	29.5
Not very confident	385	14.9	309.8	13.8
Not applicable	139	5.4	181.7	8.1
Not confident at all	144	5.6	181.0	8.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Housing and Settlement Conditions

Housing tenure, materials and structural conditions influence safety, comfort and household security.

6.3 Housing and Settlement Conditions



Housing Tenure

66.7%

Owner-occupied housing; unweighted estimate: 61.2%.

**Perceived Structural Safety of the Home****73.7%****Higher structural-safety ratings; unweighted estimate: 78.6%.****Noticed any structural cracks in the walls or foundation****38.6%****Unweighted estimate: 41.1%.****Presence of evidence of dampness on the lower walls of the house****27.6%****Unweighted estimate: 30.4%.**

Housing is both an asset and a protective environment. This section examines tenure, perceived structural safety, building condition and material quality to identify whether household shelter provides security, comfort and resilience.

For **Housing Tenure**, *Owner-occupied housing* accounted for 66.7% in the weighted results and 61.2% in the unweighted results.

For **Perceived Structural Safety of the Home**, *Higher structural-safety ratings* accounted for 73.7% in the weighted results and 78.6% in the unweighted results.

Noticed any structural cracks in the walls or foundation was reported by 38.6% of eligible households in the weighted results, compared with 41.1% in the unweighted results.

Presence of evidence of dampness on the lower walls of the house was reported by 27.6% of eligible households in the weighted results, compared with 30.4% in the unweighted results.

The household's dwelling owned, rented, or occupied for free

Weighted and unweighted descriptive estimates

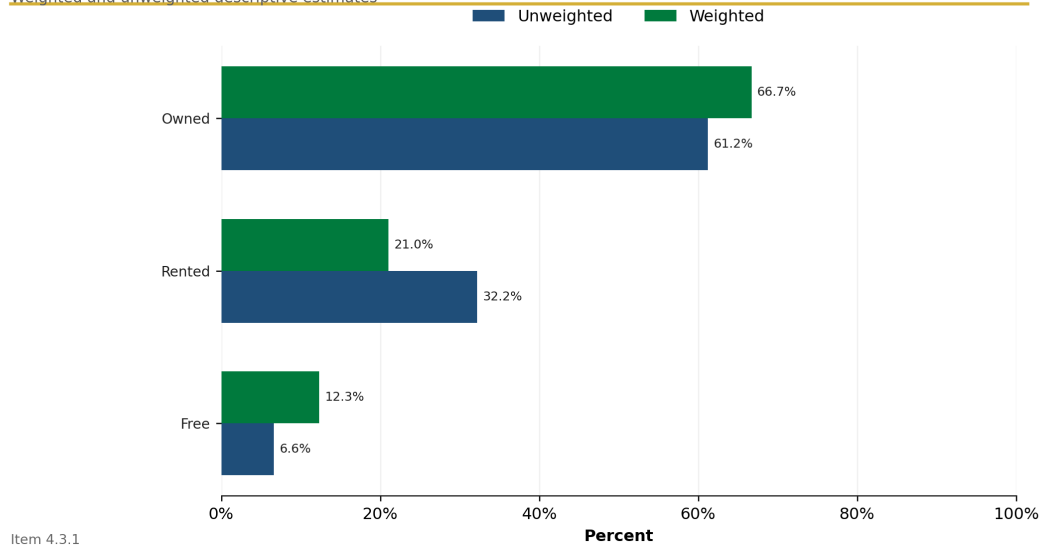


Figure 6.12. Housing Tenure

Rating of the perceived structural safety of your home? (1-4)

Weighted and unweighted descriptive estimates

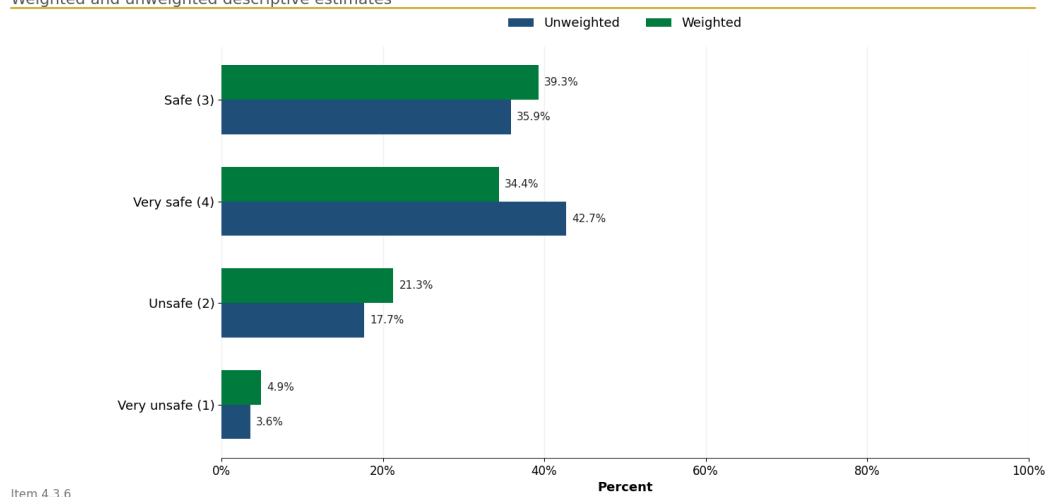


Figure 6.13. Perceived Structural Safety of the Home

Inequality lens

Home ownership was reported by 66.7% of households and 73.7% rated their dwelling as structurally safe, yet 38.6% reported structural cracks and 27.6% reported dampness. The findings show that tenure security does not always guarantee adequate housing quality.

Development implication

Housing policy should combine tenure and planning support with safe construction guidance, maintenance and repair pathways, particularly where structural defects or dampness threaten household safety and health.

Housing Security, Structural Quality and Safety

The supporting figures describe tenure documentation, building age and construction materials, providing structural context for reported cracks, dampness and perceived safety.

The household possess a residency certificate or land title

Weighted and unweighted descriptive estimates

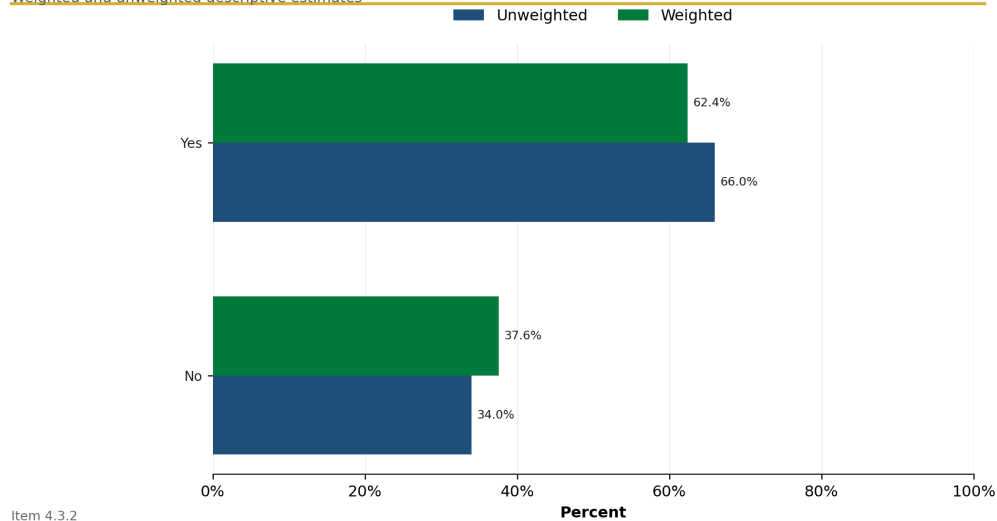


Figure 6.14. Residency Certificate or Land Title

Approximately how old is this building

Weighted and unweighted descriptive estimates

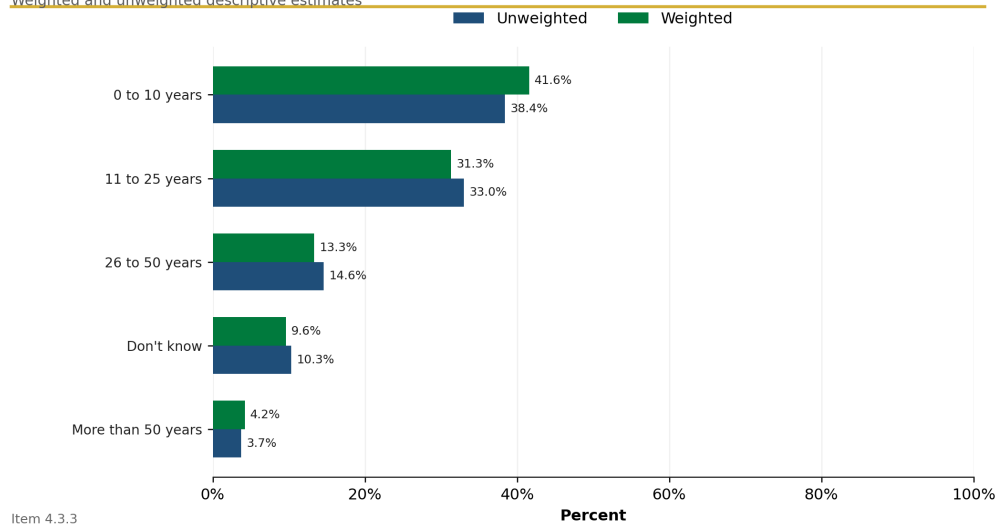


Figure 6.15. Approximately How Old Is This Building

Main material used for the external walls

Weighted and unweighted descriptive estimates

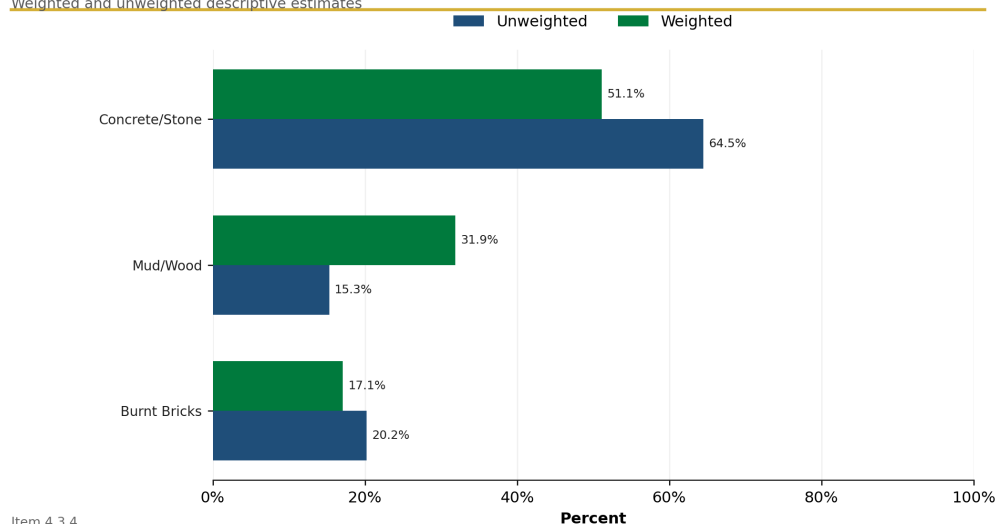


Figure 6.16. External Wall Material

Detailed tables for Housing and Settlement Conditions

Table 4.3.1

Housing Tenure

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Owned	1,773	61.2	1,932.2	66.7
Rented	932	32.2	606.8	21.0
Free	191	6.6	357.0	12.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.2

The household possess a residency certificate or land title

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,910	66.0	1,806.7	62.4
No	986	34.0	1,089.3	37.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.3

Approximately how old is this building

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
0 to 10 years	1,111	38.4	1,203.5	41.6
11 to 25 years	957	33.0	906.8	31.3

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
26 to 50 years	422	14.6	384.7	13.3
Don't know	299	10.3	278.1	9.6
More than 50 years	107	3.7	122.9	4.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.4

Main Material Used for the External Walls

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Concrete/Stone	1,868	64.5	1,479.0	51.1
Mud/Wood	443	15.3	923.2	31.9
Burnt Bricks	585	20.2	493.8	17.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.5

Main Material Used for the Roof

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Corrugated iron/steel	1,835	63.4	1,854.7	64.0
Thatch/Organic	311	10.7	561.9	19.4
Concrete slab	750	25.9	479.4	16.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.6

Perceived Structural Safety of the Home

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Safe (3)	1,041	35.9	1,139.0	39.3
Very safe (4)	1,237	42.7	997.4	34.4
Unsafe (2)	514	17.7	617.8	21.3
Very unsafe (1)	104	3.6	141.8	4.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.7

Noticed any structural cracks in the walls or foundation

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,707	58.9	1,776.8	61.4
Yes	1,189	41.1	1,119.2	38.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.8

Presence of evidence of dampness on the lower walls of the house

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,017	69.6	2,095.5	72.4
Yes	879	30.4	800.5	27.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.9

Your home repairs typically conducted by certified/professional

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, mostly informal handymen	753	26.0	1,182.5	40.8
Sometimes	1,284	44.3	1,119.6	38.7
Yes, always	859	29.7	593.9	20.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.10

Satisfaction With Housing Engineering Quality and Reliability

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral (3)	782	27.0	855.5	29.5
Satisfied (4)	959	33.1	842.7	29.1
Very satisfied (5)	669	23.1	572.3	19.8
Dissatisfied (2)	390	13.5	506.6	17.5
Very dissatisfied (1)	96	3.3	119.0	4.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.11

Main Material Used for the Foundation

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Stone/Masonry	1,327	45.8	1,157.2	40.0
Concrete	996	34.4	771.0	26.6

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No visible foundation	355	12.3	599.0	20.7
Don't know	218	7.5	368.8	12.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.12

Window and Door Materials

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Wood	978	33.8	1,066.5	36.8
Steel/Metal	929	32.1	799.2	27.6
Aluminum	763	26.3	525.1	18.1
No windows	226	7.8	505.2	17.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.13

Electrical Wiring Safety

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Mostly concealed/safe	1,581	54.6	1,538.5	53.1
Some exposed wires	1,017	35.1	917.7	31.7
Mostly exposed/unsafe	298	10.3	439.8	15.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.14

Ever received any technical advice or guidelines on how

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, never	1,138	39.3	1,453.6	50.2
Yes, from an experienced builder/craftsman	870	30.0	771.5	26.6
Yes, from an engineer/professional	888	30.7	670.9	23.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.15

In the last 5 years, have there been any major structural

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,689	58.3	1,969.0	68.0

Table continued

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,207	41.7	927.0	32.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.16*During the hottest season, how does the inside of your house feel*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Warm, but bearable	1,529	52.8	1,510.6	52.2
Very hot and uncomfortable	679	23.4	820.0	28.3
Comfortably cool	688	23.8	565.4	19.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.17*During the coldest season, how does the inside of your house feel*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Cool, but bearable	1,687	58.3	1,653.6	57.1
Comfortably warm	739	25.5	667.2	23.0
Very cold and uncomfortable	470	16.2	575.2	19.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.3.18*Main material of the floor inside the house*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Concrete/Cement screed	1,916	66.2	1,616.8	55.8
Compacted earth/Mud	425	14.7	747.6	25.8
Tiles	443	15.3	329.9	11.4
Wood	112	3.9	201.7	7.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

 Energy, Roads, Transport and Urban Infrastructure

Energy access, transport, drainage, street lighting and road proximity affect daily life and service accessibility.

6.4 Energy, Roads, Transport and Urban Infrastructure



Primary Household Electricity Source

86.2%

Any household electricity access; un-weighted estimate: 93.5%.



Primary fuel used for cooking

66.7%

Reliance on charcoal or wood for cooking; unweighted estimate: 50.1%.



Your neighborhood have functional drainage systems to prevent

36.2%

Unweighted estimate: 50.7%.



Household Flooding or Rainwater Intrusion

27.9%

Unweighted estimate: 30.6%.

Infrastructure affects household welfare through reliability and everyday usability, not simply physical presence. This section examines electricity, cooking energy, roads, transport, drainage, street lighting and flooding as connected elements of neighbourhood access and safety.

For **Primary Household Electricity Source**, Any household electricity access accounted for 86.2% in the weighted results and 93.5% in the unweighted results.

For **Primary fuel used for cooking**, *Reliance on charcoal or wood for cooking* accounted for 66.7% in the weighted results and 50.1% in the unweighted results.

Your neighborhood have functional drainage systems to prevent was reported by 36.2% of eligible households in the weighted results, compared with 50.7% in the unweighted results.

Household Flooding or Rainwater Intrusion was reported by 27.9% of eligible households in the weighted results, compared with 30.6% in the unweighted results.

Primary Household Electricity Source

Weighted and unweighted descriptive estimates

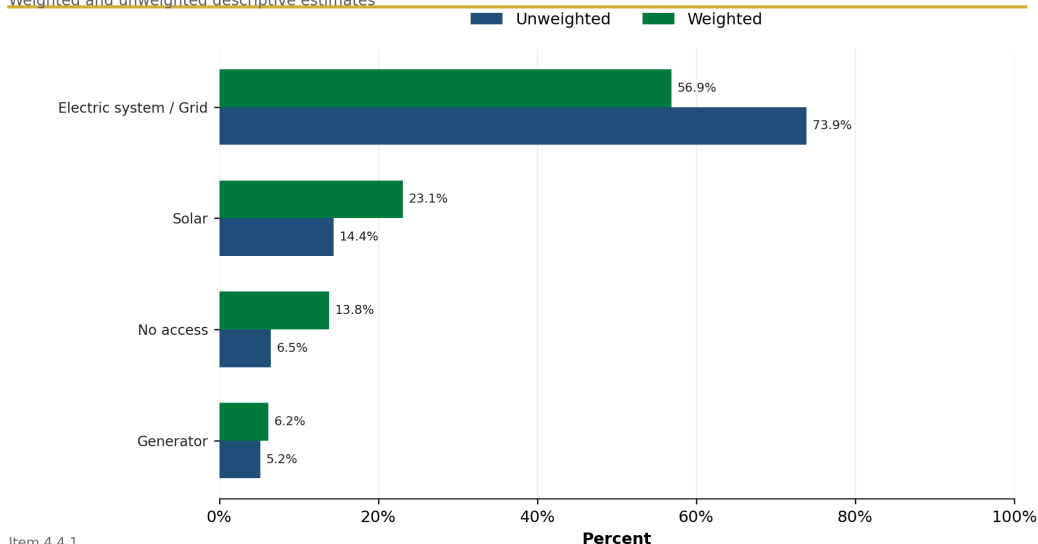


Figure 6.17. Primary Household Electricity Source

Primary fuel used for cooking

Weighted and unweighted descriptive estimates

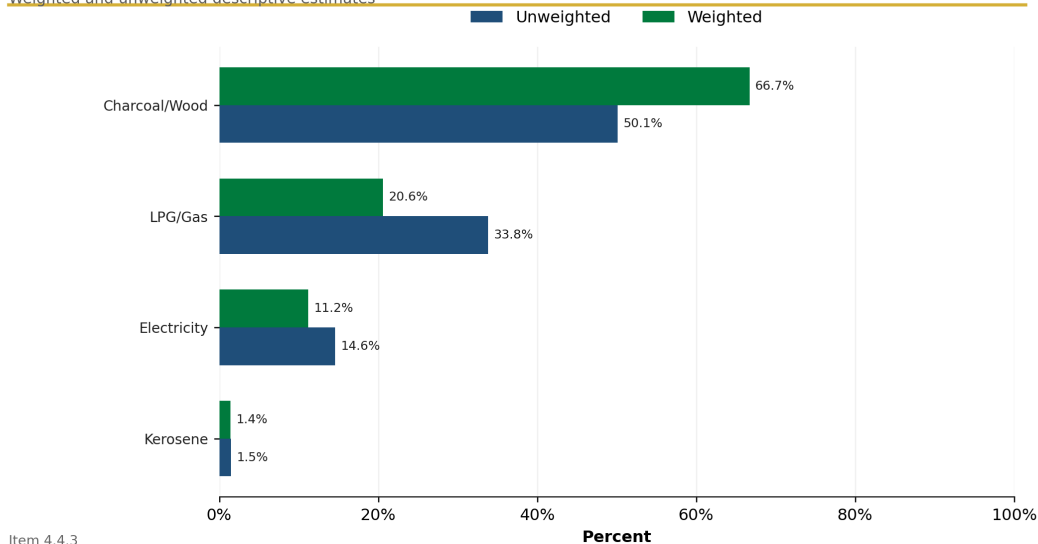


Figure 6.18. Primary Fuel Used for Cooking



Inequality lens

Household electricity access reached 86.2%, but only 36.2% reported functional neighbourhood drainage and 27.9% experienced household flooding or rainwater intrusion. These contrasts show that high access to one infrastructure service can coexist with substantial deficits in other neighbourhood systems.

Development implication

Infrastructure investment should prioritise service reliability and integrated neighbourhood systems, linking energy, roads, transport, drainage, street lighting and flood management rather than planning each service in isolation.

Energy Reliability, Mobility and Neighbourhood Services

The supporting indicators examine daily electricity availability, solar use and efficient lighting, complementing the wider evidence on transport, road proximity, drainage and flood exposure.

Average hours of electricity available per day

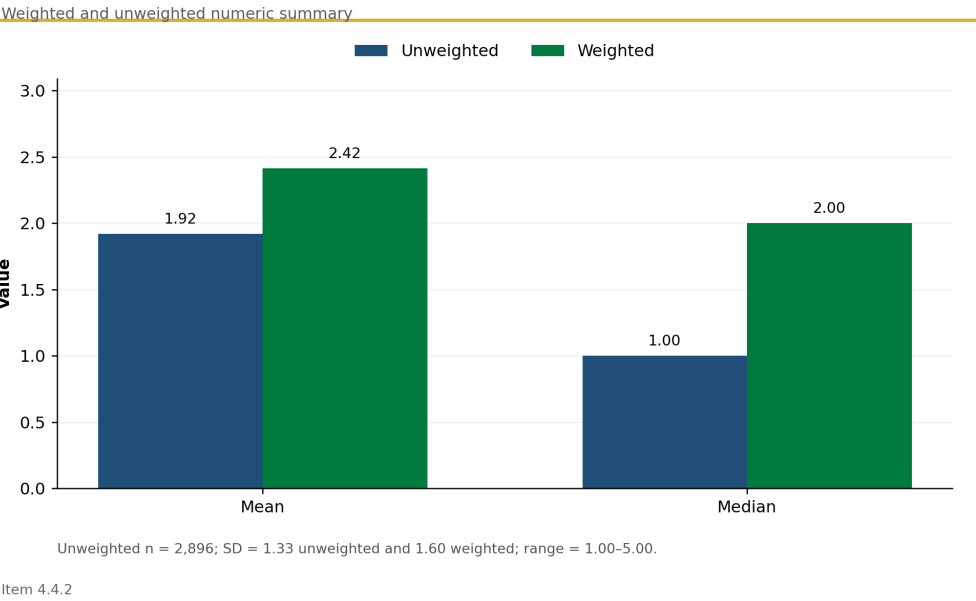


Figure 6.19. Daily Electricity Availability

Your household use a Solar PV System (Panels)

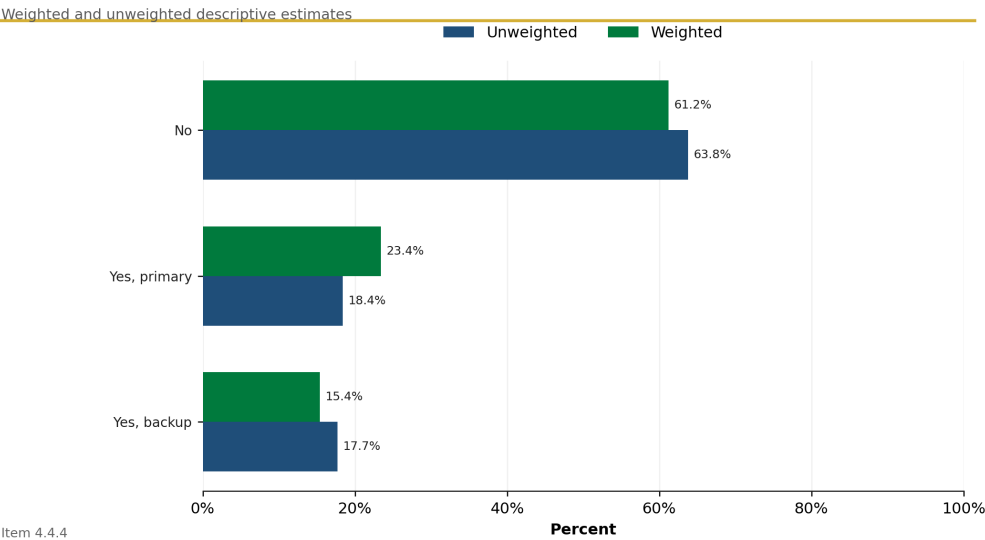


Figure 6.20. Household Solar-PV Use

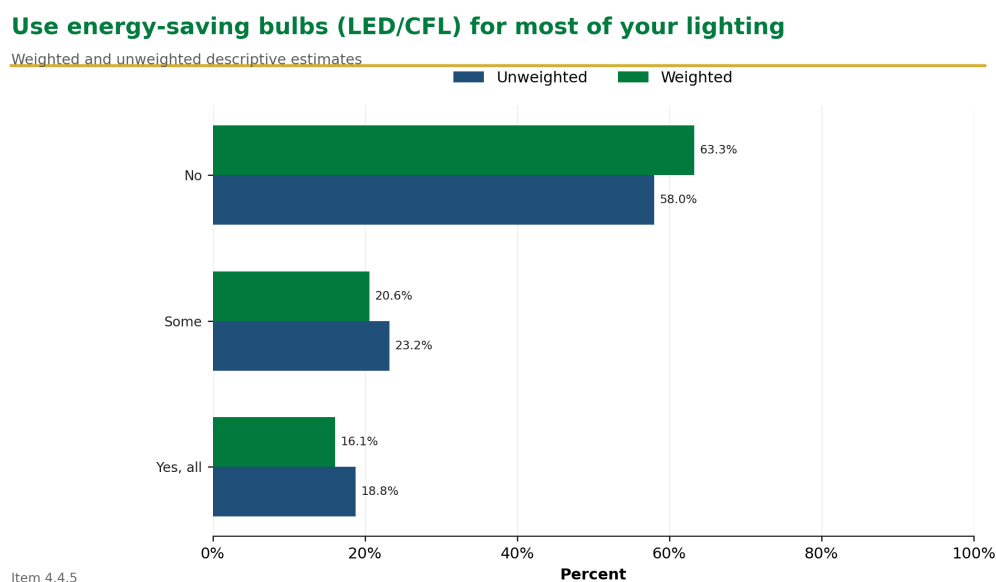


Figure 6.21. Energy-Efficient Lighting

Detailed tables for Energy, Roads, Transport and Urban Infrastructure

Table 4.4.1

Primary Household Electricity Source

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Electric system / Grid	2,139	73.9	1,647.3	56.9
Solar	418	14.4	669.2	23.1
No access	189	6.5	400.9	13.8
Generator	150	5.2	178.6	6.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.2

Average hours of electricity available per day

Statistic	Value
Valid unweighted n	2,896.000
Unweighted mean	1.919
Weighted mean	2.415
Unweighted standard deviation	1.326
Weighted standard deviation	1.596
Unweighted median	1.000
Weighted median	2.000
Minimum	1.000
Maximum	5.000

Note. Weighted statistics use the normalized household weight wgt; the valid unweighted n records the observed analytical base.

Table 4.4.3*Primary fuel used for cooking*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Charcoal/Wood	1,450	50.1	1,931.9	66.7
LPG/Gas	980	33.8	597.3	20.6
Electricity	423	14.6	325.1	11.2
Kerosene	43	1.5	41.7	1.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.4*Your household use a Solar PV System (Panels)*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,848	63.8	1,772.5	61.2
Yes, primary	534	18.4	679.0	23.4
Yes, backup	514	17.7	444.5	15.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.5*Use energy-saving bulbs (LED/CFL) for most of your lighting*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,680	58.0	1,833.3	63.3
Some	673	23.2	595.6	20.6
Yes, all	543	18.8	467.1	16.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.6*Your house located within 200 meters of a paved*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,611	55.6	1,885.2	65.1
Yes	1,285	44.4	1,010.8	34.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.7*The house experience significant vibration when heavy vehicles*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,005	69.2	2,101.0	72.5
Yes	891	30.8	795.0	27.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.8*Public transportation (bus/taxi) easily accessible from your home*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Very easy	1,649	56.9	1,220.3	42.1
Not available	527	18.2	903.3	31.2
Difficult	720	24.9	772.5	26.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.9*Satisfaction With Urban Planning*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Satisfied (3)	1,209	41.7	1,170.6	40.4
Very satisfied (4)	898	31.0	762.7	26.3
Dissatisfied (2)	633	21.9	750.4	25.9
Very dissatisfied (1)	156	5.4	212.4	7.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.10*Your neighborhood have functional drainage systems to prevent*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,429	49.3	1,849.0	63.8
Yes	1,467	50.7	1,047.0	36.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.11*Functional Streetlight Availability*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,351	46.7	1,769.7	61.1
Yes	1,545	53.3	1,126.3	38.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.4.12*Household Flooding or Rainwater Intrusion*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,010	69.4	2,088.1	72.1
Yes	886	30.6	807.9	27.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

**Environment, Climate and Resilience**

Observed climate change, household impacts, adaptation and environmental problems define local resilience needs.

6.5 Environment, Climate and Resilience**Observed Changes in Weather Patterns****59.7%**

Unweighted estimate: 57.0%.

**Household Climate Impacts****59.7%**

Reduced crop yields; unweighted estimate: 55.6%.



**Adopted any adaptation measures
(e.g., tree**
23.4%

Unweighted estimate: 27.2%.



Local Environmental Problems
65.0%

Drought; unweighted estimate: 55.7%.

Environmental resilience depends on both exposure and the capacity to respond. This section examines perceived weather change, household climate impacts, adaptation measures and local environmental problems to identify where awareness is translating—or failing to translate—into action.

Observed Changes in Weather Patterns was reported by 59.7% of eligible households in the weighted results, compared with 57.0% in the unweighted results.

For **Household Climate Impacts**, the leading weighted selections were Reduced crop yields (59.7%), Water shortages (46.9%) and Livestock deaths (37.4%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Adopted any adaptation measures (e.g., tree was reported by 23.4% of eligible households in the weighted results, compared with 27.2% in the unweighted results.

For **Local Environmental Problems**, the leading weighted selections were Drought (65.0%), Deforestation (40.6%) and Land degradation (soil erosion and desertification) (26.5%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Have you noticed changes in weather patterns over the last 10

Weighted and unweighted descriptive estimates

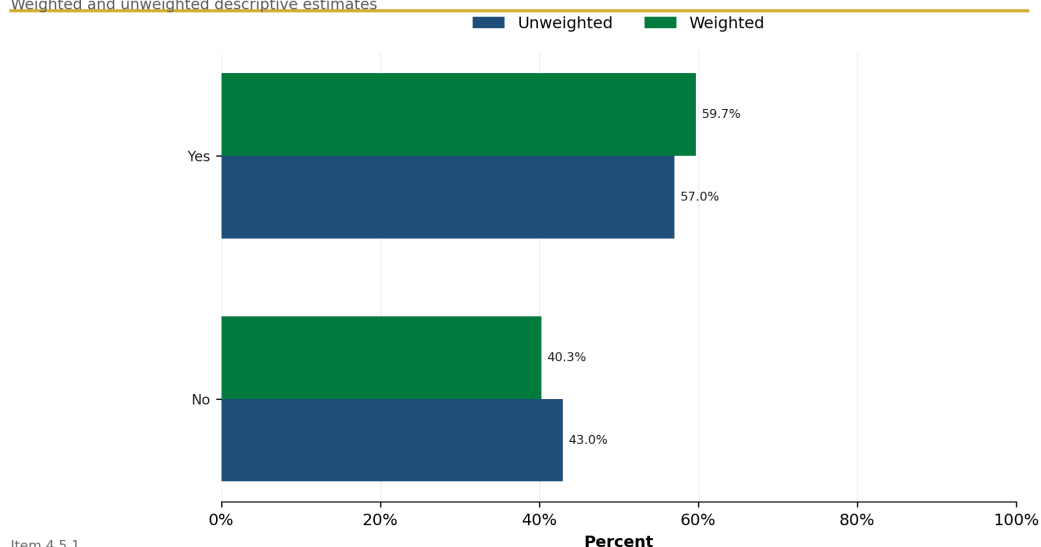


Figure 6.22. Observed Changes in Weather Patterns

Household Climate Impacts

Weighted and unweighted estimates; multiple responses allowed

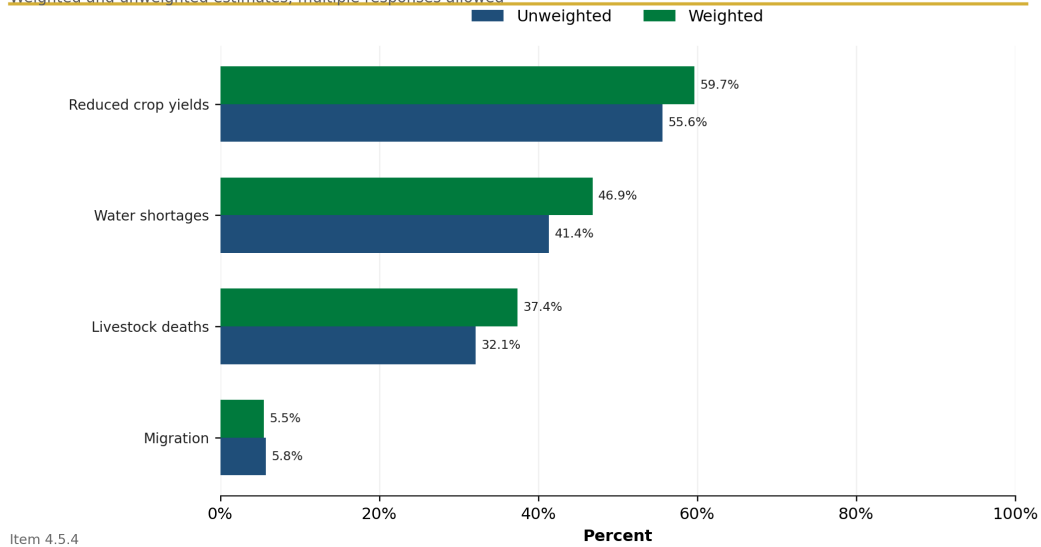


Figure 6.23. Household Climate Impacts



Inequality lens

Weather-pattern changes were reported by 59.7% of households and climate impacts by the same proportion, while only 23.4% reported adopting adaptation measures. Local environmental problems affected 65.0%, revealing a substantial gap between exposure and household-level adaptation.



Development implication

Climate and environmental action should combine risk reduction, locally feasible adaptation, agricultural support and municipal environmental management, with priority given to locations where high exposure coincides with weak adaptive capacity.

Climate Exposure, Adaptation and Environmental Stress

The supporting figures detail the changes households observe, the adaptation measures adopted and the environmental problems reported locally, placing household perceptions within a broader resilience pathway.

Satisfaction With Agricultural and Livestock Support

Weighted and unweighted descriptive estimates

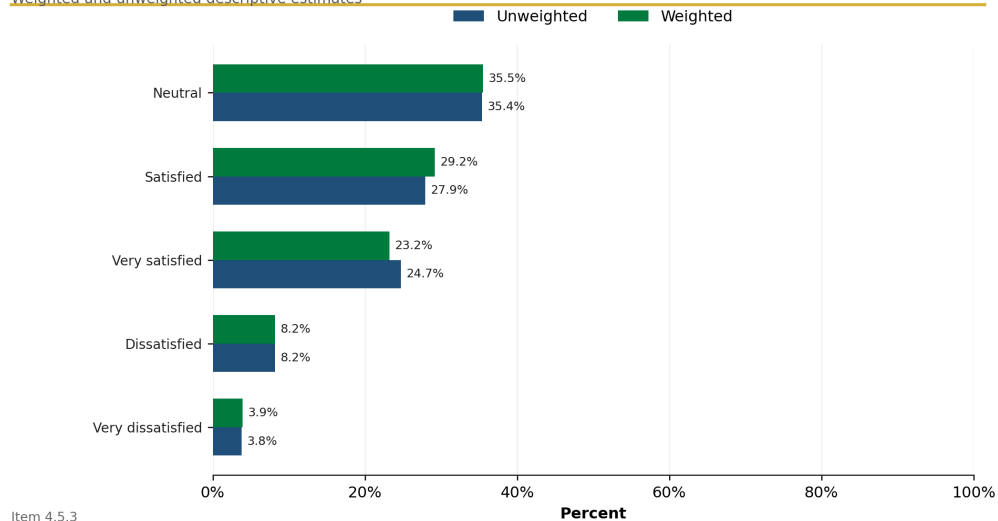


Figure 6.24. Satisfaction With Agricultural Support

Has your household adopted any adaptation measures (e.g., tree

Weighted and unweighted descriptive estimates

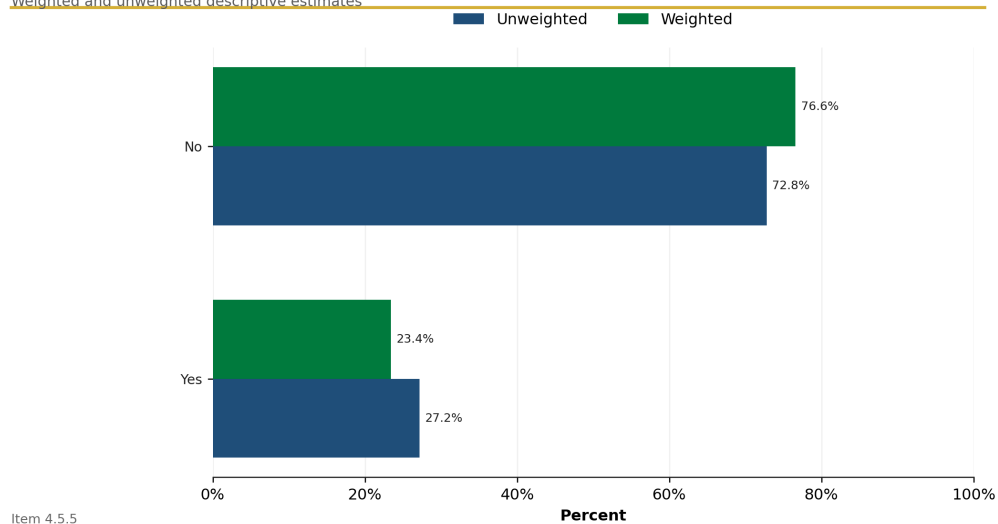


Figure 6.25. Adopted Any Adaptation Measures

Section 4.5 Weighted Indicator Profile

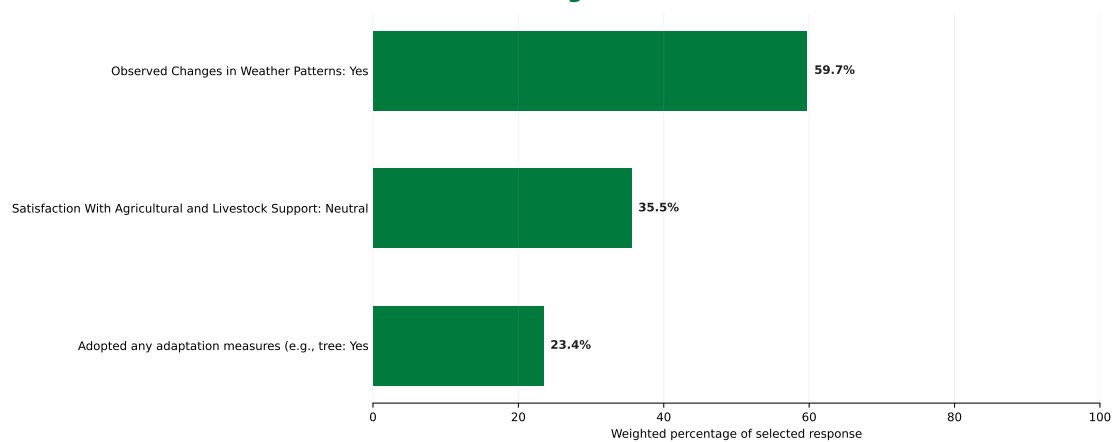


Figure 6.26. Section 4.5 Indicator Profile

Multiple-response evidence

Multiple-response interpretation. Cases (%) is the percentage of eligible households selecting each option. Because a household could select more than one option, Cases (%) may sum to more than 100%. Responses (%) shows each option's share of all selections and sums to approximately 100%.

Observed Climate Changes

Weighted and unweighted estimates; multiple responses allowed

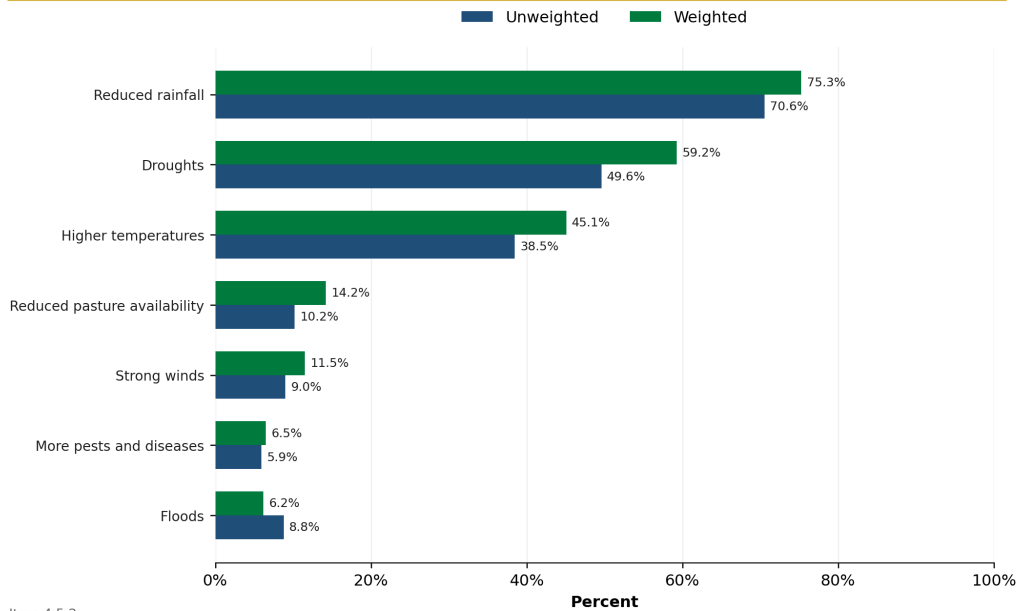


Figure 6.27. Observed Climate Changes

Household Adaptation Measures

Weighted and unweighted estimates; multiple responses allowed

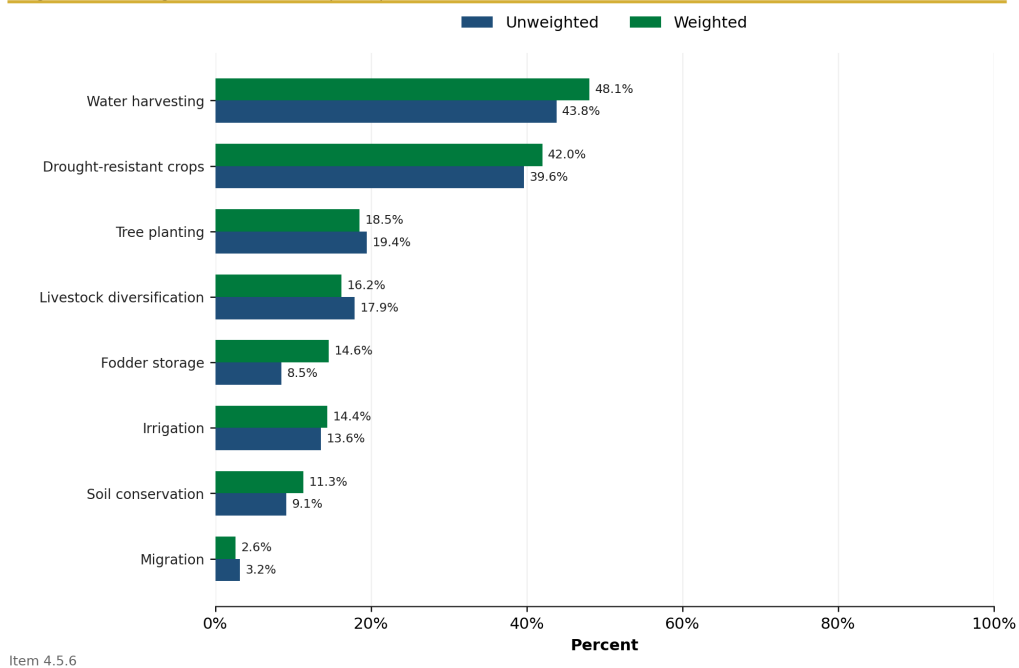
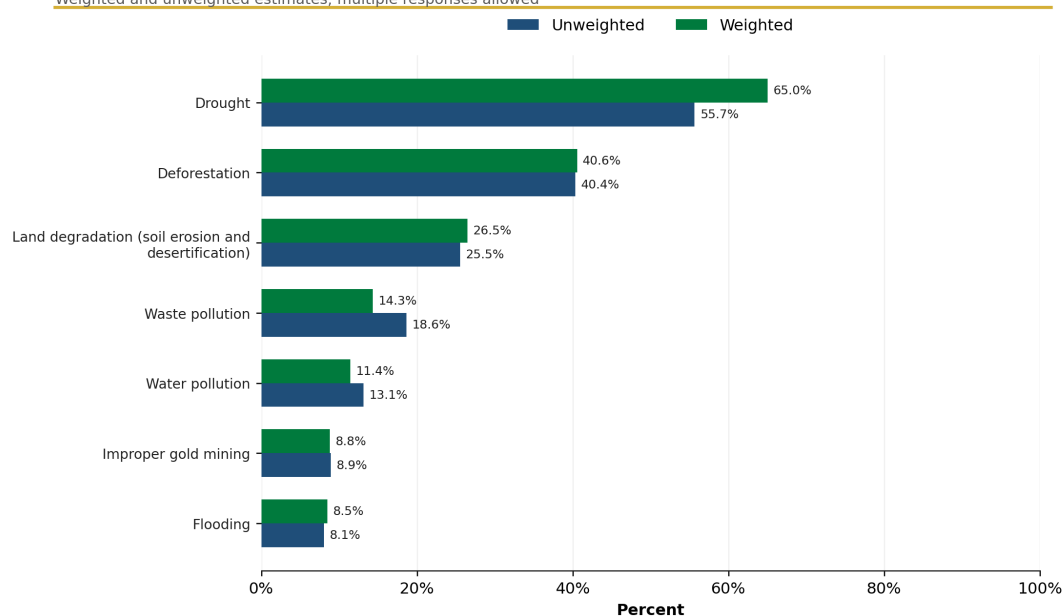


Figure 6.28. Climate Adaptation Measures

Local Environmental Problems

Weighted and unweighted estimates; multiple responses allowed



Item 4.5.7

Figure 6.29. Local Environmental Problems

Detailed tables for Environment, Climate and Resilience

Table 4.5.1

Observed Changes in Weather Patterns

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,651	57.0	1,727.6	59.7
No	1,245	43.0	1,168.4	40.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight. Percentages may not sum to exactly 100 because of rounding.

Table 4.5.2

Observed Climate Changes

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Reduced rainfall	1,165	70.6	36.6	1,300.6	75.3	34.5
Droughts	819	49.6	25.8	1,023.5	59.2	27.2
Higher temperatures	635	38.5	20.0	778.8	45.1	20.7
Reduced pasture availability	168	10.2	5.3	245.0	14.2	6.5
Strong winds	149	9.0	4.7	199.0	11.5	5.3
More pests and diseases	98	5.9	3.1	112.3	6.5	3.0
Floods	145	8.8	4.6	106.5	6.2	2.8

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 4.5.3*Satisfaction With Agricultural and Livestock Support*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral	1,025	35.4	1,026.7	35.5
Satisfied	809	27.9	845.2	29.2
Very satisfied	715	24.7	672.2	23.2
Dissatisfied	238	8.2	237.9	8.2
Very dissatisfied	109	3.8	114.0	3.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.5.4*Household Climate Impacts*

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Reduced crop yields	918	55.6	41.2	1,030.8	59.7	39.9
Water shortages	683	41.4	30.7	809.6	46.9	31.4
Livestock deaths	530	32.1	23.8	646.1	37.4	25.0
Migration	95	5.8	4.3	94.7	5.5	3.7

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 4.5.5*Adopted any adaptation measures (e.g., tree*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,109	72.8	2,218.0	76.6
Yes	787	27.2	678.0	23.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 4.5.6*Household Adaptation Measures*

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Water harvesting	345	43.8	28.2	325.8	48.1	28.7
Drought-resistant crops	312	39.6	25.5	285.0	42.0	25.1
Tree planting	153	19.4	12.5	125.5	18.5	11.0
Livestock diversification	141	17.9	11.5	109.7	16.2	9.7
Fodder storage	67	8.5	5.5	98.9	14.6	8.7
Irrigation	107	13.6	8.8	97.7	14.4	8.6

Table continued

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Soil conservation	72	9.1	5.9	76.7	11.3	6.7
Migration	25	3.2	2.0	17.7	2.6	1.6

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 4.5.7*Local Environmental Problems*

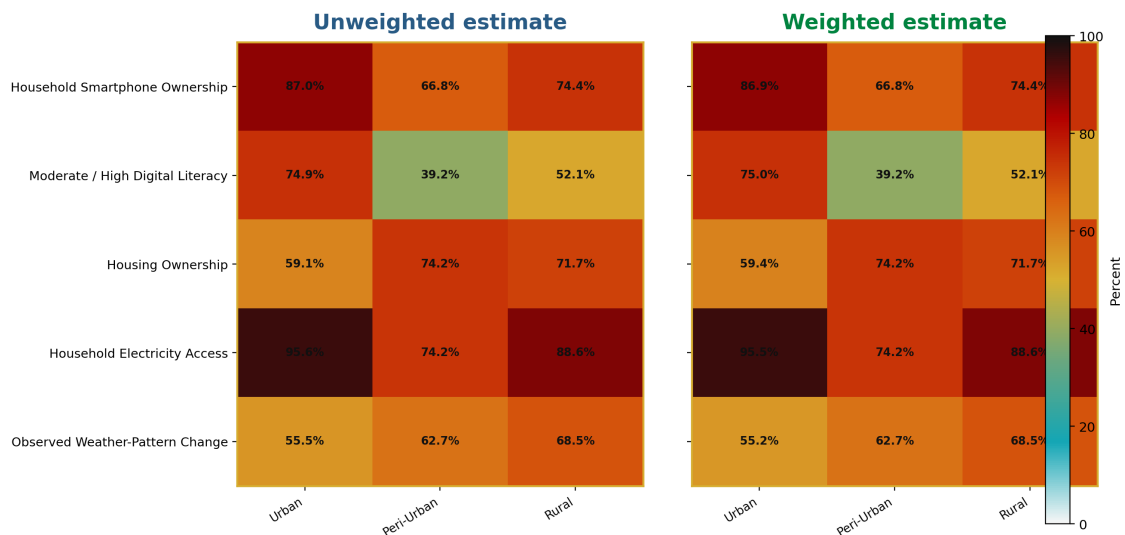
Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
Drought	1,612	55.7	32.7	1,883.5	65.0	37.1
Deforestation	1,169	40.4	23.7	1,175.1	40.6	23.2
Land degradation (soil erosion and desertification)	739	25.5	15.0	767.3	26.5	15.1
Waste pollution	540	18.6	10.9	415.2	14.3	8.2
Water pollution	380	13.1	7.7	331.5	11.4	6.5
Improper gold mining	259	8.9	5.2	254.9	8.8	5.0
Flooding	234	8.1	4.7	246.7	8.5	4.9

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

6.6 Chapter Inequality Synthesis

District averages can conceal who is being left behind. The chapter therefore closes by comparing representative indicators from across the pillar by residence, wealth quintile, sex of household head and the six sampling strata. The heatmaps use indicator-specific valid denominators and show both weighted and unweighted estimates; they describe inequality patterns but do not establish their causes.

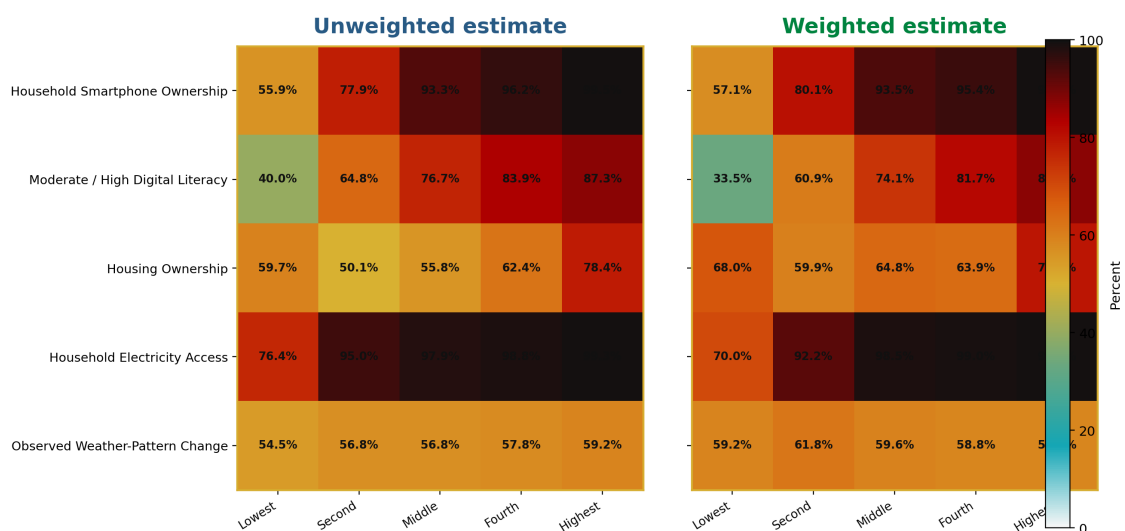
Pillar 4: Priority Indicators by Residence



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 6.30. Infrastructure and Environment by Residence

Pillar 4: Priority Indicators by Wealth Quintile



Percentages are calculated within each subgroup using indicator-specific valid denominators. Weighted estimates use normalized wgt.

Figure 6.31. Infrastructure and Environment by Wealth Quintile

Pillar 4: Priority Indicators by Sex of Household Head

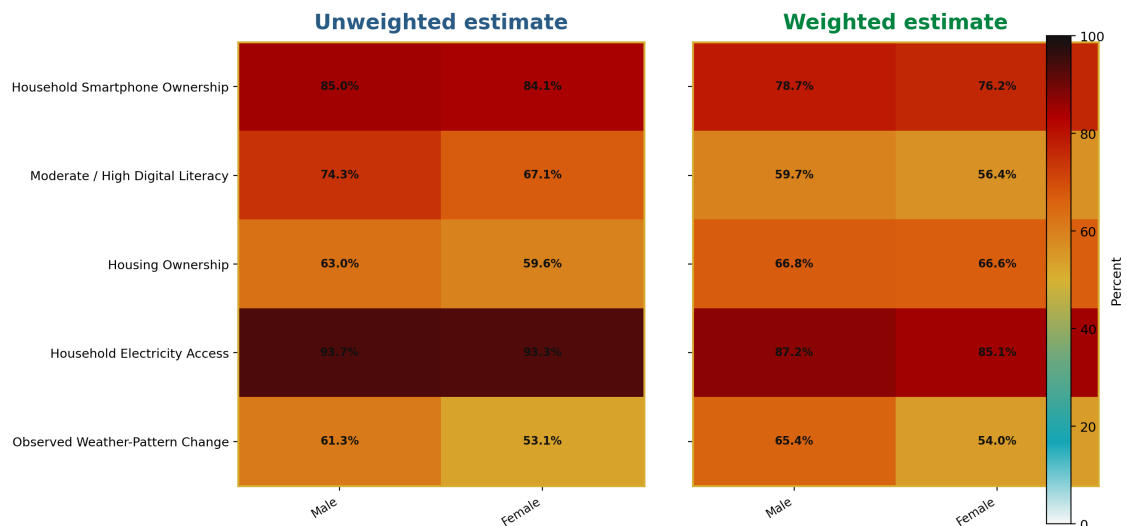


Figure 6.32. Infrastructure and Environment by Household-Head Sex

Pillar 4: Priority Indicators by Sampling Stratum

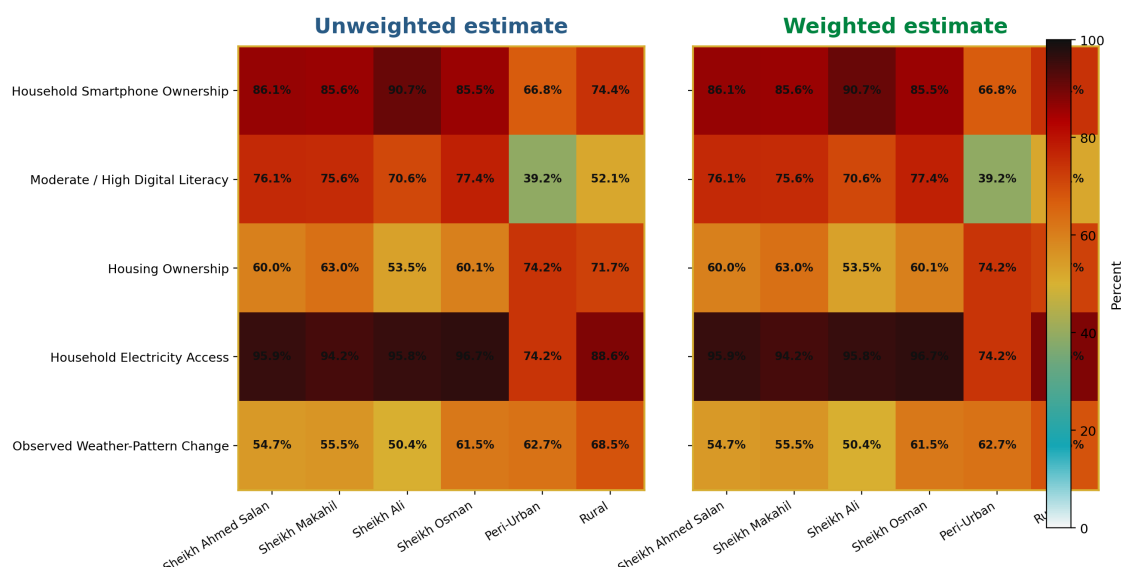


Figure 6.33. Infrastructure and Environment by Sampling Stratum

Inequality lens

Infrastructure inequality in Borama is multidimensional. Strong mobile, smartphone and electricity access can coexist with high connectivity costs, limited digital skills, housing defects, weak drainage, flooding and climate exposure. The pattern varies across wealth, residence, household leadership and sampling strata.

Development implication

Technology and infrastructure planning should therefore integrate affordability, reliability, housing safety, mobility, neighbourhood services and climate resilience, using people-and-place evidence to identify where several enabling systems fail at the same time.

Pillar Closing Perspective

Borama has a substantial foundation for modern connectivity and infrastructure, but access alone does not guarantee inclusion or resilience. The development challenge is to convert widespread digital and electricity access into affordable productive use while improving housing quality, neighbourhood infrastructure and climate adaptation. Progress will depend on treating connectivity, settlement systems and environmental resilience as one connected development platform.

Pillar message: Infrastructure progress is strongest when connectivity, safe housing, reliable services and climate resilience improve together across every settlement type.

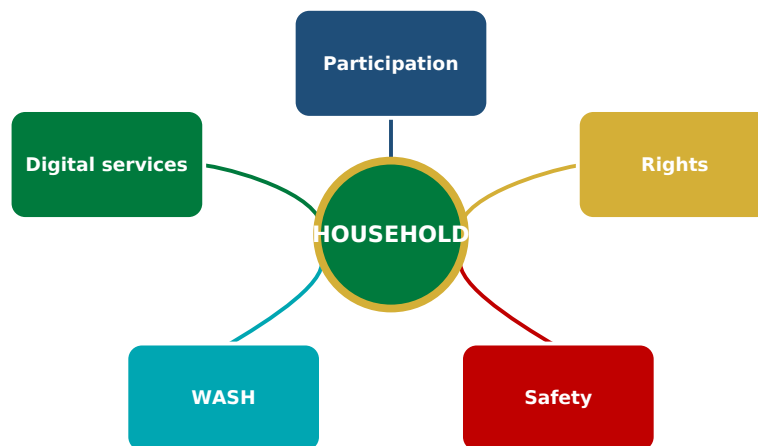


Governance and Basic Services

Participation, rights, justice, safety, WASH and accountable local services

Governance and Basic Services

Five connected domains shaping household well-being



Governance and Basic Services at a Glance

Key evidence, inequalities and development implications

Policy alignment: NDP III Good Governance and Justice; Agenda 2063 Goals 11, 12 and 13; SDGs 6, 16 and 17



Electoral and Community-Governance Participation

62.0%

Unweighted estimate: 65.9%.



Perceived Local-Government Transparency

37.6%

Satisfied or very satisfied with local-government transparency; unweighted estimate: 40.7%.



Knowledge of Basic Legal Rights

58.2%

Unweighted estimate: 67.8%.



Knowledge of Affordable Legal-Aid Services

42.5%

Unweighted estimate: 45.8%.



Household Civic Documents

48.9%

National ID; unweighted estimate: 55.2%.



Recent Major Household Dispute

19.2%

Unweighted estimate: 24.1%.



Community Safety

66.5%

Unweighted estimate: 64.6%.



Preference for Online Government Services

47.5%

Unweighted estimate: 54.2%.



Primary Drinking-Water Source

34.3%

Piped drinking water; unweighted estimate: 47.0%.



Water and Soap at the Handwashing Place

42.8%

Water and soap both present; unweighted estimate: 53.1%.

Chapter Overview

Governance becomes visible at household level through participation, knowledge of rights, safety, access to basic services and confidence that institutions can respond. BAHDA-2026 therefore examines civic participation and transparency; legal awareness and justice access; community safety and accountability; WASH and local services; and readiness for digital public services as connected dimensions of inclusive local governance.[30, 32, 52, 53, 54]

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

Reporting note. Detailed tables retain the original BAHDA Pillar 5 questionnaire coding (5.x.x), while figures follow the Chapter 7 publication sequence.

Policy alignment: NDP III Good Governance and Justice; Agenda 2063 Goals 11, 12 and 13; SDGs 6, 16 and 17

Governance and Basic Services

Five connected domains shaping household well-being

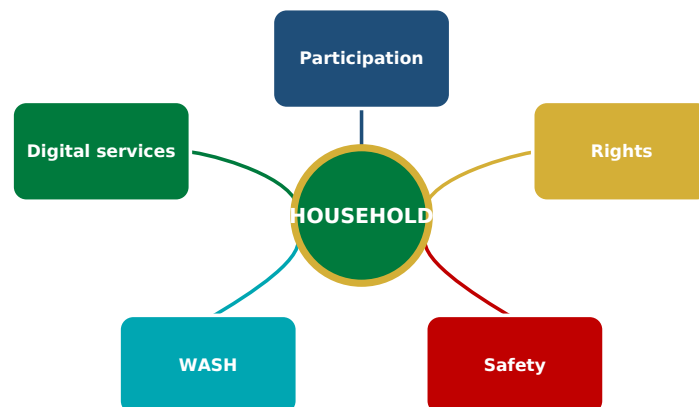


Figure 7.1. Governance and Basic Services Framework



Civic Awareness and Community Participation

Participation and perceptions of transparency show how households connect with public decision-making.

7.1 Civic Awareness and Community Participation



Electoral and Community-Governance Participation

62.0%

Unweighted estimate: 65.9%.



Perceived Local-Government Transparency

37.6%

Satisfied or very satisfied with local-government transparency; unweighted estimate: 40.7%.

Participation is meaningful when households can engage in public life and also perceive institutions as transparent and accountable. This section examines both sides of that relationship: civic involvement and confidence in local-government openness.

Electoral and Community-Governance Participation was reported by 62.0% of eligible households in the weighted results, compared with 65.9% in the unweighted results.

For **Perceived Local-Government Transparency**, *Satisfied or very satisfied with local-government transparency* accounted for 37.6% in the weighted results and 40.7% in the unweighted results.

Electoral and Community-Governance Participation

Weighted and unweighted descriptive estimates

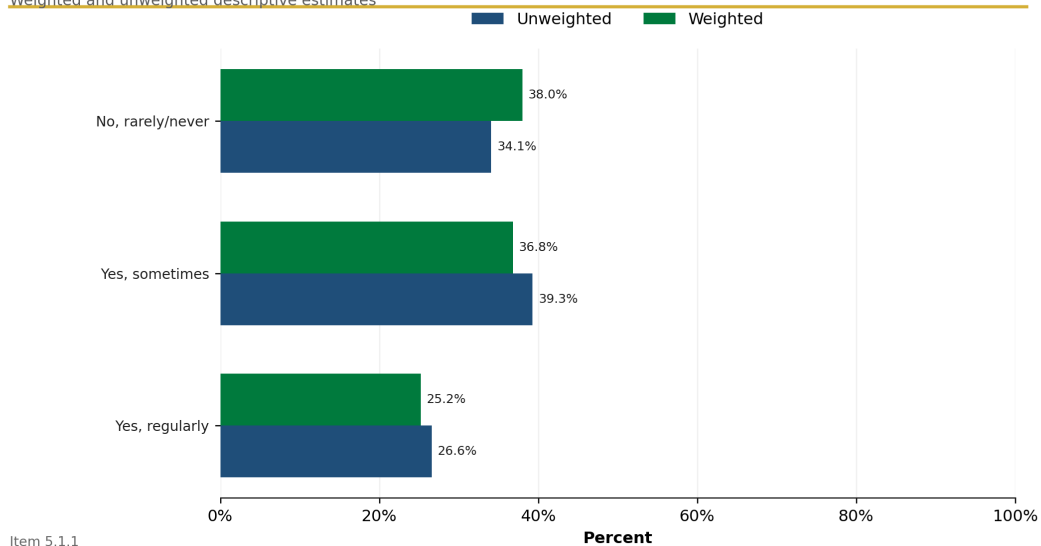


Figure 7.2. Electoral and Community Participation

Satisfaction With Local-Government Transparency

Weighted and unweighted descriptive estimates

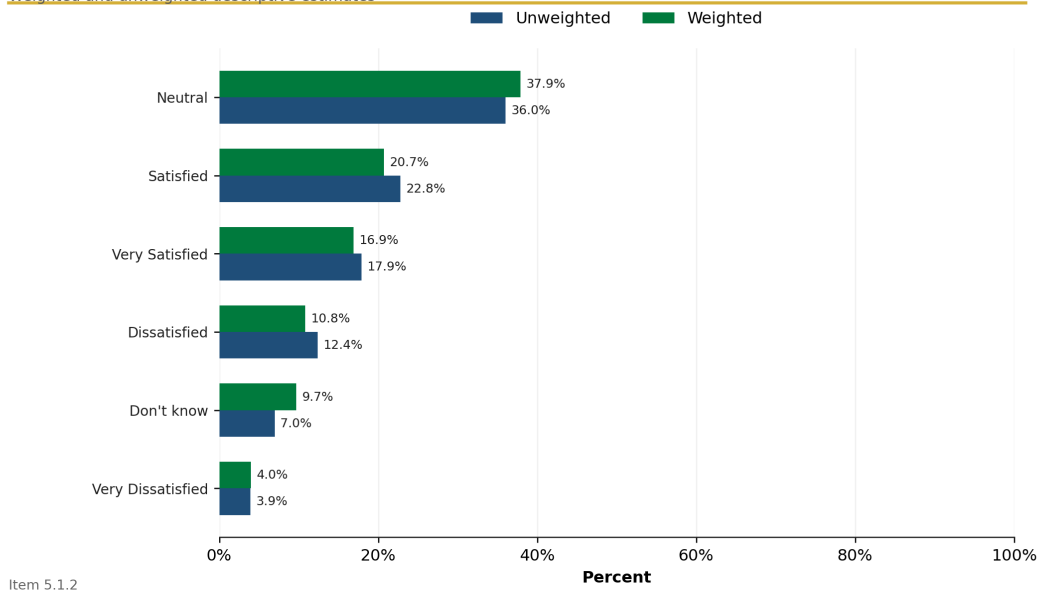


Figure 7.3. Satisfaction with Local-Government Transparency

Interpretive lens

Electoral and community-governance participation reached 62.0%, while only 37.6% were satisfied or very satisfied with local-government transparency. The gap suggests that participation is more widespread than positive perceptions of institutional openness.

Development implication

Local governance should convert participation into visible accountability through accessible information, transparent decision-making, feedback mechanisms and routine public reporting on agreed community priorities.

Participation, Transparency and Local Accountability

The supporting figures place participation and transparency on a common profile and show the effect of weighting, while the accountability-cycle figure connects household engagement with institutional response.

Section 5.1 Weighted Indicator Profile

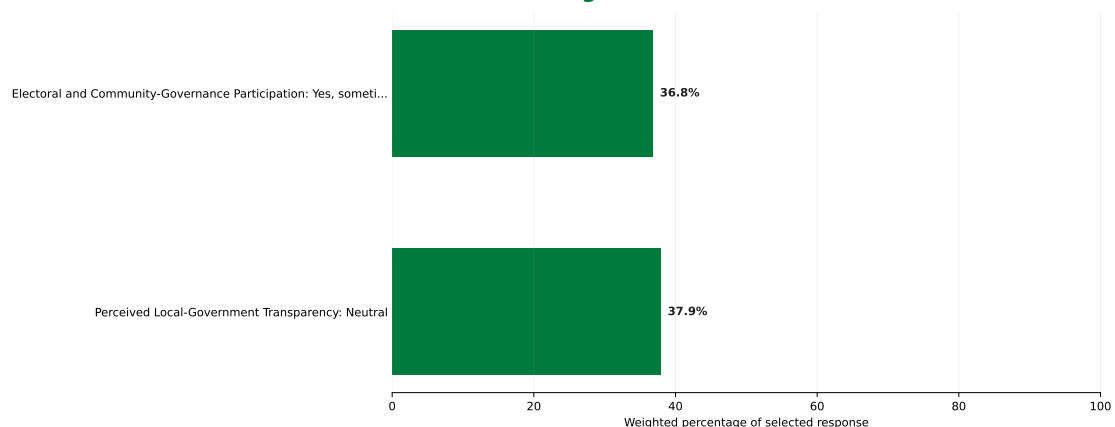


Figure 7.4. Section 5.1 Indicator Profile

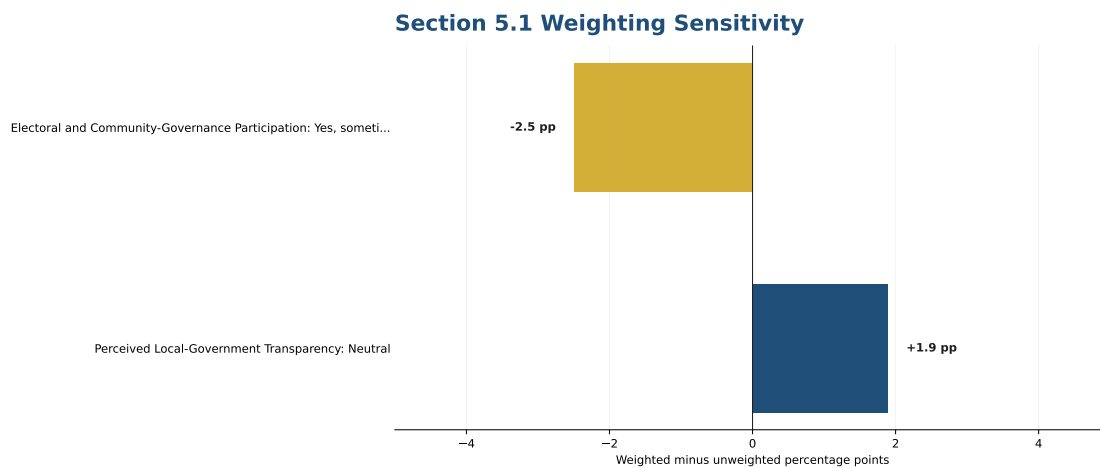


Figure 7.5. Section 5.1 weighting sensitivity



Figure 7.6. Participation and accountability cycle

Detailed tables for Civic Awareness and Community Participation

Table 5.1.1

Electoral and Community-Governance Participation

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No, rarely/never	988	34.1	1,099.3	38.0
Yes, sometimes	1,138	39.3	1,066.8	36.8
Yes, regularly	770	26.6	729.9	25.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.1.2*Perceived Local-Government Transparency*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Neutral	1,043	36.0	1,097.5	37.9
Satisfied	660	22.8	599.8	20.7
Very Satisfied	519	17.9	489.8	16.9
Dissatisfied	359	12.4	311.6	10.8
Don't know	203	7.0	281.8	9.7
Very Dissatisfied	112	3.9	115.6	4.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Legal Awareness, Rights and Justice Access

Knowledge of rights, legal aid and civic documents shapes the practical accessibility of justice.

7.2 Legal Awareness, Rights and Justice Access



Knowledge of Basic Legal Rights

58.2%

Unweighted estimate: 67.8%.



Knowledge of Affordable Legal-Aid Services

42.5%

Unweighted estimate: 45.8%.



Household Civic Documents

48.9%

National ID; unweighted estimate: 55.2%.

Rights are most useful when households know them, understand where to seek help and possess the documentation needed to interact with institutions. This section examines legal knowledge, legal-aid

awareness and civic documents as practical foundations of justice access.

Knowledge of Basic Legal Rights was reported by 58.2% of eligible households in the weighted results, compared with 67.8% in the unweighted results.

Knowledge of Affordable Legal-Aid Services was reported by 42.5% of eligible households in the weighted results, compared with 45.8% in the unweighted results.

For **Household Civic Documents**, the leading weighted selections were National ID (48.9%), Birth certificate (30.9%) and Land/Property Documents (24.8%). Because households could select more than one option, percentages of cases are not expected to sum to 100 percent.

Knowledge of Basic Legal Rights

Weighted and unweighted descriptive estimates

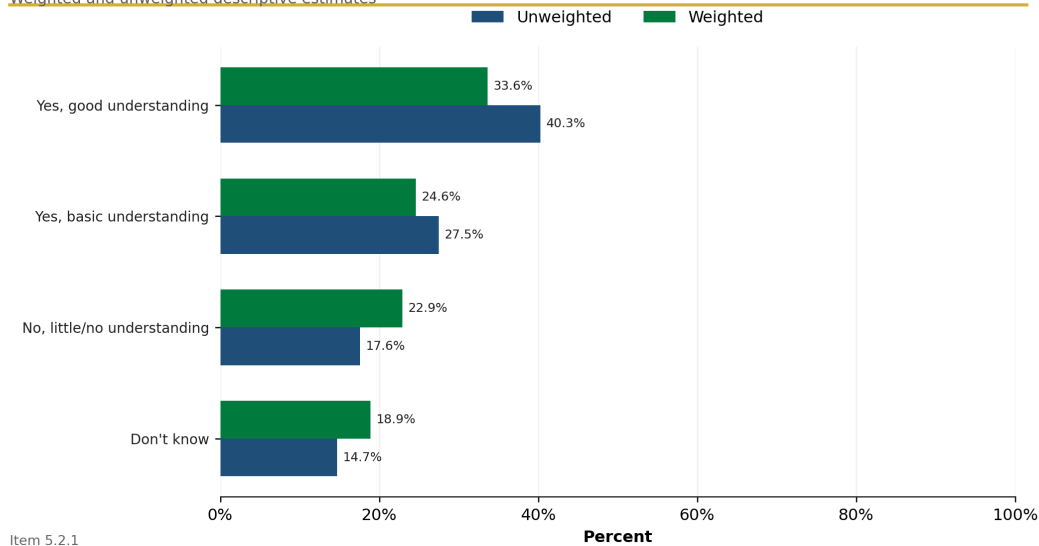


Figure 7.7. Knowledge of Basic Legal Rights

Your household know where to access free or affordable legal aid

Weighted and unweighted descriptive estimates

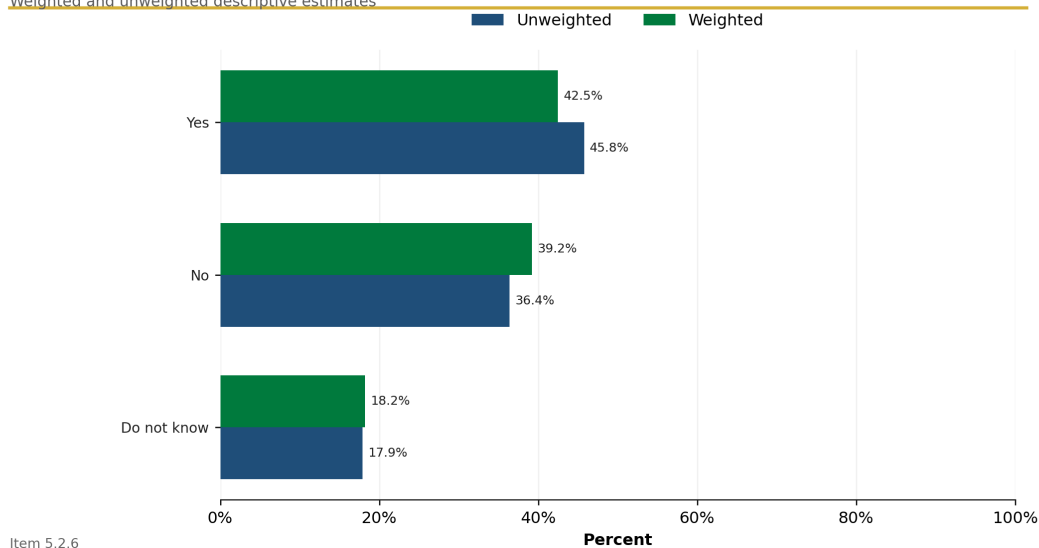


Figure 7.8. Household Knowledge of Where to Access Free or Affordable Legal Aid

Q Interpretive lens

Knowledge of basic legal rights reached 58.2%, while awareness of free or affordable legal-aid services was 42.5%. National identification was reported by 48.9% of households within the multiple-response document measure, showing that legal awareness and practical civic documentation remain incomplete.

© Development implication

Justice-access programmes should combine legal literacy, clear referral information, affordable legal assistance and civic-documentation outreach so that households can translate formal rights into practical access.

Rights Awareness, Legal Access and Civic Documentation

The remaining indicators examine constitutional knowledge, equality before the law, knowledge of where to go when rights are violated and the documents households hold, expanding the pathway from awareness to practical access.

Adult Household Member (18+) know about Somaliland's Constitution

Weighted and unweighted descriptive estimates

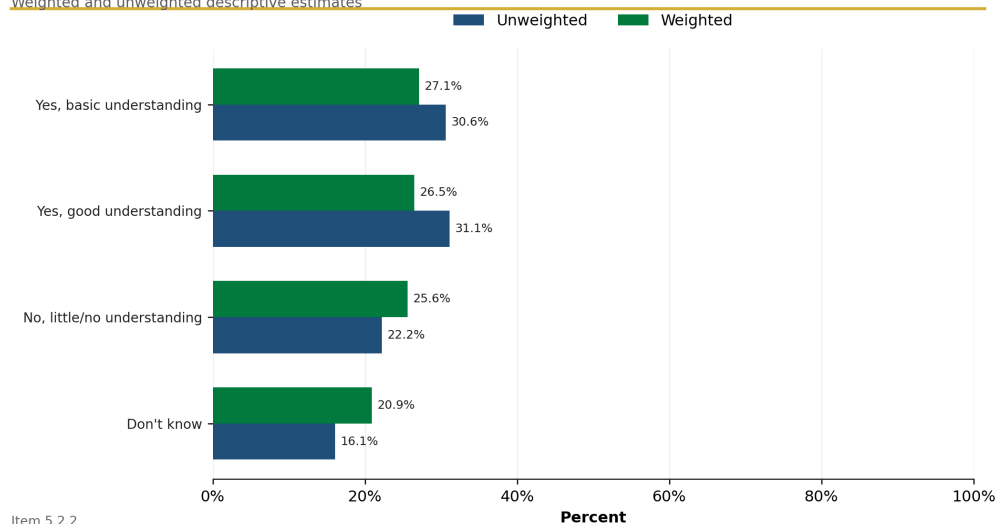


Figure 7.9. Knowledge of Somaliland's Constitution among Adult Household Members

You aware that all citizens are equal before the law

Weighted and unweighted descriptive estimates

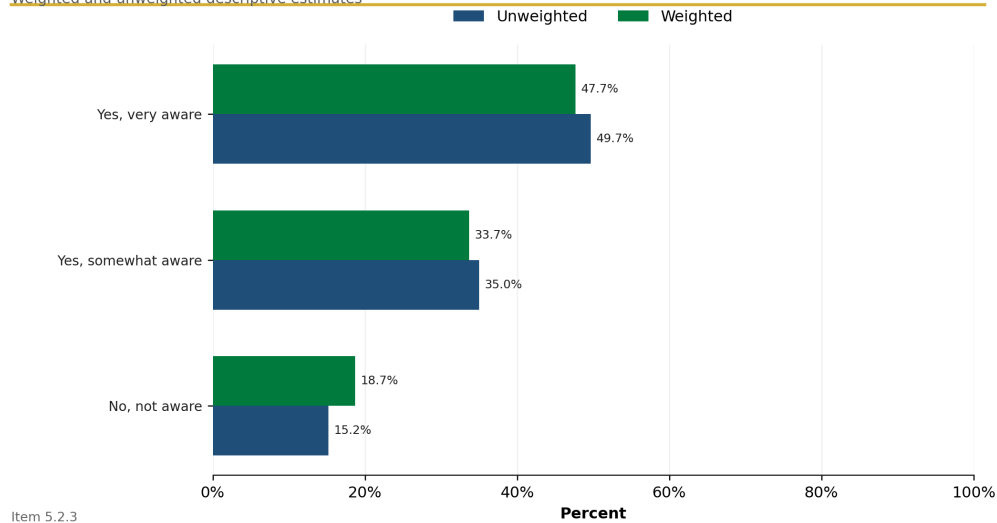


Figure 7.10. Awareness of Equality Before the Law

Know where to go if your rights are violated

Weighted and unweighted descriptive estimates

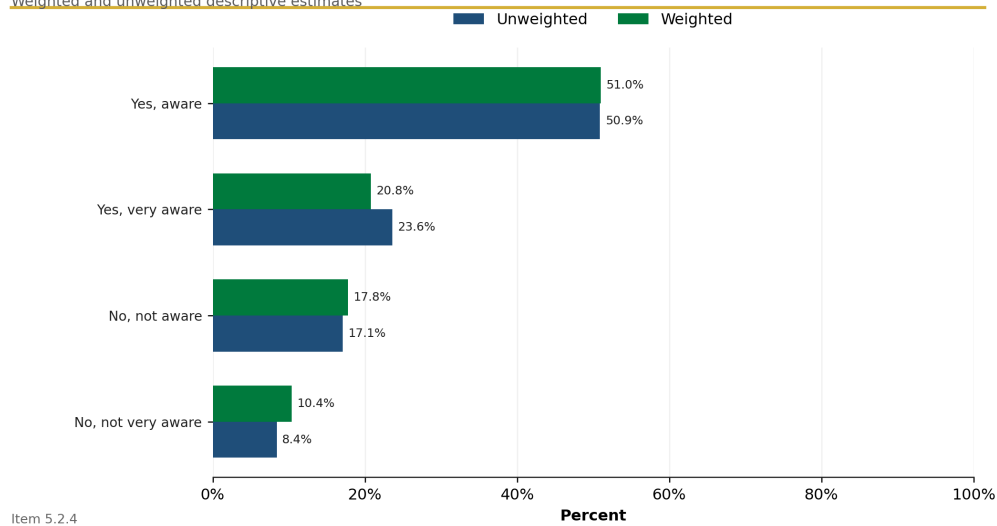


Figure 7.11. Know Where to Go If Your Rights Are Violated

Multiple-response evidence

Multiple-response interpretation. Cases (%) is the percentage of eligible households selecting each option. Because a household could select more than one option, Cases (%) may sum to more than 100%. Responses (%) shows each option's share of all selections and sums to approximately 100%.

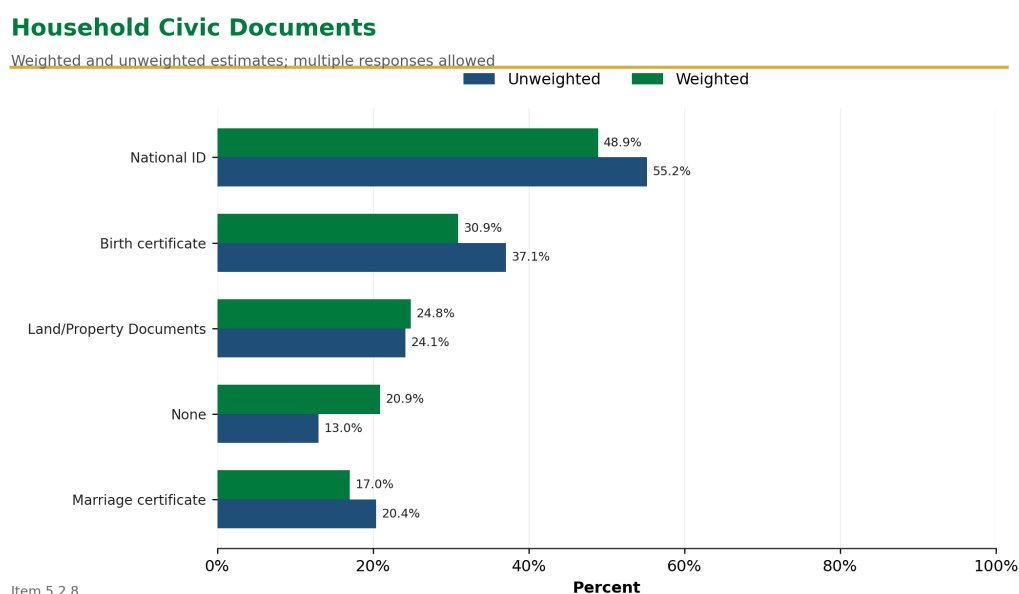


Figure 7.12. Civic Document Ownership

Detailed tables for Legal Awareness, Rights and Justice Access

Table 5.2.1

Knowledge of Basic Legal Rights

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, good understanding	1,167	40.3	973.9	33.6
Yes, basic understanding	795	27.5	713.3	24.6
No, little/no understanding	509	17.6	662.7	22.9
Don't know	425	14.7	546.1	18.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.2

Knowledge of Somaliland's Constitution among Adult Household Members

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, basic understanding	887	30.6	784.5	27.1
Yes, good understanding	901	31.1	766.0	26.5
No, little/no understanding	642	22.2	740.9	25.6
Don't know	466	16.1	604.6	20.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.3*Awareness of Equality Before the Law*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, very aware	1,440	49.7	1,380.4	47.7
Yes, somewhat aware	1,015	35.0	975.1	33.7
No, not aware	441	15.2	540.5	18.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.4*Know where to go if your rights are violated*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, aware	1,475	50.9	1,478.0	51.0
Yes, very aware	683	23.6	601.9	20.8
No, not aware	496	17.1	514.1	17.8
No, not very aware	242	8.4	301.9	10.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.5*Understanding of Basic Islamic Inheritance*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, basic understanding	966	33.4	920.1	31.8
Yes, good understanding	1,003	34.6	883.9	30.5
No, little/no understanding	527	18.2	621.5	21.5
Don't know	400	13.8	470.5	16.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.6*Household Knowledge of Where to Access Free or Affordable Legal Aid*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,325	45.8	1,231.9	42.5
No	1,054	36.4	1,135.9	39.2
Do not know	517	17.9	528.2	18.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.7*Rating of the fairness and impartiality of the formal court*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate	1,182	40.8	1,163.9	40.2
High	577	19.9	556.8	19.2
Very High	563	19.4	534.5	18.5
Don't know	205	7.1	278.9	9.6
Low	247	8.5	209.3	7.2
Very Low	122	4.2	152.6	5.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.8*Household Civic Documents*

Response option	Unweighted			Weighted		
	n	Cases (%)	Responses (%)	n	Cases (%)	Responses (%)
National ID	1,598	55.2	36.4	1,416.9	48.9	33.9
Birth certificate	1,073	37.1	24.5	895.5	30.9	21.4
Land/Property Documents	699	24.1	15.9	719.4	24.8	17.2
None	425	14.7	9.7	658.3	22.7	15.7
Marriage certificate	591	20.4	13.5	492.9	17.0	11.8

Note. Multiple-response results. Percentages of cases use one common eligible denominator and may sum to more than 100 percent. Percentages of responses sum to approximately 100 percent. Weighted counts use the normalized household weight.

Table 5.2.9*Ever needed civic documents for a court case*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,299	79.4	2,437.6	84.2
Yes	597	20.6	458.4	15.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.2.10*What type of case*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Land/property dispute	254	42.5	200.9	43.8
Family/Marriage/Divorce	235	39.4	182.1	39.7
Criminal case	99	16.6	65.1	14.2
Other	9	1.5	10.4	2.3

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Community Safety, Protection and Accountability

Safety, trust, dispute resolution and emerging online risks affect household confidence and social cohesion.

7.3 Community Safety, Protection and Accountability



Recent Major Household Dispute

19.2%

Unweighted estimate: 24.1%.



Community Safety

66.5%

Unweighted estimate: 64.6%.



Trust in the Local Police

85.9%

At least moderate trust in local police; unweighted estimate: 86.1%.

Community security is shaped by both exposure to disputes and confidence in institutions that prevent or resolve harm. This section examines household disputes, perceived safety, trust in police, dispute resolution and emerging online risks as connected dimensions of protection.

Recent Major Household Dispute was reported by 19.2% of eligible households in the weighted results, compared with 24.1% in the unweighted results.

Community Safety was reported by 66.5% of eligible households in the weighted results, compared with 64.6% in the unweighted results.

For **Trust in the Local Police**, *At least moderate trust in local police* accounted for 85.9% in the weighted results and 86.1% in the unweighted results.

In the last 12 months, has your household experienced a major

Weighted and unweighted descriptive estimates

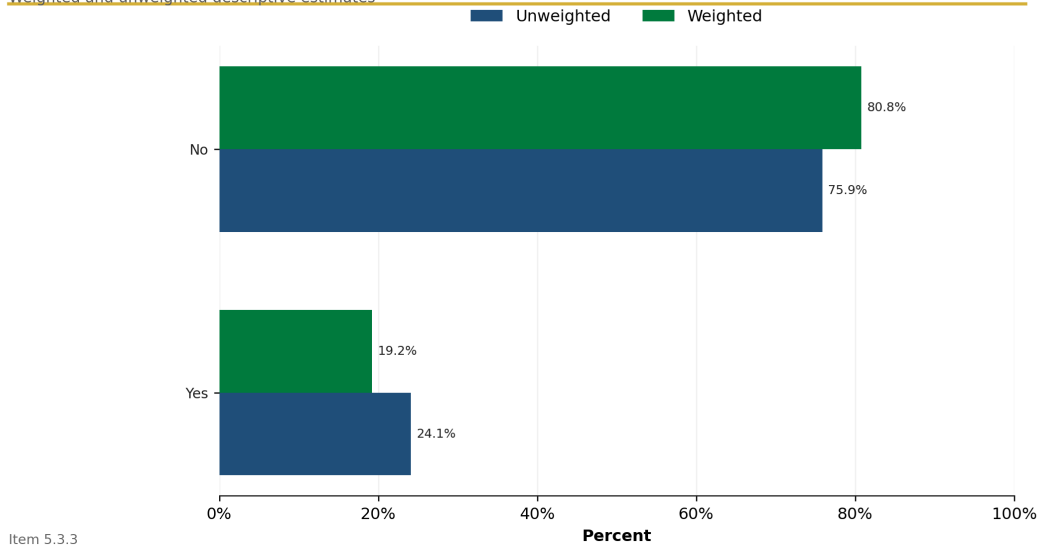


Figure 7.13. Household Experience of a Major Dispute in the Last 12 Months

Feel safe in your community

Weighted and unweighted descriptive estimates

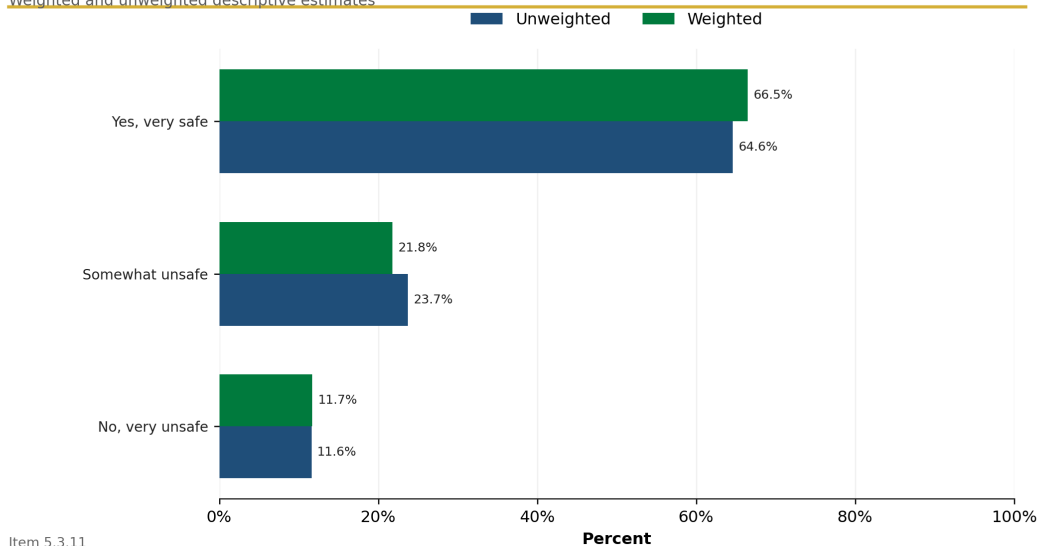


Figure 7.14. Community Safety

Interpretive lens

A recent major household dispute was reported by 19.2%, while 66.5% felt very safe in their community and 85.9% reported at least moderate trust in local police. These results show substantial institutional confidence alongside a continuing need for accessible dispute prevention and resolution.

Development implication

Safety policy should reinforce trusted local institutions while improving reporting, fair dispute-resolution pathways and protection from emerging online and community risks.

Safety, Trust and Dispute Resolution

The supporting indicators show preferred and actual dispute-resolution pathways together with online stress, providing context for the headline measures of safety and institutional trust.

Preferred Legal-Dispute Resolution Mechanism

Weighted and unweighted descriptive estimates

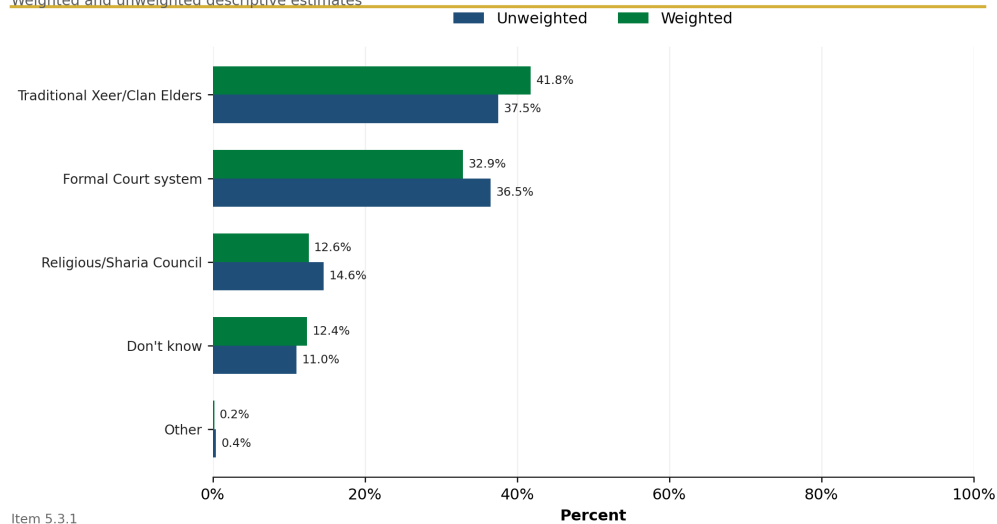


Figure 7.15. Preferred Legal-Dispute Resolution Mechanism

What was the primary mechanism used to resolve this dispute

Weighted and unweighted descriptive estimates

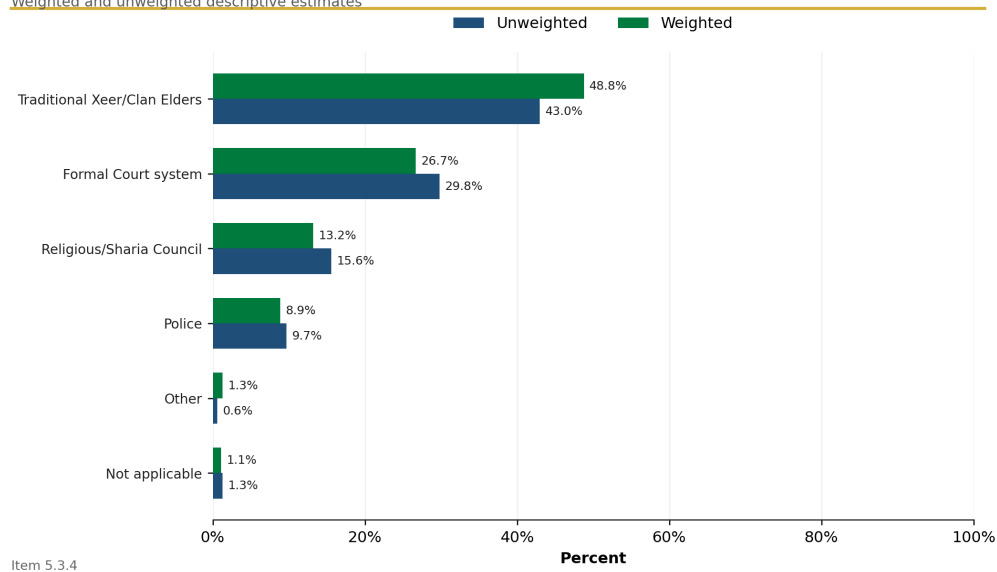


Figure 7.16. Dispute-Resolution Mechanism

Emotional Stress From Online Interactions

Weighted and unweighted descriptive estimates

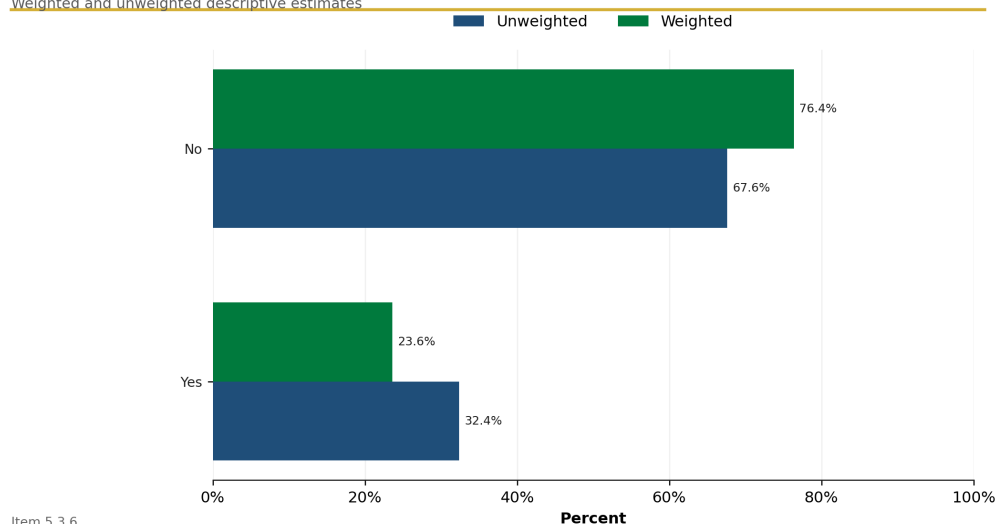


Figure 7.17. Emotional Stress from Online Interactions

Detailed tables for Community Safety, Protection and Accountability

Table 5.3.1

Preferred Legal-Dispute Resolution Mechanism

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Traditional Xeer/Clan Elders	1,087	37.5	1,212.0	41.8
Formal Court system	1,056	36.5	954.0	32.9
Religious/Sharia Council	422	14.6	364.6	12.6
Don't know	320	11.0	359.2	12.4
Other	11	0.4	6.3	0.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.3

Household Experience of a Major Dispute in the Last 12 Months

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,198	75.9	2,339.9	80.8
Yes	698	24.1	556.1	19.2

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.4*What was the primary mechanism used to resolve this dispute*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Traditional Xeer/Clan Elders	300	43.0	271.6	48.8
Formal Court system	208	29.8	148.3	26.7
Religious/Sharia Council	109	15.6	73.4	13.2
Police	68	9.7	49.7	8.9
Other	4	0.6	7.0	1.3
Not applicable	9	1.3	6.2	1.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.6*Emotional Stress From Online Interactions*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	1,958	67.6	2,212.9	76.4
Yes	938	32.4	683.1	23.6

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.7*Online Harassment and Scam Exposure*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,125	73.4	2,270.7	78.4
Yes	504	17.4	394.2	13.6
Prefer not to say	267	9.2	231.1	8.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.8*Presence of any conflict over water or grazing land in the last*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,059	71.1	2,112.7	73.0
Yes	837	28.9	783.3	27.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.9*Household Victimization*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No	2,314	79.9	2,437.9	84.2
Yes	582	20.1	458.1	15.8

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.10*Was the crime reported to the police or other authorities*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	292	50.2	241.6	52.7
No	218	37.5	165.8	36.2
Not applicable	72	12.4	50.8	11.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.11*Community Safety*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes, very safe	1,872	64.6	1,926.7	66.5
Somewhat unsafe	687	23.7	631.8	21.8
No, very unsafe	337	11.6	337.5	11.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.12*Trust in the Local Police*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Moderate Trust	865	29.9	877.9	30.3
Very High Trust	828	28.6	818.4	28.3
High Trust	800	27.6	791.7	27.3
Don't know	143	4.9	184.0	6.4
Low Trust	184	6.4	167.5	5.8
Very Low Trust	76	2.6	56.5	2.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.13*Main security concerns in your area*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Theft	1,214	41.9	1,035.5	35.8
Land disputes	590	20.4	886.6	30.6
Violence	885	30.6	681.0	23.5
Other	207	7.1	292.9	10.1

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.3.15*Other Security Concerns – Open-Text Responses*

Status	Publication treatment
Open-text responses	Responses were reviewed but are not tabulated individually in the public Atlas because they contain heterogeneous uncoded Somali- and English-language entries. The original responses are retained in the restricted analytical dataset and may be subjected to thematic coding in future analyses.

Note. This presentation avoids imposing unverified translations or categories on uncoded free-text responses.



Basic Services, WASH and Local Accountability

Water, sanitation, hygiene, solid-waste and wastewater services are fundamental to household health, dignity and living conditions, and are among the most direct ways households experience local service delivery.

7.4 Basic Services, WASH and Local Accountability



Primary Drinking-Water Source

34.3%

Piped drinking water; unweighted estimate: 47.0%.



Primary type of toilet facility

64.2%

Pit-with-slab or flush-to-septic sanitation; unweighted estimate: 78.6%.



Water and Soap at the Handwashing Place

42.8%

Water and soap both present; unweighted estimate: 53.1%.



Primary Household Solid-Waste Disposal Method

47.7%

Municipal solid-waste collection; unweighted estimate: 69.3%.

Basic services are one of the most direct ways households experience local governance. This section examines drinking-water sources, sanitation facilities, household water treatment, handwashing conditions, child-faeces disposal, solid-waste management, wastewater disposal and internal plumbing as connected dimensions of public health and municipal service conditions.

For **Primary Drinking-Water Source**, *Piped drinking water* accounted for 34.3% in the weighted results and 47.0% in the unweighted results.

For **Primary type of toilet facility**, *Pit-with-slab or flush-to-septic sanitation* accounted for 64.2% in the weighted results and 78.6% in the unweighted results.

For **Water and Soap at the Handwashing Place**, *Water and soap both present* accounted for 42.8% in the weighted results and 53.1% in the unweighted results.

For **Primary Household Solid-Waste Disposal Method**, *Municipal solid-waste collection* accounted for 47.7% in the weighted results and 69.3% in the unweighted results.

Primary source of drinking water

Weighted and unweighted descriptive estimates

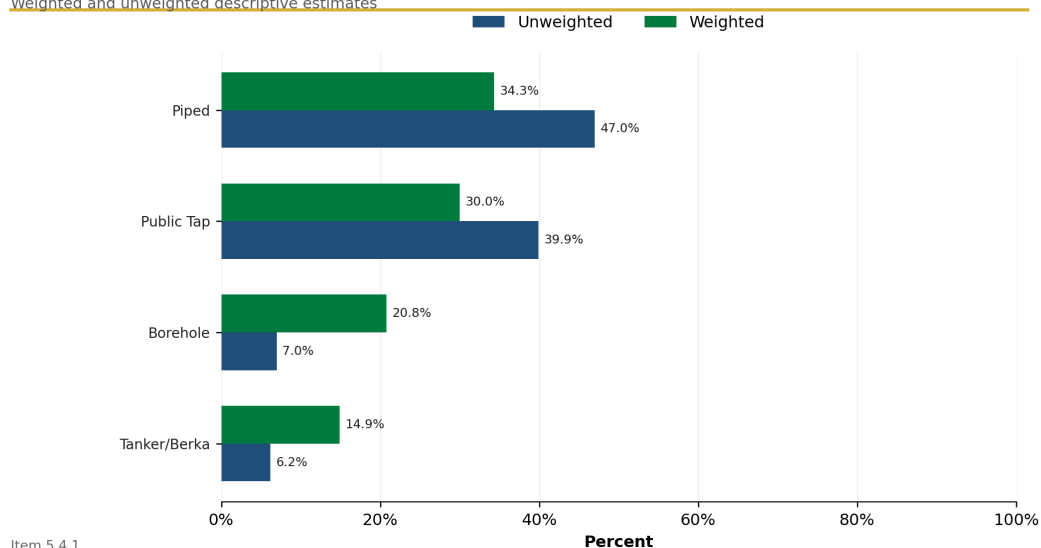


Figure 7.18. Primary Source of Drinking Water

Primary type of toilet facility

Weighted and unweighted descriptive estimates

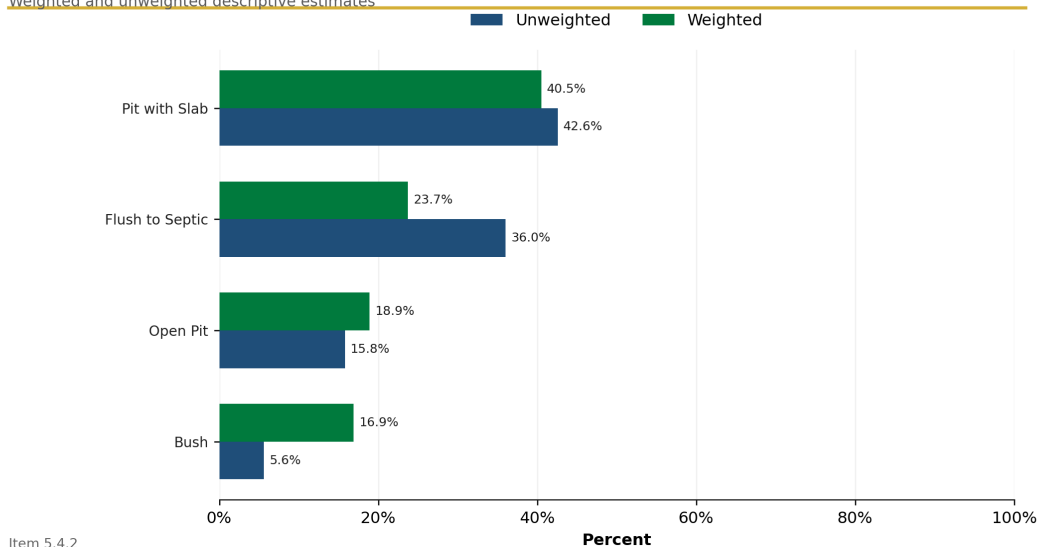


Figure 7.19. Primary Type of Toilet Facility

Q Interpretive lens

Piped water was the primary drinking source for 34.3% of households, improved toilet facilities reached 64.2%, and both water and soap were present at the handwashing place in 42.8%. Municipal solid-waste collection was the main disposal method for 47.7%, indicating uneven coverage across essential local services.

🎯 Development implication

Local service planning should strengthen reliable water access, safer sanitation and reduction of open-pit or bush sanitation, consistent availability of water and soap, safe child-faeces disposal, regular solid-waste collection, reduction of burning and open dumping, safer wastewater containment and drainage, and clearer operation, maintenance and monitoring responsibilities. Priority should be given to neighbourhoods where several service gaps overlap.

Water, Sanitation, Hygiene and Service Conditions

Water source and toilet type alone do not fully describe household WASH conditions. The supporting indicators therefore examine water treatment, handwashing readiness, child-faeces disposal, solid-waste management, wastewater disposal and internal plumbing to show how services are used and managed within households.

Treat your water to make it safe to drink

Weighted and unweighted descriptive estimates

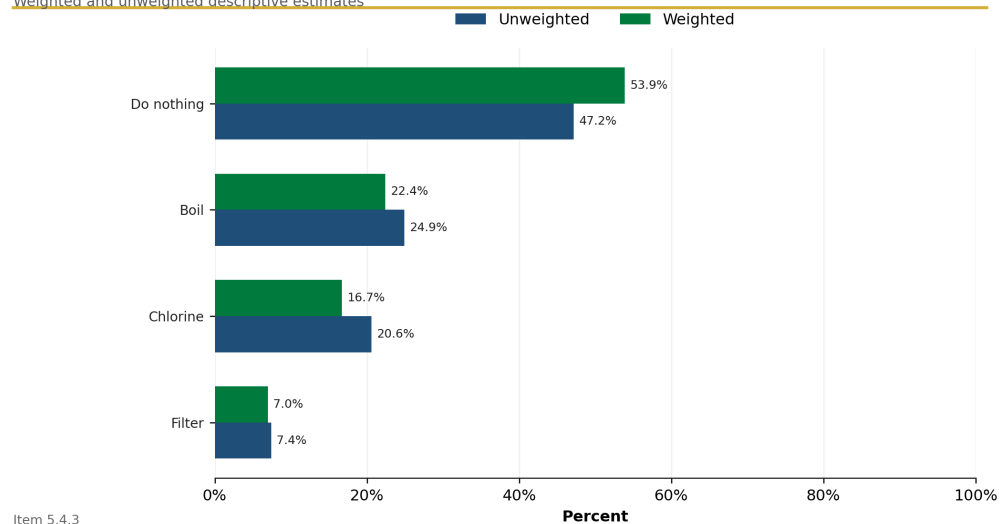


Figure 7.20. Treat Your Water to Make It Safe to Drink

Are water and soap both present at the handwashing place

Weighted and unweighted descriptive estimates

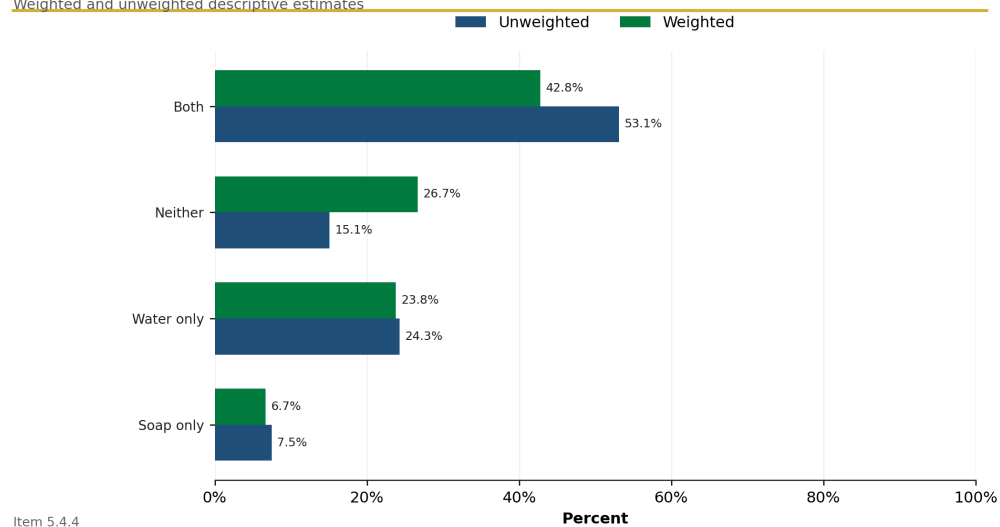


Figure 7.21. Water and Soap at the Handwashing Place

Child-Faeces Disposal Method

Weighted and unweighted descriptive estimates

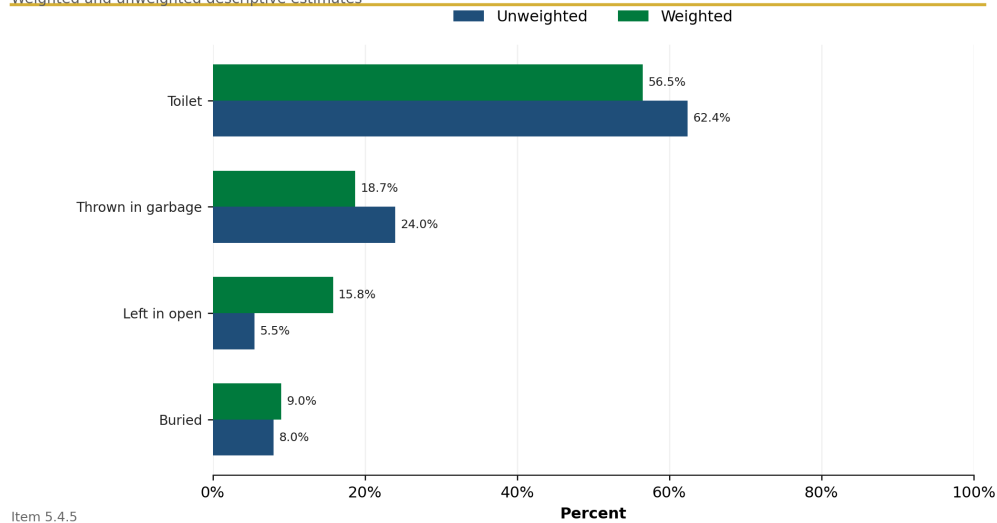


Figure 7.22. Child-Faeces Disposal Method

Primary method for wastewater/sewage disposal

Weighted and unweighted descriptive estimates

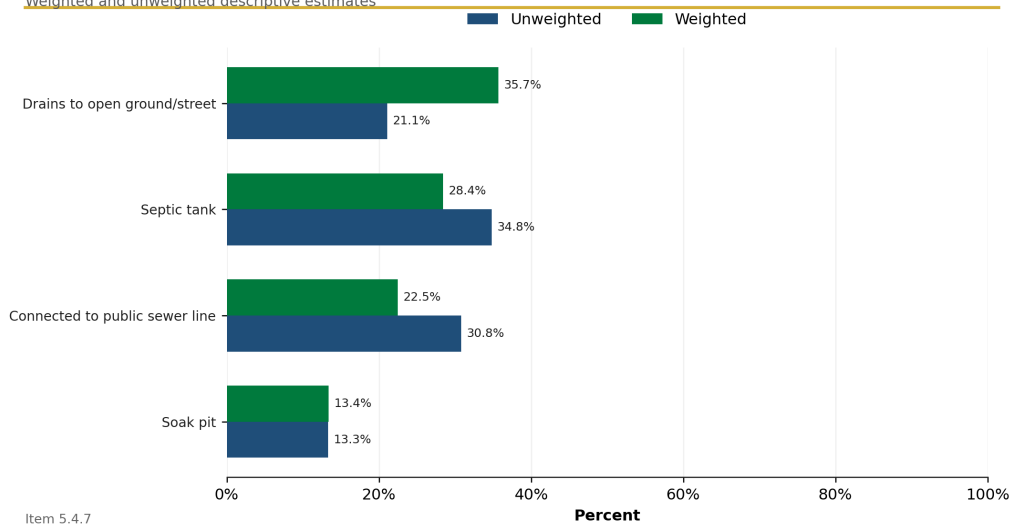


Figure 7.23. Primary Method of Wastewater/Sewage Disposal

Internal Household Plumbing

Weighted and unweighted descriptive estimates

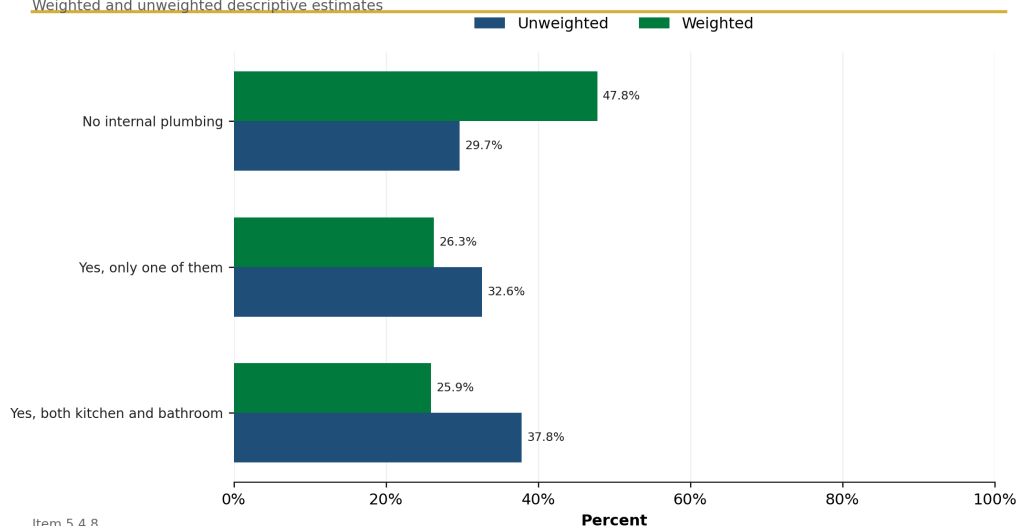


Figure 7.24. Internal Household Plumbing

Detailed tables for Basic Services, WASH and Local Accountability

Table 5.4.1

Primary Drinking-Water Source

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Piped	1,360	47.0	992.4	34.3
Public Tap	1,155	39.9	869.4	30.0
Borehole	202	7.0	601.5	20.8
Tanker/Berka	179	6.2	432.8	14.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.2

Primary type of toilet facility

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Pit with Slab	1,234	42.6	1,173.3	40.5
Flush to Septic	1,044	36.0	685.0	23.7
Open Pit	457	15.8	547.9	18.9
Bush	161	5.6	489.8	16.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.3*Treat your water to make it safe to drink*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Do nothing	1,366	47.2	1,560.5	53.9
Boil	720	24.9	648.1	22.4
Chlorine	597	20.6	484.2	16.7
Filter	213	7.4	203.1	7.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.4*Water and Soap at the Handwashing Place*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Both	1,538	53.1	1,239.0	42.8
Neither	438	15.1	774.0	26.7
Water only	703	24.3	688.2	23.8
Soap only	217	7.5	194.8	6.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.5*Child-Faeces Disposal Method*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Toilet	1,061	62.4	1,011.5	56.5
Thrown in garbage	408	24.0	335.1	18.7
Left in open	94	5.5	282.1	15.8
Buried	136	8.0	160.3	9.0

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.6*Primary Household Solid-Waste Disposal Method*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Municipality collection	2,008	69.3	1,382.2	47.7
Burned	554	19.1	918.0	31.7
Open dumping	195	6.7	435.1	15.0
Buried	139	4.8	160.7	5.5

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.7*Primary method for wastewater/sewage disposal*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Drains to open ground/street	611	21.1	1,034.3	35.7
Septic tank	1,009	34.8	821.2	28.4
Connected to public sewer line	892	30.8	652.4	22.5
Soak pit	384	13.3	388.1	13.4

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

Table 5.4.8*Internal Household Plumbing*

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
No internal plumbing	859	29.7	1,383.9	47.8
Yes, only one of them	943	32.6	761.5	26.3
Yes, both kitchen and bathroom	1,094	37.8	750.6	25.9

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.



Digital Public Services and Future Preferences

Preferences for online government services indicate opportunities and risks in future service delivery.

7.5 Digital Public Services and Future Preferences



Would you prefer government services to be available online

47.5%

Unweighted estimate: 54.2%.

Digital public services can reduce travel and transaction costs, but they must complement rather than exclude households that prefer or require in-person access. This section examines readiness for a more digital relationship between residents and government.

Would you prefer government services to be available online was reported by 47.5% of eligible households in the weighted results, compared with 54.2% in the unweighted results.

Would you prefer government services to be available online

Weighted and unweighted descriptive estimates

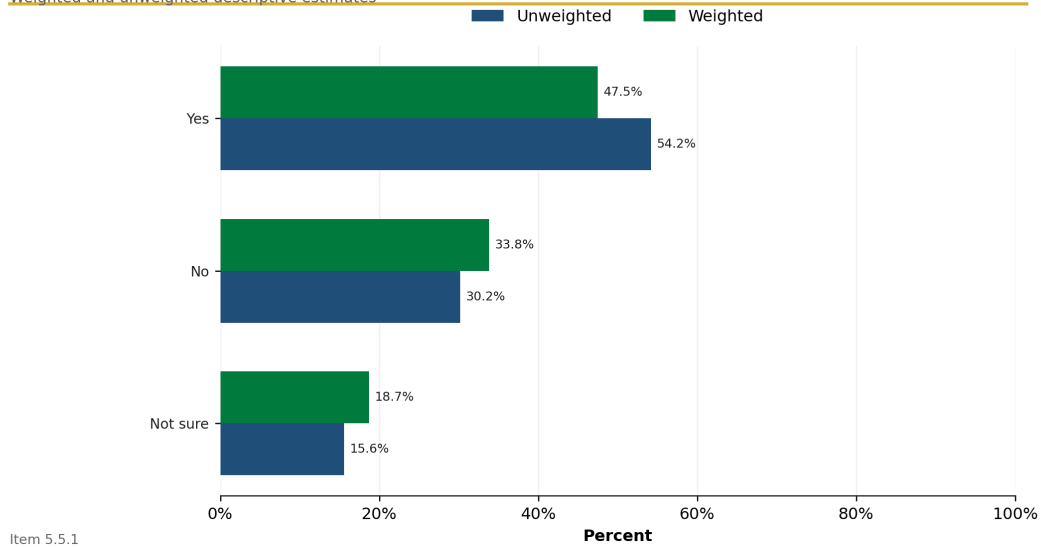


Figure 7.25. Preference for Online Government Services

Q Interpretive lens

Online government services were preferred by 47.5% of households. This sizeable but non-majority preference indicates both an opportunity for digital service delivery and a continuing need for inclusive physical or assisted channels.

🕒 Development implication

Digital public services should be introduced through a hybrid model that improves convenience for connected households while retaining accessible in-person pathways, clear support and safeguards for people with limited devices, connectivity or digital skills.

Digital Service Readiness and Inclusive Access

The supporting figures place online-service preferences alongside weighting sensitivity and an inclusive digital-service pathway, helping distinguish demand for digital access from the need to preserve accessible alternatives.

Section 5.5 Weighted Indicator Profile

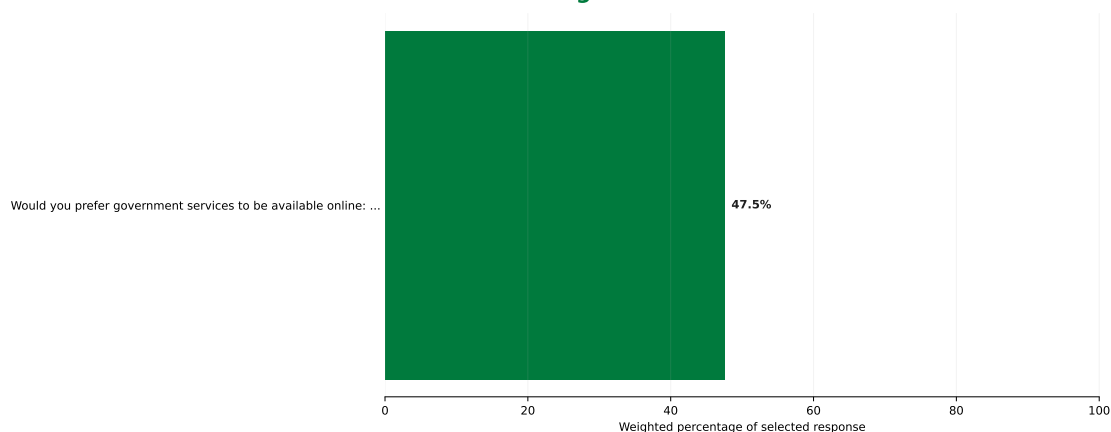


Figure 7.26. Section 5.5 Indicator Profile

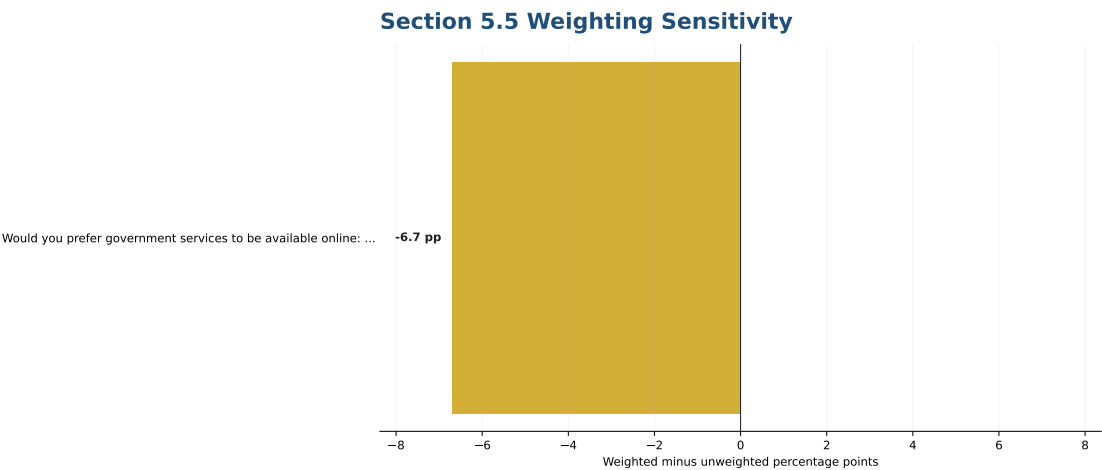


Figure 7.27. Section 5.5 weighting sensitivity

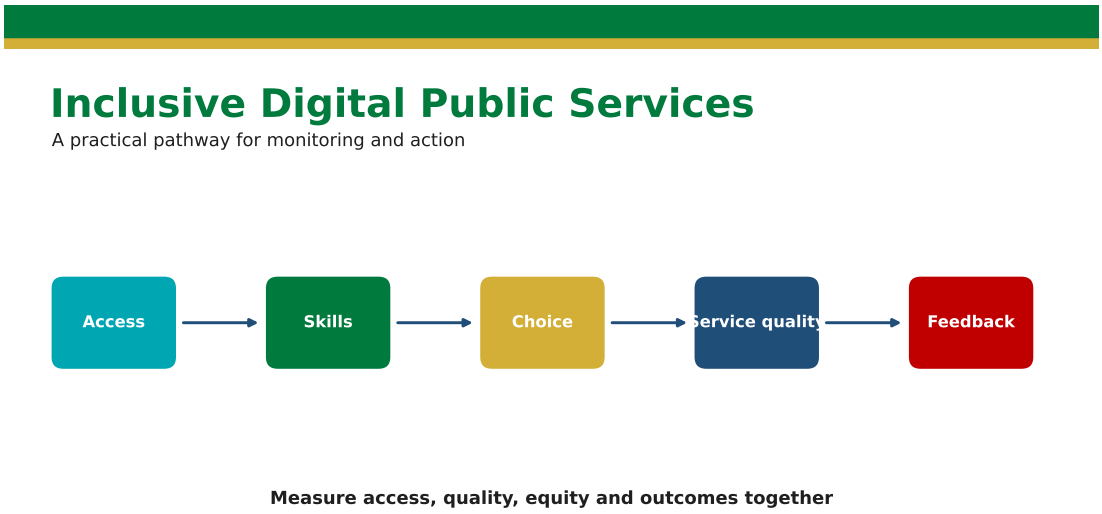


Figure 7.28. Inclusive digital public-service pathway

Governance and Basic Services

Five connected domains shaping household well-being

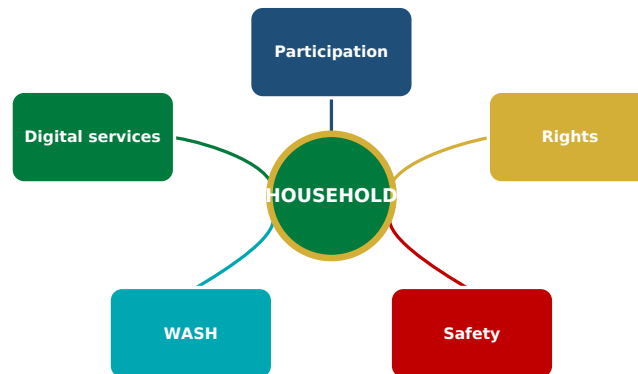


Figure 7.29. Chapter 7 integrated development framework

Detailed tables for Digital Public Services and Future Preferences

Table 5.5.1

Would you prefer government services to be available online

Response	Unweighted n	Unweighted %	Weighted n	Weighted %
Yes	1,571	54.2	1,375.0	47.5
No	874	30.2	978.4	33.8
Not sure	451	15.6	542.7	18.7

Note. Unweighted n is the observed sample count. Weighted n and weighted percentages use the normalized household weight wgt. Percentages may not sum to exactly 100 because of rounding.

7.6 Chapter Inequality Synthesis

District averages can conceal who is being left behind. The chapter therefore closes by comparing representative indicators from across the pillar by residence, wealth quintile, sex of household head and the six sampling strata. The heatmaps use indicator-specific valid denominators and show both weighted and unweighted estimates; they describe inequality patterns but do not establish their causes. Lower percentages are shown toward the teal end of the scale, middle values toward gold, and higher percentages toward orange/red; the substantive meaning of a high value depends on the indicator.

Pillar 5: Priority Indicators by Residence

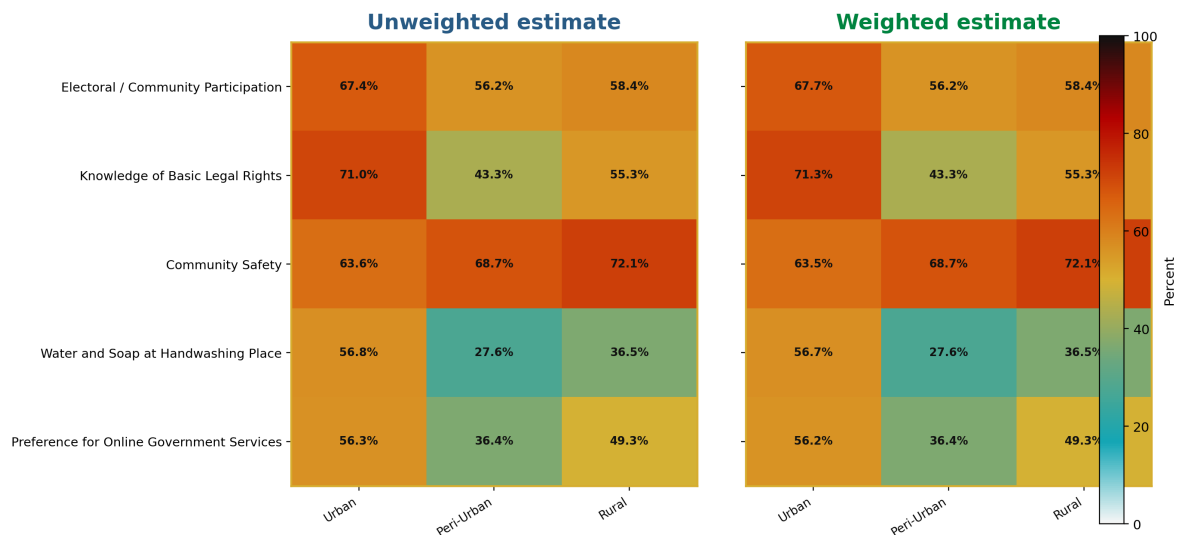


Figure 7.30. Governance and Basic Services indicators by Residence

Pillar 5: Priority Indicators by Wealth Quintile

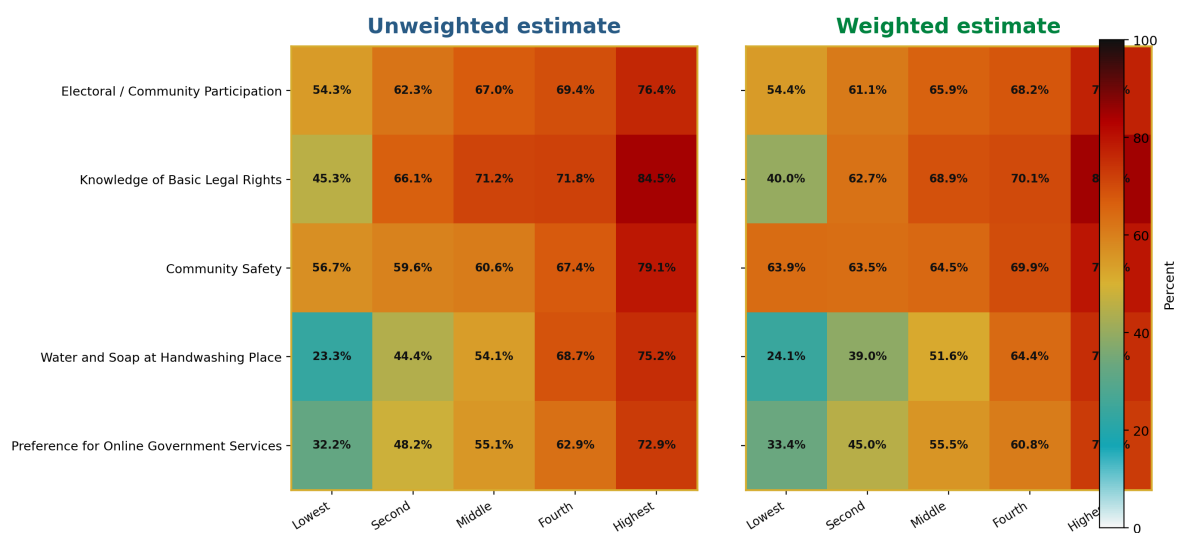


Figure 7.31. Governance and Basic Services indicators by Wealth Quintile

Pillar 5: Priority Indicators by Sex of Household Head

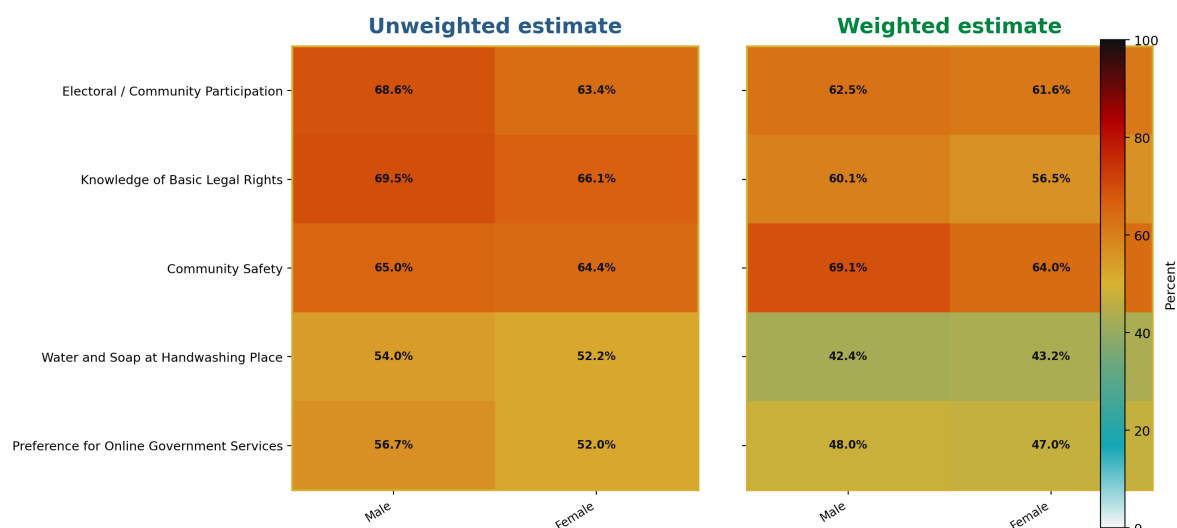


Figure 7.32. Governance and Services by Household-Head Sex

Pillar 5: Priority Indicators by Sampling Stratum

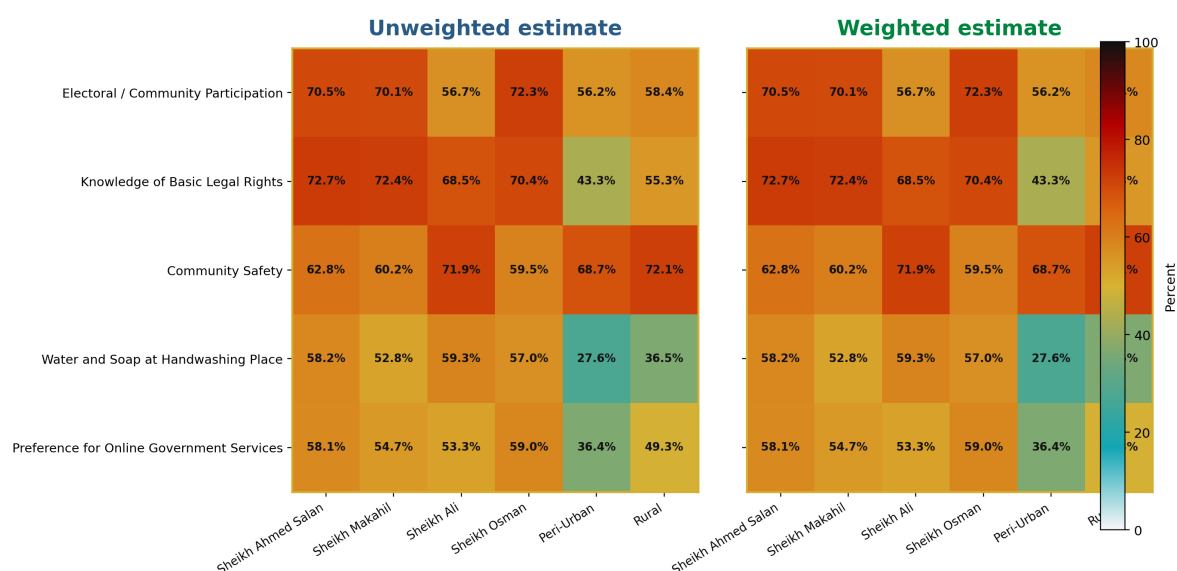


Figure 7.33. Governance and Basic Services indicators by Sampling Stratum

Inequality lens

Governance inequality in Borama spans participation, transparency, legal knowledge, documentation, safety and basic-service access. A household may participate in civic life yet lack legal assistance, documentation, reliable WASH or suitable access to future digital services, and these gaps vary across wealth and place.

Development implication

Governance improvement should connect participation and accountability with rights, protection, civic documentation and reliable basic services. Priority action should focus on households and locations where institutional and service-access barriers overlap.

Pillar Closing Perspective

Governance in Borama is experienced through everyday interactions: taking part in community decisions, understanding rights, feeling safe, obtaining documents and receiving basic services. The evidence shows meaningful participation and trust, but also important gaps in transparency, legal access, WASH and readiness for digital public services. Stronger governance will be measured not only by institutions that exist, but by whether households can use them fairly, safely and reliably.

Pillar message: Governance progress is strongest when participation, rights, safety and basic services reinforce one another and remain accessible to every household.

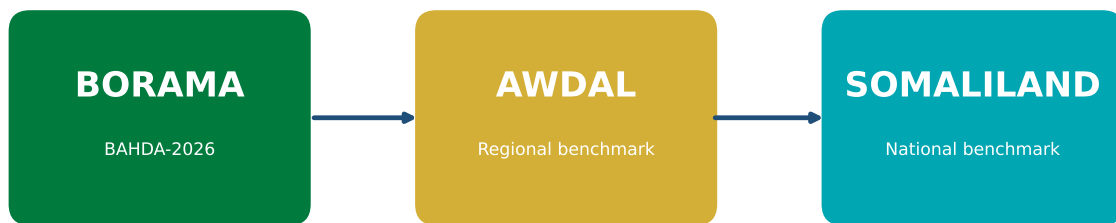


Borama in the Somaliland Development Context

Comparative household development benchmarks from SLHDS 2020 and Somaliland IHBS 2022

Borama in the Somaliland Development Context

Comparative benchmarks from BAHDA-2026, Somaliland IHBS 2022 and SLHDS 2020



Comparable where definitions match • Harmonised where possible • Contextual where denominators differ

Chapter 8 at a Glance

Key evidence, inequalities and development implications

Policy alignment: Comparative context: Borama 2026, Awdal 2020/2022 and Somaliland 2020/2022. Differences are benchmarks, not direct trends.



Average Household Size

8.0 Borama

Awdal 5.9; Somaliland 6.5.



Adult Literacy

80.7% household context

Awdal 54.4%; Somaliland 58.0% among persons 15+.



Household Enterprise Ownership

27.2%

Awdal 10%; Somaliland 14%.



Remittance Receipt

30.7%

Awdal 33%; Somaliland 24%.



Concern About Insufficient Food

29.6%

Awdal 36%; Somaliland 37%.



Recent Economic Shock

39.3%

Awdal 65%; Somaliland 72%.



Electricity Access

86.2%

Awdal 59.7%; Somaliland 63.1%.



Clean Cooking Fuel

31.8%

Awdal 28%; Somaliland 16%.



Water and Soap

42.8%

Awdal 51%; Somaliland 48%.



Internet Access or Use

77.4% household access

Awdal and Somaliland 38% among persons 15+.

↔ Benchmark interpretation

Code A denotes a direct comparison, Code B a harmonised comparison and Code C a contextual comparison. Every figure labels the source years and the relevant limitation.

Chapter Overview

This chapter places Borama's 2026 household evidence within the wider Awdal and Somaliland statistical context. Thirty selected indicators are compared with SLHDS 2020 and Somaliland IHBS 2022 using explicit comparability codes so that direct, harmonised and contextual comparisons are not confused.

The purpose is not to rank Borama or infer change across different surveys. It is to show where local conditions broadly resemble wider patterns, where apparent differences deserve attention, and where BAHDA's household-level granularity adds planning value beyond regional and national averages.

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

8.1 Purpose and Policy Relevance of the Benchmark

BAHDA-2026 provides a detailed local account of household conditions in Borama District. Somaliland's official surveys provide the wider regional and national context required for policy interpretation. This chapter therefore compares selected BAHDA indicators with Awdal and Somaliland estimates from the Somaliland Health and Demographic Survey 2020 and the Somaliland Integrated Household Budget Survey 2022.[5, 6]

The comparison serves four purposes. First, it shows whether a Borama condition appears local or reflects a broader Somaliland pattern. Second, it identifies household capabilities that may support development. Third, it highlights areas in which Borama requires focused attention. Fourth, it provides a transparent bridge between local evidence and Somaliland NDP III monitoring.

The chapter does not rank Borama against Somaliland as if the three surveys were conducted with the same design. BAHDA measures households in 2026; SLHDS and IHBS include both household and person-level indicators from 2020 and 2022. Different residence structures, age groups, reference periods and question wording can affect the result.

Borama in the Somaliland Development Context

Comparative benchmarks from BAHDA-2026, Somaliland IHBS 2022 and SLHDS 2020



Comparable where definitions match • Harmonised where possible • Contextual where denominators differ

Figure 8.1. Borama-Awdal-Somaliland benchmark hierarchy

8.2 Sources and Comparability Framework

BAHDA-2026 is the Borama source. The Awdal benchmark is used when an official regional estimate is published. The Somaliland estimate provides national context. Each indicator is assigned one of three codes:

Code A	Same unit of analysis and closely aligned definition.
Code B	Comparable after transparent harmonisation of categories, reference periods or classifications.
Code C	Contextual comparison only because the eligible population, unit or reference period differs materially.

For example, average household size is a direct household-level comparison. Electricity and sanitation are harmonised because categories are combined consistently. Household internet access is contextual because the IHBS benchmark measures internet use among persons aged 15 and older. The full source and denominator register appears in Appendix H.

Thirty-Indicator Borama-Awdal-Somaliland Benchmark Dashboard

Human Capability and Economic Inclusion			Food Security and Household Health			Services, WASH and Digital Inclusion		
01. Average Household Size	Code A		11. Concern About Insufficient Food	Code B		21. Medicine or Treatment Affordability Barrier	Code C	
Borama Awdal Somaliland: 8 5.9 6.5			Borama Awdal Somaliland: 29.6% 36% 37%			Borama Awdal Somaliland: 45.5% 56.3% 61.1%		
02. Adult Literacy	Code C		12. Unable to Afford Healthy Food	Code B		22. Health Insurance Coverage	Code C	
Borama Awdal Somaliland: 80.7% 54.4% 58%			Borama Awdal Somaliland: 36.4% 36% 43%			Borama Awdal Somaliland: 12.9% 0% 0.2%		
03. School Participation	Code C		13. Limited Dietary Diversity	Code B		23. Full Vaccination	Code C	
Borama Awdal Somaliland: 41.5% 46.9% 29.6%			Borama Awdal Somaliland: 35.1% 33% 37%			Borama Awdal Somaliland: 85.9% 8.9% 12.7%		
04. Household Enterprise Ownership	Code B		14. Meal Skipping	Code B		24. Household Electricity Access	Code B	
Borama Awdal Somaliland: 27.2% 10% 14%			Borama Awdal Somaliland: 30.6% 21% 30%			Borama Awdal Somaliland: 86.2% 59.7% 63.1%		
05. Household Remittance Receipt	Code B		15. Ate Less Than Needed	Code B		25. Clean Cooking Fuel	Code B	
Borama Awdal Somaliland: 30.7% 33% 24%			Borama Awdal Somaliland: 34.1% 22% 32%			Borama Awdal Somaliland: 31.8% 28% 16%		
06. Formal Financial Access	Code C		16. Household Ran Out of Food	Code B		26. Piped Drinking Water	Code B	
Borama Awdal Somaliland: 22.8% 19% 10%			Borama Awdal Somaliland: 21.4% 19% 27%			Borama Awdal Somaliland: 34.3% 65% 33%		
07. Mobile-Money or Mobile Financial Use	Code C		17. Went Hungry	Code B		27. Improved Sanitation Facility	Code B	
Borama Awdal Somaliland: 87.9% 89% 91%			Borama Awdal Somaliland: 26.1% 16% 25%			Borama Awdal Somaliland: 64.2% 56% 60%		
08. Household Loan or Credit Use	Code B		18. Whole Day Without Eating	Code B		28. Handwashing Place With Water and Soap	Code B	
Borama Awdal Somaliland: 37.4% 24% 32%			Borama Awdal Somaliland: 21.9% 13% 20%			Borama Awdal Somaliland: 42.8% 51% 48%		
09. Recent Household Economic Shock	Code B		19. Chronic Health Burden	Code C		29. Mobile-Phone Ownership or Access	Code C	
Borama Awdal Somaliland: 39.3% 65% 72%			Borama Awdal Somaliland: 33.5% 7% 6%			Borama Awdal Somaliland: 85.3% 78% 84%		
10. Climate-Related Change or Shock	Code C		20. Disability Prevalence	Code C		30. Internet Access or Use	Code C	
Borama Awdal Somaliland: 59.7% 41% 50%			Borama Awdal Somaliland: 25.1% 11% 10%			Borama Awdal Somaliland: 77.4% 38% 38%		

Values retain the original survey years. Code A = direct, B = harmonised, C = contextual comparison.

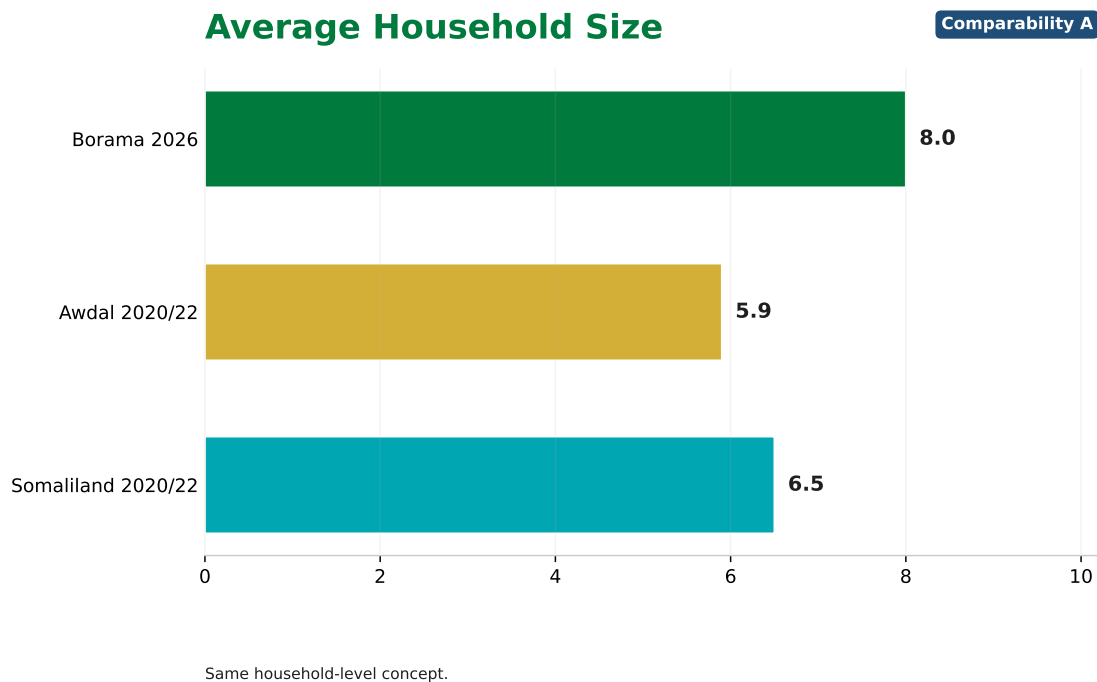
Figure 8.2. Thirty-Indicator Somaliland Benchmark Dashboard

8.3 Human Capability and Household Participation

The social comparison begins with household size, literacy, school participation, enterprise and remittances. Borama's average household size was 8.0 persons, compared with 5.9 in Awdal and 6.5 in Somaliland IHBS 2022. Larger households may offer labour and social support, but they also increase pressure on income, food, housing, education and care.

Adult literacy appears high in BAHDA because the indicator records whether all or some adults in the household possess literacy. The Awdal and Somaliland benchmarks are person-level literacy rates among people aged 15 and older. The comparison is therefore contextual and should not be interpreted as a direct local advantage. The same caution applies to school participation: BAHDA reports the share of households in which all eligible children aged 6–18 attend school, while the SLHDS benchmark is the primary-school net attendance ratio.

Household enterprise ownership was substantially higher in BAHDA than the Awdal and Somaliland IHBS benchmarks. Remittance receipt was close to the Awdal estimate and above the Somaliland average. These patterns indicate a household economy in which enterprise and external transfers both contribute to livelihood strategies.



Source: BAHDA-2026; IHBS 2022. Policy alignment: Social Development; Agenda 2063 Goal 1; SDGs 1, 10, 11.

Figure 8.3. Average household size

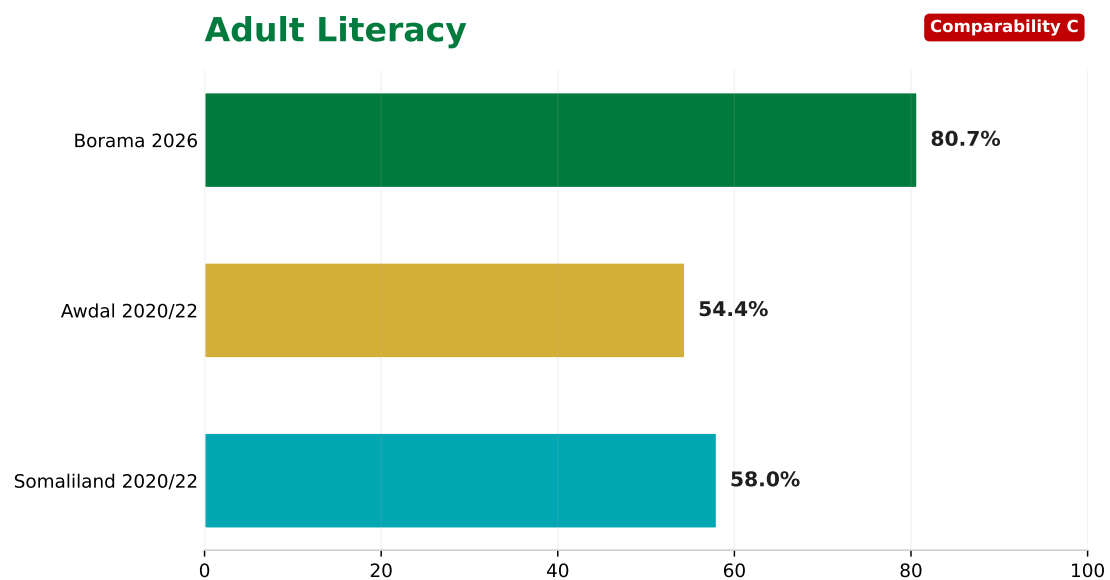


Figure 8.4. Adult literacy: household and person-level context

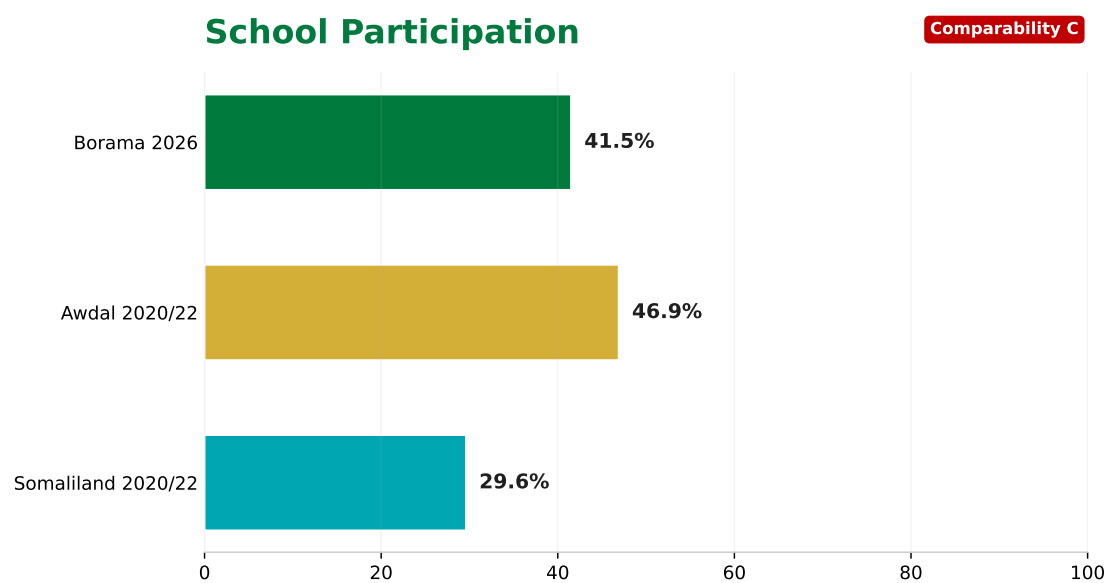
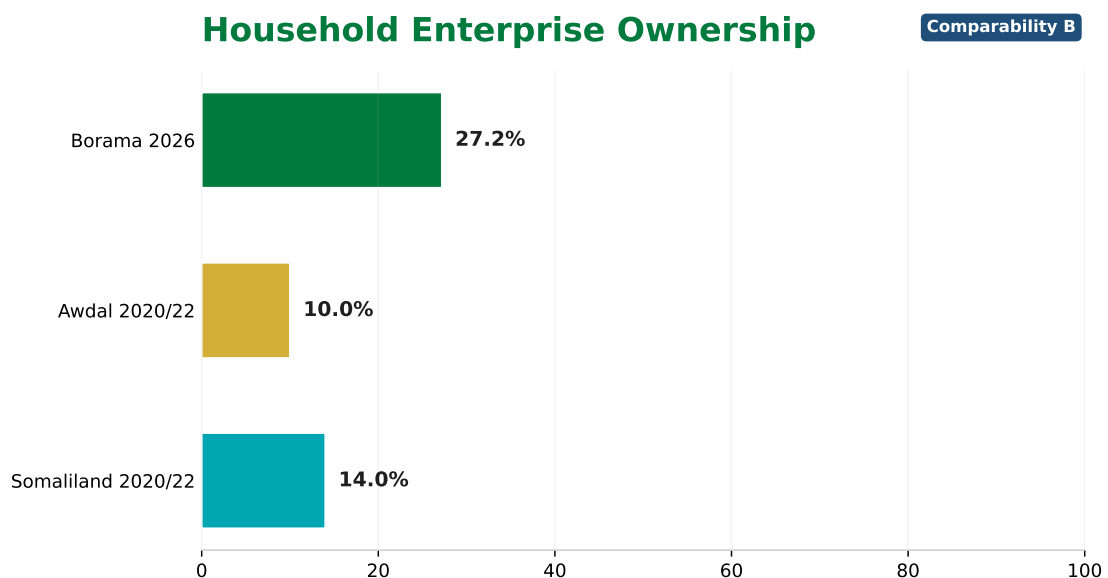


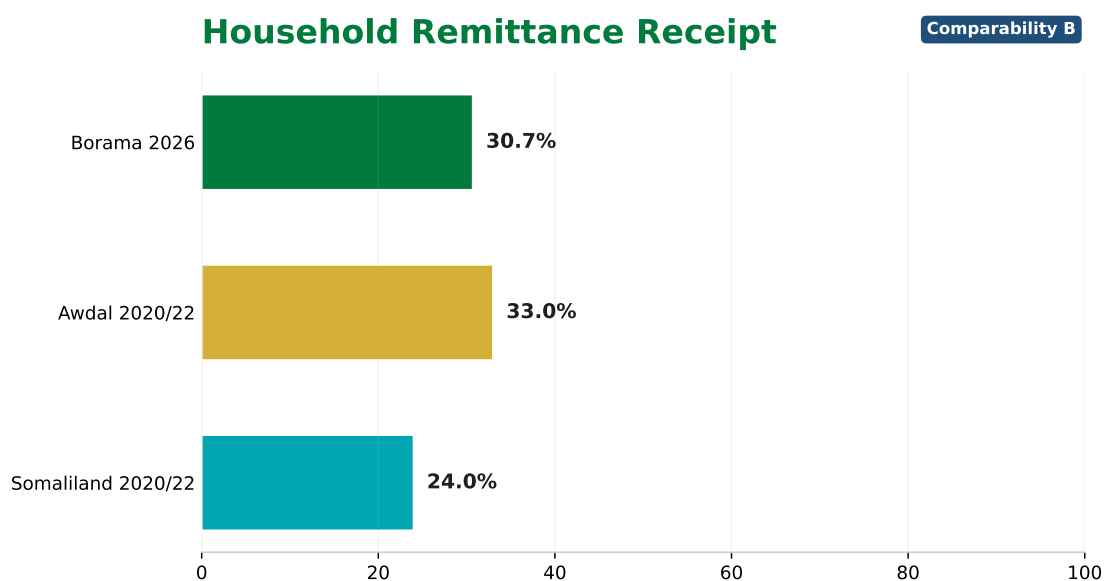
Figure 8.5. School participation: contextual comparison



Household-level ownership; instrument wording differs slightly.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Development; Agenda 2063 Goals 1 and 4; SDGs 8 and 9.

Figure 8.6. Household enterprise ownership



Household receipt; reference periods broadly aligned.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Development; Agenda 2063 Goals 1 and 4; SDGs 1, 8, 10.

Figure 8.7. Household remittance receipt

🕒 Development implication

The human-capability benchmark supports policies that combine education, adult learning, enterprise support and livelihood protection. The large household size should be considered when estimating service and social-protection needs.

Table 8.2*Human capability and household participation: Borama, Awdal and Somaliland benchmarks*

Indicator	Borama	Awdal	Somaliland	Code
Average Household Size	8	5.9	6.5	A
Adult Literacy	80.7%	54.4%	58%	C
School Participation	41.5%	46.9%	29.6%	C
Household Enterprise Ownership	27.2%	10%	14%	B
Household Remittance Receipt	30.7%	33%	24%	B

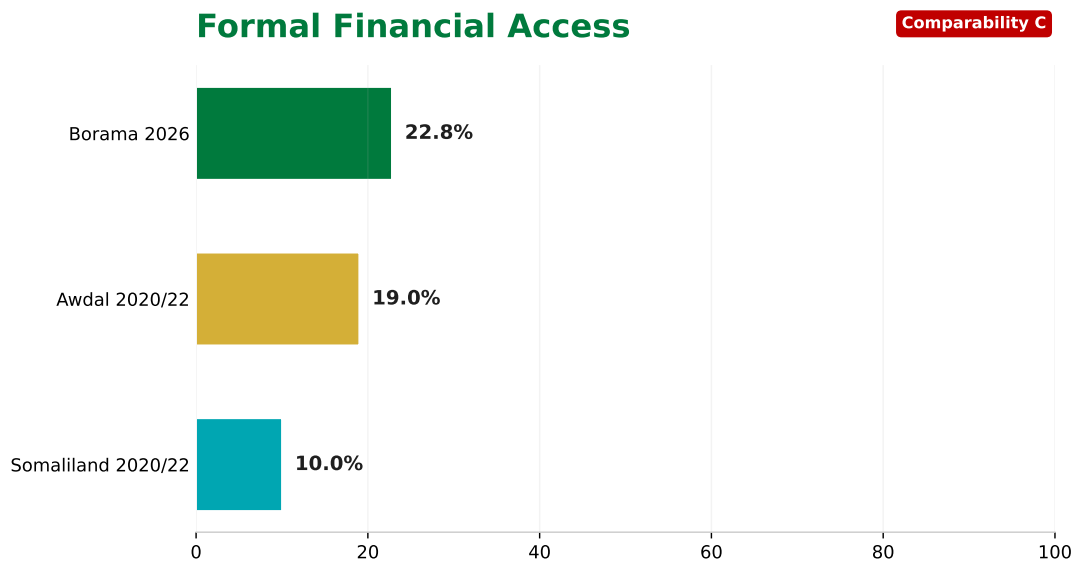
Note. BAHDA-2026; Somaliland IHBS 2022; SLHDS 2020. Survey years, eligible populations and definitions vary. See Appendix H.

8.4 Economic Inclusion and Household Resilience

Formal financial access in Borama was higher than bank-account ownership in Awdal and Somaliland, although BAHDA asks whether any adult household member uses a formal institution while IHBS measures individuals. Mobile financial use was high in all three contexts. This suggests that digital transactions are deeply embedded in household economic life, even where formal bank ownership remains more limited.

Household loan or credit use was also common. The BAHDA result includes formal and informal borrowing, while the IHBS reports household loan use. Credit can support consumption smoothing and enterprise investment, but high borrowing may also signal financial pressure when savings and income are insufficient.

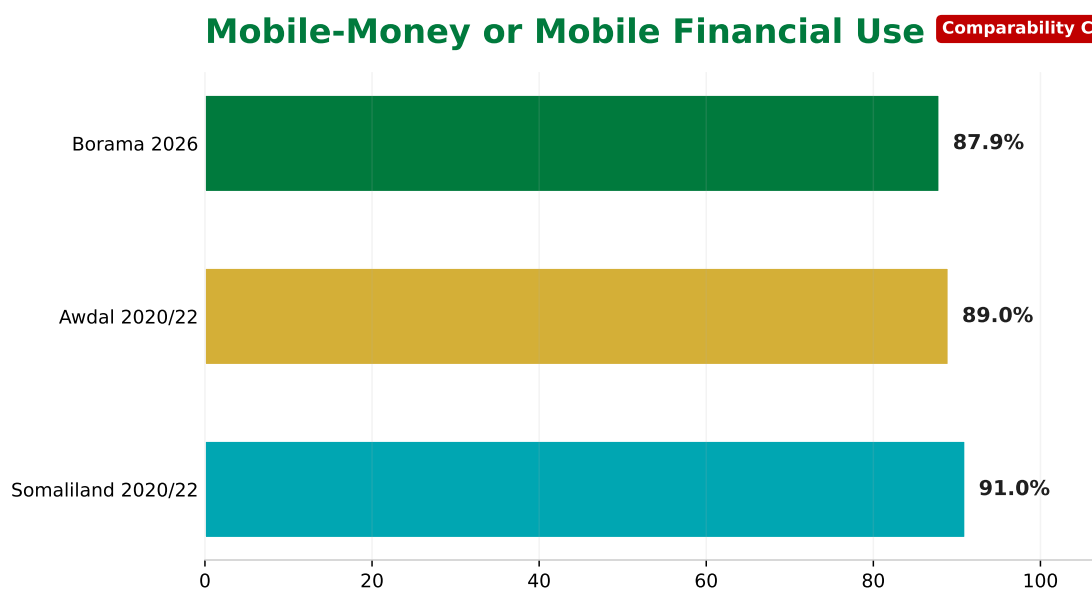
Recent economic shocks were reported less frequently in BAHDA than the 2022 Awdal and Somaliland benchmarks. However, the shock lists and reference periods are not identical. Perceived changes in weather patterns were more common in BAHDA than the IHBS climate-shock benchmark, but these measures refer to different time horizons and should be read as evidence of exposure rather than a direct performance gap.



BAHDA: any adult household member uses a formal institution; benchmark: bank account ownership among persons 15+.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Development; Agenda 2063 Goals 4 and 10; SDGs 8 and 9.

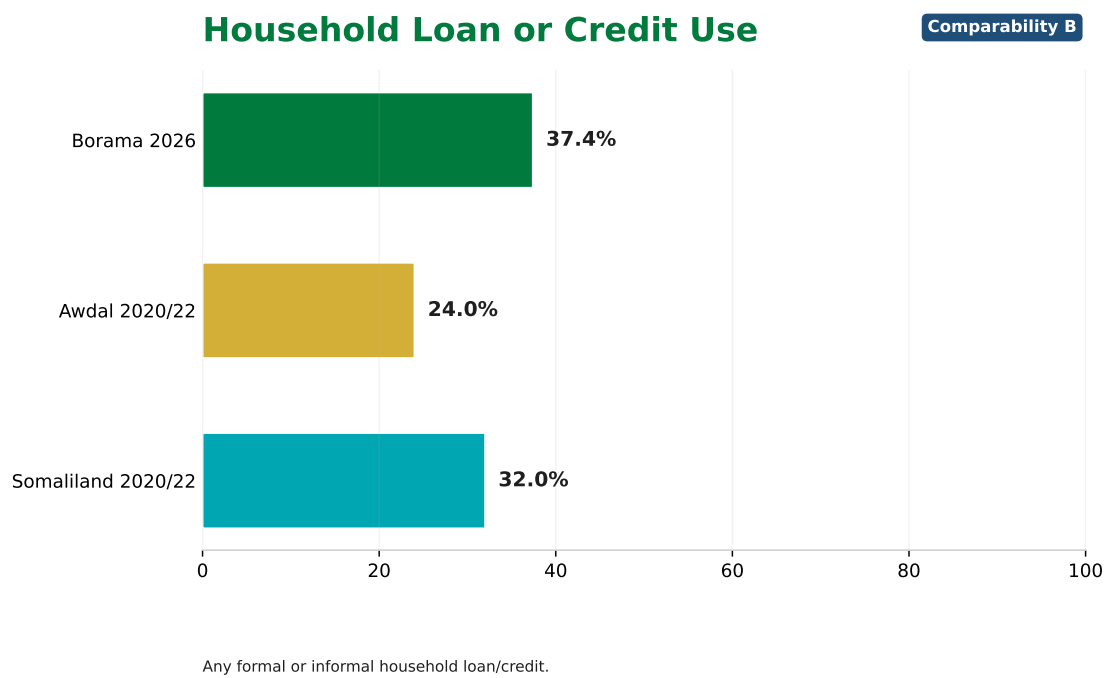
Figure 8.8. Formal financial access



BAHDA household use; benchmark mobile financial transaction use among persons 15+ with phone access.

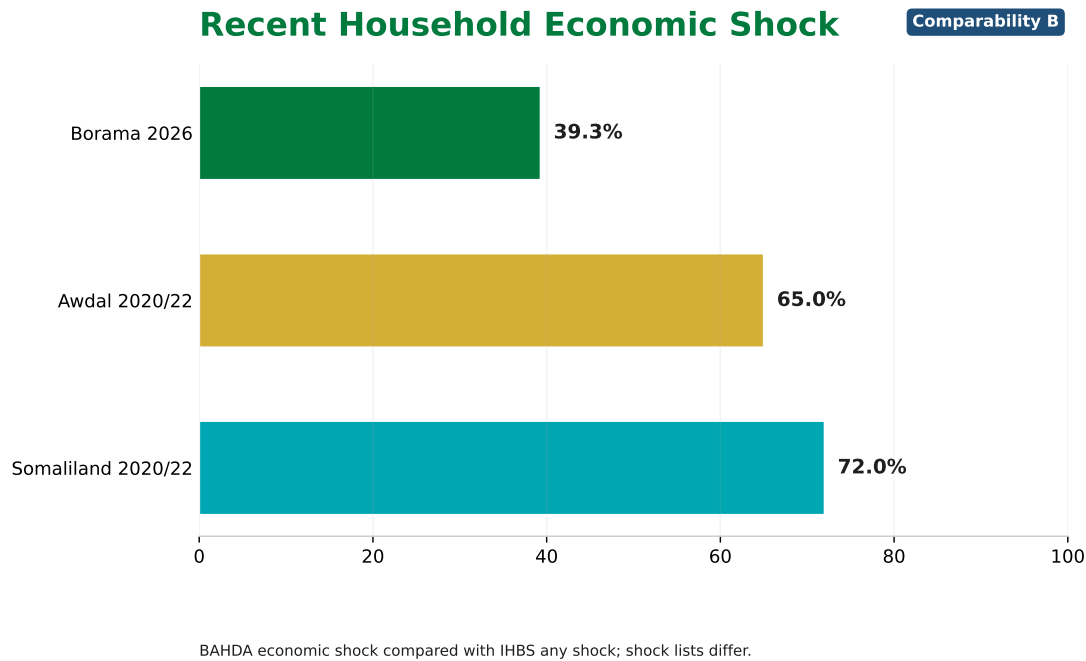
Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Development; Agenda 2063 Goals 4 and 10; SDGs 8, 9, 17.

Figure 8.9. Mobile-money or mobile financial use



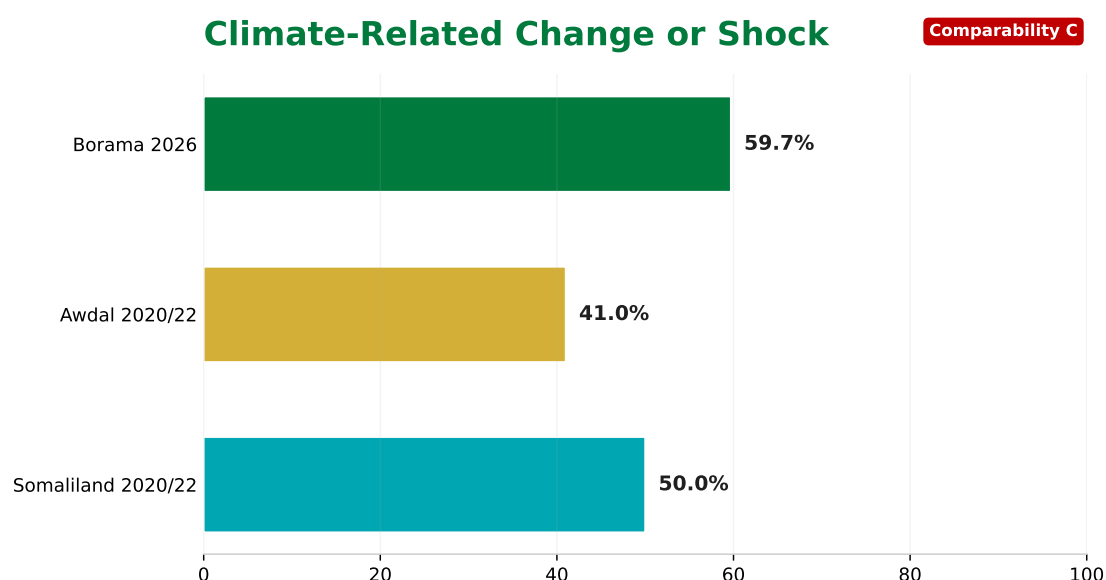
Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Development; Agenda 2063 Goals 1 and 4; SDGs 1 and 8.

Figure 8.10. Household loan or credit use



Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Development / Climate; Agenda 2063 Goals 1, 4, 7; SDGs 1, 8, 13.

Figure 8.11. Recent household economic shock



BAHDA perceived weather-pattern change over 10 years; benchmark climate shock during survey reference period.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Climate Change; Agenda 2063 Goal 7; SDG 13.

Figure 8.12. Climate-related change or shock

🕒 Development implication

Economic policy should build on widespread mobile finance while strengthening formal savings, responsible credit, enterprise services and household protection against income and climate shocks.

Table 8.3

Economic inclusion and household resilience: Borama, Awdal and Somaliland benchmarks

Indicator	Borama	Awdal	Somaliland	Code
Formal Financial Access	22.8%	19%	10%	C
Mobile-Money or Mobile Financial Use	87.9%	89%	91%	C
Household Loan or Credit Use	37.4%	24%	32%	B
Recent Household Economic Shock	39.3%	65%	72%	B
Climate-Related Change or Shock	59.7%	41%	50%	C

Note. BAHDA-2026; Somaliland IHBS 2022; SLHDS 2020. Survey years, eligible populations and definitions vary. See Appendix H.

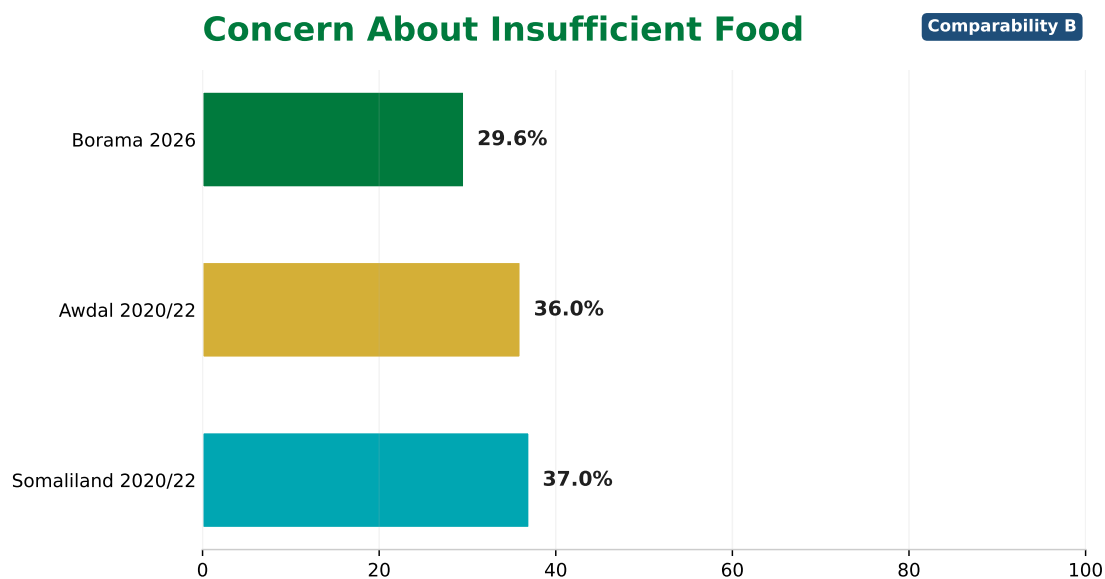
8.5 Food-Security Access and Dietary Quality

The first food-security group covers worry, healthy food, dietary diversity, meal skipping and eating less than needed. BAHDA uses a 12-month reference period, while Somaliland IHBS 2022 reports experiences during the preceding month. This difference is important and is the main reason these indicators receive a harmonised rather than fully direct classification.

Concern about insufficient food was lower in BAHDA than the Awdal and Somaliland benchmark. Inability to afford healthy food was similar to Awdal but lower than Somaliland. Limited dietary diversity was

close to both benchmarks. Meal skipping in Borama was higher than the Awdal estimate and close to the Somaliland estimate, while eating less than needed was higher than both.

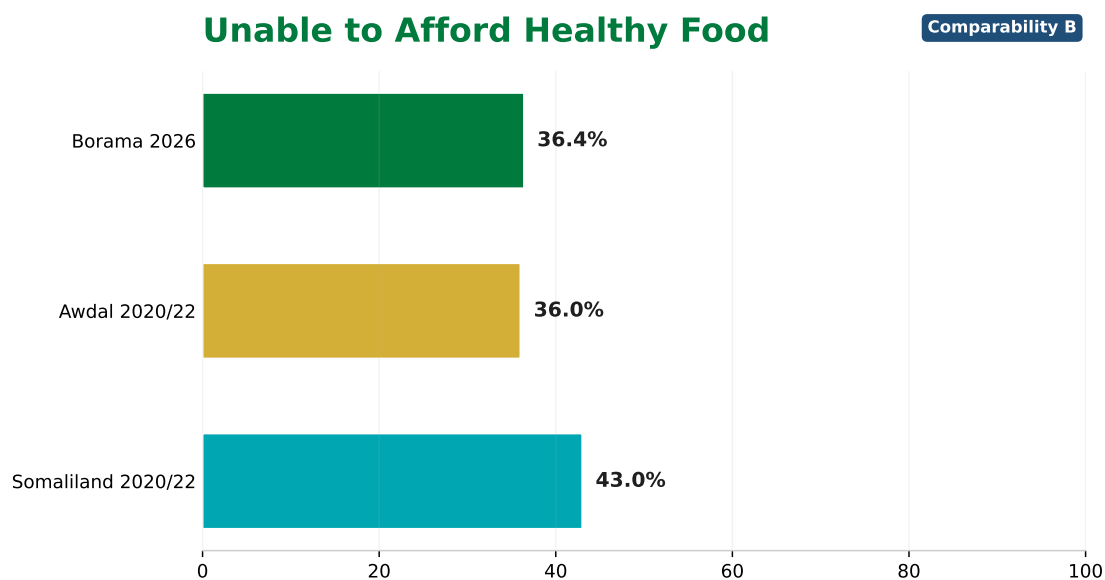
The mixed pattern shows why a single food-security indicator is insufficient. Households may worry less frequently but still reduce meal quantity or quality when resources are constrained. Policy should therefore track both anxiety and actual consumption-related responses.



Related FIES experience; BAHDA uses a 12-month reference period and IHBS one month.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

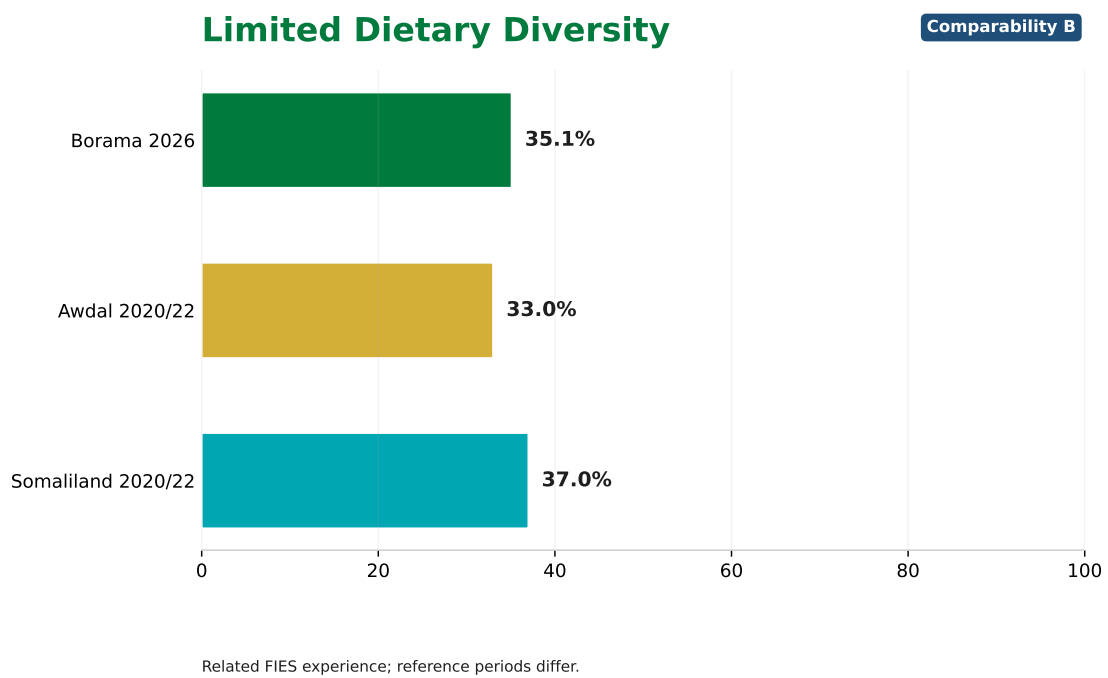
Figure 8.13. Concern about insufficient food



Related FIES experience; reference periods differ.

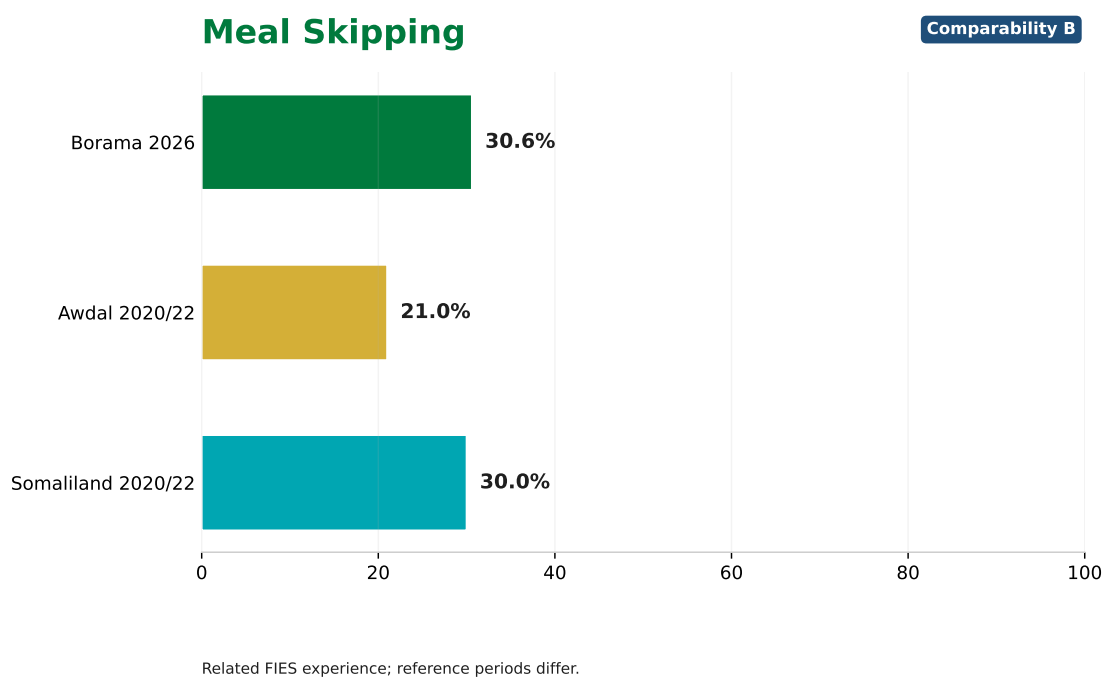
Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

Figure 8.14. Unable to afford healthy food



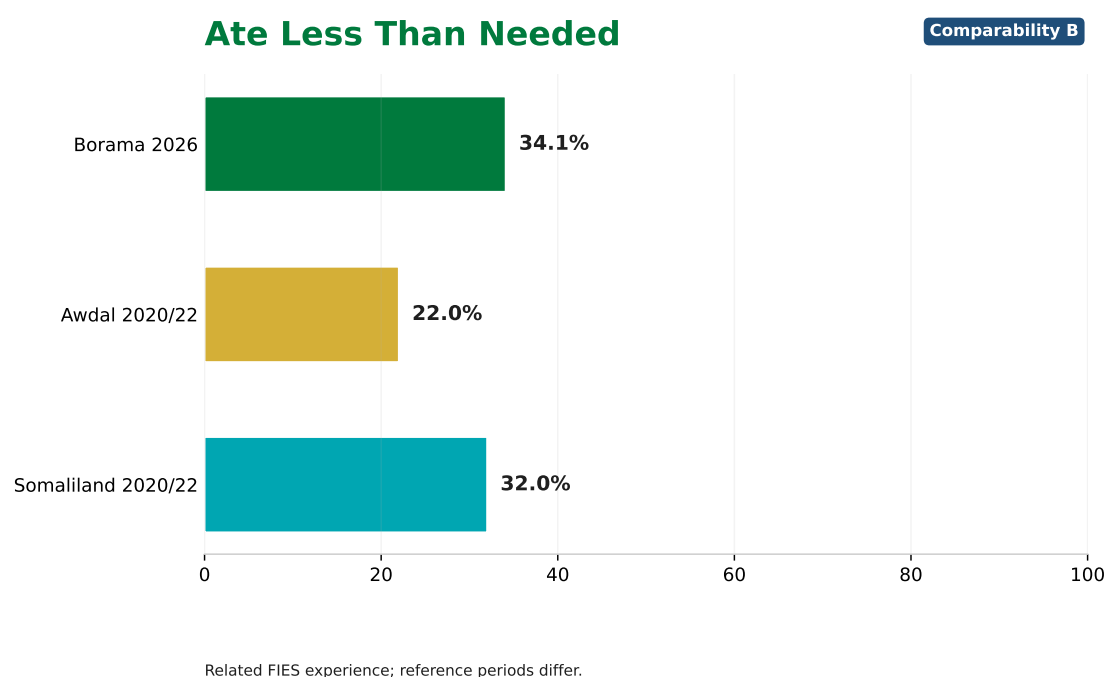
Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

Figure 8.15. Limited dietary diversity



Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

Figure 8.16. Meal skipping



Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

Figure 8.17. Eating less than needed

🎯 Development implication

Food-security action should combine income and price protection with nutrition-sensitive support. Worry, dietary quality and severe consumption reduction should be monitored separately.

Table 8.4

Food-security access and dietary quality: Borama, Awdal and Somaliland benchmarks

Indicator	Borama	Awdal	Somaliland	Code
Concern About Insufficient Food	29.6%	36%	37%	B
Unable to Afford Healthy Food	36.4%	36%	43%	B
Limited Dietary Diversity	35.1%	33%	37%	B
Meal Skipping	30.6%	21%	30%	B
Ate Less Than Needed	34.1%	22%	32%	B

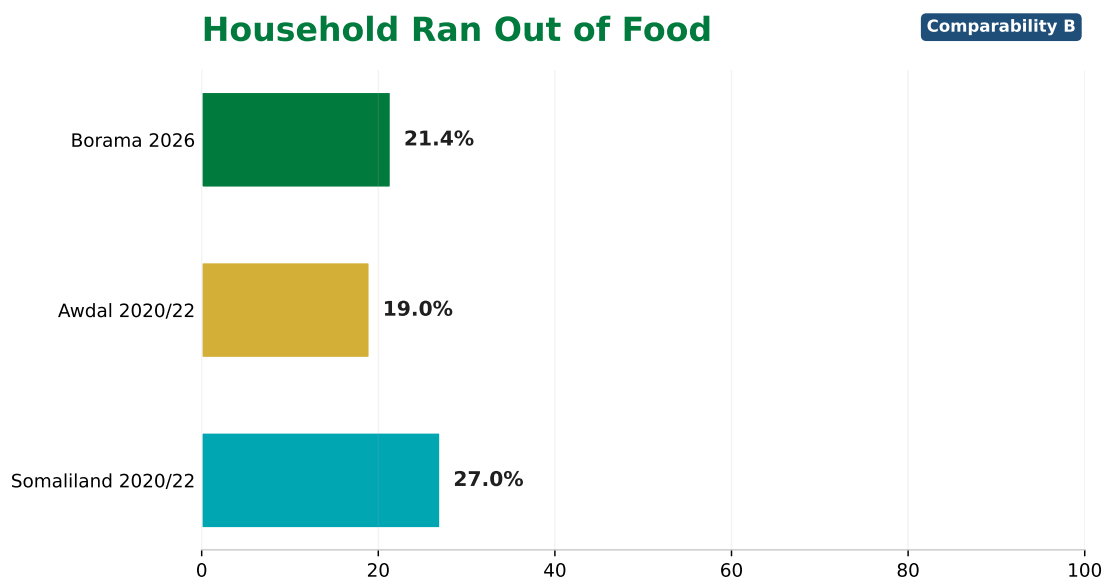
Note. BAHDA-2026; Somaliland IHBS 2022; SLHDS 2020. Survey years, eligible populations and definitions vary. See Appendix H.

8.6 Severe Food Insecurity and Household Health Burden

Running out of food, going hungry and going a whole day without eating represent severe household experiences. BAHDA estimates were close to or above the Somaliland benchmarks. These results should be interpreted alongside the section on coping strategies, where borrowing, asset sales and meal reduction indicate the costs households incur when food access deteriorates.

The disability comparison is contextual. BAHDA measures whether any household member has a chronic disability, while the IHBS reports person-level disability prevalence. The household indicator will naturally be higher because a household is counted when one or more members are affected. The same logic

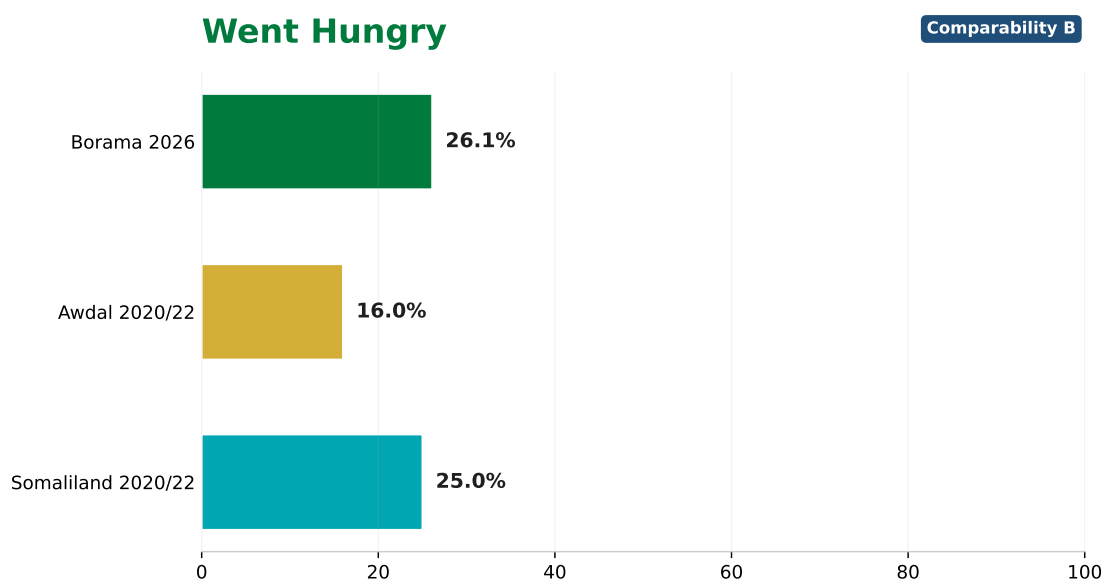
applies to chronic health burden: BAHDA uses households reporting a diagnosed adult hypertension case, while IHBS reports person-level chronic illness.



Related FIES experience; reference periods differ.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

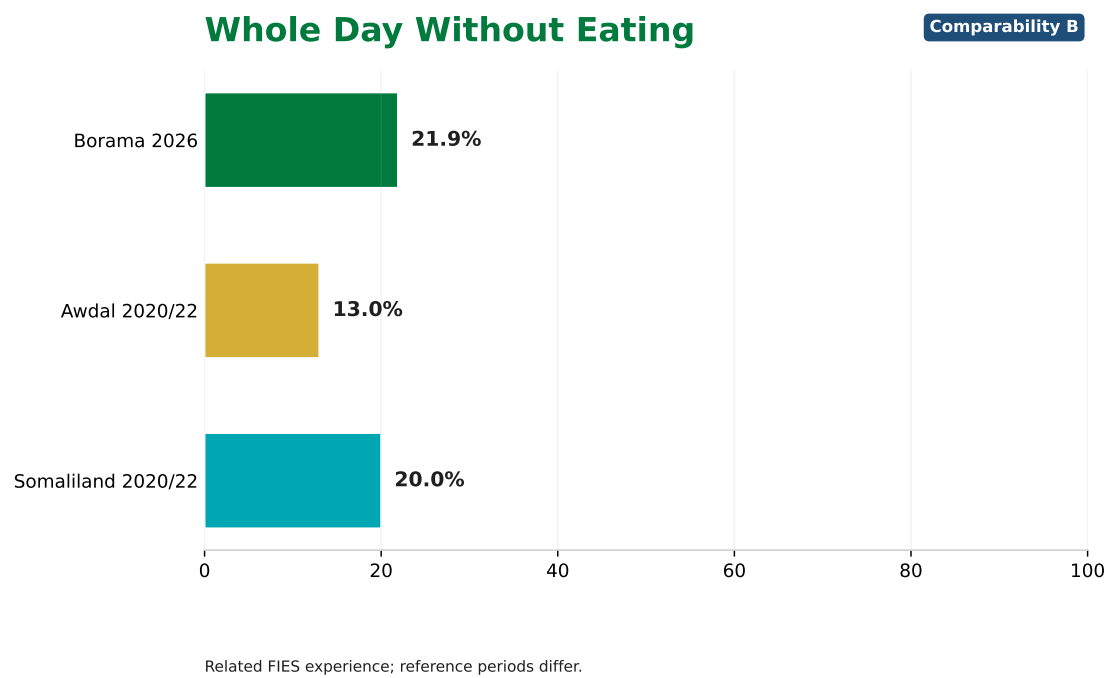
Figure 8.18. Household ran out of food



Related FIES experience; reference periods differ.

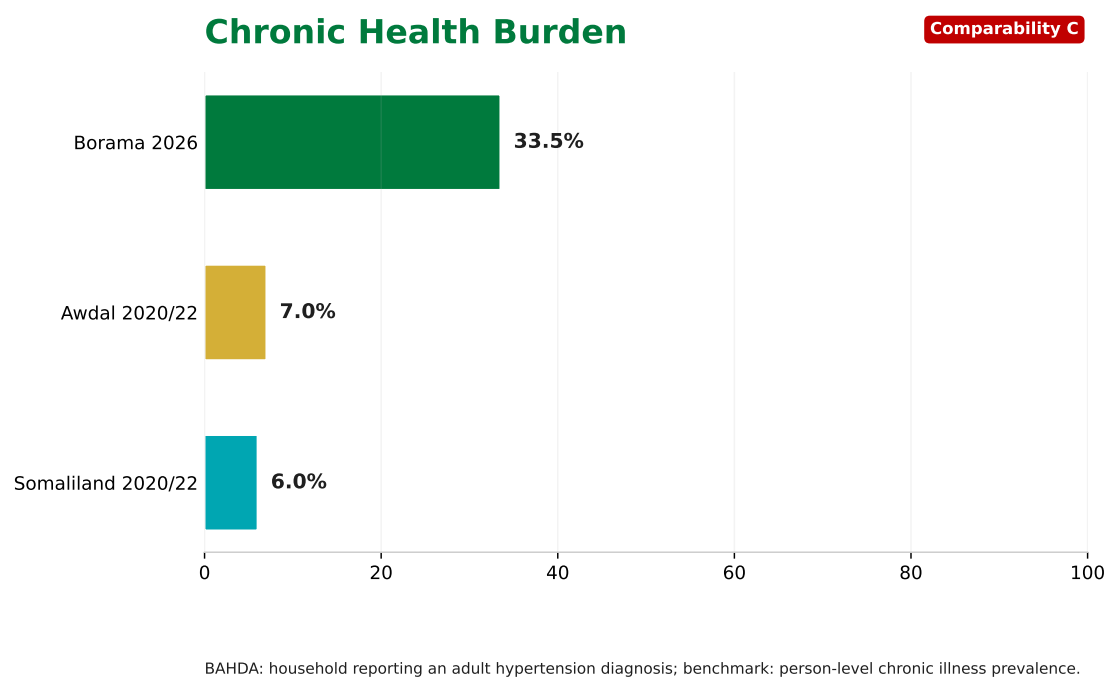
Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

Figure 8.19. Went hungry



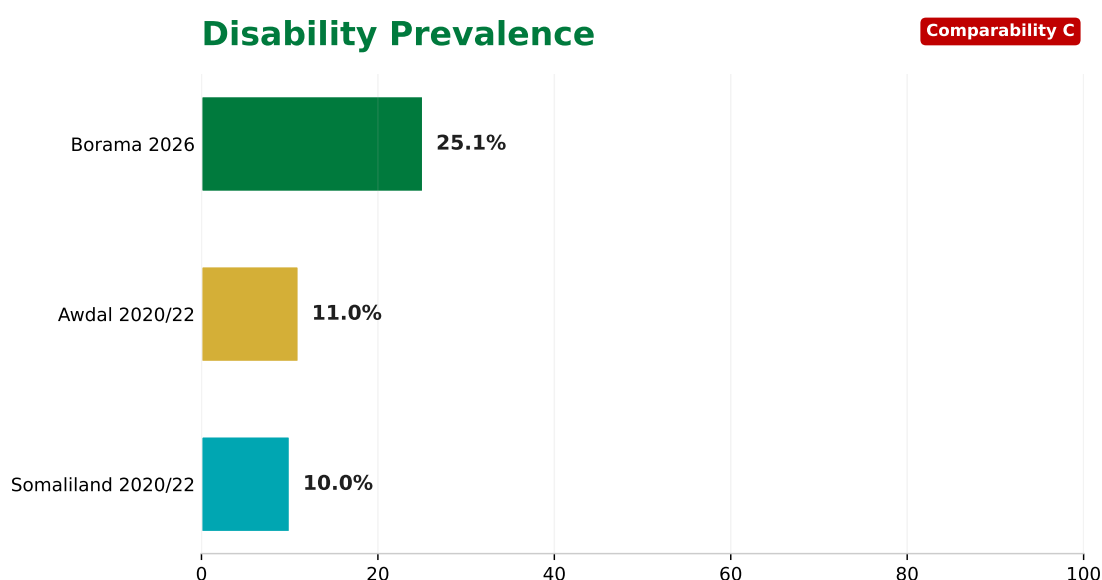
Source: BAHDA-2026; IHBS 2022. Policy alignment: Social/Economic Development; Agenda 2063 Goals 1, 3, 5; SDGs 1 and 2.

Figure 8.20. Whole day without eating



Source: BAHDA-2026; IHBS 2022 / BAHDA. Policy alignment: Social Development / Health; Agenda 2063 Goal 3; SDG 3.

Figure 8.21. Chronic health burden: contextual measures



BAHDA: any household member; benchmark: person-level disability prevalence.

Source: BAHDA-2026; IHBS 2022. Policy alignment: Social Development / Justice; Agenda 2063 Goals 1 and 3; SDGs 3 and 10.

Figure 8.22. Disability prevalence: household and person-level context

🎯 Development implication

Severe food insecurity and household health burden can reinforce one another. Social protection, disability inclusion, affordable care and food-security support should be designed as connected systems.

Table 8.5

Severe food insecurity and household health burden: Borama, Awdal and Somaliland benchmarks

Indicator	Borama	Awdal	Somaliland	Code
Household Ran Out of Food	21.4%	19%	27%	B
Went Hungry	26.1%	16%	25%	B
Whole Day Without Eating	21.9%	13%	20%	B
Chronic Health Burden	33.5%	7%	6%	C
Disability Prevalence	25.1%	11%	10%	C

Note. BAHDA-2026; Somaliland IHBS 2022; SLHDS 2020. Survey years, eligible populations and definitions vary. See Appendix H.

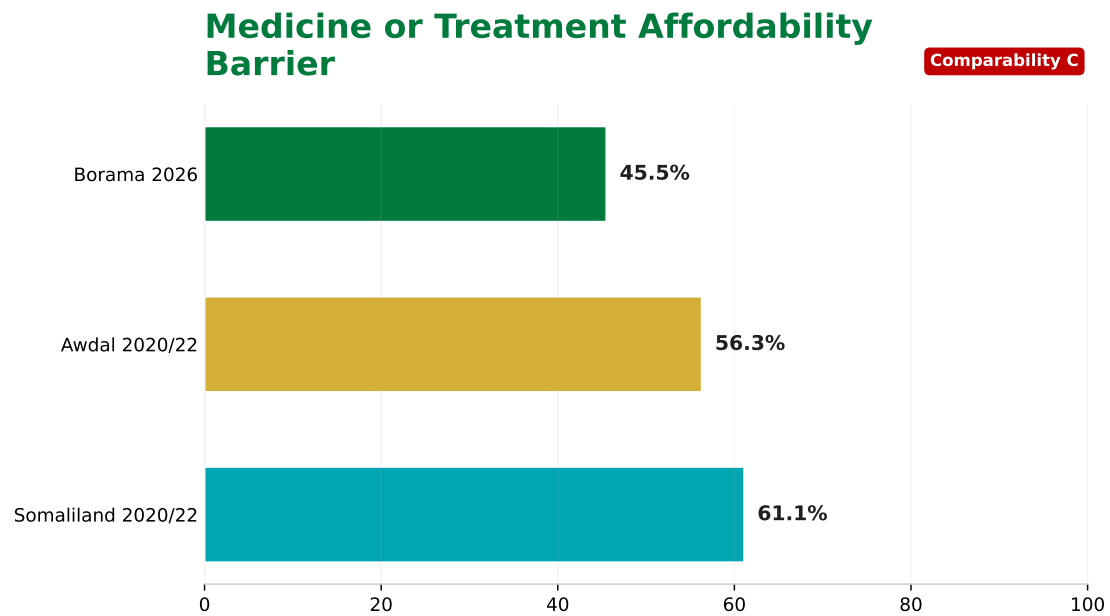
8.7 Health Access, Protection and Household Energy

Medicine affordability in BAHDA is compared contextually with the SLHDS share of women reporting difficulty obtaining money for treatment. Both sources identify cost as a major access barrier. The measures differ, but the policy message is consistent: service availability is not sufficient if households cannot finance medicines, diagnostics or treatment.

Health-insurance coverage is also contextual because BAHDA measures households while SLHDS reports women aged 15–49. The very low SLHDS benchmark underscores the limited role of insurance in the national context. Vaccination comparison requires even greater caution: BAHDA asks whether

all children under five in the household are fully vaccinated, while SLHDS reports all basic vaccination among children aged 12–23 months.

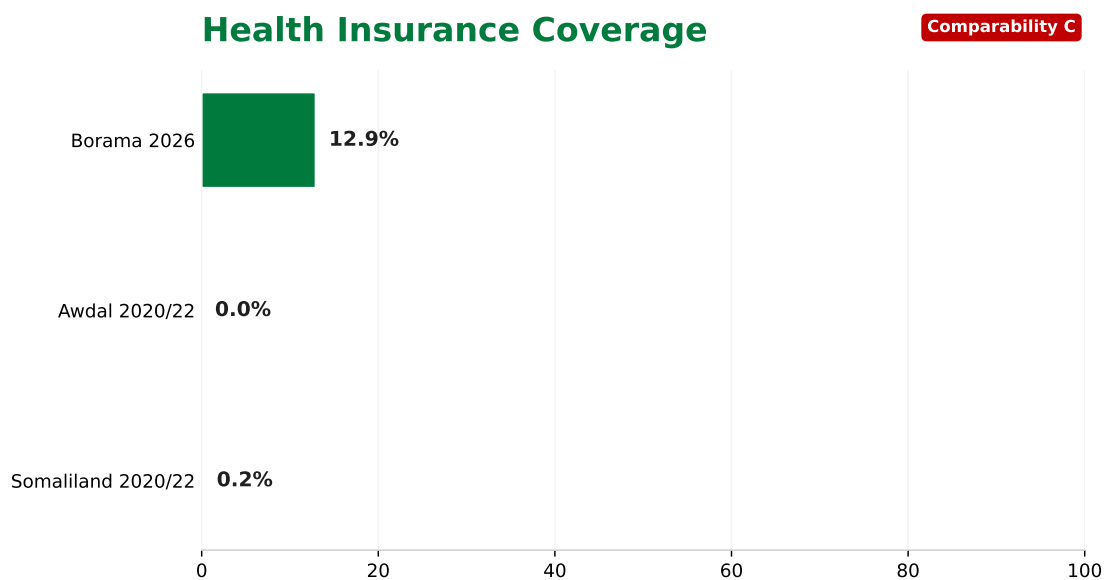
Electricity access in Borama was substantially higher than the Awdal and Somaliland benchmarks. Clean cooking fuel also compared favourably with the national estimate, although most Borama households still relied on charcoal or wood. Energy policy should therefore consider both access and the health and environmental quality of household energy.



BAHDA medicine-course affordability; benchmark women reporting difficulty getting money for treatment.

Source: BAHDA-2026; SLHDS 2020. Policy alignment: Social Development / Health; Agenda 2063 Goal 3; SDGs 3 and 10.

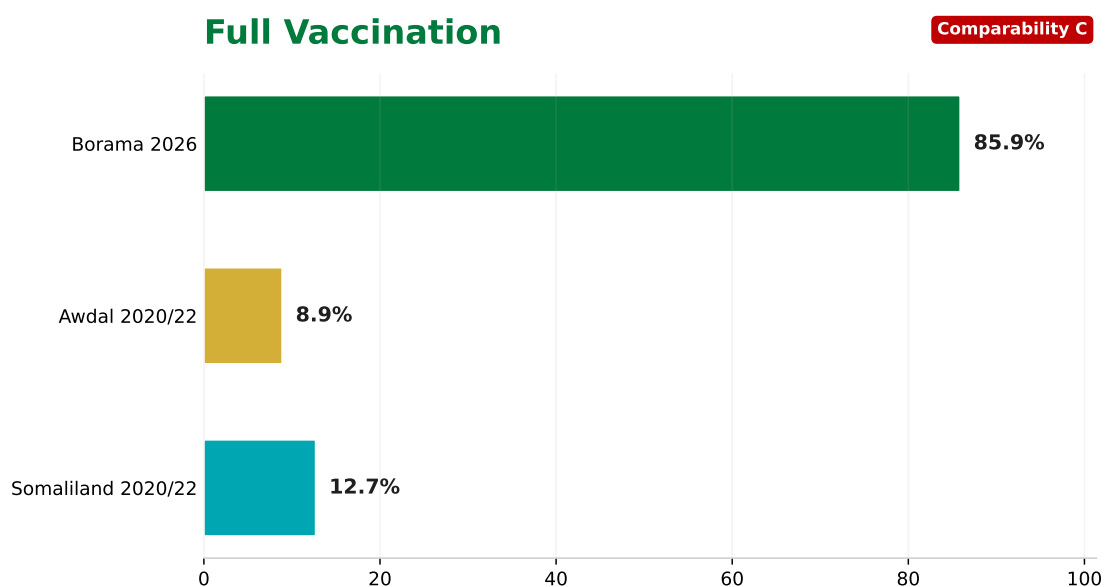
Figure 8.23. Medicine or treatment affordability barrier



BAHDA household insurance; benchmark coverage among women aged 15-49.

Source: BAHDA-2026; SLHDS 2020. Policy alignment: Social Development / Health; Agenda 2063 Goal 3; SDG 3.

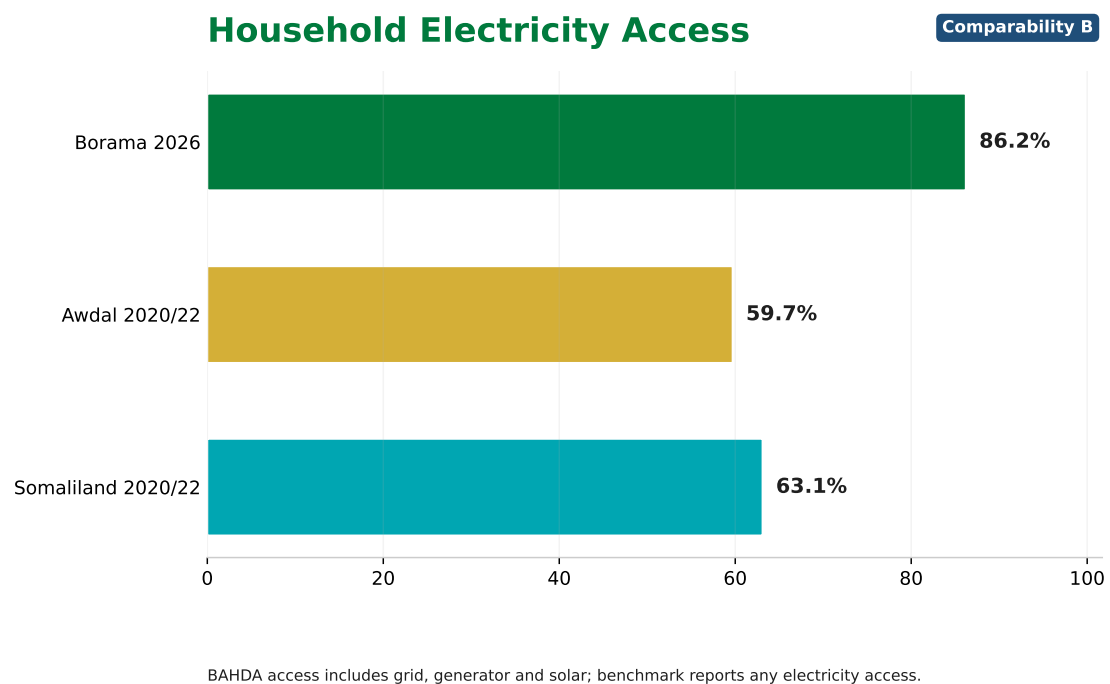
Figure 8.24. Health-insurance coverage: contextual measures



BAHDA household report for all children under five; benchmark all basic vaccination among children 12-23 months.

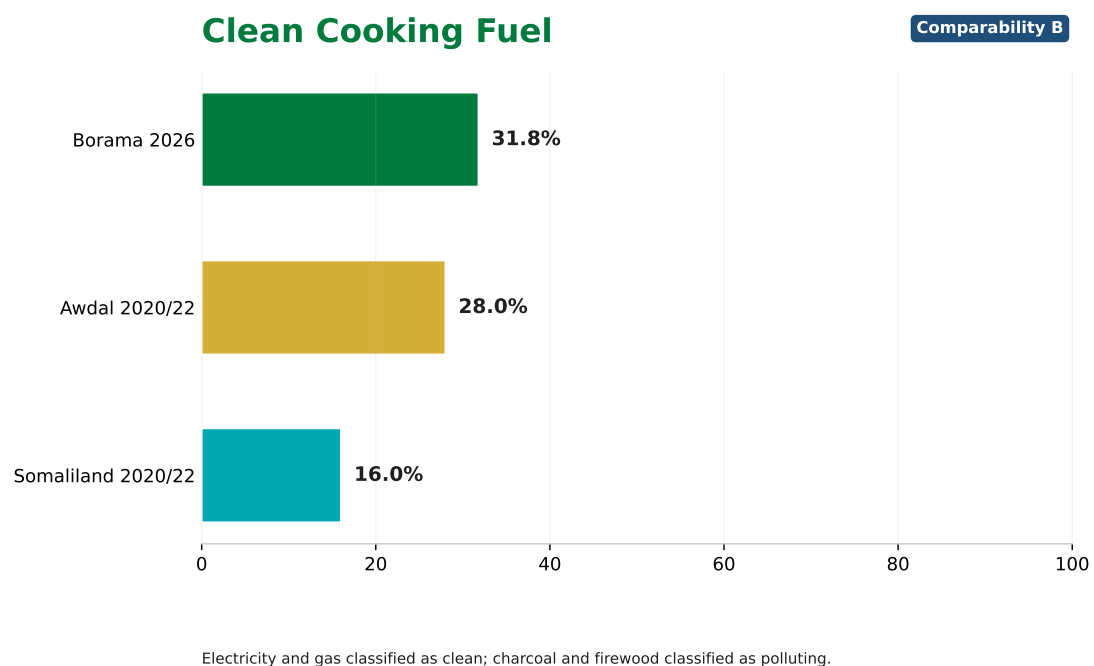
Source: BAHDA-2026; SLHDS 2020. Policy alignment: Social Development / Health; Agenda 2063 Goals 3 and 18; SDG 3.

Figure 8.25. Full vaccination: contextual measures



Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Infrastructure; Agenda 2063 Goals 7 and 10; SDGs 7, 9, 11.

Figure 8.26. Household electricity access



Source: BAHDA-2026; IHBS 2022. Policy alignment: Infrastructure / Climate / Health; Agenda 2063 Goals 3 and 7; SDGs 3, 7, 13.

Figure 8.27. Clean cooking fuel

🎯 Development implication

Health access requires financial protection, while energy policy should move from basic availability toward reliability, affordability and cleaner household fuels.

Table 8.6*Health access, protection and household energy: Borama, Awdal and Somaliland benchmarks*

Indicator	Borama	Awdal	Somaliland	Code
Medicine or Treatment Affordability Barrier	45.5%	56.3%	61.1%	C
Health Insurance Coverage	12.9%	0%	0.2%	C
Full Vaccination	85.9%	8.9%	12.7%	C
Household Electricity Access	86.2%	59.7%	63.1%	B
Clean Cooking Fuel	31.8%	28%	16%	B

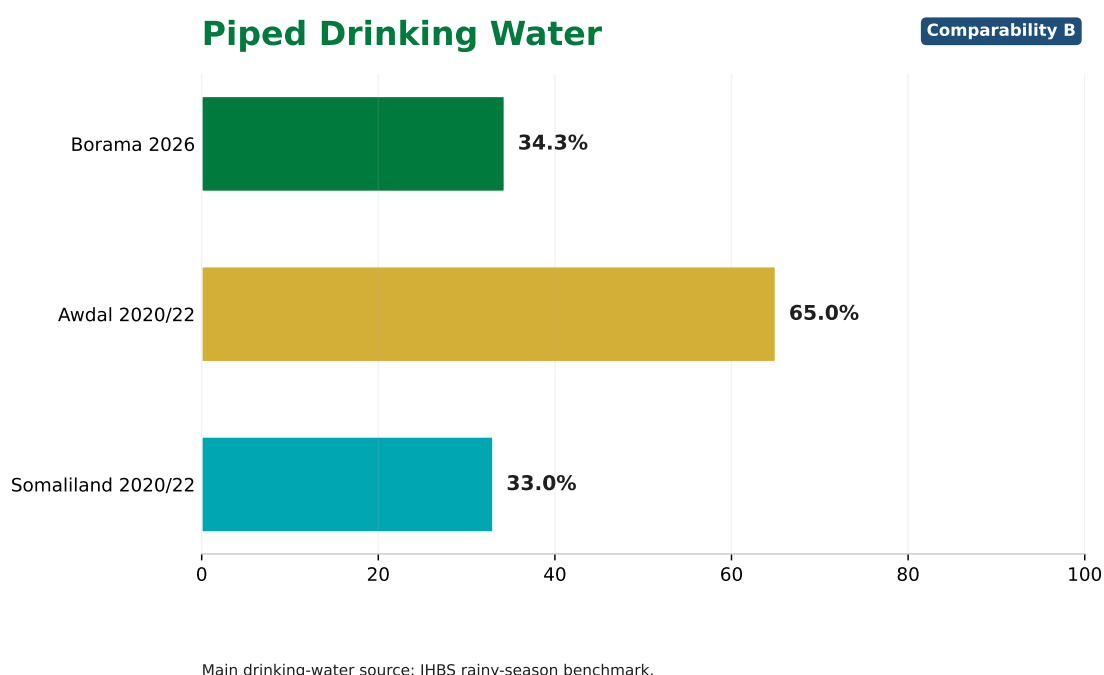
Note. BAHDA-2026; Somaliland IHBS 2022; SLHDS 2020. Survey years, eligible populations and definitions vary. See Appendix H.

8.8 Water, Sanitation and Digital Inclusion

Piped water was a similar share of household sources in Borama and Somaliland, but the Awdal IHBS benchmark was much higher. The comparison uses the rainy-season main source and should not be interpreted as a complete measure of water safety, reliability or household connection.

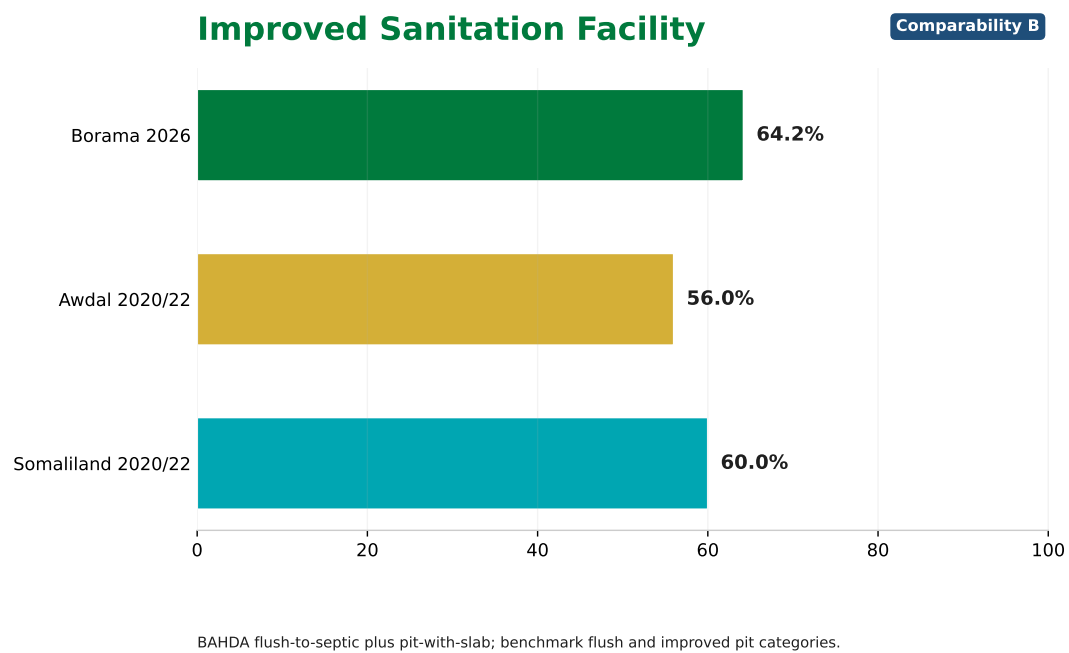
The harmonised sanitation comparison combines flush and improved pit categories. Borama was mostly above the Awdal and Somaliland benchmarks. However, water and soap at the handwashing place were less common in Borama. This shows why sanitation infrastructure and hygiene readiness must be assessed separately.

Mobile-phone ownership or access was high across all three contexts. Internet access or use shows a much larger apparent Borama advantage, but the comparison is contextual: BAHDA records household access routes, while IHBS measures recent internet use among persons aged 15 and older. Device and network availability should therefore be distinguished from individual use, affordability and digital capability.



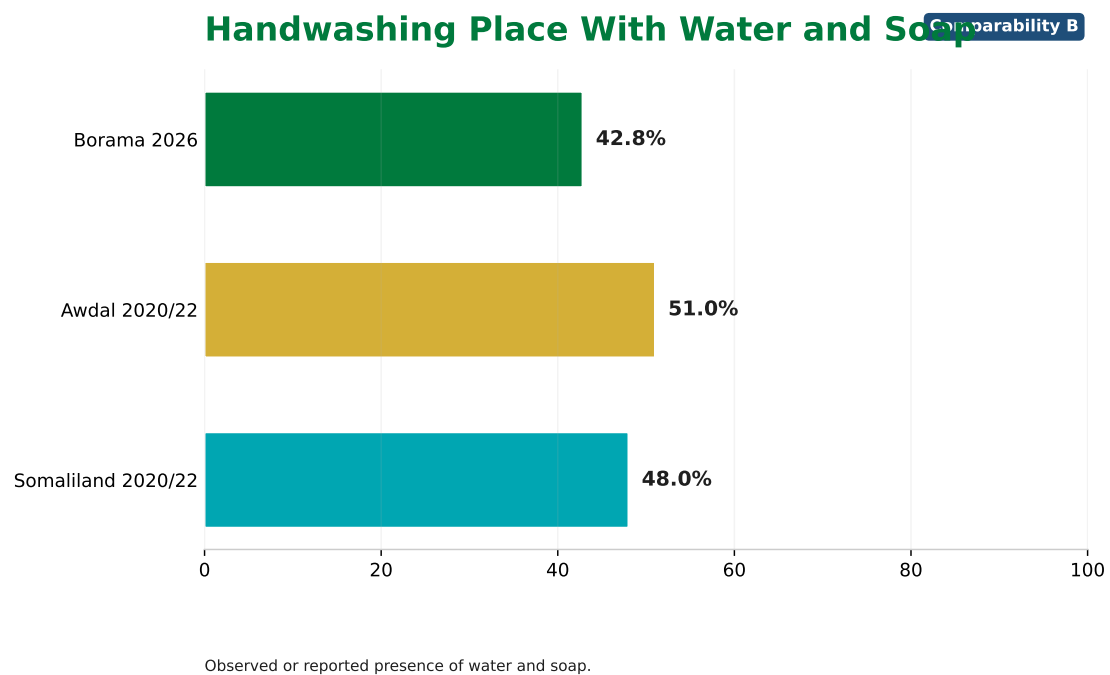
Source: BAHDA-2026; IHBS 2022. Policy alignment: Social Development / Infrastructure; Agenda 2063 Goals 1 and 7; SDG 6.

Figure 8.28. Piped drinking water



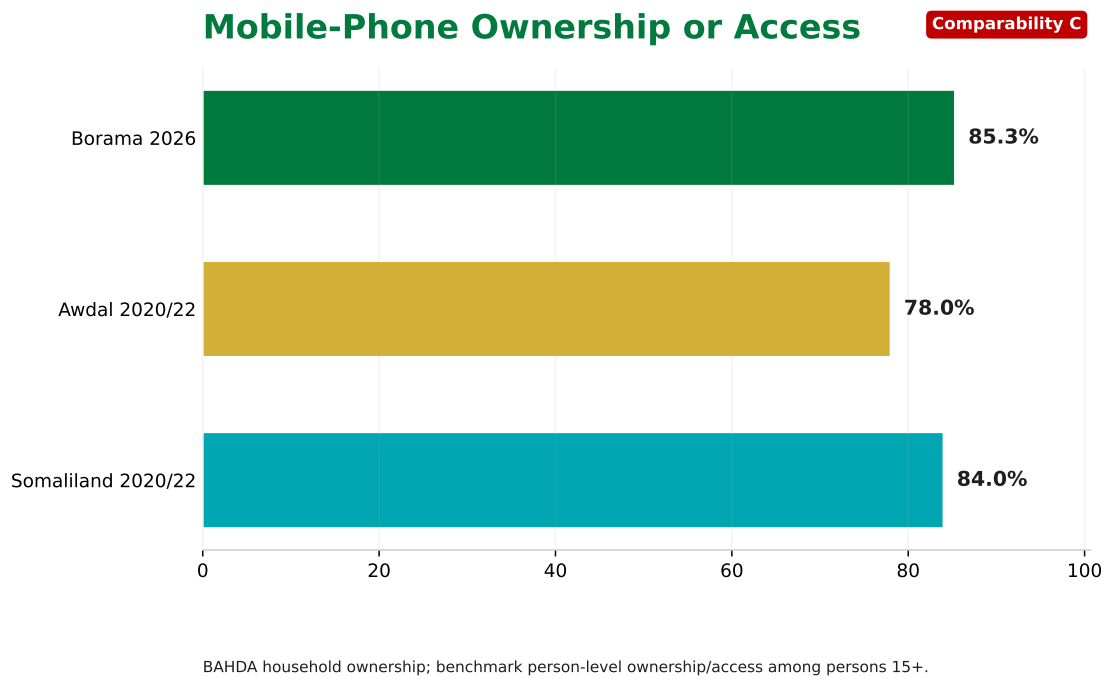
Source: BAHDA-2026; IHBS 2022. Policy alignment: Good Governance / Basic Services; Agenda 2063 Goals 1 and 7; SDGs 6 and 11.

Figure 8.29. Improved sanitation facility



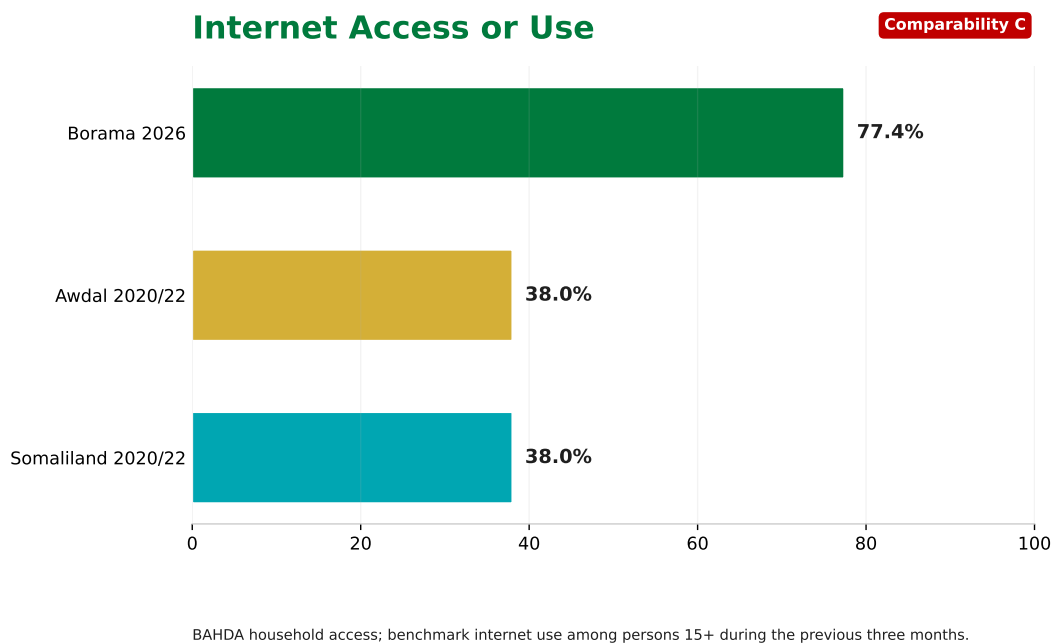
Source: BAHDA-2026; IHBS 2022. Policy alignment: Good Governance / Health; Agenda 2063 Goals 1 and 3; SDGs 3 and 6.

Figure 8.30. Handwashing place with water and soap



Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Infrastructure; Agenda 2063 Goal 10; SDGs 9 and 17.

Figure 8.31. Mobile-phone ownership or access



Source: BAHDA-2026; IHBS 2022. Policy alignment: Economic Infrastructure / Education; Agenda 2063 Goals 2 and 10; SDGs 4, 9, 17.

Figure 8.32. Internet access or use

🎯 Development implication

Infrastructure progress should be measured through service quality and use, not infrastructure presence alone. Water reliability, handwashing readiness, connectivity affordability and digital skills remain central.

Table 8.7*Water, sanitation and digital inclusion: Borama, Awdal and Somaliland benchmarks*

Indicator	Borama	Awdal	Somaliland	Code
Piped Drinking Water	34.3%	65%	33%	B
Improved Sanitation Facility	64.2%	56%	60%	B
Handwashing Place With Water and Soap	42.8%	51%	48%	B
Mobile-Phone Ownership or Access	85.3%	78%	84%	C
Internet Access or Use	77.4%	38%	38%	C

Note. BAHDA-2026; Somaliland IHBS 2022; SLHDS 2020. Survey years, eligible populations and definitions vary. See Appendix H.

8.9 Overall Benchmark Interpretation

The benchmark identifies several areas of relative strength, including household enterprise ownership, electricity access, mobile access and household internet availability. It also identifies persistent pressure in severe food insecurity, health affordability, disability inclusion and hygiene readiness. The most important finding is not that Borama is uniformly better or worse. Different development systems perform differently, and internal inequalities may be larger than the district-to-national gap.

The benchmark also shows the value of local data. National indicators establish context, while BAHDA reveals household-level patterns within Borama. The combination supports more precise planning than either source alone.

⇒ Benchmark interpretation

A Borama value above a benchmark is not automatically positive. For adverse indicators such as food insecurity or shocks, a higher value represents greater household pressure.

Table 8.1*Thirty-indicator Borama-Awdal-Somaliland comparative benchmark*

No.	Indicator	Borama	Awdal	Somaliland	Code	Source	Comparability note
1	Average Household Size	8	5.9	6.5	A	IHBS 2022	Same household-level concept.
2	Adult Literacy	80.7%	54.4%	58%	C	IHBS 2022	BAHDA: household has all/some literate adults; benchmark: percentage of persons 15+ who are literate.
3	School Participation	41.5%	46.9%	29.6%	C	SLHDS 2020	BAHDA: all eligible children aged 6-18 attending; benchmark: primary-school net attendance ratio.
4	Household Enterprise Ownership	27.2%	10%	14%	B	IHBS 2022	Household-level ownership; instrument wording differs slightly.
5	Household Remittance Receipt	30.7%	33%	24%	B	IHBS 2022	Household receipt; reference periods broadly aligned.

No.	Indicator	Borama	Awdal	Somaliland	Code	Source	Comparability note
6	Formal Financial Access	22.8%	19%	10%	C	IHBS 2022	BAHDA: any adult household member uses a formal institution; benchmark: bank account ownership among persons 15+.
7	Mobile-Money or Mobile Financial Use	87.9%	89%	91%	C	IHBS 2022	BAHDA household use; benchmark mobile financial transaction use among persons 15+ with phone access.
8	Household Loan or Credit Use	37.4%	24%	32%	B	IHBS 2022	Any formal or informal household loan/credit.
9	Recent Household Economic Shock	39.3%	65%	72%	B	IHBS 2022	BAHDA economic shock compared with IHBS any shock; shock lists differ.
10	Climate-Related Change or Shock	59.7%	41%	50%	C	IHBS 2022	BAHDA perceived weather-pattern change over 10 years; benchmark climate shock during survey reference period.
11	Concern About Insufficient Food	29.6%	36%	37%	B	IHBS 2022	Related FIES experience; BAHDA uses a 12-month reference period and IHBS one month.
12	Unable to Afford Healthy Food	36.4%	36%	43%	B	IHBS 2022	Related FIES experience; reference periods differ.
13	Limited Dietary Diversity	35.1%	33%	37%	B	IHBS 2022	Related FIES experience; reference periods differ.
14	Meal Skipping	30.6%	21%	30%	B	IHBS 2022	Related FIES experience; reference periods differ.
15	Ate Less Than Needed	34.1%	22%	32%	B	IHBS 2022	Related FIES experience; reference periods differ.
16	Household Ran Out of Food	21.4%	19%	27%	B	IHBS 2022	Related FIES experience; reference periods differ.
17	Went Hungry	26.1%	16%	25%	B	IHBS 2022	Related FIES experience; reference periods differ.
18	Whole Day Without Eating	21.9%	13%	20%	B	IHBS 2022	Related FIES experience; reference periods differ.
19	Chronic Health Burden	33.5%	7%	6%	C	IHBS 2022 / BAHDA	BAHDA: household reporting an adult hypertension diagnosis; benchmark: person-level chronic illness prevalence.

No.	Indicator	Borama	Awdal	Somaliland	Code	Source	Comparability note
20	Disability Prevalence	25.1%	11%	10%	C	IHBS 2022	BAHDA: any household member; benchmark: person-level disability prevalence.
21	Medicine or Treatment Affordability Barrier	45.5%	56.3%	61.1%	C	SLHDS 2020	BAHDA medicine-course affordability; benchmark women reporting difficulty getting money for treatment.
22	Health Insurance Coverage	12.9%	0%	0.2%	C	SLHDS 2020	BAHDA household insurance; benchmark coverage among women aged 15-49.
23	Full Vaccination	85.9%	8.9%	12.7%	C	SLHDS 2020	BAHDA household report for all children under five; benchmark all basic vaccination among children 12-23 months.
24	Household Electricity Access	86.2%	59.7%	63.1%	B	IHBS 2022	BAHDA access includes grid, generator and solar; benchmark reports any electricity access.
25	Clean Cooking Fuel	31.8%	28%	16%	B	IHBS 2022	Electricity and gas classified as clean; charcoal and firewood classified as polluting.
26	Piped Drinking Water	34.3%	65%	33%	B	IHBS 2022	Main drinking-water source; IHBS rainy-season benchmark.
27	Improved Sanitation Facility	64.2%	56%	60%	B	IHBS 2022	BAHDA flush-to-septic plus pit-with-slab; benchmark flush and improved pit categories.
28	Handwashing Place With Water and Soap	42.8%	51%	48%	B	IHBS 2022	Observed or reported presence of water and soap.
29	Mobile-Phone Ownership or Access	85.3%	78%	84%	C	IHBS 2022	BAHDA household ownership; benchmark person-level ownership/access among persons 15+.
30	Internet Access or Use	77.4%	38%	38%	C	IHBS 2022	BAHDA household access; benchmark internet use among persons 15+ during the previous three months.

Note. Code A = directly comparable; B = comparable after harmonisation; C = contextual comparison only. Survey years and denominators differ.

Chapter Closing Perspective

Benchmarking adds value when it sharpens interpretation rather than creating a league table. Borama shows areas of relative strength, areas of continuing pressure and several indicators that cannot be compared directly because the underlying populations or definitions differ. The strongest use of Chapter 8 is therefore to combine the broad authority of official Somaliland statistics with BAHDA's local household detail, using each source for the question it is best designed to answer.

Chapter message: Comparative evidence is strongest when local detail and official benchmarks are read together, with differences interpreted only as far as definitions and denominators allow.

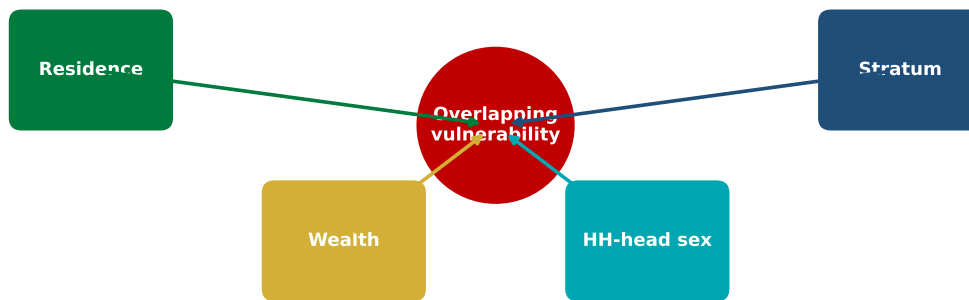


Cross-Pillar Inequalities and Household Vulnerability

Residence, wealth, household leadership and overlapping disadvantage

Cross-Pillar Inequality and Household Vulnerability

How residence, wealth, household leadership and location intersect



Priority targeting combines people, place and service conditions

Chapter 9 at a Glance

Key evidence, inequalities and development implications



Residence

Urban, peri-urban and rural

Service and livelihood systems differ.



Wealth

Five quintiles

Strong gradients for several outcomes.



Household Leadership

Male and female heads

Differences require compositional interpretation.



Stratum

Six reporting areas

Local patterns hidden by district averages.



Food Insecurity

Multiple dimensions

Anxiety, diet and severe deprivation.



Health Affordability

Medicine and diagnostics

Financial barriers overlap with poverty.



Economic Shock

Household resilience

Risks intersect with food and health.



Civic Inclusion

Documents and participation

Institutional access varies.



Climate Exposure

Place-sensitive risk

Flood, drought and environmental pressure.



Targeting Principle

People + place + service

Avoid one-dimensional targeting.

Chapter Overview

This chapter moves beyond individual pillars to examine how disadvantage is distributed across people and places. It integrates selected social, health, economic, infrastructure and governance indicators across residence, wealth quintile, sex of household head and sampling stratum.

The central question is not which single group is most vulnerable, but where multiple constraints overlap. The chapter therefore treats inequality as a multidimensional planning problem and uses transparent indicator profiles rather than a single opaque vulnerability score.

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between

weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

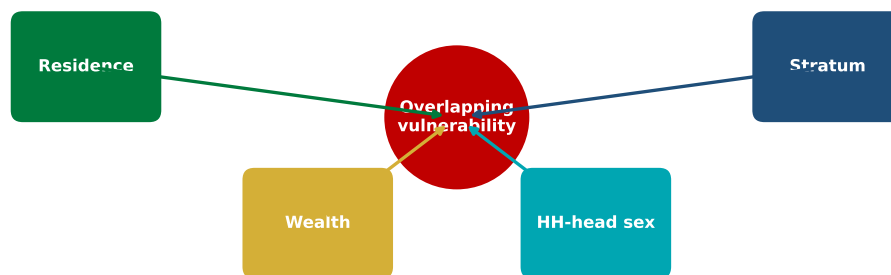
9.1 Purpose and Analytical Framework

District averages provide a useful summary but cannot show whether a condition is concentrated among particular households or locations. This chapter integrates selected indicators across all five pillars and examines four dimensions: residence, wealth quintile, sex of household head and original sampling stratum.

The analysis focuses on policy-relevant conditions rather than every questionnaire item. Indicators include food insecurity and coping, health affordability, chronic disease, economic shocks, climate exposure, digital access, civic documentation, participation and basic services. The purpose is to identify recurring patterns and overlapping disadvantage.

Cross-Pillar Inequality and Household Vulnerability

How residence, wealth, household leadership and location intersect



Priority targeting combines people, place and service conditions

Figure 9.1. Cross-Pillar Vulnerability Framework

9.2 Inequality by Residence

Urban, peri-urban and rural residence represent different combinations of settlement density, infrastructure, service proximity, labour markets, land use and environmental exposure. No residence category performs uniformly better across all indicators. Urban households may benefit from proximity and connectivity while facing high costs, crowding or drainage problems. Rural households may have stronger access to land or livestock but face distance, transport and service constraints. Peri-urban communities often combine rapid growth with incomplete infrastructure.

The residence heatmap should therefore be read by indicator. A high value may be favourable for access indicators and unfavourable for food insecurity, shocks or disease. Weighted and unweighted panels are presented with common scales so that readers can distinguish substantive residence differences from weighting effects.

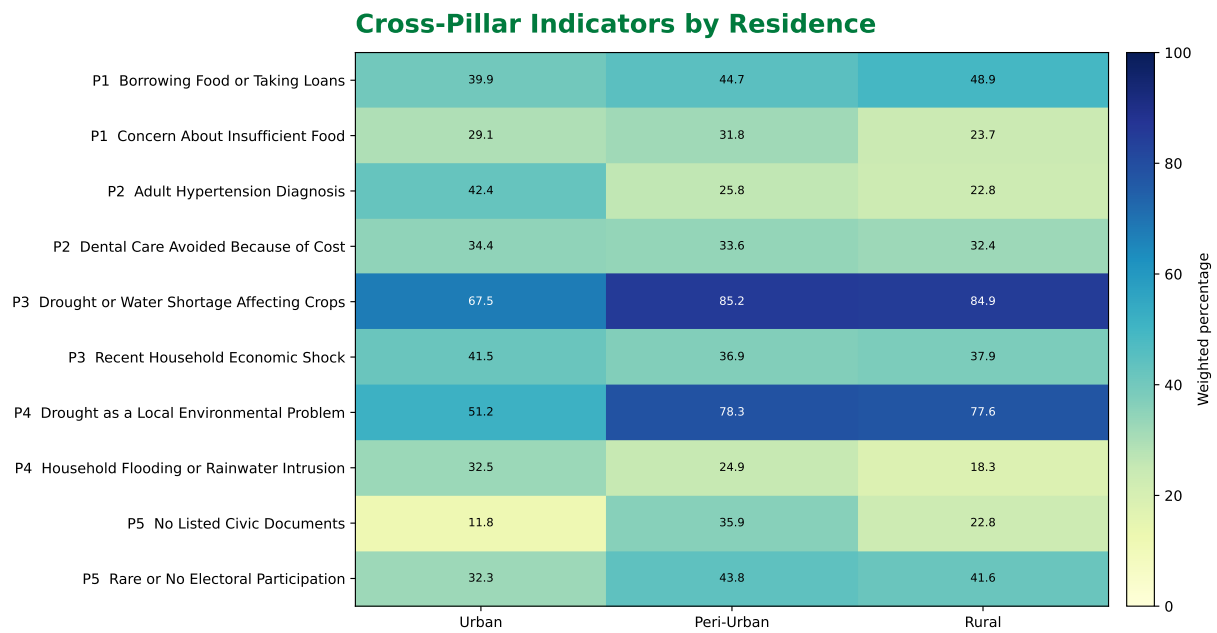


Figure 9.2. Cross-Pillar Inequality by Residence

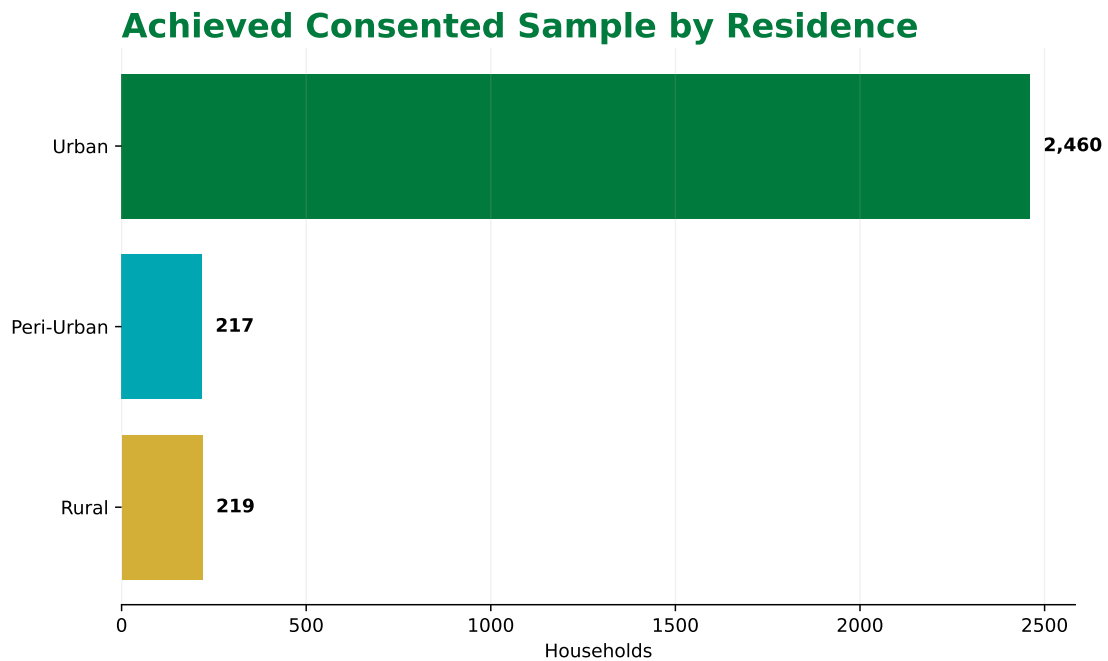


Figure 9.3. Observed sample distribution by residence

Inequality lens

Residence is a planning category, not a complete explanation. Wealth, household composition and stratum can differ within the same residence group.

9.3 Inequality by Wealth Quintile

Wealth gradients reveal whether households with fewer assets experience systematically higher exposure to food insecurity, economic shocks, medicine-cost barriers, weak connectivity or documentation gaps. Several indicators show a clear monotonic relationship, while others show non-linear patterns or weaker gradients.

A monotonic gradient supports resource targeting, but a non-linear pattern may indicate that the problem is shaped by service design, location or social behaviour rather than wealth alone. Wealth quintiles are relative within BAHDA and should not be compared as absolute income levels with the quintiles of another survey.

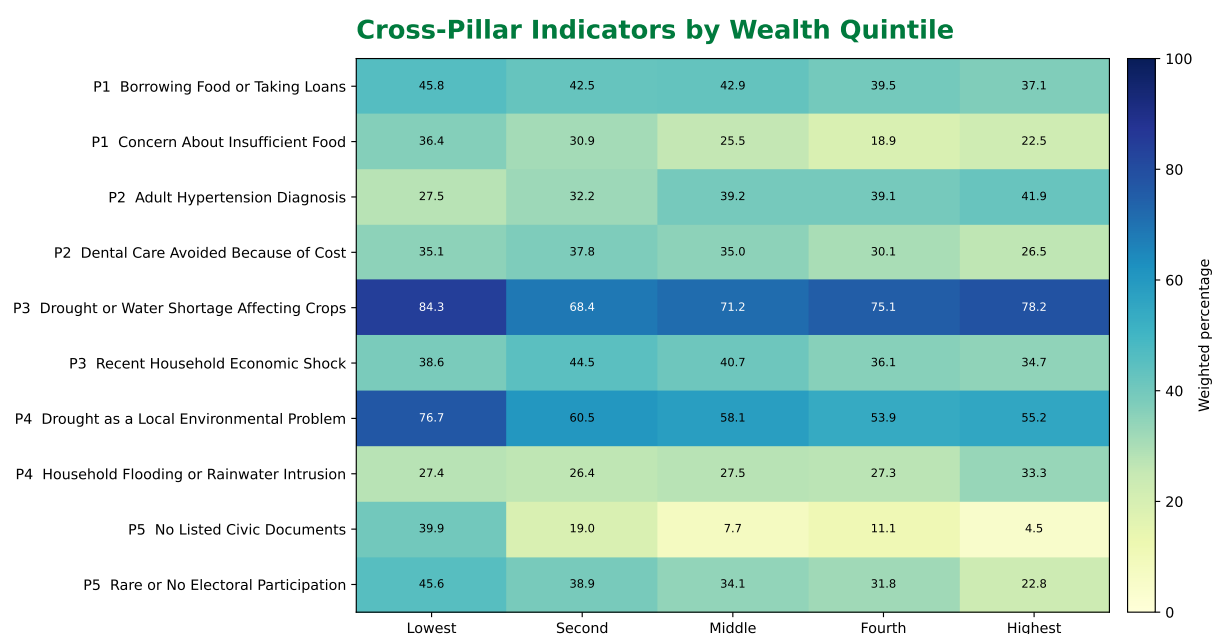


Figure 9.4. Cross-Pillar Inequality by Wealth Quintile

Development implication

Poverty-sensitive targeting is essential, but it should be combined with location and service-quality evidence. Not every household problem can be addressed through income support alone.

9.4 Inequality by Sex of Household Head

The household-head comparison describes differences between households led by women and men. It should not be interpreted as a causal effect of sex. Household composition, age, marital status, income sources, migration, remittances and residence may differ between the groups.

The analytical value of the comparison lies in identifying where a group experiences a meaningful service or welfare gap that merits further investigation. Programme design should avoid assuming that all female-headed or male-headed households have the same circumstances.

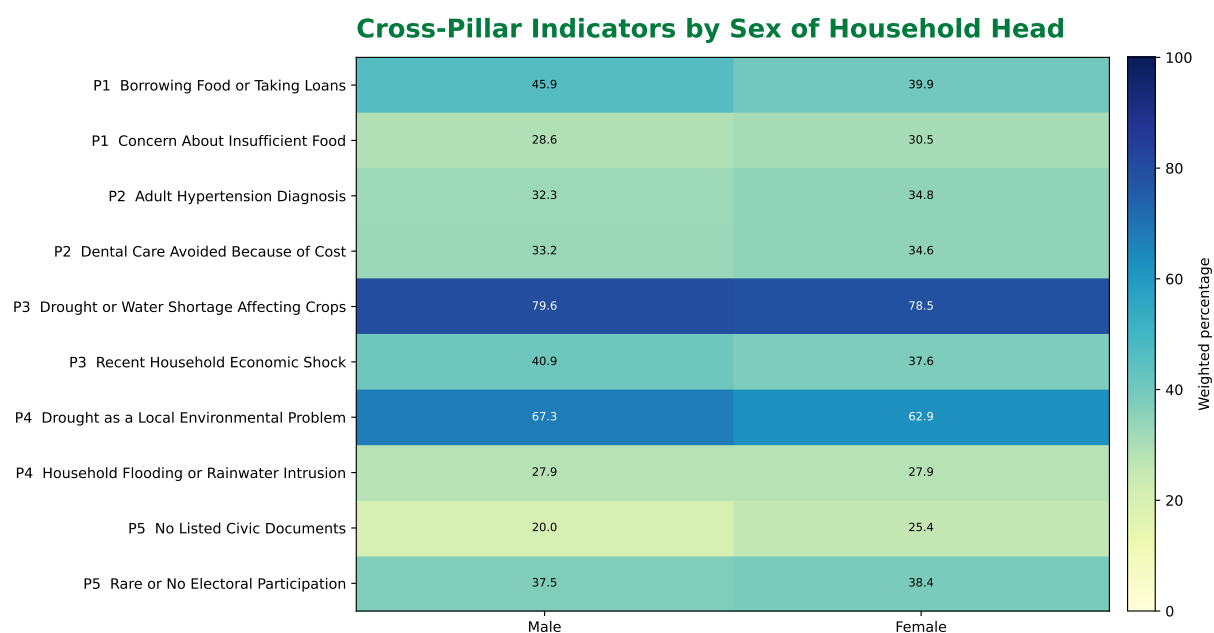


Figure 9.5. Cross-Pillar Inequality by Household-Head Sex

Inequality lens

Household-head sex is one dimension of household structure. It should be interpreted with wealth, residence and household composition whenever possible.

9.5 Inequality by Sampling Stratum

The six-stratum analysis provides the most detailed public geography in the Atlas. It reveals local patterns that are hidden when the four urban strata are combined. A stratum may perform relatively well in one domain and poorly in another. This is why the Atlas avoids a single overall ranking of places.

The stratum results are descriptive planning signals. They can identify themes for local validation, infrastructure assessment, service mapping or targeted programmes. They should not be used to infer the condition of an individual household or to label an entire community from one indicator.

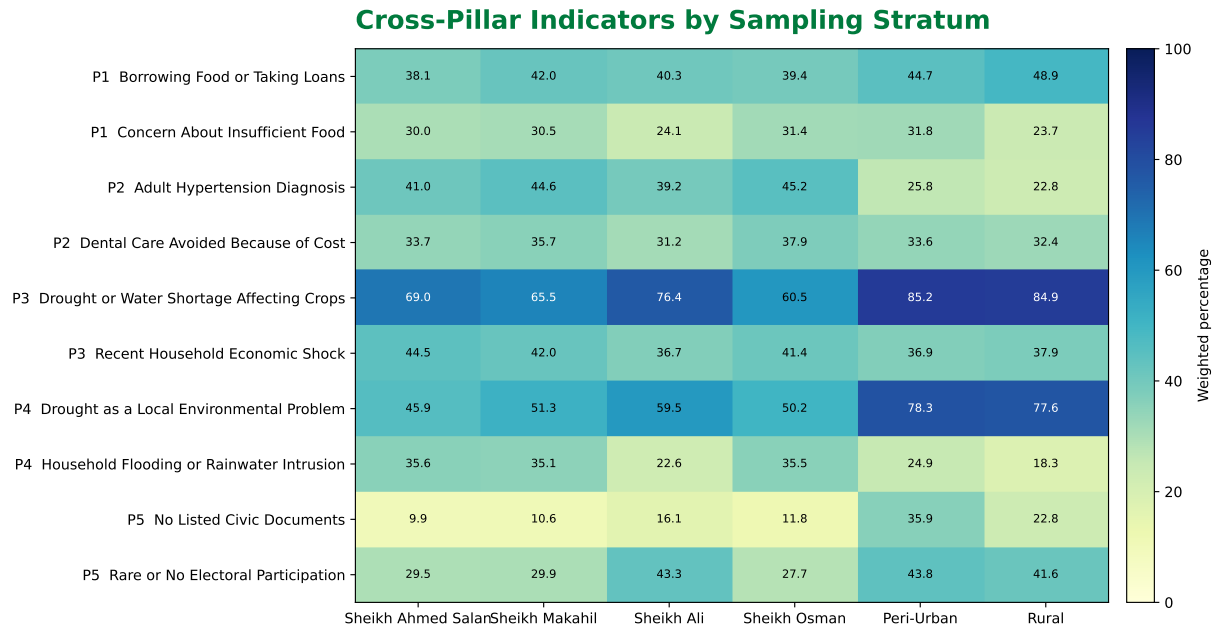


Figure 9.6. Cross-Pillar Patterns by Sampling Stratum

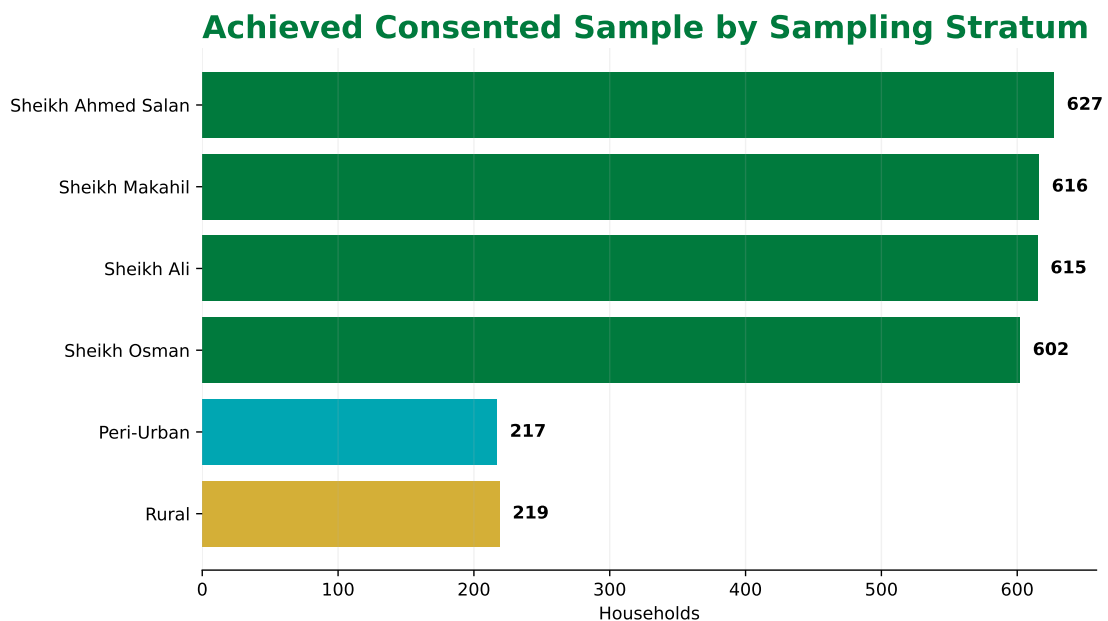


Figure 9.7. Observed sample distribution by sampling stratum

9.6 Intersecting Household Vulnerability

The central finding of the cross-pillar analysis is that disadvantages overlap. A household may simultaneously experience low wealth, food insecurity, an economic shock, medicine-cost barriers, weak sanitation and limited civic documentation. Addressing only one constraint may produce limited improvement if other barriers remain.

Intersecting vulnerability can be understood through three dimensions:

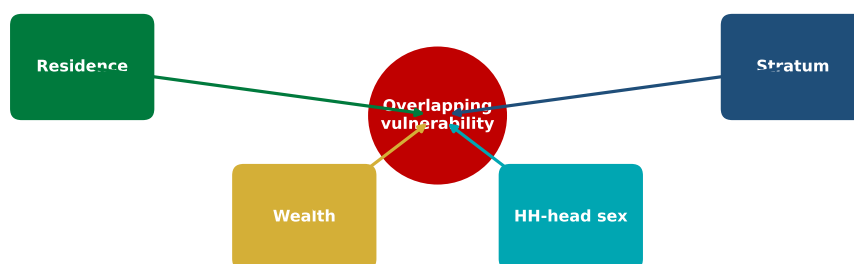
1. **People:** household composition, disability, household leadership, education and livelihood status;

2. **Place:** residence, stratum, distance, infrastructure and environmental exposure;
3. **Services:** availability, affordability, quality, reliability and accountability.

This framework supports coordinated targeting without creating an opaque composite index. The Atlas prefers transparent indicator profiles and explicit thresholds to a single vulnerability score whose assumptions may be difficult to explain.

Cross-Pillar Inequality and Household Vulnerability

How residence, wealth, household leadership and location intersect



Priority targeting combines people, place and service conditions

Figure 9.8. People, place and service dimensions of vulnerability

9.7 Priority Population Groups and Development Packages

Priority groups should be identified using several indicators. Potential examples include low-wealth households reporting severe food insecurity; households containing a person with disability and limited service access; households affected by economic and climate shocks; and locations showing repeated deficits across infrastructure, health and governance.

Development packages should be coordinated around the observed combination of constraints. A food-insecure household may require temporary support, livelihood recovery and access to health or education services. A digitally connected but economically excluded household may benefit from financial literacy, enterprise support and online-work skills. A poorly served location may require WASH, road, drainage, energy and accountability interventions rather than one stand-alone project.

© Development implication

Priority targeting should combine people, place and service dimensions. The strongest interventions will address connected household constraints through sequenced and accountable packages.

9.8 Monitoring Cross-Pillar Inequality

Future BAHDA rounds should preserve a concise inequality dashboard. The same indicator definitions, eligible denominators, residence groups, wealth construction and stratum framework should be retained. Uncertainty measures and design documentation should be strengthened so that future changes can be distinguished from sampling variation.

The dashboard should include at least one outcome from education, food security, health affordability, economic resilience, digital inclusion, WASH, civic documentation and participation. Monitoring should report both the district estimate and the gap between priority groups.

Table 9.1

Largest displayed subgroup gaps across BAHDA-2026 heatmap indicators

Pillar	Indicator	Dimension	Highest group	Highest %	Lowest group	Lowest %	Gap (pp)
5	No Listed Civic Documents	Wealth Quintile	Lowest	39.9	Highest	4.5	35.4
4	Drought as a Local Environmental Problem	Sampling Stratum	Peri-Urban	78.3	Sheikh Ahmed Salan	45.9	32.4

Pillar	Indicator	Dimension	Highest group	Highest %	Lowest group	Lowest %	Gap (pp)
4	Drought as a Local Environmental Problem	Residence	Peri-Urban	78.3	Urban	51.2	27.1
5	No Listed Civic Documents	Sampling Stratum	Peri-Urban	35.9	Sheikh Salan Ahmed	9.9	26.1
3	Drought or Water Shortage Affecting Crops	Sampling Stratum	Peri-Urban	85.2	Sheikh Osman	60.5	24.7
5	No Listed Civic Documents	Residence	Peri-Urban	35.9	Urban	11.8	24.2
4	Drought as a Local Environmental Problem	Wealth Quintile	Lowest	76.7	Fourth	53.9	22.8
5	Rare or No Electoral Participation	Wealth Quintile	Lowest	45.6	Highest	22.8	22.7
2	Adult Hypertension Diagnosis	Sampling Stratum	Sheikh Osman	45.2	Rural	22.8	22.4
2	Adult Hypertension Diagnosis	Residence	Urban	42.4	Rural	22.8	19.5
3	Drought or Water Shortage Affecting Crops	Residence	Peri-Urban	85.2	Urban	67.5	17.8
1	Concern About Insufficient Food	Wealth Quintile	Lowest	36.4	Fourth	18.9	17.5
4	Household Flooding or Rainwater Intrusion	Sampling Stratum	Sheikh Salan Ahmed	35.6	Rural	18.3	17.3
5	Rare or No Electoral Participation	Sampling Stratum	Peri-Urban	43.8	Sheikh Osman	27.7	16.0
3	Drought or Water Shortage Affecting Crops	Wealth Quintile	Lowest	84.3	Second	68.4	15.9
2	Adult Hypertension Diagnosis	Wealth Quintile	Highest	41.9	Lowest	27.5	14.4
4	Household Flooding or Rainwater Intrusion	Residence	Urban	32.5	Rural	18.3	14.3
5	Rare or No Electoral Participation	Residence	Peri-Urban	43.8	Urban	32.3	11.4
2	Dental Care Avoided Because of Cost	Wealth Quintile	Second	37.8	Highest	26.5	11.3
1	Borrowing Food or Taking Loans	Sampling Stratum	Rural	48.9	Sheikh Salan Ahmed	38.1	10.7
3	Recent Household Economic Shock	Wealth Quintile	Second	44.5	Highest	34.7	9.8
1	Borrowing Food or Taking Loans	Residence	Rural	48.9	Urban	39.9	8.9
1	Borrowing Food or Taking Loans	Wealth Quintile	Lowest	45.8	Highest	37.1	8.7
1	Concern About Insufficient Food	Sampling Stratum	Peri-Urban	31.8	Rural	23.7	8.1
1	Concern About Insufficient Food	Residence	Peri-Urban	31.8	Rural	23.7	8.1

Note. The table summarises only the indicators selected for the final heatmap plan. It is not a ranking of all 312 survey items.

Chapter Closing Perspective

Cross-pillar analysis shows that household disadvantage rarely respects sector boundaries. Food insecurity, economic shocks, health costs, weak services, limited documentation and climate exposure can reinforce one another, while the same district average can conceal very different experiences by wealth and place. The practical implication is to identify overlapping constraints transparently and respond with coordinated packages rather than isolated programmes.

Chapter message: Inequality is most actionable when people, place and service barriers are examined together and translated into coordinated support for households facing multiple disadvantages.

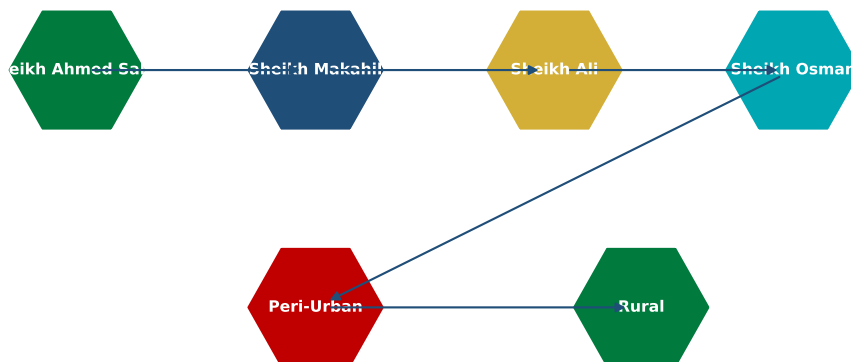


Spatial Development Patterns and Priority Areas

Aggregated variation across six sampling strata

Spatial Development Patterns

Six strata, twenty-four zones and a shared district development system



Aggregated reporting protects household confidentiality while revealing local variation

Chapter 10 at a Glance

Key evidence, inequalities and development implications



Reporting geography

Six strata

The most detailed public spatial level.



Urban structure

Four strata

Distinct urban sampling areas.



Peri-Urban

Growth interface

Rapid change and incomplete services.



Rural

Livelihood and distance

Land-based systems and access constraints.



Confidentiality

Coordinates protected

No household locations are published.



Priority principle

Multiple indicators

No area ranked from one measure.

Chapter Overview

This chapter translates BAHDA's household evidence into a protected spatial planning perspective. It uses the six sampling strata as the most detailed public geography, preserving household confidentiality while showing how service access, livelihoods, infrastructure, environmental exposure and institutional conditions vary across the urban, peri-urban and rural system.

Spatial patterns are interpreted as signals for local validation and targeting, not as rankings of communities. The chapter emphasises repeated cross-pillar patterns, population scale, feasibility and confidentiality when identifying priority areas.

How to read weighted and unweighted results. Unweighted results describe the households actually interviewed. Weighted results adjust the contribution of the six sampling strata to reflect their estimated shares of the Borama household frame. Weighted percentages are therefore used as the principal district-level estimates. Differences between weighted and unweighted results are expected when the achieved sample distribution differs from the estimated household distribution. Weighted counts are analytical counts and may contain decimals; they are not additional household interviews.

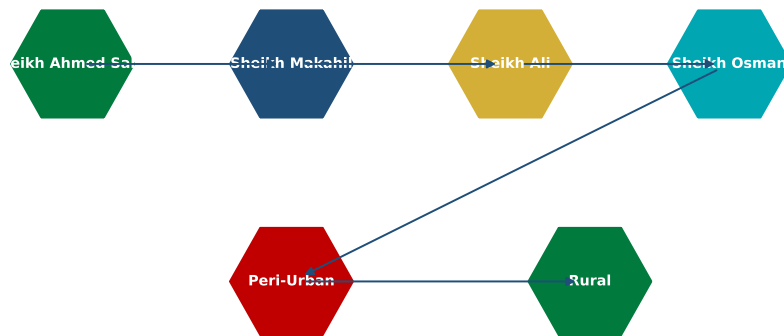
10.1 Spatial Analytical Approach

BAHDA-2026 preserves household confidentiality by reporting spatial evidence only at approved aggregated levels. Exact household GPS coordinates are not displayed. The six original sampling strata provide the most detailed geography used in the public Atlas.

Spatial analysis is descriptive. Sample sizes, household composition and indicator eligibility vary. The stratum estimates are best used to identify broad patterns for local validation and programme design. They are not precise small-area prevalence estimates and should not be treated as census statistics.

Spatial Development Patterns

Six strata, twenty-four zones and a shared district development system



Aggregated reporting protects household confidentiality while revealing local variation

Figure 10.1. Six-stratum public reporting framework

10.2 The Six-Stratum Development System

The four named urban strata represent distinct parts of the urban sampling frame. Peri-Urban and Rural represent the settlement continuum beyond the urban core. These areas are connected through transport, labour, markets, schools, health facilities, water systems and family networks. Spatial priorities should therefore consider flows and shared systems rather than treating each stratum as isolated.

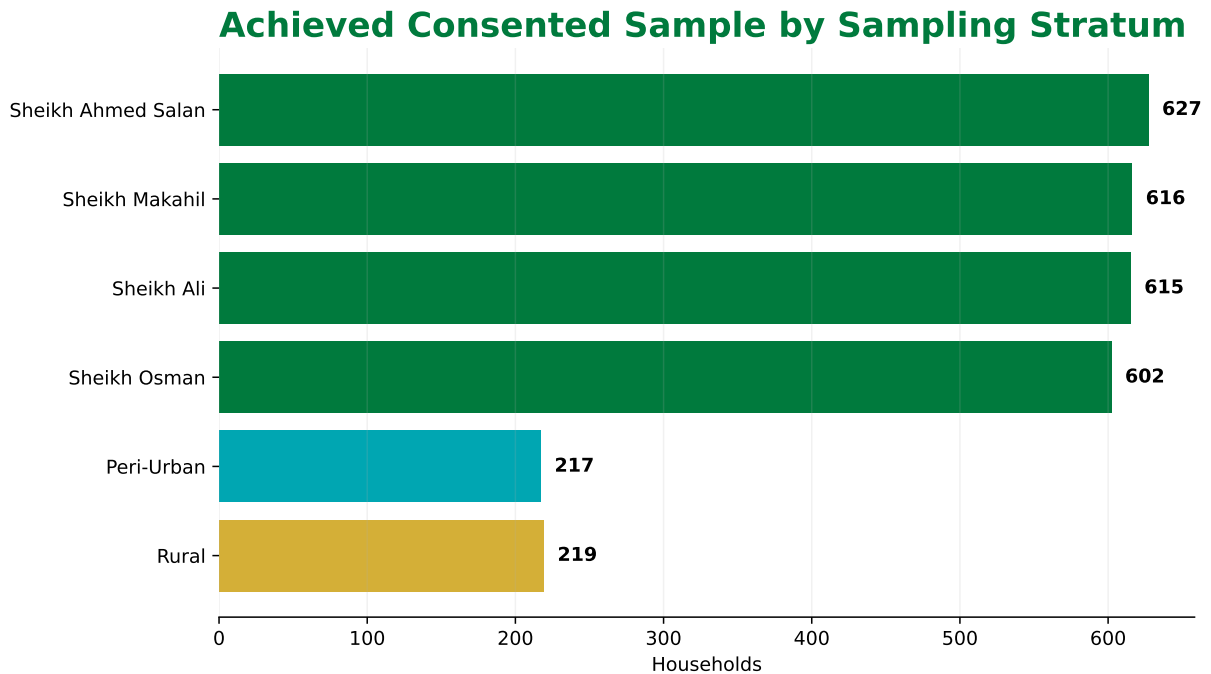


Figure 10.2. Achieved sample across the six strata

10.3 Urban Development Patterns

Urban households generally have closer access to institutions, markets, electricity, mobile networks and formal services. However, urban proximity does not guarantee affordability or quality. Housing density, drainage, waste, traffic, medicine costs and unequal access can remain important. The four urban strata should be examined separately because one combined urban average can hide local service gaps.

Urban priorities may include drainage and flood management, reliable electricity, waste services, affordable internet, safe roads, public-space management and accessible health and education services. Household-level results should be validated with facility and infrastructure assessments.

10.4 Peri-Urban Development Patterns

Peri-urban settlements often experience rapid population growth, changing land use and a lag between settlement expansion and formal service provision. Households may be close to the city but lack complete roads, drainage, water networks, waste collection or public transport. Livelihoods may combine urban employment with land-based activities.

Peri-urban planning requires coordinated land, infrastructure and service policy. Piecemeal projects may be overtaken by continued growth unless authorities maintain current settlement information and align new development with roads, WASH, energy and public facilities.

10.5 Rural Development Patterns

Rural households may have stronger access to land, livestock or agricultural livelihoods but face longer travel times, weaker service density and greater climate exposure. Water access, transport, market links, veterinary support, agricultural inputs, digital coverage and emergency access are particularly important.

Rural development should not be framed only as service extension from the city. Productive systems, local markets, climate adaptation and community institutions are central. Spatial targeting should connect household evidence with environmental and livelihood information.

10.6 Cross-Pillar Stratum Patterns

The integrated heatmap shows that no stratum performs uniformly better or worse across all indicators. A stratum with lower food insecurity may show weak civic documentation; an area with strong digital access may face environmental exposure; and a service advantage may coexist with high household cost.

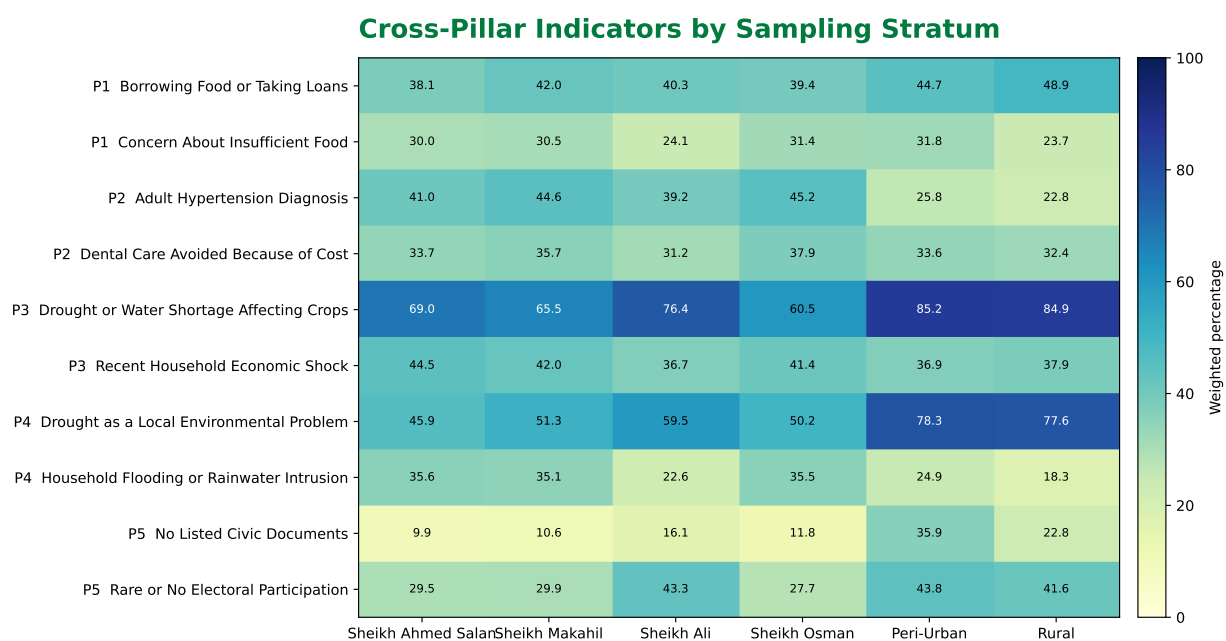


Figure 10.3. Cross-Pillar Patterns by Sampling Stratum

Three principles guide interpretation:

1. large percentage-point gaps deserve investigation even where the district average appears acceptable;
2. high prevalence combined with a large eligible population may imply a substantial service burden;
3. a location should not be labelled vulnerable from one indicator alone; repeated patterns across several domains provide a stronger basis for action.

10.7 Integrated Spatial Priority Typology

The Atlas proposes a transparent typology rather than an overall ranking. Areas can be described according to dominant needs:

- **Service-access priority:** repeated gaps in WASH, health, education, roads or digital access;
- **Household-resilience priority:** food insecurity, economic shocks, low savings or livelihood pressure;
- **Environmental-resilience priority:** flooding, drought, erosion, waste or weak adaptation;
- **Institutional-inclusion priority:** low participation, documentation, legal awareness or public trust;
- **Mixed priority:** overlapping deficits requiring coordinated intervention.

This typology should be updated through local validation and should include the size of the affected population, feasibility, existing programmes and community priorities.

Inequality lens

Spatial evidence should guide investigation and targeting, not stigmatise a settlement. Every public spatial result must protect confidentiality and be interpreted with uncertainty.

10.8 Future Spatial Monitoring

Future BAHDA rounds should preserve the six-stratum series and improve exact selection denominators. Where sample size and confidentiality permit, stable zone-level estimates may be developed with uncertainty intervals and minimum reporting thresholds. Household surveys can also be combined with facility assessments, road and service mapping, environmental observation and administrative data.

Table 10.1

Largest displayed differences across the six sampling strata

Pillar	Indicator	Highest stratum	High %	Lowest stratum	Low %	Gap
4	Drought as a Local Environmental Problem	Peri-Urban	78.3	Sheikh Ahmed Salan	45.9	32.4
5	No Listed Civic Documents	Peri-Urban	35.9	Sheikh Ahmed Salan	9.9	26.1
3	Drought or Water Shortage Affecting Crops	Peri-Urban	85.2	Sheikh Osman	60.5	24.7
2	Adult Hypertension Diagnosis	Sheikh Osman	45.2	Rural	22.8	22.4
4	Household Flooding or Rainwater Intrusion	Sheikh Ahmed Salan	35.6	Rural	18.3	17.3
5	Rare or No Electoral Participation	Peri-Urban	43.8	Sheikh Osman	27.7	16.0
1	Borrowing Food or Taking Loans	Rural	48.9	Sheikh Ahmed Salan	38.1	10.7
1	Concern About Insufficient Food	Peri-Urban	31.8	Rural	23.7	8.1
3	Recent Household Economic Shock	Sheikh Ahmed Salan	44.5	Sheikh Ali Jawhar	36.7	7.8
2	Dental Care Avoided Because of Cost	Sheikh Osman	37.9	Sheikh Ali Jawhar	31.2	6.7

Development implication

A spatial monitoring system should link household outcomes with service locations and environmental conditions while maintaining strict confidentiality.

Chapter Closing Perspective

Spatial evidence gives BAHDA a practical bridge from district statistics to local action. The six-stratum framework reveals that no area is defined by a single strength or deficit: service access, livelihoods, infrastructure and environmental risk combine differently across the urban, peri-urban and rural system. Future spatial monitoring should deepen this local resolution only when sample support, uncertainty and confidentiality permit responsible public reporting.

Chapter message: Place matters, but no place should be reduced to one indicator; spatial priorities are strongest when repeated cross-pillar patterns guide locally validated action.



Policy Alignment and Development Action Framework

Translating household evidence into sequenced priorities



Chapter 11 at a Glance

Key evidence, inequalities and development implications



National framework

NDP III

Social, economic, infrastructure, climate, governance and justice.



Continental framework

Agenda 2063

Prosperity, well-being, infrastructure and institutions.



Global framework

17 SDGs

Relevant goals and targets mapped carefully.



Immediate action

0-2 years

Feasible protection and service improvements.



Structural action

3-5 years

Systems, infrastructure and productive capacity.



Monitoring

Repeatable core

Stable definitions, denominators and responsibilities.

Chapter Overview

This chapter converts the Atlas from evidence into an action framework. It aligns BAHDA findings with Somaliland NDP III, African Union Agenda 2063 and relevant Sustainable Development Goals, then organises priorities by time horizon, institutional responsibility and monitoring need.

Policy alignment is treated as useful only when it leads to realistic sequencing, clear ownership, budget relevance and repeatable indicators. The chapter therefore links household evidence to immediate protection, medium-term systems strengthening and a practical accountability cycle.

11.1 Purpose and Principles of Policy Alignment

The value of a household atlas is strengthened when findings are connected to the planning frameworks used by public institutions and development partners. BAHDA-2026 aligns its five pillars with Somaliland NDP III, African Union Agenda 2063 and relevant Sustainable Development Goals.[3, 7, 9]

The alignment follows four principles. It is thematic rather than automatic; it distinguishes local household measures from official indicators; it identifies an institution or stakeholder capable of acting; and it connects recommendations with repeatable monitoring. A long list of aspirations without responsibility or measurement would not translate evidence into action.

Three-Level Development Alignment

Alignment is thematic and does not imply that every BAHDA measure is an official framework indicator.

Somaliland NDP III	African Union Agenda 2063	UN 2030 Agenda
National priorities for social development, economic transformation, infrastructure, governance, justice, and climate resilience.	Continental aspirations for prosperity, healthy citizens, skills, infrastructure, capable institutions, and people-driven development.	Relevant goals and targets among the 17 Sustainable Development Goals.

Figure 11.1. Three-Level Policy Alignment

11.2 Alignment with Somaliland National Development Plan III

NDP III provides the most immediate policy framework for BAHDA. Social-development findings relate to education, health, inclusion and household welfare. Economic findings relate to enterprise, finance, productive resources and resilience. Infrastructure findings relate to energy, roads, digital connectivity, housing and water. Environmental findings relate to climate resilience and local environmental management. Governance findings relate to participation, justice, accountability and basic services.

BAHDA's local contribution is to show how these broad priorities are experienced within households and how they vary across groups and locations. This can support district implementation plans, sector targeting, municipal priorities and local monitoring.

11.3 Alignment with African Union Agenda 2063

Agenda 2063 emphasises inclusive growth, transformed economies, healthy and well-nourished citizens, education and skills, modern infrastructure, climate resilience, democratic values, capable institutions, peace, gender equality, youth participation and people-driven development. The BAHDA pillars provide a local household lens on these aspirations.

Agenda 2063 is especially useful for interpreting cross-pillar connections. For example, digital infrastructure supports education, finance and enterprise; health and nutrition support productive participation; and capable institutions influence service quality and public trust.

11.4 Alignment with the Sustainable Development Goals

BAHDA connects most strongly with SDGs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16 and 17. Environmental indicators also relate to SDGs 12 and 15 where the evidence supports those themes. The Atlas does not force every item into all 17 goals.

The SDGs provide internationally recognised language for poverty, hunger, health, education, water, energy, work, infrastructure, inequality, sustainable communities, climate, institutions and partnerships. Their use can support communication with development partners, but local implementation should remain grounded in Somaliland policy and Borama priorities.

11.5 Immediate Development Priorities

Immediate priorities are conditions that directly affect household welfare and can be addressed through feasible programme or service changes within approximately two years:

- targeted food-security and shock-response support;
- medicine, diagnostic and dental-care affordability measures;
- disability inclusion and accessible service pathways;
- school-attendance follow-up and vulnerable-child support;
- civic-documentation outreach and legal-information services;
- repair and maintenance of local WASH, drainage, roads and lighting;
- household financial-literacy, savings and responsible-credit support;
- rapid environmental and flood-risk mitigation in priority locations.

11.6 Medium-Term Structural Priorities

Structural priorities require coordinated investment and institutional development over approximately three to five years:

- education-to-employment and TVET pathways;
- enterprise development, finance, markets and productive assets;
- reliable electricity, clean cooking and affordable digital connectivity;
- integrated housing, roads, drainage, transport and settlement planning;
- resilient water systems, sanitation and waste management;
- primary health, diagnostics, medicine supply and financial protection;
- climate-sensitive agriculture, livestock systems and adaptation;
- accountable local institutions, participatory planning and transparent monitoring.

11.7 Institutional Responsibilities

Borama local government can use the Atlas to identify service gaps, prioritise WASH and environmental management, strengthen participation and publish local monitoring results.

Somaliland ministries and agencies can connect household evidence with sector plans, NDP III implementation, standards and financing. Regional and district structures can use BAHDA to refine local targeting.

Civil society and development partners can target underserved groups, coordinate support and avoid duplication. Programme design should preserve the indicator definitions required for evaluation.

The private sector can contribute through finance, connectivity, energy, medicines, diagnostics, skills, enterprise services and market development.

Amoud University can maintain the indicator system, protect data, support independent analysis, convene validation, develop policy briefs and lead future BAHDA rounds.



Plate 11.1. Stakeholder deliberation and interpretation of local evidence

11.8 Development Action Framework

The action framework connects evidence, priority, responsibility, implementation and monitoring. Each priority should have a defined indicator, baseline, target population, geographic focus, responsible institution, implementation period and review schedule.

Policy Alignment and Development Action

From household evidence to accountable implementation



NDP III • Agenda 2063 • Sustainable Development Goals

Figure 11.2. Evidence-to-action and accountability sequence

From Household Evidence to Development Action

A transparent pathway from ethical data collection to coordinated development action.

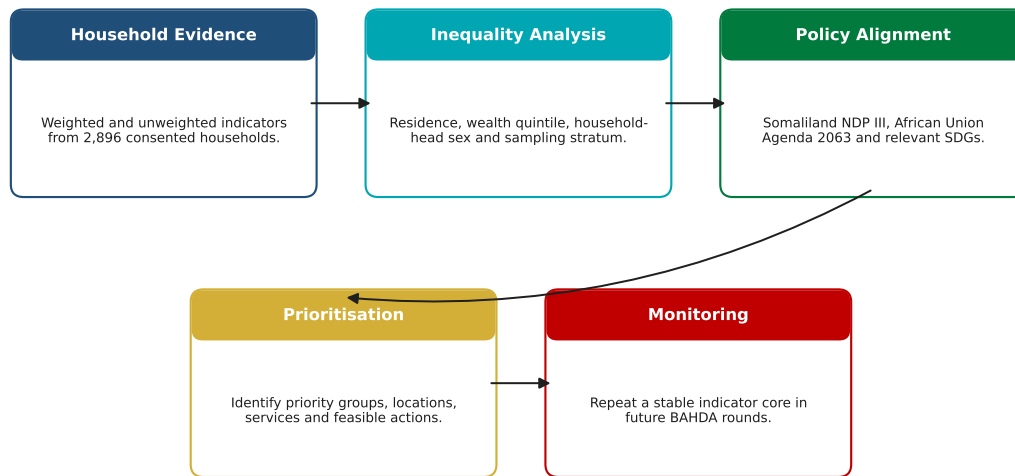


Figure 11.3. Household Evidence-to-Action Pathway

11.9 Proposed Monitoring Architecture

A practical monitoring set should retain a limited number of stable indicators from each pillar. Indicators should preserve wording, response categories, eligible denominators and the four inequality dimensions. Where possible, future rounds should include confidence intervals and exact design information.

A monitoring report should distinguish:

- the district-level weighted estimate;
- the unweighted sample base;
- the gap between priority groups;
- the change from the previous comparable round;
- progress toward a defined local or sector target;
- implementation responsibility and follow-up status.

Table 11.1

Integrated BAHDA-2026 policy-alignment matrix

Pillar	BAHDA indicator	Main result	re- NDP III	Agenda 2063	Relevant SDGs
1	Average Household Size	8.0 mean	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	School Attendance Among Children	41.5%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	Adult Literacy Within the Household	80.7%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	Post-Primary Education Within the Household	62.9%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	Vocational and Technical Training	43.9%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10

Pillar	BAHDA indicator	Main result	re- NDP III	Agenda 2063	Relevant SDGs
2	Adult Hypertension Diagnosis	33.5%	Social Development	Goal 3	SDGs 3 or 6
2	Adult Diabetes Diagnosis	25.2%	Social Development	Goal 3	SDGs 3 or 6
2	Travel Time for Emergency Care	52.7%	Social Development	Goal 3	SDGs 3 or 6
2	Household Health Insurance	12.9%	Social Development	Goal 3	SDGs 3 or 6
2	Antenatal Care Visits	23.4%	Social Development	Goal 3	SDGs 3 or 6
3	Household Enterprise Ownership	27.2%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Primary Business Constraint	31.1%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Formal Financial Institution Use	22.8%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Mobile-Money Use	87.9%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Regular Household Saving	50.5%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
4	Household Smartphone Ownership	77.4%	Economic Infrastructure / Climate Change	Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Computer or Tablet Ownership	33.3%	Economic Infrastructure / Climate Change	Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Internet Reliability	79.6%	Economic Infrastructure / Climate Change	Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Internet-Cost Barrier	63.4%	Economic Infrastructure / Climate Change	Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Income From Online Platforms or Digital Work	28.0%	Economic Infrastructure / Climate Change	Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
5	Electoral and Community-Governance Participation	62.0%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Perceived Government Transparency	37.6%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Knowledge of Basic Legal Rights	58.2%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Knowledge of Affordable Legal-Aid Services	42.5%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Household Civic Documents	48.9%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17

Note. The matrix is a thematic alignment tool. Exact official-indicator equivalence requires separate metadata review.

© Development implication

Policy alignment becomes useful when it produces clear ownership, realistic sequencing, budget relevance and repeatable monitoring.

Chapter Closing Perspective

BAHDA-2026 becomes a development instrument when evidence is assigned to decisions, institutions and timelines. Immediate household pressures require protection and service improvements, while structural constraints require sustained investment in skills, health systems, livelihoods, infrastructure, climate resilience and accountable institutions. The proposed framework keeps those actions connected to measurable baselines so that future BAHDA rounds can assess whether implementation is reaching the households and places it was intended to serve.

Chapter message: Evidence becomes development action when priorities have clear ownership, realistic sequencing and indicators that can be measured again.



Conclusions and the Future BAHDA Agenda

A local evidence platform for learning, planning and accountability



Chapter 12 at a Glance

Key evidence, inequalities and development implications



Integrated baseline

Five pillars

One common household evidence system.



Inequality

People and place

District averages conceal local gaps.



Somaliland context

Thirty indicators

Awdal and national benchmarks.



University role

Research and service

Teaching, publication and policy support.



Future rounds

Stable core

Repeat measurement and stronger design information.



Development observatory

Long-term platform

Surveys, administrative data and community feedback.

12.1 Principal Lessons

BAHDA-2026 demonstrates that a locally led university can produce an integrated household evidence platform covering social, health, economic, infrastructure, environmental and governance domains. The final Atlas combines weighted district estimates, unweighted sample evidence, corrected multiple-response analysis, subgroup heatmaps, spatial patterns, Somaliland benchmarks and policy alignment within one reproducible structure.

The findings do not support a simple narrative of uniform progress or uniform deprivation. Household capabilities are visible in literacy, enterprise, mobile money, digital access, electricity and participation. At the same time, food insecurity, health affordability, disability, economic shocks, climate exposure, hygiene gaps and uneven institutional access remain important.

The most significant policy challenge is the overlap of these conditions within particular households and places. Development systems interact: education affects employment, health affects productivity, infrastructure affects access, economic shocks affect food and care, and governance affects service quality.

12.2 What the Evidence Means for Borama

Borama requires coordinated development rather than isolated sector interventions. Education and skills should connect to employment and enterprise. Health access should include medicines, diagnostics, transport, affordability and service quality. Economic resilience should combine finance, productive assets, markets and climate-sensitive livelihoods. Infrastructure should support digital inclusion, safe housing, mobility, drainage, energy and environmental resilience. Governance should make participation, rights, documentation, justice, safety and basic services accessible in practice.

The Somaliland comparison shows that Borama has areas of relative strength and areas of concern. The district appears strong in household enterprise, electricity, mobile access and internet availability, but the interpretation of digital and health comparisons requires care because

the official surveys often measure individuals. Food-security and health-affordability pressures remain important even when Borama compares favourably on selected indicators.

12.3 The Continuing Role of Amoud University

Amoud University can sustain BAHDA as a platform for research, teaching, public engagement and policy support. Priority institutional functions include maintaining the item dictionary, archiving reproducible code, protecting confidential data, supporting student and faculty research, developing policy briefs, validating findings with communities and partners, and coordinating future rounds.

The University can also establish a multidisciplinary BAHDA research programme. Pillar teams can develop peer-reviewed studies while a central data-governance structure protects consistency and confidentiality. Annual thematic briefs can keep the evidence active between full survey rounds.



(a) Amoud University leadership addressing the launch



(b) Regional leadership participating in the dissemination



(c) Research and Innovation Center presentation



(d) University and regional leadership at the launch

Plate 12.1. Institutional Leadership and Dissemination of BAHDA-2026

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.

12.4 Future BAHDA Rounds

Future rounds should retain a stable core while allowing carefully governed new modules. Exact segment-level selection denominators should be recorded to strengthen design weights and formal response-rate calculation. Repeated surveys should preserve the six-stratum framework, improve spatial precision where confidentiality permits and publish uncertainty measures for major indicators.

The next round should review questionnaire burden, remove items that do not generate useful evidence and retain items required for time comparison. New modules should be added only when they address a defined policy question and have an analytical plan.

12.5 A Borama Development Observatory

A future BAHDA programme could combine periodic household surveys with administrative data, facility assessments, qualitative community research, infrastructure mapping, environmental observation and open de-identified indicator dashboards. This would transform the 2026 assessment from a single publication into a long-term local development observatory.

The Future BAHDA Agenda

A local development observatory for research, learning and public accountability

Evidence that improves with every round

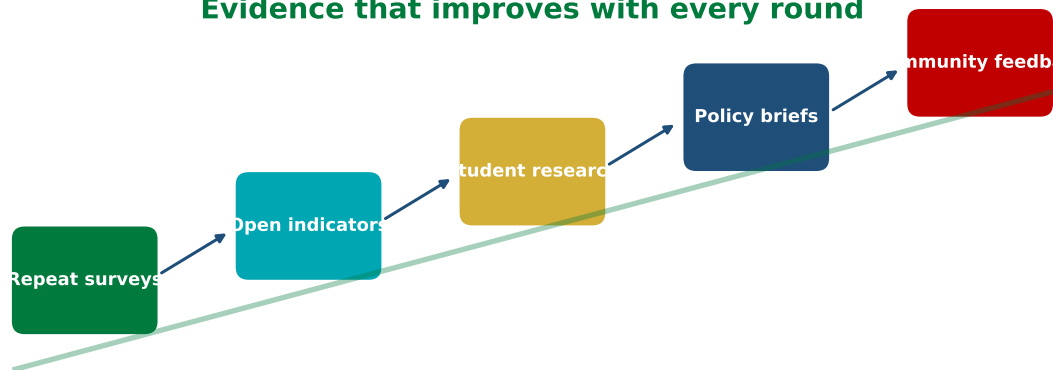


Figure 12.1. Future BAHDA development observatory

The observatory should include:

- a protected research data repository;
- a public indicator portal with no confidential coordinates;
- annual policy briefs and research seminars;
- community and stakeholder validation forums;
- a documented process for indicator revision;
- partnerships with government statistical and sector institutions;
- student and faculty research pathways;
- repeat household measurement at an institutionally approved interval.

12.6 Dissemination, Public Use and Accountability

The Atlas should be disseminated through printed and web editions, policy presentations, university seminars and community feedback. Public communication should avoid reducing complex findings to sensational percentages. Every headline result should retain its denominator, direction and limitation.

Institutional follow-up should record which recommendations are accepted, which institution is responsible and when progress will be reviewed. Evidence-based planning is strengthened when public institutions report back on action.



(a) Launch participants and institutional stakeholders



(b) Women students and stakeholders at the dissemination event



(c) Students and stakeholders following the BAHDA presentation



(d) Senior institutional and community participants

Plate 12.2. BAHDA-2026 Public Dissemination and Stakeholder Engagement

Photo credit: BAHDA-2026 Photographic Team – Ahmed Daacad, Abdirisak Omer, Omer Abdillahi and Khalid Sultan. Participant permissions confirmed.

12.7 Final Conclusion

BAHDA-2026 converts household experiences into a structured account of well-being, inequality and development priorities. Its central contribution is not one percentage or one ranking. It is the creation of a common evidence language through which households, Amoud University, public institutions and development partners can identify gaps, coordinate action and monitor whether conditions improve.

The Atlas should now be used as a baseline for informed debate, targeted programmes, scholarly research and repeat monitoring. Its promise will be fulfilled when evidence leads to accountable decisions and measurable improvement in household life.

From Household Evidence to Development Action

Appendix A

Detailed Sampling Design and Field Organisation

A.1 Operational frame

The BAHDA operational area was divided into six sampling strata: Sheikh Ahmed Salan, Sheikh Makahil, Sheikh Ali Jawhar, Sheikh Osman, Peri-Urban and Rural. These strata were organised into 24 zones and 96 clusters, with 16 clusters in each stratum. Each stratum comprised four zones, and each zone comprised four operational sub-zones/clusters. The four named urban strata therefore contributed 64 clusters in total. Peri-Urban contributed 16 clusters, distributed as four clusters in each of the east, south, west and north directions. Rural contributed 16 clusters, divided into eight along the Djibouti Road corridor and eight along the Hargeisa Road corridor. The four named urban strata are combined as Urban for broad residence analysis, while the six original strata remain available for detailed reporting.

A.2 Household selection

Urban selection used a lottery-based random start followed by a fixed interval of three households within the field procedure. Peri-urban and rural selection used household counting, numbering and lottery selection within residential concentrations. Supervisors coordinated cluster assignments, household identification and submission review.

A.3 Consent and achieved sample

The field database contained 2,923 submissions. Twenty-seven records without consent were excluded. The final analytical sample was 2,896 households and covered all six strata and the 96 predefined clusters represented in the field system.

A.4 Recommended improvements for future rounds

Future rounds should archive complete listing and disposition denominators for every segment, including selected, occupied, eligible, attempted, completed, refused, absent and ineligible households. Exact first- and second-stage selection probabilities should be retained so that formal design weights, non-response adjustments and response rates can be calculated directly.

Stratified Multistage Sampling Process

The design preserved broad residence groups and the original six-stratum reporting structure.

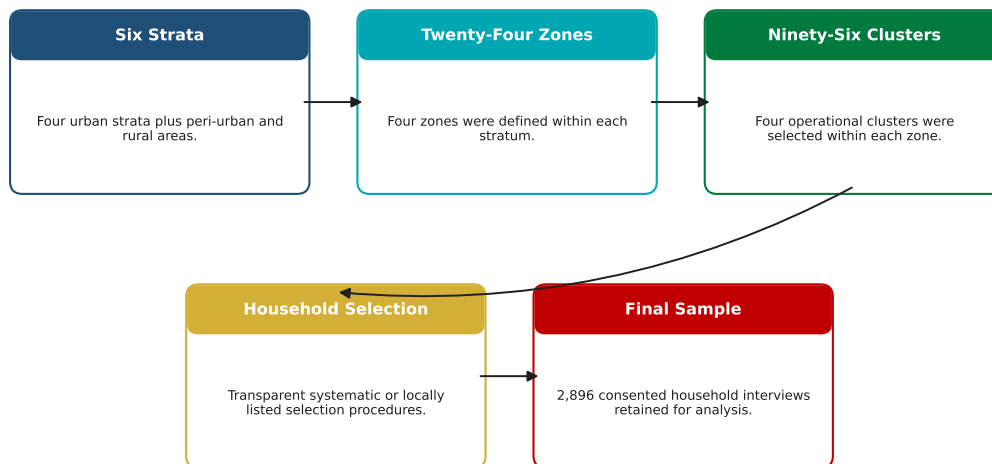


Figure A.1. Stratified Multistage Sampling Process

Appendix B

Model-Assisted Population and Household Estimation

B.1 Rationale

A recent complete published census denominator was not available for the full BAHDA operational area. Population and household totals were therefore estimated through a transparent multi-source approach intended for planning and weighting rather than as a substitute for a census.

B.2 Data families and aggregation

Seven gridded population products representing four methodological families were reviewed. Products differed in source data, modelling approach, year and spatial resolution. Populated cells were assigned to BAHDA strata using household GPS anchors. Population totals were aggregated by stratum and converted to household totals using locally observed household-size means.

To avoid treating several releases from one family as independent evidence, medians were first calculated within model families and then combined across families. The final ensemble produced approximately 78,209 households and 626,215 residents.

B.3 Bayesian robustness validation

After the primary seven-source, family-balanced frame was fixed, a four-family Bayesian synthesis was used as a secondary robustness and uncertainty assessment. The principal posterior median was 580,054 residents (95% credible interval 354,171–863,051) and 71,581 households (95% credible interval 43,672–106,744). The primary BAHDA estimate of 626,215 residents lies within that posterior interval. The Bayesian analysis was not used to revise the six-stratum planning frame, analytical weights or survey indicators.

Four-chain diagnostics, prior-sensitivity analysis and leave-one-family-out refits were retained in the reproducibility package. The maximum diagnostic $\hat{R}$ was 1.0102, the minimum effective sample size was 294, the maximum absolute change across alternative prior specifications was 1.94%, and the maximum absolute leave-one-family-out change was 24.82%. The larger family-composition sensitivity is consistent with substantial disagreement among the international population-model families and supports continued multi-source triangulation rather than reliance on a single surface.

This Bayesian synthesis uses the same international population-family evidence as the primary ensemble and therefore does not constitute independent field-enumeration validation.

B.4 Sensitivity and limitations

Individual product estimates ranged from approximately 53,492 to 95,608 households. This range should be retained in sensitivity analysis. The final estimate depends on the accuracy of the population surfaces, the classification of populated cells, observed household sizes and the operational boundary. It is a model-assisted planning estimate rather than an administratively confirmed count.

Appendix C

Survey Weighting, Normalisation and Verification

C.1 Weight variables

The analytical datasets contain `wgt_raw`, `wgt` and `wgt_dhs`. The raw stratum factor expands each sampled household to the model-assisted stratum household total. The final normalised weight has a mean of one and sums to 2,896. The DHS-style version multiplies the normalised weight by 1,000,000 and rounds to an integer for software workflows that expect that convention.

C.2 Use in the Atlas

Weighted percentages are the principal district-level estimates. Unweighted counts and percentages are retained for transparency. Normalised weighted counts may contain decimals and should not be interpreted as observed household counts.

C.3 Verification

The weighting audit confirmed that the final weight was present in all five pillar datasets, had the intended normalisation and reproduced the final dual weighted and unweighted outputs. Weighting corrects disproportionate representation across strata but does not reconstruct unavailable household selection probabilities within every segment.

Appendix D

Data Quality, Validation, Disclosure Control and Reproducibility

D.1 Quality-control sequence

Quality assurance covered questionnaire review, translation, digital programming, pilot testing, classroom training, field simulation, supervisory review, consent filtering, identifier checks, duplicate review, range checks, missingness assessment, label harmonisation, item mapping and numerical reconciliation across the five pillar datasets.

D.2 Multiple-response correction

All 78 genuine multiple-response option fields matched the consented raw data. Thirteen non-analytical Kobo parent fields were excluded from calculations and presentation. Complete labels were restored from the survey structure because many Stata variable labels were truncated.

D.3 Disclosure control

Public outputs remove direct identifiers and exact GPS coordinates. Small cells, open-text responses and photographs require disclosure or permission review. Spatial reporting is aggregated to approved public units.

D.4 Reproducibility

The final package includes analytical datasets, item dictionaries, short-title mappings, scripts, tables, figures, heatmaps, benchmark registers and the LaTeX publication source. Version history should be retained whenever a label, denominator, figure or interpretation is updated.

Appendix E

Corrected Multiple-Response Analysis and Quality Control

The final package contains 13 multiple-response questions and 78 genuine response options. One parent field was excluded from each question. Raw outputs and cleaned-sensitivity outputs are both retained.

Pillar	Response group	Item	Options	Eligible n	Weighted base
1	Accessibility	1.5.3	6	2896	2896.0
1	Food Sources	1.6.11	3	2896	2896.0
1	Coping	1.6.12	6	2896	2896.0
3	Main Crops	3.4.4	9	948	1205.3
3	Agricultural Inputs	3.4.6	4	1393	1602.5
3	Crop Production Factors	3.4.8	6	948	1205.3
3	Livestock Types	3.4.11	5	966	1426.3
3	Livestock Problems	3.4.17	8	966	1426.3
4	Climate Changes	4.5.2	7	1651	1727.6
4	Climate Impacts	4.5.4	4	1651	1727.6
4	Adaptation Measures	4.5.6	8	787	678.0
4	Environmental Problems	4.5.7	7	2896	2896.0
5	Civic Documents	5.2.8	5	2896	2896.0

Reporting note. For publication, the raw corrected option-level results are authoritative. Cleaned-sensitivity outputs are used only to examine the effect of contradictory None-plus-other selections.

Appendix F

Complete BAHDA-2026 Indicator and Item Framework

Pillar	Section	Item	Variable title	Original questionnaire wording
1	1.1	1.1.1	Respondent Sex	010. Respondent Sex
1	1.1	1.1.2	Respondent Age	011. Respondent Age
1	1.1	1.1.3	Relationship of respondent to household head	012. Relationship of respondent to household head
1	1.1	1.1.4	Sex of Household Head	101. Sex of Household Head?
1	1.1	1.1.5	Age of Household Head	102. Age of Household Head (in completed years)?
1	1.1	1.1.6	Marital Status of Head	103. Marital Status of Head?
1	1.1	1.1.7	Average Household Size	104. Total number of usual residents (living/eating together)?
1	1.1	1.1.8	Highest level of education completed by the Household Head	106. Highest level of education completed by the HH Head?
1	1.2	1.2.1	School Attendance Among Children	Children (6-18) currently attending school?
1	1.2	1.2.2	For children not attending school (6-18), what is the primary	For children not attending school (6-18), what is the primary reason for not attending/dropping out?
1	1.2	1.2.3	Other reason for not attending school	Specify other reason for not attending school.
1	1.2	1.2.4	Type of school primary school-aged children (6-13) attend	Type of school primary school-aged children (6-13) attend?
1	1.2	1.2.5	Other school type	Specify other school type.
1	1.2	1.2.6	Distance from home to the nearest school children attend (in km)	Distance from home to the nearest school children attend (in km)?
1	1.2	1.2.7	Any child (6-18) attending re-school receive school meals or food	Does any child (6-18) attending school receive school meals or food assistance?
1	1.2	1.2.8	Perceived School Safety	Is the school environment perceived as safe for children (free from violence, bullying)?
1	1.2	1.2.9	Adult Literacy Within the Household	Does any adult household member (15+) possess basic literacy skills (can read and write a simple sentence)?
1	1.2	1.2.10	Post-Primary Education Within the Household	Does any adult household member (15+) have post-primary education?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
1	1.2	1.2.11	Availability of sufficient learning materials (books, pens,	Are there sufficient learning materials (books, pens, notebooks) available at home for children's studies?
1	1.2	1.2.12	Rating of the quality of teaching your children receive at school	How would you rate the quality of teaching your children receive at school?
1	1.2	1.2.13	Do children have access to the internet for educational purposes	Do children have access to the internet for educational purposes (e.g., homework, research) at home or school?
1	1.2	1.2.14	Any child (6-18) receive additional tutoring or remedial classes	Does any child (6-18) receive additional tutoring or remedial classes outside of regular school hours?
1	1.2	1.2.15	Boys and girls in the household equally encouraged to attend	Are boys and girls in the household equally encouraged to attend school and pursue higher education?
1	1.2	1.2.16	How do children typically travel to school	How do children typically travel to school?
1	1.2	1.2.17	Main medium of instruction	What is the main medium of instruction?
1	1.2	1.2.18	Any child attend Early Childhood Education (ECE)	Did any child attend Early Childhood Education (ECE)?
1	1.3	1.3.1	Vocational and Technical Training	Has any household member (15-35 years) completed vocational training or technical skills program (e.g., carpentry, tailoring, IT)?
1	1.3	1.3.2	Household Member (15+) wish to pursue further education or skills	Does any household member (15+) wish to pursue further education or skills training but cannot due to barriers?
1	1.3	1.3.3	Access to Skills and Employment Information	Does any household member (15+) regularly access information related to health, education, or current affairs through traditional media (radio/TV) or digital platforms?
1	1.3	1.3.4	Satisfaction With Educational Opportunities	Overall, how satisfied are you with the educational opportunities available for your household members in Borama?
1	1.4	1.4.1	Employment Status of the Household Head	121. What is the primary employment status of the HH Head?
1	1.4	1.4.2	Primary Household Income Source	901. What is the primary source of income for your household?
1	1.4	1.4.3	Other primary income source	901a. Specify other primary income source.
1	1.4	1.4.4	The primary income earner in your household currently employed	903. Is the primary income earner in your household currently employed (includes self-employed)?
1	1.4	1.4.5	Household Remittance Receipt	904. Does any adult household member (18+) actively receive remittances from outside the region/country?
1	1.4	1.4.6	How important are these remittances to your household's monthly	905. If yes to 904, how important are these remittances to your household's monthly expenses?
1	1.4	1.4.7	Adult Unemployment Experience	906. Has any adult (18+) in your household been unemployed and actively seeking work for the past 6 months?
1	1.4	1.4.8	Satisfaction With the local economic environment and business	920. Overall, how satisfied are you with the local economic environment and business opportunities in Borama?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
1	1.5	1.5.1	Household Disability Prevalence	105. Does any member have a chronic disability (Seeing/Hearing/Walking/Cognition)?
1	1.5	1.5.2	Disability-Related Barriers	Does any person with disability in this household face barriers to accessing health or school?
1	1.5	1.5.3	Household Accessibility Features	Does your house have any specific features to improve accessibility for people with disabilities or the elderly?
1	1.5	1.5.4	If other, please specify	If other, please specify.
1	1.5	1.5.5	Children With Disability or Special Needs	Is there a child (6-18) in the household with a disability or special educational need?
1	1.5	1.5.6	What type of disability exists in the child	If yes to 1113, what type of disability exists in the child?
1	1.5	1.5.7	Is this child attending school	If yes to 1113, is this child attending school?
1	1.6	1.6.1	Number of times has the household moved residence in the last 5	130. How many times has the household moved residence in the last 5 years?
1	1.6	1.6.2	Concern About Insufficient Food	In the last 12 months, were you worried you would not have enough food to eat?
1	1.6	1.6.3	Inability to Afford Healthy Food	Were you unable to eat healthy and nutritious food due to lack of money?
1	1.6	1.6.4	You eat only a few kinds of foods due to lack of resources	Did you eat only a few kinds of foods due to lack of resources?
1	1.6	1.6.5	You have to skip a meal because there was not enough money or food	Did you have to skip a meal because there was not enough money or food?
1	1.6	1.6.6	You eat less than you thought you should because of lack of money	Did you eat less than you thought you should because of lack of money?
1	1.6	1.6.7	Household Food Depletion	Did your household run out of food entirely?
1	1.6	1.6.8	Were you hungry but did not eat because there was not enough food	Were you hungry but did not eat because there was not enough food?
1	1.6	1.6.9	You go a whole day without eating	Did you go a whole day without eating?
1	1.6	1.6.10	Number of meals do household members usually eat per day	How many meals do household members usually eat per day?
1	1.6	1.6.11	Main Household Food Sources	What are the main sources of food for your household? (Multiple responses allowed)
1	1.6	1.6.12	Food-Shortage Coping Strategies	What coping strategies does your household use during food shortages? (Multiple responses allowed)
2	2.1	2.1.1	Adult Hypertension Diagnosis	Has any adult member in your household (18+) been diagnosed with Hypertension (High BP)?
2	2.1	2.1.2	Adult Diabetes Diagnosis	Has any adult member in your household (18+) been diagnosed with Diabetes (High Sugar)?
2	2.1	2.1.3	Do those with chronic conditions take their medication every day	Do those with chronic conditions take their medication every day as prescribed?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
2	2.1	2.1.4	Any member suffer from Chronic Pain (long-term joint or muscle	Does any member suffer from Chronic Pain (long-term joint or muscle issues)?
2	2.1	2.1.5	Preference for Traditional or Formal Care	Does your household prefer to go to a traditional doctor or to a modern doctor?
2	2.1	2.1.6	If your answer is others, please specify	If your answer is others, please specify.
2	2.1	2.1.7	Household Health-Monitoring Device	Does your household own a device to monitor Blood Pressure or Blood Sugar?
2	2.1	2.1.8	Was surgery needed for any member of this household in the last	Was surgery needed for any member of this household in the last 12 months?
2	2.1	2.1.9	If surgery was needed, was it performed	If surgery was needed, was it performed?
2	2.1	2.1.10	If surgery was needed but not performed, what was the main barrier	If surgery was needed but not performed, what was the main barrier?
2	2.1	2.1.11	Please specify	If yes, please specify.
2	2.1	2.1.12	Where was the last surgery or emergency care received	Where was the last surgery or emergency care received?
2	2.1	2.1.13	Has any member required Emergency Care in the last 12 months	Has any member required Emergency Care in the last 12 months?
2	2.1	2.1.14	Travel Time for Emergency Care	In an emergency, how long does it take to reach the hospital?
2	2.1	2.1.15	Think doctors service available to everywhere and everyone	Do you think doctors service available to everywhere and everyone?
2	2.1	2.1.16	If no or others, please specify	If no or others, please specify.
2	2.1	2.1.17	Any child show significant delay in speech, learning, or social	Does any child show significant delay in speech, learning, or social interaction?
2	2.1	2.1.18	Household Health Insurance	Does the household have any form of health insurance or employer scheme?
2	2.1	2.1.19	Satisfaction With the Doctors in Borama facilities? (1-5 Scale)	Overall, how satisfied are you with the Doctors in Borama facilities? (1-5 Scale)
2	2.2	2.2.1	Recent Pregnancy or Live Birth	Has there been a pregnancy or a live birth in this household in the last 2 years?
2	2.2	2.2.2	Children Under Five in the Household	Are there any children under 5 years in this household?
2	2.2	2.2.3	Children Under Two in the Household	Are there any children under 2 years in this household?
2	2.2	2.2.4	Number of pregnancies have you carried	How many pregnancies have you carried?
2	2.2	2.2.5	Antenatal Care Visits	For the last pregnancy in this household, how many Antenatal Care (ANC) visits were made to a health facility?
2	2.2	2.2.6	During the last pregnancy, was the mother informed about danger	During the last pregnancy, was the mother informed about danger signs (e.g., bleeding, severe headache, blurred vision)?
2	2.2	2.2.7	During the last pregnancy, did the mother receive any supplements	During the last pregnancy, did the mother receive any supplements or tetanus toxoid (TT)?
2	2.2	2.2.8	Distance to Nearest Maternity or MCH Clinic	What is the distance to the nearest maternity or MCH clinic from your home?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
2	2.2	2.2.9	Maternal Transport to a Health Facility	What type of transportation did the mother use to reach the nearest health facility?
2	2.2	2.2.10	Who provided the majority of the advice during the last pregnancy	Who provided the majority of the advice during the last pregnancy?
2	2.2	2.2.11	Place of Last Delivery	Where did the last delivery in this household take place?
2	2.2	2.2.12	If other, please specify	If other, please specify.
2	2.2	2.2.13	Who assisted with the last delivery? (Select the highest	Who assisted with the last delivery? (Select the highest qualification)
2	2.2	2.2.14	How was the condition of the newborn immediately after delivery	How was the condition of the newborn immediately after delivery?
2	2.2	2.2.15	What was the birth weight of the newborn	What was the birth weight of the newborn?
2	2.2	2.2.16	Postnatal Check Within 48 Hours	Was a postnatal check-up (PNC) conducted for both mother and baby within 48 hours of delivery?
2	2.2	2.2.17	Use of Traditional Herbs During Labour	During delivery or labor, were any traditional birth herbs or 'Uunsi' used for medicinal purposes?
2	2.2	2.2.18	Has this household ever experienced the loss of a newborn within	Has this household ever experienced the loss of a newborn within the first 28 days of life?
2	2.2	2.2.19	Was the last child born in this household exclusively breastfed	Was the last child born in this household exclusively breastfed for the first 6 months?
2	2.2	2.2.20	Full Vaccination Among Children Under Five	Are all children under 5 in the household fully vaccinated (check card if available)?
2	2.2	2.2.21	When a child is sick with a fever or cough, what is the first	When a child is sick with a fever or cough, what is the first action taken by the household?
2	2.2	2.2.22	Child Growth-Chart Availability	Is there a child health growth chart kept in the home for children under 2 years?
2	2.2	2.2.23	Any adult in the household have basic knowledge of first aid	Does any adult in the household have basic knowledge of first aid (e.g., wound care, choking, or fainting)?
2	2.2	2.2.24	Know and use modern family planning methods (e.g., pills,	Do you know and use modern family planning methods (e.g., pills, injections, implants)?
2	2.2	2.2.25	If family planning is not used, what is the main reason	If family planning is not used, what is the main reason?
2	2.2	2.2.26	Rating of your level of trust in the advice provided by midwives	How would you rate your level of trust in the advice provided by midwives compared to traditional healers?
2	2.2	2.2.27	Ever felt that a nurse/midwife in Borama treated you	Have you ever felt that a nurse/midwife in Borama treated you with high professional ethics and respect?
2	2.2	2.2.28	Satisfaction With Nursing Care	Overall, how satisfied are you with the quality of nursing care received at your local health facility?
2	2.3	2.3.1	Household Epilepsy Prevalence	Does any member suffer from Epilepsy (seizures, fits, or loss of consciousness)?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
2	2.3	2.3.2	Any member show unusual behavior (talking to self, hearing	Does any member show unusual behavior (talking to self, hearing voices, or extreme paranoia)?
2	2.3	2.3.3	Any member suffer from frequent Clinical Depression or Anxiety	Does any member suffer from frequent Clinical Depression or Anxiety (Scored by doctor)?
2	2.3	2.3.4	Has any member been clinically diagnosed with Anaemia (Low Blood)	Has any member been clinically diagnosed with Anaemia (Low Blood)?
2	2.3	2.3.5	Know the Warning Signs of a Stroke (Face/Arm/Speech)	Do you know the Warning Signs of a Stroke (Face/Arm/Speech)?
2	2.3	2.3.6	Any member of the household use Tobacco or Khat daily	Does any member of the household use Tobacco or Khat daily?
2	2.3	2.3.7	You aware of any Cancer Screening services	Are you aware of any Cancer Screening services (Breast/Cervical/Prostate) in Borama?
2	2.3	2.3.8	Has the youngest child ever been measured with MUAC (arm tape)	Has the youngest child ever been measured with MUAC (arm tape)? What was the color?
2	2.3	2.3.9	Has the youngest child (under 5) received Vitamin A or deworming	Has the youngest child (under 5) received Vitamin A or deworming in the last 6 months?
2	2.3	2.3.10	Recent Emotional-Distress Frequency	In the last month, how often have you felt scared, blue, or depressed without a clear reason?
2	2.3	2.3.11	In the last month, have you found it hard to wind down or relax	In the last month, have you found it hard to wind down or relax?
2	2.3	2.3.12	Experienced a severe trauma (war, accident, or sudden	Have you experienced a severe trauma (war, accident, or sudden loss)?
2	2.3	2.3.13	What is the most common cause of mental illness in this community	What is the most common cause of mental illness in this community?
2	2.3	2.3.14	Satisfaction With the public health and environment in your area	Overall, how satisfied are you with the public health and environment in your area? (1-5 Scale)
2	2.4	2.4.1	Availability of essential medicines at the nearest pharmacy	Availability of essential medicines at the nearest pharmacy?
2	2.4	2.4.2	Distance to the nearest licensed pharmacy	Distance to the nearest licensed pharmacy?
2	2.4	2.4.3	Primary Source of Medicines	Primary source of medicines for this household?
2	2.4	2.4.4	Medicine Affordability Barrier	Does cost prevent you from buying the full course of prescribed medicines?
2	2.4	2.4.5	Average waiting time at the pharmacy before being served	Average waiting time at the pharmacy before being served?
2	2.4	2.4.6	Buy medicines without a doctor's prescription	Do you buy medicines without a doctor's prescription?
2	2.4	2.4.7	Medicine-Sharing Practices	Do you share medicines with others (neighbors/family) when they have similar symptoms?
2	2.4	2.4.8	Stop taking a prescribed medicine as soon as you feel better	Do you stop taking a prescribed medicine as soon as you feel better?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
2	2.4	2.4.9	Knowledge of antibiotic resistance (medicines stop working if	Knowledge of antibiotic resistance (medicines stop working if misused)?
2	2.4	2.4.10	Use of traditional/herbal medicines instead of pharmacy drugs	Use of traditional/herbal medicines instead of pharmacy drugs?
2	2.4	2.4.11	Check expiry dates on the packaging before using medicines	Do you check expiry dates on the packaging before using medicines?
2	2.4	2.4.12	Awareness of counterfeit (fake) medicines in the local market	Awareness of counterfeit (fake) medicines in the local market?
2	2.4	2.4.13	Safe Home Medicine Storage	Are medicines at home stored in a safe place (away from heat and children)?
2	2.4	2.4.14	How do you mainly dispose of expired or unused medicines	How do you mainly dispose of expired or unused medicines?
2	2.4	2.4.15	Adverse Drug Reactions	Have you ever experienced an adverse reaction (side effect) from a medicine?
2	2.4	2.4.16	Did you report it to a health professional	If yes to 515, did you report it to a health professional?
2	2.4	2.4.17	Receive counseling/explanation on how to use your medicines	Do you receive counseling/explanation on how to use your medicines?
2	2.4	2.4.18	The instructions/labels on the medicine packaging easy to read	Are the instructions/labels on the medicine packaging easy to read and understand?
2	2.4	2.4.19	Level of trust in the pharmacist's medical advice	Level of trust in the pharmacist's medical advice?
2	2.4	2.4.20	Overall satisfaction with pharmacy services in Borama	Overall satisfaction with pharmacy services in Borama?
2	2.4	2.4.21	Perceived Benefit of Early Laboratory Testing	Do you agree that early laboratory testing improves the chances of successful treatment compared to late testing?
2	2.4	2.4.22	Frequency of Laboratory Testing	In the last 12 months, how many times has any member of your household visited a laboratory for medical testing?
2	2.4	2.4.23	What is the most significant barrier to seeking laboratory	What is the most significant barrier to seeking laboratory diagnosis?
2	2.4	2.4.24	Preparedness for Infectious-Disease Outbreaks	If a new infectious disease outbreak occurred, would your household know where to access testing?
2	2.4	2.4.25	Adult HIV or TB Screening	Has any adult member (15+) ever been screened for HIV or TB in a laboratory?
2	2.4	2.4.26	Has any member been tested for Hepatitis B (before vaccination)	Has any member been tested for Hepatitis B (before vaccination) or C?
2	2.4	2.4.27	When a member has a fever (e.g. malaria), do they seek laboratory	When a member has a fever (e.g. malaria), do they seek laboratory testing before taking medication?
2	2.4	2.4.28	You aware that diseases can be transmitted through unsafe lab	Are you aware that diseases can be transmitted through unsafe lab practice or sharing needles?
2	2.4	2.4.29	HbA1c Testing Among Adults With Diabetes	Have members with diabetes ever undergone an HbA1c test for long-term sugar control?
2	2.4	2.4.30	For sugar/lipid tests, was the member instructed to fast (no	For sugar/lipid tests, was the member instructed to fast (no food) for 8-12 hours before the draw?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
2	2.4	2.4.31	Has any member ever been crested for Creatinine (kidney function)	Has any member ever been tested for Creatinine (kidney function) as part of chronic care?
2	2.4	2.4.32	Has any member undergone Liver Function Tests (LFT) to monitor	Has any member undergone Liver Function Tests (LFT) to monitor the effects of long-term medications?
2	2.4	2.4.33	Has any member (especially women/children) ever been diagnosed	Has any member (especially women/children) ever been diagnosed with Anemia (Low Blood) by a lab?
2	2.4	2.4.34	Have male members (40+) had a PSA test OR have female members had	Have male members (40+) had a PSA test OR have female members had a Pap Smear?
2	2.4	2.4.35	Know mothers in this household should be tested for Rh blood type	Do you know mothers in this household should be tested for Rh blood type for baby protection?
2	2.4	2.4.36	Has any member of this household ever donated blood at a hospital	Has any member of this household ever donated blood at a hospital or blood bank?
2	2.4	2.4.37	What other lab tests do you visit for testing	What other lab tests do you visit for testing?
2	2.4	2.4.38	If other, please specify	If other, please specify.
2	2.4	2.4.39	How much do you trust the accuracy of results from local private	How much do you trust the accuracy of results from local private laboratories compared to public/government labs?
2	2.4	2.4.40	Rating of the hygiene and cleanliness of the laboratory	How would you rate the hygiene and cleanliness of the laboratory facilities in Borama?
2	2.4	2.4.41	Satisfaction With the professionalism and conduct of Laboratory	Overall, how satisfied are you with the professionalism and conduct of Laboratory staff?
2	2.5	2.5.1	Has any child in this household undergone Infant Oral Mutilation	Has any child in this household undergone Infant Oral Mutilation (IOM / Ilka Dacawo)?
2	2.5	2.5.2	Number of children in this household underwent Infant Oral	How many children in this household underwent Infant Oral Mutilation (IOM)?
2	2.5	2.5.3	What was the main reason the child underwent IOM	What was the main reason the child underwent IOM?
2	2.5	2.5.4	In your opinion, how dangerous is IOM to a child's health	In your opinion, how dangerous is IOM to a child's health?
2	2.5	2.5.5	Dental Care Avoided Because of Cost	In the last 12 months, has any household member avoided seeking dental care because of cost?
2	2.5	2.5.6	What was the main reason dental care was not sought	What was the main reason dental care was not sought?
2	2.5	2.5.7	Where do you prefer to go when you have tooth pain	Where do you prefer to go when you have tooth pain?
2	2.5	2.5.8	Ever avoided dental care because of fear or a bad	Have you ever avoided dental care because of fear or a bad previous experience?
2	2.5	2.5.9	Believe that frequent intake of sugary foods or drinks increases	Do you believe that frequent intake of sugary foods or drinks increases the risk of dental caries?
2	2.5	2.5.10	How often do children or people in the household usually brush	How often do children or people in the household usually brush their teeth?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
2	2.5	2.5.11	It important to brush teeth before going to sleep at night	Is it important to brush teeth before going to sleep at night?
2	2.5	2.5.12	At what age should a child start brushing teeth	At what age should a child start brushing teeth?
2	2.5	2.5.13	Ever had dental caries (holes or cavities in the teeth)	Have you ever had dental caries (holes or cavities in the teeth)?
2	2.5	2.5.14	What do you think is the main cause of dental caries	What do you think is the main cause of dental caries?
2	2.5	2.5.15	Which teeth are most commonly affected by dental caries	Which teeth are most commonly affected by dental caries?
2	2.5	2.5.16	How can dental caries be prevented	How can dental caries be prevented?
2	2.5	2.5.17	What is the best treatment for dental caries	What is the best treatment for dental caries?
2	2.5	2.5.18	Dental Pain Affecting Daily Activities	Has dental caries caused pain or difficulty that affected your daily activities?
2	2.5	2.5.19	Has dental caries affected your ability to eat certain foods	Has dental caries affected your ability to eat certain foods?
2	2.5	2.5.20	Has tooth decay or cavities affected your smile	Has tooth decay or cavities affected your smile?
2	2.5	2.5.21	In your opinion, how much does oral health affect overall quality	In your opinion, how much does oral health affect overall quality of life?
3	3.1	3.1.1	Household Enterprise Ownership	912. Does any household member own or operate a Small or Medium Enterprise (SME)
3	3.1	3.1.2	Primary Business Constraint	913. What is the biggest challenge currently facing your household's primary bus
3	3.1	3.1.3	Other business challenge	913a. Specify other business challenge.
3	3.1	3.1.4	Your household's business keep financial records	914. Does your household's business keep financial records?
3	3.1	3.1.5	Your household's business pay local government taxes or business	915. Does your household's business pay local government taxes or business licen
3	3.1	3.1.6	Rating of the ease of accessing markets for your business's produc	916. How would you rate the ease of accessing markets for your business's produc
3	3.2	3.2.1	Formal Financial-Institution Use	907. Does any adult household member (18+) use a formal financial institution (e
3	3.2	3.2.2	Mobile-Money Use	908. Does your household use mobile money services (e.g., Zaad, E-Dahab) for dai
3	3.2	3.2.3	Regular Household Saving	909. Does any adult household member regularly save money (e.g., in a bank, mobi
3	3.2	3.2.4	Sought or received a loan/credit from a formal	910. Has your household sought or received a loan/credit from a formal instituti
3	3.2	3.2.5	Rating of the financial literacy of your household head (knowledge	911. How would you rate the financial literacy of your household head (knowledge
3	3.3	3.3.1	Household Ownership of a radio or television	115. Does the household own a radio or television?
3	3.3	3.3.2	Household Ownership of a refrigerator or freezer	116. Does the household own a refrigerator or freezer?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
3	3.3	3.3.3	Household Ownership of a modern bed with mattress	117. Does the household own a modern bed with mattress?
3	3.3	3.3.4	Household Ownership of an electric or gas cooking stove	118. Does the household own an electric or gas cooking stove?
3	3.3	3.3.5	Household Ownership of a private vehicle (car/truck)	119. Does the household own a private vehicle (car/truck)?
3	3.3	3.3.6	Household Ownership of a motorbike or bicycle	120. Does the household own a motorbike or bicycle?
3	3.3	3.3.7	Average Monthly Household Expenditure	902. Roughly, what was your household's total average monthly expenditure in the
3	3.3	3.3.8	Pressure From Rising Food and Fuel Prices	917. In the past 12 months, how severely has the increase in food and essential
3	3.3	3.3.9	Recent Household Economic Shock	918. In the last 12 months, has your household experienced an economic shock (e.
3	3.3	3.3.10	Confidence in the Household Economic Future	919. How confident are you about the economic future of your household in the ne
3	3.4	3.4.1	Access to Agricultural Land	Does your household own or have access to agricultural land for cultivation or g
3	3.4	3.4.2	Agricultural Land Size	What is the total size of agricultural land owned or used by your household? (1
3	3.4	3.4.3	Primary agricultural activity carried out on that land	What is the primary agricultural activity carried out on that land?
3	3.4	3.4.4	Main Crops Cultivated	What are the main crops cultivated by your household? (Multiple responses allowe
3	3.4	3.4.5	Other crop	Specify other crop.
3	3.4	3.4.6	Agricultural Inputs Used	Did your household use any of the following agricultural inputs during the last
3	3.4	3.4.7	Compared to last year, has your production	Compared to last year, has your production:
3	3.4	3.4.8	Crop and Post-Harvest Constraints	What are the main factors affecting your household's crop production and post-harvest activities? (Multiple responses allowed)
3	3.4	3.4.9	Your household use irrigation methods for crop production	Does your household use irrigation methods for crop production?
3	3.4	3.4.10	Livestock Ownership	Does your household own livestock?
3	3.4	3.4.11	Livestock Types Owned	Which livestock does your household own? (Multiple responses allowed)
3	3.4	3.4.12	Number of cattle does your household own	How many cattle does your household own?
3	3.4	3.4.13	Number of sheep and goats does your household own	How many sheep and goats does your household own?
3	3.4	3.4.14	Number of camels does your household own	How many camels does your household own?
3	3.4	3.4.15	Number of donkeys does your household own	How many donkeys does your household own?
3	3.4	3.4.16	Number of poultry/chickens does your household own	How many poultry/chickens does your household own?
3	3.4	3.4.17	Main Livestock Problems	What are the main problems affecting your household's livestock? (Multiple respo
3	3.4	3.4.18	Other livestock problem	Specify other livestock problem.
3	3.4	3.4.19	Main water source for agricultural/livestock use	What is the main water source for agricultural/livestock use?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
4	4.1	4.1.1	Household Ownership of a functional basic mobile phone	113. Does the household own a functional basic mobile phone?
4	4.1	4.1.2	Household Smartphone Ownership	114. Does the household own a smartphone?
4	4.1	4.1.3	Number of Working Mobile Phones	How many working mobile phones (of any type) does your household have?
4	4.1	4.1.4	Number of Working Smartphones	How many working smartphones does your household have?
4	4.1	4.1.5	Computer or Tablet Ownership	Does your household own a working laptop, desktop computer, or tablet?
4	4.1	4.1.6	Main way your household accesses the internet at home	What is the main way your household accesses the internet at home?
4	4.1	4.1.7	Internet Reliability	If your household has internet access, how reliable is the connection?
4	4.1	4.1.8	Internet-Cost Barrier	Is the cost of internet access a significant barrier for your household's internet use?
4	4.1	4.1.9	On a typical day, approximately how much time does the main internet user in your household spend using the internet?	On a typical day, approximately how much time does the main internet user in your household spend using the internet?
4	4.2	4.2.1	Income From Online Platforms or Digital Work	Does any household member aged 15 or above earn money through online platforms or digital work?
4	4.2	4.2.2	Do women and men in the household have equal access to digital devices and the internet?	Do women and men in the household have equal access to digital devices and the internet?
4	4.2	4.2.3	Household Member aged 15 or above use the internet for business or education-related activities?	Does any household member aged 15 or above use the internet for business or education-related activities?
4	4.2	4.2.4	Household Member use the internet to look for health information, such as symptoms, diagnosis, or treatment?	Does any household member use the internet to look for health information, such as symptoms, diagnosis, or treatment?
4	4.2	4.2.5	Digital Literacy of the Household Head	How would you rate the digital literacy of the household head, such as using apps or the internet?
4	4.2	4.2.6	Internet-Enabled Employment Opportunities	Has internet access helped any household member find a job or income opportunity?
4	4.2	4.2.7	What is the biggest problem in your daily life that better internet or digital services could help solve?	What is the biggest problem in your daily life that better internet or digital services could help solve?
4	4.2	4.2.8	Any household member aged 15 or above interested in learning new digital skills or has attended digital training?	Is any household member aged 15 or above interested in learning new digital skills or has attended digital training?
4	4.2	4.2.9	Take steps to protect their online privacy	Do household members take steps to protect their online privacy and security, such as using secure connections or not sharing personal information?
4	4.2	4.2.10	Feel confident in evaluating whether information found online is true and reliable?	Do household members feel confident in evaluating whether information found online is true and reliable?
4	4.3	4.3.1	Housing Tenure	111. Is the household's dwelling owned, rented, or occupied for free?
4	4.3	4.3.2	The household possess a residency certificate or land title	112. Does the household possess a residency certificate or land title?
4	4.3	4.3.3	Approximately how old is this building?	Approximately how old is this building?
4	4.3	4.3.4	Enumerator observation: Main material used for the external walls	Enumerator observation: Main material used for the external walls?

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
4	4.3	4.3.5	Enumerator observation: Main material used for the roof	Enumerator observation: Main material used for the roof?
4	4.3	4.3.6	Perceived Structural Safety of the Home	How would you rate the perceived structural safety of your home? (1-4 Scale)
4	4.3	4.3.7	Noticed any structural cracks in the walls or foundation	Have you noticed any structural cracks in the walls or foundation?
4	4.3	4.3.8	Presence of evidence of dampness on the lower walls of the house	Is there evidence of dampness on the lower walls of the house?
4	4.3	4.3.9	Your home repairs typically conducted by certified/professional	Are your home repairs typically conducted by certified/professional engineers?
4	4.3	4.3.10	Satisfaction With the Engineering Quality and Reliability of y	Overall, how satisfied are you with the Engineering Quality and Reliability of y
4	4.3	4.3.11	Enumerator observation: What is the main material used for the foundation	Enumerator observation: What is the main material used for the foundation?
4	4.3	4.3.12	Window and Door Materials	Enumerator observation: What are the windows and doors primarily made of?
4	4.3	4.3.13	Enumerator observation: Is the electrical wiring inside the house mostly	Enumerator observation: Is the electrical wiring inside the house mostly visible/exposed or co
4	4.3	4.3.14	Ever received any technical advice or guidelines on how	Have you ever received any technical advice or guidelines on how to build or mai
4	4.3	4.3.15	In the last 5 years, have there been any major structural	In the last 5 years, have there been any major structural modifications or extensions to the house?
4	4.3	4.3.16	During the hottest season, how does the inside of your house feel	During the hottest season, how does the inside of your house feel during the day
4	4.3	4.3.17	During the coldest season, how does the inside of your house feel	During the coldest season, how does the inside of your house feel at night?
4	4.3	4.3.18	Main material of the floor inside the house	What is the main material of the floor inside the house?
4	4.4	4.4.1	Primary Household Electricity Source	Primary source of electricity for this household?
4	4.4	4.4.2	Average hours of electricity available per day	Average hours of electricity available per day?
4	4.4	4.4.3	Primary fuel used for cooking	Primary fuel used for cooking?
4	4.4	4.4.4	Your household use a Solar PV System (Panels)	Does your household use a Solar PV System (Panels)?
4	4.4	4.4.5	Use energy-saving bulbs (LED/CFL) for most of your lighting	Do you use energy-saving bulbs (LED/CFL) for most of your lighting?
4	4.4	4.4.6	Your house located within 200 meters of a paved	Is your house located within 200 meters of a paved (asphalt/concrete) road?
4	4.4	4.4.7	The house experience significant vibration when heavy vehicles	Does the house experience significant vibration when heavy vehicles pass nearby?
4	4.4	4.4.8	Public transportation (bus/taxi) easily accessible from your home	Is public transportation (bus/taxi) easily accessible from your home?
4	4.4	4.4.9	Satisfaction With Urban Planning	Overall, how satisfied are you with the Urban Planning (zoning/public spaces) in

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
4	4.4	4.4.10	Your neighborhood have functional drainage systems to prevent	Does your neighborhood have functional drainage systems to prevent waterlogging?
4	4.4	4.4.11	Functional Streetlight Availability	Are there functional streetlights available in your immediate neighborhood?
4	4.4	4.4.12	Household Flooding or Rainwater Intrusion	In the past 12 months, has your house experienced flooding or rainwater intrusion?
4	4.5	4.5.1	Observed Changes in Weather Patterns	Have you noticed changes in weather patterns over the last 10 years?
4	4.5	4.5.2	Observed Climate Changes	What is the most severe change observed? (Multiple responses allowed)
4	4.5	4.5.3	Satisfaction With Agricultural and Livestock Support	Overall, how satisfied are you with local support for agriculture and the environment?
4	4.5	4.5.4	Household Climate Impacts	What was the most severe impact of these changes on your household? (Multiple re
4	4.5	4.5.5	Adopted any adaptation measures (e.g., tree	Has your household adopted any adaptation measures (e.g., tree planting, water h
4	4.5	4.5.6	Household Adaptation Measures	If yes, what adaptation measures have you adopted? (Multiple responses allowed)
4	4.5	4.5.7	Local Environmental Problems	What are the main environmental problems in your area? (Multiple responses allow
5	5.1	5.1.1	Electoral and Community-Governance Participation	Does any eligible adult in your household participate in local elections or comm
5	5.1	5.1.2	Perceived Local-Government Transparency	Overall, how satisfied are you with the transparency and accountability of local government in Borama?
5	5.2	5.2.1	Knowledge of Basic Legal Rights	Does any adult household member (18+) know their basic legal rights as a citizen
5	5.2	5.2.2	Adult Household Member (18+) know about Somaliland's Constitution	Does any adult household member (18+) know about Somaliland's Constitution and b
5	5.2	5.2.3	You aware that all citizens are equal before the law	Are you aware that all citizens are equal before the law?
5	5.2	5.2.4	Know where to go if your rights are violated	Do you know where to go if your rights are violated?
5	5.2	5.2.5	Adult Household Member (18+) understand basic Islamic inheritance	Does any adult household member (18+) understand basic Islamic inheritance laws
5	5.2	5.2.6	Knowledge of Affordable Legal-Aid Services	Does your household know where to access free or affordable legal aid services i
5	5.2	5.2.7	Rating of the fairness and impartiality of the formal court	How would you rate the fairness and impartiality of the formal court system in B
5	5.2	5.2.8	Household Civic Documents	Do you have the following documents? (Tick all that apply)
5	5.2	5.2.9	Ever needed civic documents for a court case	Have you ever needed civic documents for a court case?
5	5.2	5.2.10	What type of case	If yes, what type of case?
5	5.2	5.2.11	If other, please specify	If other, please specify.
5	5.3	5.3.1	Preferred Legal-Dispute Resolution Mechanism	If your household had a serious legal dispute, what would be the preferred metho
5	5.3	5.3.2	If other, please specify	If other, please specify.

Appendix continued

Pillar	Section	Item	Variable title	Original questionnaire wording
5	5.3	5.3.3	Recent Major Household Dispute	In the last 12 months, has your household experienced a major dispute that requires
5	5.3	5.3.4	What was the primary mechanism used to resolve this dispute	If yes to 1307, what was the primary mechanism used to resolve this dispute?
5	5.3	5.3.5	If other, please specify	If other, please specify.
5	5.3	5.3.6	Emotional Stress From Online Interactions	Have online interactions ever caused emotional stress or fear to a household member
5	5.3	5.3.7	Online Harassment and Scam Exposure	Has any household member experienced online harassment, scams, or cyberbullying?
5	5.3	5.3.8	Presence of any conflict over water or grazing land in the last	Is there any conflict over water or grazing land in the last 12 months?
5	5.3	5.3.9	Household Victimization	In the last 12 months, has any household member been a victim of any crime?
5	5.3	5.3.10	Was the crime reported to the police or other authorities	If yes to 1316, was the crime reported to the police or other authorities?
5	5.3	5.3.11	Community Safety	Do you feel safe in your community?
5	5.3	5.3.12	Trust in the Local Police	How much trust does your household have in the local police force to maintain law
5	5.3	5.3.13	Main security concerns in your area	What are the main security concerns in your area?
5	5.3	5.3.15	If other, please specify	If other, please specify.
5	5.4	5.4.1	Primary Drinking-Water Source	109. What is the primary source of drinking water?
5	5.4	5.4.2	Primary type of toilet facility	110. Primary type of toilet facility?
5	5.4	5.4.3	Treat your water to make it safe to drink	Do you treat your water to make it safe to drink?
5	5.4	5.4.4	Water and Soap at the Handwashing Place	Enumerator observation: Are water and soap both present at the handwashing place?
5	5.4	5.4.5	Child-Faeces Disposal Method	How are children's feces primarily disposed of?
5	5.4	5.4.6	Where/How do you mainly dispose of household solid waste	Where/How do you mainly dispose of household solid waste?
5	5.4	5.4.7	Primary method for wastewater/sewage disposal	What is the primary method for wastewater/sewage disposal?
5	5.4	5.4.8	Internal Household Plumbing	Is there internal plumbing for water supply in the kitchen or bathroom?
5	5.5	5.5.1	Would you prefer government services to be available online	Would you prefer government services to be available online instead of physical

Appendix G

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Appendix H

Somaliland Benchmark Harmonisation Register

This appendix documents the thirty indicators used in Chapter 8. The purpose is to make the benchmark transparent and to prevent contextual comparisons from being interpreted as direct trends. BAHDA-2026 estimates refer to Borama District households in 2026; the regional and national benchmarks are drawn from the Somaliland Health and Demographic Survey 2020 and Somaliland Integrated Household Budget Survey 2022.

Table H.1

Thirty-indicator Borama-Awdal-Somaliland comparative benchmark

No.	Indicator	Borama	Awdal	Somaliland	Code	Source	Comparability note
1	Average Household Size	8	5.9	6.5	A	IHBS 2022	Same household-level concept.
2	Adult Literacy	80.7%	54.4%	58%	C	IHBS 2022	BAHDA: household has all/some literate adults; benchmark: percentage of persons 15+ who are literate.
3	School Participation	41.5%	46.9%	29.6%	C	SLHDS 2020	BAHDA: all eligible children aged 6-18 attending; benchmark: primary-school net attendance ratio.
4	Household Enterprise Ownership	27.2%	10%	14%	B	IHBS 2022	Household-level ownership; instrument wording differs slightly.
5	Household Remittance Receipt	30.7%	33%	24%	B	IHBS 2022	Household receipt; reference periods broadly aligned.
6	Formal Financial Access	22.8%	19%	10%	C	IHBS 2022	BAHDA: any adult household member uses a formal institution; benchmark: bank account ownership among persons 15+.
7	Mobile-Money or Mobile Financial Use	87.9%	89%	91%	C	IHBS 2022	BAHDA household use; benchmark mobile financial transaction use among persons 15+ with phone access.
8	Household Loan or Credit Use	37.4%	24%	32%	B	IHBS 2022	Any formal or informal household loan/credit.

No.	Indicator	Borama	Awdal	Somaliland	Code	Source	Comparability note
9	Recent Household Economic Shock	39.3%	65%	72%	B	IHBS 2022	BAHDA economic shock compared with IHBS any shock; shock lists differ.
10	Climate-Related Change or Shock	59.7%	41%	50%	C	IHBS 2022	BAHDA perceived weather-pattern change over 10 years; benchmark climate shock during survey reference period.
11	Concern About Insufficient Food	29.6%	36%	37%	B	IHBS 2022	Related FIES experience; BAHDA uses a 12-month reference period and IHBS one month.
12	Unable to Afford Healthy Food	36.4%	36%	43%	B	IHBS 2022	Related FIES experience; reference periods differ.
13	Limited Dietary Diversity	35.1%	33%	37%	B	IHBS 2022	Related FIES experience; reference periods differ.
14	Meal Skipping	30.6%	21%	30%	B	IHBS 2022	Related FIES experience; reference periods differ.
15	Ate Less Than Needed	34.1%	22%	32%	B	IHBS 2022	Related FIES experience; reference periods differ.
16	Household Ran Out of Food	21.4%	19%	27%	B	IHBS 2022	Related FIES experience; reference periods differ.
17	Went Hungry	26.1%	16%	25%	B	IHBS 2022	Related FIES experience; reference periods differ.
18	Whole Day Without Eating	21.9%	13%	20%	B	IHBS 2022	Related FIES experience; reference periods differ.
19	Chronic Health Burden	33.5%	7%	6%	C	IHBS 2022 / BAHDA	BAHDA: household reporting an adult hypertension diagnosis; benchmark: person-level chronic illness prevalence.
20	Disability Prevalence	25.1%	11%	10%	C	IHBS 2022	BAHDA: any household member; benchmark: person-level disability prevalence.
21	Medicine or Treatment Affordability Barrier	45.5%	56.3%	61.1%	C	SLHDS 2020	BAHDA medicine-course affordability; benchmark women reporting difficulty getting money for treatment.
22	Health Insurance Coverage	12.9%	0%	0.2%	C	SLHDS 2020	BAHDA household insurance; benchmark coverage among women aged 15-49.

No.	Indicator	Borama	Awdal	Somaliland	Code	Source	Comparability note
23	Full Vaccination	85.9%	8.9%	12.7%	C	SLHDS 2020	BAHDA household report for all children under five; benchmark all basic vaccination among children 12-23 months.
24	Household Electricity Access	86.2%	59.7%	63.1%	B	IHBS 2022	BAHDA access includes grid, generator and solar; benchmark reports any electricity access.
25	Clean Cooking Fuel	31.8%	28%	16%	B	IHBS 2022	Electricity and gas classified as clean; charcoal and firewood classified as polluting.
26	Piped Drinking Water	34.3%	65%	33%	B	IHBS 2022	Main drinking-water source; IHBS rainy-season benchmark.
27	Improved Sanitation Facility	64.2%	56%	60%	B	IHBS 2022	BAHDA flush-to-septic plus pit-with-slab; benchmark flush and improved pit categories.
28	Handwashing Place With Water and Soap	42.8%	51%	48%	B	IHBS 2022	Observed or reported presence of water and soap.
29	Mobile-Phone Ownership or Access	85.3%	78%	84%	C	IHBS 2022	BAHDA household ownership; benchmark person-level ownership/access among persons 15+.
30	Internet Access or Use	77.4%	38%	38%	C	IHBS 2022	BAHDA household access; benchmark internet use among persons 15+ during the previous three months.

Note. Code A = directly comparable; B = comparable after harmonisation; C = contextual comparison only. Survey years and denominators differ.

H.1 Interpretation Rules

1. Comparability A indicates the same unit and closely aligned definition.
2. Comparability B indicates that categories or reference periods were harmonised before comparison.
3. Comparability C indicates a contextual comparison in which the unit, eligible population or reference period differs materially.
4. A difference between years is not interpreted as a trend unless repeated estimates use the same design and definition.
5. Awdal is used where the official report publishes a regional estimate; Somaliland is the national benchmark.

Appendix I

Detailed NDP III, Agenda 2063 and SDG Alignment Matrix

The table below provides the thematic alignment used throughout the Atlas. It does not claim that every BAHDA measure is an official national or international indicator.

Table I.1

Integrated BAHDA-2026 policy-alignment matrix

Pillar	BAHDA indicator	Main re- sult	NDP III	Agenda 2063	Relevant SDGs
1	Average Household Size	8.0 mean	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	School Attendance Among Children	41.5%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	Adult Literacy Within the Household	80.7%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	Post-Primary Education Within the Household	62.9%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
1	Vocational and Technical Training	43.9%	Social Development	Goals 1, 2, 17 or 18	SDGs 1, 2, 4, 5, 8 or 10
2	Adult Hypertension Diagnosis	33.5%	Social Development	Goal 3	SDGs 3 or 6
2	Adult Diabetes Diagnosis	25.2%	Social Development	Goal 3	SDGs 3 or 6
2	Travel Time for Emergency Care	52.7%	Social Development	Goal 3	SDGs 3 or 6
2	Household Health Insurance	12.9%	Social Development	Goal 3	SDGs 3 or 6
2	Antenatal Care Visits	23.4%	Social Development	Goal 3	SDGs 3 or 6
3	Household Enterprise Ownership	27.2%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Primary Business Constraint	31.1%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Formal Financial Institution Use	22.8%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Mobile-Money Use	87.9%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10
3	Regular Household Saving	50.5%	Economic Development	Goals 1, 4, 5 or 20	SDGs 1, 2, 8, 9 or 10

Pillar	BAHDA indicator		Main re- sult	NDP III	Agenda 2063	Relevant SDGs
4	Household Smartphone Ownership		77.4%	Economic structure / Climate Change	Infras- Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Computer or Tablet Ownership		33.3%	Economic structure / Climate Change	Infras- Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Internet Reliability		79.6%	Economic structure / Climate Change	Infras- Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Internet-Cost Barrier		63.4%	Economic structure / Climate Change	Infras- Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
4	Income From Platforms or Digital Work	Online or Digital	28.0%	Economic structure / Climate Change	Infras- Goals 7 or 10	SDGs 6, 7, 9, 11, 12, 13 or 15
5	Electoral and Community-Governance Participation		62.0%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Perceived Government Transparency	Local-Trans-	37.6%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Knowledge of Basic Legal Rights	Le-	58.2%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Knowledge of Affordable Legal-Aid Services		42.5%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17
5	Household Civic Mentions	Docu-	48.9%	Good Governance / Justice	Goals 11, 12 or 13	SDGs 6, 16 or 17

Note. The matrix is a thematic alignment tool. Exact official-indicator equivalence requires separate metadata review.

I.1 Use of the matrix

The matrix should be used to connect evidence with planning themes, responsible institutions and monitoring. Programme documents should retain the exact BAHDA definition when using a BAHDA indicator as a baseline. Official NDP III, Agenda 2063 or SDG reporting should use the official indicator definition and metadata.

Appendix J

Data Access, Reproducibility and Citation Guidance

J.1 Public materials

The public publication package may include the Atlas, item framework, short-title dictionary, methodological documentation, figure and table indexes, benchmark harmonisation register and non-confidential analytical code.

J.2 Restricted materials

Direct identifiers, precise household coordinates and any data that could enable re-identification should remain under controlled institutional access. Access should require a defined research purpose, confidentiality agreement, secure storage plan and publication review where necessary.

J.3 Reproducible workflow

The source package should preserve the final analytical datasets, software scripts, package versions, random seeds where relevant, item mappings, weight construction, multiple-response option dictionary and LaTeX source. For the population-estimation validation, the package should additionally retain the seven-source manifest, Bayesian analytical settings, posterior summary, four-chain diagnostics, prior-sensitivity and leave-one-family-out outputs, concordance probabilities and the explicit uncertainty framework. The permanent institutional repository release is identified by DOI [10.67178/pgc3n7h0](https://doi.org/10.67178/pgc3n7h0) and ARK [ark:/53360/pgc3n7h0](https://nbn-resolving.org/urn:nbn:uk:2020-05-53360-pgc3n7h0); subsequent revisions should preserve clear version history and the persistent landing record.

J.4 Citation

Users should cite the Atlas and, where applicable, the specific public dataset or analytical package. Modified analyses should not be presented as official BAHDA results without clear attribution and methodological disclosure.

Appendix K

Contributor and Institutional Role Register

This register summarises the institutionally confirmed contributor structure for the final BAHDA-2026 publication. Detailed acknowledgements and the full Expert Reviewers list appear in the front matter.

Research and Innovation Center leadership

- **Dr. Abdisalam Hassan Muse** – Director;
- **Abdirashid Mohamed Yousuf** – Deputy Director;
- **Dr. Mukhtaar Axmed Cumar** – Senior Advisor.

Technical and research team

- Dr. Mukhtaar Axmed Cumar – Survey Coordinator and Technical Lead;
- Abdirashid Mohamed Yousuf – Senior Statistician;
- Mohamed Ali Hussein – Senior Statistician;
- Hawa Abdillahi – Data Analyst;
- Eng. Mohamed Deheye – GIS Technician;
- Eng. Ahmed Awale – GIS Technician;
- Bishar Elmi – Administration Specialist;
- Abdirahman Mohamed Haji Abubakar – Website Designer;
- Abdikarim Mahdi – ICT Technician;
- Sakariye Mohamed – Communication Specialist;
- Mukhar Abdi – Director of Academics;
- Abdirahman Deheye – Director of EDC;
- Hakima Abdirahman – Editing and Preparation of the Report.

Fieldwork and overall supervision

The field operation involved approximately **900 senior Amoud University students serving as enumerators**, supported by **38 field supervisors, 8 coordinators** and **7 BAHDA Task Force members providing overall field supervision and institutional oversight**. The supervision hierarchy was: senior student enumerators → field supervisors → coordinators → BAHDA Task Force / overall supervisory team.

Photographic contributors

Ahmed Daacad; Abdirisak Omer; Omer Abdillahi; and Khalid Sultan. Participant permissions for publication have been confirmed.

Review, partners and participating households

Sixteen named expert reviewers are listed in the front matter. Development-partner personnel, public institutions, local authorities, academic units, community representatives and other supporting partners are acknowledged collectively where individual names were not supplied. The University gives particular recognition to the **2,896 participating households** whose consented interviews were retained in the final analytical dataset.

Glossary

Term	Meaning in BAHDA-2026
Analytical sample	Records retained after consent, eligibility and required data-quality checks; 2,896 households form the final BAHDA analytical dataset.
Analytical weight	A factor applied so households from different sampling strata contribute according to the estimated distribution of households in the BAHDA operational frame.
BAHDA operational area	The geographic area covered by the BAHDA sampling and planning framework, comprising four central urban strata, a peri-urban settlement belt and defined rural corridor coverage. It is not presented as an official administrative boundary.
Bayesian credible interval (CrI)	An interval describing uncertainty in a Bayesian posterior distribution. In BAHDA it is used in the secondary population-model robustness analysis.
Bayesian robustness synthesis	The secondary model-based analysis combining evidence from the four population-product families to assess the robustness and uncertainty of the primary planning estimate.
Benchmark	An external statistic used to place a BAHDA finding in wider Awdal or Somaliland context.
Census count	A population total derived from direct enumeration of the target population. BAHDA population totals are model-assisted planning estimates, not census counts.
Clean cooking fuel	A cooking-energy category interpreted in relation to fuels and technologies that reduce household air-pollution risks compared with more polluting solid fuels.
Cluster	A predefined operational field unit used to organise household data collection. BAHDA used 96 clusters, allocated equally as 16 clusters in each of the six strata; each stratum comprised four zones with four operational sub-zones/clusters per zone.
Comparability A	A benchmark comparison using a closely aligned unit, definition and denominator.
Comparability B	A comparison made after transparent harmonisation of categories or definitions.
Comparability C	A contextual comparison where important differences remain in unit, denominator, eligible population or reference period.
Conditional indicator	An indicator calculated only for households meeting specified eligibility conditions.
Cross-sectional assessment	A study describing conditions during a defined survey period; observed associations do not establish causation.
De-identification	Removal or protection of information that could directly identify participants or households.
Denominator	The population, household group or valid-response base on which a percentage or rate is calculated.
Development implication	A planning interpretation based on an observed finding; it is not itself evidence of causation.
Digital inclusion	Meaningful ability to access and use digital devices, connectivity and services, considered alongside affordability, skills and non-digital alternatives.

Term	Meaning in BAHDA-2026
District-level estimate	A result intended to describe the full BAHDA operational area, normally presented using the analytical weights.
Eligible denominator	The households meeting the conditions required for a specific survey item.
Ensemble estimate	An estimate obtained by combining information from several models or population products rather than relying on a single source.
Family-balanced ensemble	The BAHDA method that first balances related population products within methodological families and then gives the four families equal influence within each stratum.
Food Insecurity Experience Scale (FIES)	A sequence of experience-based questions concerning constrained household food access.
Geospatial population surface	A raster or gridded dataset allocating estimated population across geographic cells.
GPS anchor	A valid BAHDA household GPS location used to support local spatial classification of populated grid cells.
GPS local ensemble	The BAHDA population-estimation procedure using household GPS information, gridded population products and local household-size conversion.
Gridded population product	A spatial dataset representing estimated population in regularly sized geographic cells.
Harmonisation	Adjustment or alignment of definitions or categories so that indicators can be compared more appropriately.
Heatmap	A visual display used in BAHDA to compare indicator patterns across groups or geographic categories.
Household	Persons who usually live together and share basic living arrangements, as operationalised by the BAHDA questionnaire.
Household-based indicator	A measure describing whether a condition exists within a household rather than estimating prevalence among individual persons.
Household prevalence	The percentage of households reporting at least one relevant condition or experience; it should not automatically be interpreted as person-level prevalence.
Improved sanitation facility	The harmonised BAHDA sanitation category based on the facility types specified in the Atlas.
Infant oral mutilation (IOM)	A harmful traditional oral practice reported at household level in the BAHDA oral-health module. BAHDA does not interpret household reporting as a clinical child-level prevalence estimate.
Inequality gap	The difference in an indicator between population or household groups.
Inequality lens	Analysis specifically comparing outcomes across household groups such as residence, wealth, sex of household head or sampling stratum.
Interpretive lens	A concise explanation highlighting the development meaning of results without necessarily presenting a formal inequality comparison.
Item-specific missingness	Missing information affecting one survey item while other information from the household remains available.
Kobo parent field	A survey field storing combined multiple-response selections rather than a genuine individual response option; such parent fields were excluded from final option-level analysis.
Leave-one-family-out analysis	A sensitivity analysis that repeats the Bayesian population synthesis after omitting one model family at a time to assess dependence on source-family composition.
Markov Chain Monte Carlo (MCMC)	A computational method used to draw samples from a Bayesian posterior distribution and quantify model uncertainty.
Model-assisted planning estimate	A planning total derived using population models plus local information. It is not a census count and should be interpreted with its assumptions and uncertainty.
Model family	A group of related gridded population products sharing a broad modelling approach or source lineage.
Multiple-response item	A survey question allowing a household to select more than one answer.

Term	Meaning in BAHDA-2026
Normalised weight	A survey weight rescaled to have an average of approximately one and to sum approximately to the analytical sample size.
Observed sample	The households actually interviewed and retained in the dataset before weighting.
Overcrowding	A housing-density condition interpreted using the room and household-occupancy measures defined in the relevant BAHDA indicator.
Percentage of cases	For a multiple-response item, the percentage of eligible households selecting an option. Totals may exceed 100 percent.
Percentage of responses	The share of all selections accounted for by one multiple-response option. These generally sum to approximately 100 percent.
Peri-urban	The BAHDA operational settlement belt outside the four central urban strata containing urbanising or transitional settlement patterns.
Persistent identifier	A stable identifier intended to provide long-term access to a publication. BAHDA uses a DOI and an ARK for the institutional repository record.
Planning denominator	A population or household total used for planning and weighting. BAHDA uses a model-assisted denominator.
Populated cell	A raster cell carrying a positive population estimate and therefore retained for the BAHDA spatial classification procedure.
Posterior distribution	The Bayesian distribution representing uncertainty about a parameter after combining model assumptions with the supplied evidence.
Posterior median	The median value of a Bayesian posterior distribution.
Primary estimate	The published BAHDA model-assisted planning estimate derived from the family-balanced GPS local ensemble.
Prior sensitivity	Assessment of how materially Bayesian results change when alternative reasonable prior specifications are used.
Proxy reporting	Information supplied by one household respondent about another household member.
Public-use output	A table, figure, map or dataset prepared for dissemination without disclosing protected identifiers or exact confidential household locations.
Raw weight	The initial ratio reflecting the estimated household frame relative to achieved observations in a stratum, before normalisation.
Reference period	The time interval to which a survey question refers, such as the preceding 30 days or 12 months.
Reproducibility package	The documented files, code, metadata, tables and analytical outputs required to reproduce or audit the published analysis subject to data-governance restrictions.
Residence category	Broad settlement grouping used in analysis, principally Urban, Peri-Urban and Rural.
Response rate	A formal survey measure requiring complete information on selected, eligible and approached households. BAHDA reports operational completion and consent metrics rather than claiming a formal household response rate where the required denominator is unavailable.
Restricted data	Non-public information requiring controlled access because it contains confidential, identifying or spatially sensitive information.
Sampling frame	The operational representation of households or geographic units from which survey selection is organised.
Sampling stratum	One of the six predefined geographic components used in BAHDA sampling and weighting.
Sensitivity analysis	Re-analysis under alternative assumptions to examine whether conclusions are strongly dependent on a particular modelling choice.
Spatial support	The extent to which a modelled location is geographically supported by nearby observed BAHDA GPS information.
Stratum-specific household size	The observed mean household size used to convert population estimates into household estimates separately within each stratum.

Term	Meaning in BAHDA-2026
Survey-weighted estimate	An estimate calculated after applying analytical weights so the six strata contribute according to their estimated household shares.
Uncertainty	The range of plausible values arising from sampling, model assumptions, data sources or measurement.
Unweighted count	The actual number of interviewed households contributing to a result.
Unweighted percentage	The percentage calculated directly from interviewed households without applying survey weights.
Weighted count	An analytical count after applying survey weights; it may contain decimals and does not represent additional interviewed households.
Weighted percentage	A percentage calculated using survey weights and used as the principal district-level BAHDA estimate.
Weighting	Adjustment of the contribution of sampled households to better reflect the estimated distribution of the target household frame.
Wealth quintile	One of five ordered household groups constructed from the BAHDA asset-based wealth index.
Zone	An intermediate BAHDA field-organisation unit between the stratum and predefined cluster; 24 zones were used.

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RESEARCH AND INNOVATION CENTER

BAHDA-2026 provides reliable household evidence to inform inclusive, resilient and accountable development in Borama District. This atlas supports policy decisions, program design, academic research and community action across five development pillars.



Household-Centred
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