Federal Republic of Somalia

Somalia National Bureau of Statistics

SOMALIA POVERTY REPORT

2023

Federal Republic of Somalia

Somalia National Bureau of Statistics

SOMALIA POVERTY REPORT

2023

Foreword

Having already conducted and subsequently launched the Somali Integrated Household Budget Survey (SIHBS-2022), the first since 1985, the Somali National Bureau of Statistics (SNBS) compiles this report to analyze current poverty levels and inequalities based on the scrutiny of the SIHBS—2022, hence build basis for future trends. The survey seeks to measure poverty levels within Somalia by providing valuable insights into the extent and distribution of poverty across different regions and demographic groups.

The attainment of quality data is crucial for the formulation of prudent public policies in the implementation, monitoring and evaluation of government programs as envisioned in Somalia's Ninth National Development Plan (NDP-9), which met the criteria for, and acts as, the Interim Poverty Reduction Strategy Paper (IPRSP). NDP-9 envisages a five year pathway towards economic emancipation and reduction of poverty in the country. Somalia attained HIPC Decision Point on Debt Relief with IMF and IDA of the WB in March 2020, having determined that the country had fulfilled all requisite steps necessary for HIPC consideration. Satisfactory implementation of the poverty reduction strategy will trigger the Completion Point of debt relief for Somalia.

Somalia is reinvigorating its statistical capacity to make data-driven and practical socio-economic interventions to tackle the root causes of deprivation. This poverty analysis report thus furnishes policy makers with evidence-based perspectives to assess the efficiency of development policies and programs through in-depth understanding of people's welfare, hence monitor progress towards poverty reduction strategies.

According to this poverty analysis generated from the SIHBS-2022, 54.4 percent of Somali population live below the poverty line, as they consume less than $2.06 per day. The compilation of this Poverty Analysis Report resulted from series of trainings, followed by drafting workshop that took the concerted efforts of both SNBS staff as well as WB support team.

The primary objective of the household budget survey was to collect detailed information on household expenditures and consumption incurred on goods and services to monitor household welfare and measure poverty more sustainably. A total of 7,212 households were selected from 601 Enumeration Areas (EAs) which were distributed across Somalia. 35 EAs were sampled in each of the 17 covered regions, with 12 HHs interviewed per EA, adding up to 420 HHs per region.

We would like to acknowledge with immense gratitude the various contributions towards the successful compilation of this Poverty Report. Special credit goes to SNBS staff who spent tremendous amount of time and energy to analyze the SIHBS-2022 and generate the findings of this subsequent Poverty Analysis Report for Somalia.

The Federal Government would equally like to earnestly appreciate, the financial support from Development partners as well as the technical assistance and advice provided by the World Bank Group throughout the compilation period of this Report.

H.E. Hon. Mohamud A. Sheikh Farah (Beenebeene)

Minister of Planning, Investment and Economic Development

Federal Government of Somalia

Acknowledgment

This Poverty Analysis Report on the living conditions of Somalia is the product of concerted efforts of the SNBS and a number of other stakeholders. The SNBS would like to extend unreserved appreciations to all the individuals and institutions involved in the preparation, consultations, trainings, guidance, analysis and the ultimate drafting of this historic report.

Our foremost appreciation goes to the World Bank Group whose technical and financial support was critical to the successful completion of the SIHBS, the primary reference of this Poverty Analysis and the subsequent compilation of this Poverty Report. I would like to specifically recognize and appreciate Aphichoke Kotikula, Shinya Takamatsu, Alastair Haynes, Giovanni Vecchi, Giulia Mancini and Maria Edo for their supportive involvement throughout the drafting of this Report.

The SNBS equally acknowledges the guidance provided by the Deputy DG, Abdirahman Omar as well as the Bureau's officials who were involved in the actual analysis and compilation of the report, including Mohamed Abdinur, Statistics Capacity Building Project Coordinator (SISEPCB), Hashim Sheikh Abdinoor, SISEPCB's Technical Manager, Said Abdillahi, Director of Social Statistics, Abukar Mohamed, Communication Specialist, Zahir Omar, Abdirashid Khalif, Hamida Sheel, Adea Musa, Ayan Abdullahi and Naima Ibrahim.

Once again, I would like to express unfettered gratitude to the households that took part in the initial SIHBS, the field staff, including of Federal Member States, local community leaders, for their critical contribution towards organization of SIHBS whose analysis forms the basis for this Poverty Report.

Sharmarke Farah
Director General
Somalia National Bureau of Statistics

Contents

List of Figures

List of Tables

Acronyms

CA	Consumption Aggregate
CAPI	Computer Assisted Personal Interviewing
CBN	Cost of Basic Needs
COICOP	Classification Of Individual Consumption According to Purpose
CPI	Consumer Price Index
EAs	Enumeration Areas
FAO	Food and Agriculture Organization
FPL	Food Poverty Line
HFS	High-Frequency Survey
HHs	Households
HIPC	Highly Indebted Poor Country
HoH	Head of Household
IDA	International Development Association
IMF	International Monetary Fund
IPRSP	Interim Poverty Reduction Strategy Paper
Kcal	Kilocalories
LBPL	Lower Bound Poverty Line
NDP	National Development Plan
NSU	Non-Standard Measurement Units
PSUs	Primary Sampling Units
SDGs	Sustainable Development Goals
SIHBS	Somali Integrated Household Budget Survey
SNBS	Somalia National Bureau of Statistics
SSUs	Secondary Sampling Units
UBPL	Upper-Bound Poverty Line
UKCAL	Unit Kilocalorie Cost
USUs	Ultimate Sampling Units
WB	World Bank
ER	Energy Requirement
NFA	Non-Food Allowance

Executive Summary

Background

Somalia has in place the Ninth National Development Plan (NDP-9), which envisages a five year (2020-2024) pathway towards economic emancipation and reduction of poverty in the country, hence serves as an Interim Poverty Reduction Strategy Paper (IPRSP) within the framework of the Highly Indebted Poor Country (HIPC) initiative. Satisfactory implementation of the poverty reduction strategy will trigger the completion point of debt relief for Somalia. Quality data and statistics are key for monitoring and evaluating the NDP-9, sectoral plans, the attainment of Sustainable Development Goals (SDGs) and measure the progress towards the completion point of debt relief.

This Poverty Analysis Report relies on the SIHBS—2022 data, whose report the SNBS published and disseminated on February 20, 2023, to analyze and measure current poverty levels and inequalities within Somalia by presenting valuable insights into the dimensions and distribution of poverty across regions and demographic groups.

Methodologies and Major Report Findings

The poverty lines were calculated from the SIHBS—2022 data using the cost-of-basic needs (CBN) method that stipulates a consumption bundle deemed to be adequate for 'basic consumption needs', and then estimates what this bundle costs in reference prices. In assessing wellbeing based on consumption, rankings appear stabler among households facing significant income fluctuations, especially agricultural income reliant HHs whose revenues vary annually or from year to year. Conversely, collecting accurate household income data is challenging, owing to uncertainties facing individuals employed in the informal sector or seasonal jobs, who may find it hard to report their income accurately or may outrightly decline to do so. The report adopts consumption expenditures as the primary indicator of welfare, as opposed to income. Evidence has shown consumption is not solely pegged on short-term fluctuations in income. Rather, it exhibits smoother and less variable patterns compared to income.

The food poverty line (FPL) was first estimated using individual energy requirement by gender and age, based on FAO (2014). Energy requirement by gender and age is multiplied by the population shares by the gender and age distribution obtained from SIHBS-2022. The resultant mean energy requirement for Somalia is 2,200 kcal/person/day, which is used as the minimum energy requirement for the food poverty line. A non-food allowance is then also calculated and combined with the food poverty line to produce the overall poverty line.

According to this poverty analysis generated from the SIHBS—2022, 54.4 percent of Somali population live below the poverty line, as they consume less than $2.06 per day.

To compute measure of nominal households' total consumption expenditure, the best-practice guidelines were followed pursuant to Deaton and Zaidi (2002) and Mancini and Vecchi (2022). This aggregate measure encompasses expenditure on two main components: food and non-food consumption. Non-food consumption by households was collected in separate sections of the SIHBS 2022 questionnaire with recall periods of 7 days, one month, six months or one year depending on the item.

The median food consumption patterns have been categorized by region and area, with home and away median food consumption measured in USD per person per year. These findings highlight the variations in food consumption patterns across regions and areas in Somalia, providing insights into the country's prevailing consumption habits and expenditure trends. Overall median food consumption for Somalia is $399. Rural areas have a median food consumption of $364, while urban areas show of $441. The nomadic population has the lowest median food consumption, with $281. Bari recorded the largest median food consumption at $513,

while Middle Shabelle has the lowest at $315. On average, a person in Somalia consumes $2.64 per day. Urban areas have recorded the higher consumption at $2.96, than in rural ($2.24) and nomadic ($1.91) areas.

Harnessing consumption aggregate and poverty lines, a household is considered poor if its real per capita total consumption is below the poverty line. If a household's real per capita total consumption is below the food poverty line, it is categorized as extreme poor. The poverty headcount ratio is calculated as the share of population below the poverty line and records poverty prevalence. The poverty gap measures poverty depth and indicates the average income or consumption shortfall below the poverty line for individuals or household in poverty. For each household below the poverty line, an analysis was done to measure the difference between the poverty line and the total consumption.

Poverty incidence is highest among nomadic population at 78.4 percent, followed by rural and urban at 65.5 percent and 46.1 percent, respectively. Although the nomadic population records the highest poverty rate, it only accounts for 16.3 percent of the poor population compared to urban who have the lowest poverty headcount rate but account for over half of the poor population at 54.6 percent (Table 4.1). The extreme national poverty rate is the share of the population whose total per capita expenditure is below the food poverty line. Nationally, just over one-fifth of the population are in extreme poverty (20.9 percent). The pattern of extreme poverty is similar to the poverty headcount with nomadic population having the highest extreme poverty rate at 46.8 percent but account for the lowest share of extreme poor (25.4 percent). Urban areas have the lowest extreme poverty rate (13.8 percent), yet accounts for the largest share of the extreme poor (42.8 percent).

The poverty rate among urban female-headed households is slightly higher than their male counterparts at 48.2 percent and 43.5 percent, respectively. While in nomadic areas, 81.5 percent of female headed HHs compared to male-headed HHs at 77 percent are poor. In rural areas, female-headed HHs have lower poverty rates than those headed by males, at 62.4 percent and 68.6 percent, respectively. Like the poverty headcount ratio, at the national level the depth of poverty of households headed by females is lower compared to their male counterparts at 18.9 percent and 20.7 percent, respectively. The poverty gap is larger among female-headed households in urban and nomadic households and is also larger among male-headed HHs in rural areas.

CHAPTER ONE: INTRODUCTION

1.1. Background

Somalia has formulated its Ninth National Development Plan (NDP-9) for the period 2020-2024 that serves as an Interim Poverty Reduction Strategy Paper (IPRSP) within the framework of the Highly Indebted Poor Country (HIPC) initiative. Quality data and statistics are key for monitoring and evaluating the NDP9, sectoral plans, and other international development frameworks such as Sustainable Development Goals (SDGs) and to measure the progress towards the debt relief initiative.

Poverty analysis in Somalia was conducted based on the high-frequency survey (HFS) in 2017 and the SIHBS (SIHBS-22). Both surveys provided information on the welfare nationally, as well as by place of residence and by region. In addition, both surveys have been utilized to gather information on household income, consumption patterns, access to basic services, and other relevant socio-economic factors. By analyzing data collected across multiple waves, researchers and policymakers gain valuable insights into the long-term patterns of poverty in Somalia. However, due to methodological differences, the 2022 SIHBS and the 2017 HFS poverty estimates are not comparable.

1.2. Objectives of the SIHBS 2022

Somalia National Bureau of Statistics (SNBS) conducted the SIHBS-22 which collected detailed information on household expenditures and consumption incurred on goods and services. The primary objective of the SIHBS-22 was to monitor household welfare and measure poverty. Furthermore, the survey aims to measure poverty levels within Somalia, providing valuable insights into the extent and distribution of poverty across different regions and demographic groups. In addition, SIHBS-22 collected other socio-economic information essential to monitoring the living conditions of Somali households, such as labor force participation, ownership of basic assets, access to facilities and services. Additionally, the SIHBS-22 aids in the compilation of the commodity basket and commodity weightings utilized in constructing the Consumer Price Index (CPI) ensuring inflation measurements and price indices more accurately reflect changes in the cost of living for the population.

1.3. Survey Methodology

SIHBS-22 was designed to provide a representative sample of 7,212 households to estimate various indicators representative at the national level, regionally, and place of residence (rural, urban, and nomadic areas).

The development of the SIHBS-22 sampling frame followed a stratified multi-stage probability cluster sample design. Urban and rural areas followed a three-stage stratified cluster sample design, while in nomadic areas the design was a two-stage stratified cluster sample design. The primary sampling units (PSUs) were selected with a probability proportional to the number of dwelling structures which constituted the sampling frame. The secondary sampling units (SSUs) for rural and urban areas were selected with a probability proportional to the number of listed households which constituted the frame. The ultimate sampling units (USUs) for rural, urban, and nomadic areas were randomly selected from listed households in the cluster.

To begin with, 100 percent of households in the sampling frame in the selected urban, rural and nomadic Enumeration Areas (EAs) were listed as the first level, which captured information on the household head. The listed households were recorded using an electronic listing questionnaire. The data was cleaned, and a summary of households listed per EA were used to generate household sampling frames for the second stage of sampling; 12 households were selected in every EA within each stratum. The primary target for interview was the head of household (HoH) and/or the spouse of the HoH. If the head or spouse were not available, the most knowledgeable member of the household was chosen. The survey sample was selected from 601 EAs distributed throughout Somalia. Each of the 17 regions covered in the survey had 35 EAs sampled. Within each EA, 12 Households were interviewed, resulting in 420 Households per region.

The national response rate was 96 percent. The response rate was the highest among nomadic households, at 99 percent, followed by rural at 97 percent, while the response rate of urban households was 95 percent.

1.4. Data Weighting

The weighting methodology followed the sampling process. A design weight was constructed following the sample design's two stages of sample selection:

Stage 1 – Selection of EAs within the region

Stage 2 – Following a listing exercise of all households within each selected EA, a simple random sample of households from an Enumeration Area's "complete" list of households.

The probability of selection (1/design weight) is based the number of estimated dwelling units within a stratum (M_h), the number of EAs selected in a region (m_h), an EA's estimated number of dwelling units ($DU_{h,i}$), the number of listed households in an EA ($L_{h,i}$), and the number of complete interviews in an EA ($q_{h,i}$):

$$P_{h,i,j}=\left(\frac{m_h}{M_h}\right)*\left(\frac{DU_{h,i}}{L_{h,i,}}\right)*q_{h,i}$$

1.5. Survey Instrument

The questionnaire for HBS contained three modules:

- A demographic module collecting information on the population including demographics, education, health, labour, disability, security perceptions, ICT and relation to the household.

- A household module collecting information on dwelling, ownership of land and durable goods, access to basic services and utilities, food security, exposure and response to shocks business and household businesses.

- A consumption module collecting detailed information on food and non-food consumption expenditures.

The survey questionnaire and listing forms were

developed using the Survey Solutions software, which were facilitated using tablets for computer-assisted personal interviewing (CAPI). Extensive testing was conducted to ensure the mobile scrip accurately captured all questions, skip logics and iterations. Subsequently, the scripted instruments underwent an English pilot phase. To maintain accuracy, two separate translators proofread and reconciled the English version into Somali. Finally, adjustments were applied to both English and Somali scripts for field team training purposes.

1.6. Survey management, recruitment and training, and field logistics

The Federal Member States provided lists of enumerators and supervisors to SNBS for vetting and recruitment to include within the team. The field team recruitment was based on their experience carrying our similar surveys, their regions of origin, local language spoken as well as the distribution of the selected EAs. The enumerators and supervisors were organized in 50 teams (150 enumerators and 50 supervisors) where each team comprised of 4 enumerators (2 male and 2 female) and 1 supervisor. These teams were managed by a field manager, assisted by the project manager and field coordinators. All enumerators recruited in this survey had post-secondary qualification including college and university graduates with experience in conducting surveys in urban and rural areas and at least 2 years' experience in enumeration. Preference was given for those with experience using EA maps and conducting listing exercises. The supervisors had at least 3 years' experience of supervision of data collection and managing teams and spoke the local Somali language and range of dialects. The field teams' trainings were organized at three levels - Training of Trainers (ToTs) training, HH listing training, and the main survey enumerators and supervisors' training.

A pilot exercise with respondents was carried out covering rural, urban, and nomadic areas to provide the enumerators with an opportunity to practice and fully understand the questionnaire, and to help identify any remaining issues with question wording comprehension. The enumerators were accompanied by the field managers and the technical team to oversee the exercise, as well as to gauge the enumerators' grasp of the survey requirements. The pilot was implemented electronically using tablets and the data was generated for review before end of the training.

1.7. Outline of the report

The poverty analysis report is structured as follows: Chapter 1 provides a comprehensive introduction to the report, including an outline of the chapters to be covered. Chapter 2 delves into the fundamental concepts and methodologies employed in measuring poverty. Chapter 3 focuses on the analysis of consumption patterns. Chapter 4 analyses a range of indicators that are utilized to assess poverty and inequality. Chapter 5 presents a detailed presentation of the basic socio-economic poverty profile, offering a comprehensive overview of the poverty profile, and finally chapter 6 covers the conclusion and recommendations.

CHAPTER TWO: POVERTY CONCEPTS AND MEASUREMENTS APPROACH

2.1. Introduction

This chapter introduces the concepts of welfare and poverty in this report, focusing on their measurement methodologies. It further outlines the definition and construction of welfare measures for estimating poverty. This chapter also explains the process of adjusting for household needs, provides a detailed account of the computation of poverty lines, and discusses the approach to account for spatial and temporal price differences in nominal expenditure. It also provides a comprehensive presentation and definition of poverty indices and inequality measures used in the report.

2.2. Definition and Construction of Welfare Measure

This report adopts consumption expenditures as the primary indicator of welfare, as opposed to income, in line with international best practices. Extensive empirical research has shown consumption is not solely pegged on short-term fluctuations in income. Rather, it exhibits smoother and less variable patterns compared to income. Notably, when assessing well-being based on consumption, rankings tend to be more stable for households experiencing significant income fluctuations, such as those reliant on agricultural income that varies from year to year or within the same year. In contrast, collecting accurate household income data poses challenges, particularly due to difficulties faced by individuals employed in the informal sector or seasonal jobs, who may struggle to report their income accurately or may outrightly refuse to do so.

To compute the measure of nominal household total consumption expenditures, the best-practice guidelines were followed as outlined by Deaton and Zaidi (2002) and Mancini and Vecchi (2022). This comprehensive aggregate measure encompasses expenditures on two main components; food and non-food consumption.

Table 2.1 shows food consumption data by household, collected in separate sections with a recall period of 7days. Non-food consumption by household was collected in separate sections of the SIHBS 2022 questionnaire with recall periods of 7 days, one month, six months, and one year, depending on the item. Section 2 collected information used to estimate housing expenditure while section 13 collected information on asset expenditures. All these expenditures were accounted for to calculate each households total expenditure.

Table 2.1: Summary details of SIHBS 2022 Questionnaire of Expenditure Consumption

Section	Description of Contents
15	Food Consumption: Food, Beverages, and Related Items Consumed at Home Over the Last 7 Days
15B	Food Consumption: Food, Beverages and Related Items Consumed Outside the Home Over the Last 7 Days
16	Non-Food Expenditures in the Past 7 Days
16B	Non-Food Expenditures, over Last 30 Days
16C	Non-Food Expenditures, over last 6 Months
16D	Non-Food Expenditures, over last 12 Months
2	Housing
13	Durable Goods

2.3. Concept of Consumption Aggregate

The consumption aggregate (CA) can be calculated by adding up its four main components (Mancini and Vecchi, 2022):

$$CA = X_F + X_{NFND} + X_{HOUS} + X_{CF} \quad (1)$$

where:

-X_F denotes the food consumption aggregate

-X_{NFND} denotes non-food non-durable expenditures

-X_{HOUS} denotes housing expenditures

-X_{CF} is the consumption flow from durable goods,

2.4. Food consumption

The SIHBS questionnaire records both food consumption (quantities only) in the last 7 days and food purchases (quantities and expenditure) last time. Quantities are recorded both in standard measurement units (kilograms, liters) and in non-standard measurement units (NSU). All reported quantities are converted into grams, via NSU conversion factors (Appendix 2.1). After all quantities are converted into grams, unit values from purchases are used to compute the monetary value of consumption. The currencies of purchase are recorded in USD. The median unit values in the same enumeration areas, settlements, districts or regions and at the national level are used at the lowest geographic levels wherever 30-unit values are available.

Table 2.2 shows median food consumption patterns categorized by region and area. The data reveals the median food consumption both at home and away from home, measured in USD per person per year.

Overall, the median food consumption for Somalia is $399. Comparing rural and urban areas, urban areas generally exhibit higher median food consumption levels. Rural areas have a median food consumption of $364, while urban areas show figures of $441. The nomadic population has the lowest median food consumption with $281. Bari has the largest median food consumption at $513, while Middle Shabelle has the lowest at $315.

These findings highlight the variations in food consumption patterns across regions and areas

in Somalia, providing insights into the country's prevailing consumption habits and expenditure trends.

Table 2.2: Median food consumed (USD /person/ year), by region and area.

Region and area	Median Food Expenditure (USD/person/year)
Residence	
Rural	364
Urban	441
Nomadic	281
Region	
Awdal	440
Bakool	458
Banadir	473
Bari	513
Bay	423
Galgaduud	391
Gedo	375
Hiraan	347
Lower Juba	370
Lower Shabelle	364
Waqooyi Galbeed	367
Middle Shabelle	315
Mudug	342
Nugaal	502
Sanaag	393
Sool	358
Togdheer	406
Total	399

2.5. Non-food non-durables

The non-food non-durables component of the aggregate is constructed by: 1) annualizing non-food non- durable expenditure from different recall periods such as 7days, 30 days and 6 months; and 2) aggregating selected expenditures reported by households. Following Deaton and Zaidi (2002) and Mancini and Vecchi (2022), we exclude a few expenditures that can be considered "bulky" (certain expenditures for religious celebrations and other large events, expenditures in jewelry, etc.), and mortgage payments. All health and education expenditures have been included. The list of all non-food non-durable items both included and excluded is reported in Appendix 2.2.

Table 2.3 presents descriptive statistics of non-food and non-durable expenditure in Somalia, categorized by region and area. The data includes the mean and median expenditure per person per year, measured in USD. These statistics provide insights into the spending patterns and levels of non-food and non-durable expenditures across regions and areas.

Overall, the mean expenditure for Somalia is $352, while the median expenditure is $242. Urban areas have the highest mean and median non-food non-durable expenditure levels at $387 and $282 respectively, whereas rural areas have a lower mean and median at $295 and $200 respectively. The nomadic population exhibits the lowest mean and median at $296 and $138, respectively.

By region, Sanaag has the highest mean expenditure at $624, followed by Bari at $469 and Awdal at $431. On the other hand, Middle Shabelle has the lowest mean expenditure at $119. Examining the median expenditure, Sanaag region also has the largest value $359, followed by Bari at $314, then Awdal and Banadir at $298. The lowest median expenditure is observed in Middle Shabelle at $101.

It is important to note that these figures represent current values and reflect the expenditure patterns during the specified period. These statistics can assist in understanding the non-food and non-durable consumption differences across the country.

Table 2.3: Descriptive statistics of Non-food & Non-durables expenditure (current USD/person/year), by region and place of residence.

Region and place of residence	Mean	Median
Place of residence		
Rural	295	200
Urban	387	282
Nomadic	296	138
Region		
Awdal	431	298
Bakool	200	110
Banadir	360	298
Bari	469	314
Bay	302	173
Galgaduud	368	282
Gedo	350	235
Hiraan	249	170
Lower Juba	268	198
Lower Shabelle	323	258
Waqooyi Galbeed	425	294
Middle Shabelle	119	101
Mudug	255	202
Nugaal	403	274
Sanaag	624	359
Sool	318	189
Togdheer	376	242
Total	352	242

2.6. Durable goods

Durable goods contribute to household living standard with the yearly value of their usage, which can be estimated based on the information available in the questionnaire.

Section 13 of the questionnaire reports information on ownership of durable goods. While the list comprises some 40 items, not all qualify as consumer durable goods. Some are often referred to as 'quasi-durable' goods, and items 03-13 in Table 2.4 are excluded. Other items (e.g. jewelry et similia) are conventionally excluded as they are interpreted more as investment than consumption. Other items in the list are related to the production side of the household more than its consumption side (items 34-41).

Table 2.4: Identification of consumer durable goods

01	Cylinder gas stove
02	Electric stove
03	Blanket
04	Bed with mattress
05	Mattress (without bed)
06	Chair
07	Upholstered chair/ sofa set
08	Desk
09	Table
10	Coffee table for sitting room
11	Cupboard, Wardrobe
12	Storage place (baskets)
13	Kitchen furniture
14	Fixed line telephone (land line)
15	Private car
16	Motor cycle

17	Bicycle
18	Cart (Hand pushed)
19	Cart (animal drawn)- for transporting people and goods
20	Motor boat
21	Refrigerator
22	Washing Machine
23	Iron
24	Radio
25	Television
26	"Smart" mobile phone
27	Mobile phone not able to connect to Internet
28	Computer/ laptop/ Ipad
29	Sewing machine
30	Fan
31	Air conditioner
32	Gold jewelry
33	Silver jewelry
34	Mortar/ pestle
35	Axe
36	Pick Axe
37	Plough (Traditional)
38	Plough (Modern)
39	Water storage tank (plastic or metal)
40	Water pump
41	Solar panel

For consumer durables in Table 2.4 , we estimated the consumption flow x^{CF} as follows:

$$x^{CF} = p_t(i_t - \pi_t + \delta_t) = p_t(r_t + \delta_t) \quad (4)$$

where p_t denotes the current market value of any given durable good in survey year t (question 13.06), i_t is the market nominal interest rate, π_t is the inflation rate, $r_t = i_t - \pi_t$ is the real market interest rate, and δ_t is the annual depreciation rate.[1] To estimate δ_t, we follow Amendola and Vecchi (2022) and use the "economic life" depreciation model:

$$\delta = 1 - \alpha^{\frac{1}{T}} \quad (5)$$

where α is the "scrap value" of the good as a percentage of the original value (assumed to be 5 percent), and T is the maximum economic life of the good (estimated as the 99th percentile of the distribution of reported ages for each type of good).

Table 2.5 lists 14items that are considered to be durable goods for purposes of consumption aggregate estimation and show the estimated yearly depreciation rates and the mean and median consumption flow. For example, the average depreciation rate for electric stoves is 8.2 percent while the average depreciation rate for bicycles is 63 percent. This indicates the average rate at which these items lose value over a year.

The consumption flow representing the expenditure on these durable goods per household per year, varies significantly across all items. Private cars and motorcycles have highest consumption flow, with a median value of $594.9, followed by computer/laptop/Ipads at $68. In contrast, items like radios and fans have relatively low consumption flows, ranging from $0.9 to $3.

[1] The CPI used in the calculations is from https://somalia.opendataforafrica.org/ownvtkc/consumer-price-index (average between January 2020 and December 2021). Nominal interest rate is assumed equal to 15%. The resulting real interest rate is circa 3%.

Table 2.5: Estimated yearly depreciation rates (%), and consumption flow from durable goods (USD/ household /year)

Item	δ Depreciation	x^{CF} Mean	x^{CF} Median
Cylinder gas stove	18.1	9.3	7.3
Electric stove	8.2	2.7	1.1
Private car/Motor cycle	14.8	793.0	594.9
Bicycle	63.2	29.3	27.7
Refrigerator	31.2	31.3	30.6
Washing Machine	31.2	27.7	27.2
Iron	31.2	2.5	2.0
Radio	23.8	1.3	0.9
Television	22.1	17.5	17.4
Smartphone	45.1	47.5	38.3
Computer/laptop/Ipad	31.2	82.0	68.0
Sewing machine	15.3	13.3	9.0
Fan	34.8	4.8	3.2
Air conditioner	52.7	52.4	22.2

2.7. Housing

The inclusion of housing in the consumption aggregate requires calculating the imputed rent (implicit rental value) for households who do not pay a market rent for their homes (either because they are homeowners or because they occupy them for free, or at a subsidized price). The SIHBS questionnaire records actual rent for tenants, as well as self-reported estimated rent for owners and non-market tenants. However, 52 percent (2,546 out of 5,255) of households that report to be non-renters do not provide a self-reported estimated rent, and an additional 5 percent declare "0" as an estimate of rent. As a consequence, the housing expenditure component of the consumption aggregate is constructed by annualizing actual rent for renters and computing imputed rent for owners and non-market tenants, based on a hedonic housing regression model. Appendix 2.3 covers the technical details on how the imputed rents are estimated.

2.8. Consumption aggregate

Table 2.6 provides summary statistics on average expenditures on each component of the consumption aggregate per person per year in USD for various categories, including deciles, rural and urban areas, the nomadic population, and the overall average for Somalia.

The average nominal expenditures per person per year is $891. The average nominal expenditures per person per year is higher in urban areas than rural. Rural areas have an average of $728, while urban areas exhibit a higher average of $994. The nomadic population has the lowest average nominal expenditure among the listed

categories, with an average of $648. As shown in the table, average nominal expenditures across different categories are observed to increase with increase in deciles. For instance, in the first decile, average nominal expenditures are $258, which gradually increase to $1,376 in the ninth decile. In the tenth decile, there is a significant spike in average nominal expenditures, with a value of $2,420. These findings provide insights into the average expenditure patterns in Somalia, indicating variations based on deciles, geographical areas, and population groups. It is important to consider these average nominal expenditures when examining consumption patterns, economic disparities, and budget allocations in the country.

Table 2.6: Average nominal expenditures (USD/person/year) of the Main Expenditure Components

Residence and decile	Food	Non-Food Non-Durables	Durable Goods	Housing	Total
Place of residence					
Rural	392	265	8	65	728
Urban	508	354	13	120	994
Nomadic	331	290	1	26	648
Decile					
Poorest	166	65	1	27	258
2nd	234	101	1	37	373
3rd	281	139	2	51	473
4th	329	175	3	58	565
5th	363	222	5	72	662
6th	412	269	8	85	774
7th	472	323	11	102	909
8th	548	413	11	126	1099
9th	657	527	22	171	1376
Richest	1138	1016	38	228	2420
Total	460	325	10	96	891

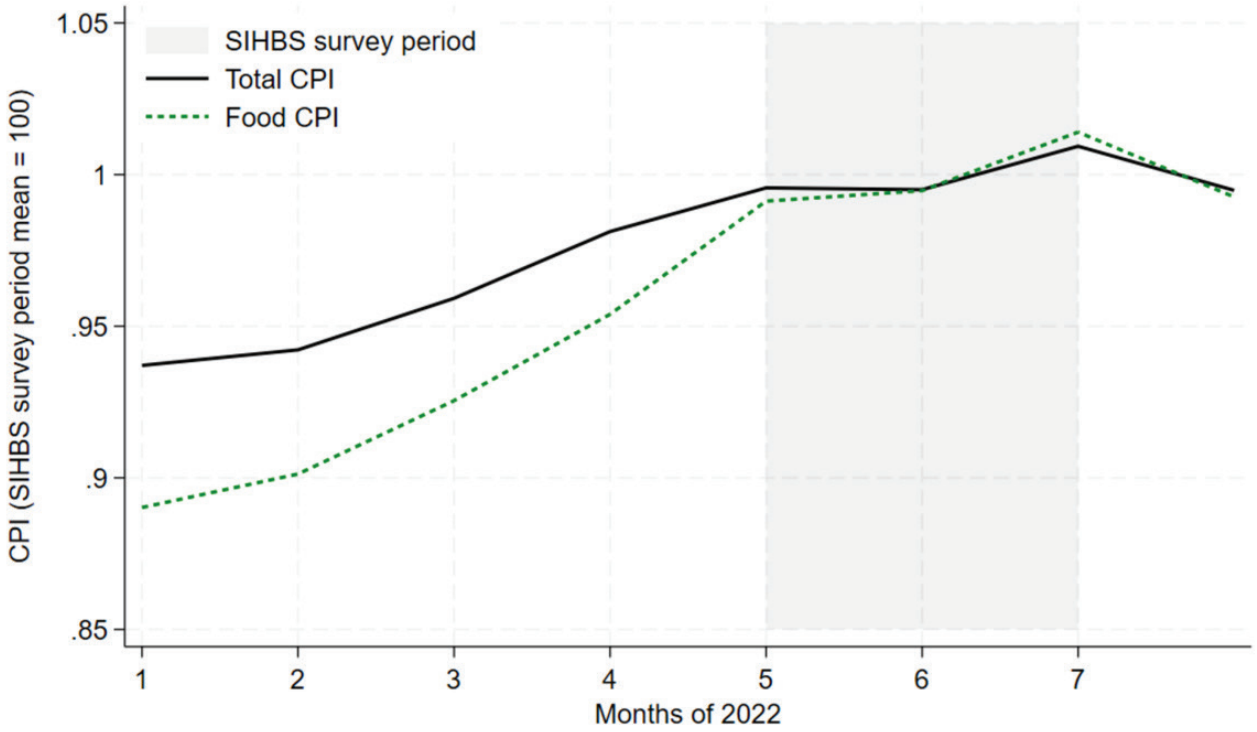
Table 2.7: Average budget shares (%) of the Main Expenditure Components

Residence and decile	Food	Non-Food Non-Durables	Durable Goods	Housing
Place of residence				
Rural	57.5	32.5	0.8	9.2
Urban	53.1	33.5	1.0	12.3
Nomadic	59.9	34.0	0.1	6.1
Decile				
Poorest	64.3	24.9	0.2	10.6
2nd	62.7	26.9	0.4	10.0
3rd	59.5	29.4	0.3	10.8
4th	58.3	31.0	0.5	10.3
5th	54.9	33.5	0.7	10.8
6th	53.3	34.7	1.0	11.1
7th	51.9	35.6	1.2	11.3
8th	49.8	37.7	1.0	11.5
9th	47.8	38.1	1.6	12.4
Richest	47.0	41.6	1.5	9.8
Total	55.0	33.3	0.8	10.9

2.9. Price Adjustments

In order to obtain a real welfare indicator, it is common practice to adjust for differences in the cost of living across areas of the country and temporal within-survey price variation (see the discussion in Mancini and Vecchi 2022, chapter 5). SIHBS 2022 interviews were carried out between May and July 2022. Inflation dynamics throughout 2022 are depicted in Figure 2.1, emphasizing the months when majority of interviews were conducted. Since the inflation rate during this period is close to one and negligible, the temporal within-survey price adjustment was not implemented.

Figure 2.1 Temporal CPI, January-August 2022



As for the spatial price adjustment, we compute a Paasche price index, P_h, which is household-specific and based on food expenditures. Its expression for the *h*-th household is as follows:

$$P_h = \left[\sum_j w_j^h \left(\frac{p_j^h}{p_j^0}\right)^{-1}\right]^{-1} \quad (6)$$

where w_j^h is the budget share of household *h* for commodity *j*, and p_j^h / p_j^0 is the relative price of the *j*-th item. This index relies on unit values as a proxy for prices (p_j^h and p_j^0). Unit values are based on information that is available from the survey, namely data on food purchases; $uv_j^h = x_j^h / Q_j^h$, where Q_j^h is the quantity of item *j* that was purchased by household *h*, and x_j^h is the amount paid. We follow Deaton and Zaidi (2002), and to mitigate the impact of outliers in household-level unit values, we estimate equation (6) at the stratum level, rather than at the household level (more details on the aggregation of the index are provided below).

To fill in missing unit values, we adopt a hierarchical imputation procedure, that can be summarized as follows:

$$\widehat{uv}_j^i = \begin{cases} uv_j^i = E(uv_j^h | EA\ of\ h) & \text{if } uv_j^i \text{ is not missing} \\ uv_j^s = E(uv_j^h | settlement\ of\ h) & \text{if } uv_j^i \text{ is missing} \\ uv_j^d = E(uv_j^h | district\ of\ h) & \text{if } uv_j^s \text{ is missing} \\ uv_j^r = E(uv_j^h | region\ of\ h) & \text{if } uv_j^d \text{ is missing} \\ uv_j^0 = E(uv_j^h | Somalia) & \text{if } uv_j^r \text{ is missing} \end{cases} \quad (7)$$

where the expression $E(uv_j | \cdot)$ denotes the mean of unit values in a given subgroup of observations. In practice, we calculate median unit values, instead of means, as this statistic is more robust in the context of skewed distributions.

Table 2.8 displays the calculated Paasche index, which is estimated for 52 different strata based on region and urban/rural/nomadic classification. It is important to note that the food Paasche index provides insights into relative price differences for food items across regions and areas. Higher index values indicate higher food prices, while lower values suggest lower food prices compared to national median.

It is observed that the Food Paasche index varies across areas of residence. In rural areas, index ranges from 0.91 to 1.18, implying variations in food prices compared to national prices. Urban areas exhibit a narrower range, with index values ranging from 0.95 to 1.41. Nomadic areas show a range from 0.90 to 1.54.

These findings can assist in understanding variations in food affordability and cost of living across different regions and areas. This index is used to adjust the consumption aggregate for spatial price differences in poverty analysis.

Table 2.8 Food Paasche index (base = national median prices)

Region	Rural	Urban	Nomadic
Region			
Awdal	0.99	0.98	0.97
Bakool	1.18	1.41	1.54
Banadir	N/A	1.02	N/A
Bari	1.05	1.13	0.97
Bay	1.00	1.02	1.01
Galgaduud	1.06	1.03	1.03
Gedo	1.15	0.97	1.15
Hiraan	1.01	1.01	1.05
Lower Juba	1.01	0.96	1.07
Lower Shabelle	0.94	0.96	0.90
Waqooyi Galbeed	0.99	1.04	0.94
Middle Shabelle	1.03	0.96	1.00
Mudug	1.10	1.11	1.05
Nugaal	1.06	1.07	0.94
Sanaag	1.03	1.06	1.02
Sool	1.06	0.99	0.97
Togdheer	0.91	0.95	0.92
Total	1.04	1.04	1.03

2.10. Computing Absolute Poverty Lines using Cost of Basic Needs Approach

The poverty lines were calculated from the SIHBS 2022 data using the cost-of-basic needs (CBN). The CBN method stipulates a consumption bundle deemed to be adequate for 'basic consumption needs', and then estimates what this bundle costs in reference prices.

2.11. Determination the Food Poverty Line

The first step in estimating the CBN poverty line is estimation of the food poverty line (FPL), also referred to as the extreme poverty line using the SIHBS data. The CBN method defines the total poverty line (*ZCBN*) as the sum of a food poverty line (*ZF*) and a nonfood allowance (*NFA*), that is and allowance to allow for non-food consumption (Ravallion, 1994, 2016):

$$Z=Z_F+NFA \ldots \ldots \ldots (2)$$

The first component in equation (2), the food poverty line *ZF*, can be estimated as follows:

$$Z_F=ER \times UKCAL \ldots \ldots \ldots (3)$$

where *ER* denotes the energy requirement, defined as the average number of kilocalories (per person per day) needed to meet daily energy requirements, and *UKCAL* denotes the unit kilocalorie cost (UKCAL) for a reference group "as close to the poor as possible".

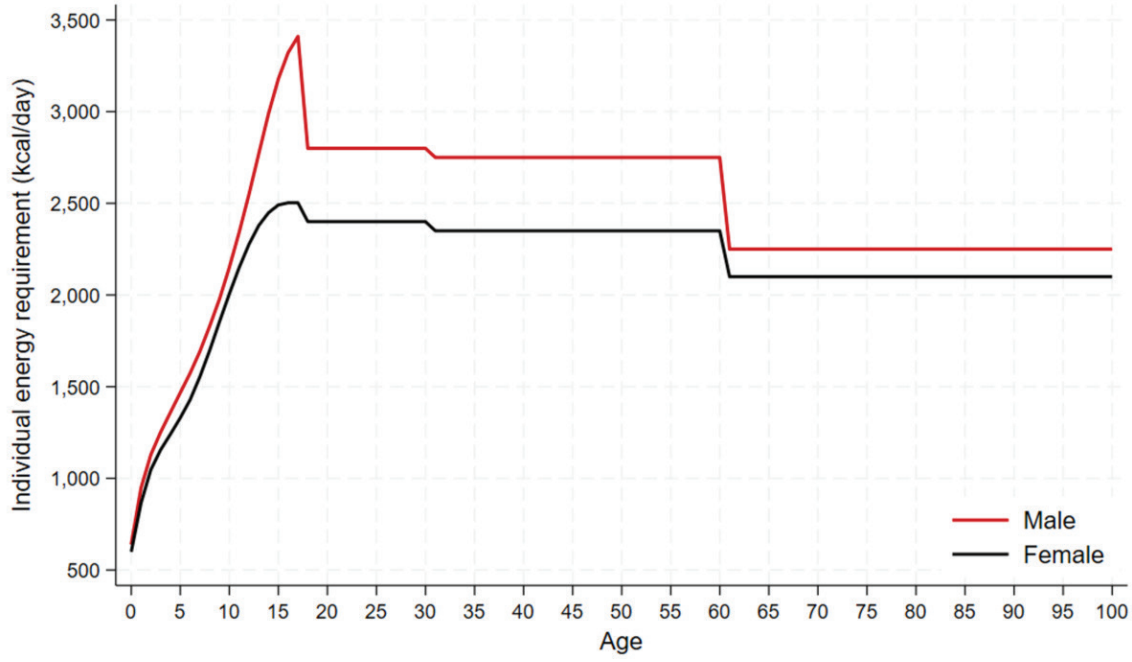
Regarding the energy requirement *ER*, it can be estimated as follows:

$$ER = \sum_{i,j}^{N} w_{i,j} \times IER_{i,j} \quad \ldots \ldots \ldots (4)$$

where *wi,j* denotes the population share of individuals with age (or age-group) *i* , and gender *j* in the population, and *IERi,j* is the individual energy requirement.

The figure below demonstrates the individual energy requirement by gender and age, based on FAO (2014). In order to calculate the Somalia's energy requirement, we can multiply the energy requirement by gender and age by the population shares by the gender and age distribution obtained from the SIHBS. The resulting mean energy requirement for Somalia is 2,212 kcal/person/day, and 2,200 kcal/person/day is used as the minimum energy requirement for the food poverty line.

Figure 2.2 Individual Energy Requirements over the Life Cycle.



Regarding *UKCAL* in equation (3), *UKCAL* was calculated using the so-called 'democratic' formula, as follows:

$$UKCAL = E_h\left[\frac{x^h_{\text{food}}}{kcal_h}\right] \text{ with } h \in [\text{deciles } 2-6] \quad (5)$$

where x^h_{food} is the food expenditure of household h and is its total calorie intake of the same household. Table 2.9 shows average cost of 1,000 calories by real consumption deciles in Somalia, according to SIHBS. The first decile represents the poorest 10 percent of the population, while the tenth decile represents the richest 10 percent of the population. The cost per 1,000 calories intake increases across consumption deciles. The higher the decile, the higher the expenditure and the higher the cost per 1,000 calorie intake.

Finally, *UKCAL* is estimated as the average unit calorie cost of households belonging to deciles 2-6 (equation 11). As a result, the food poverty line obtained from equation 3 equals 425 USD/person/year.

Table 2.9 Average daily calorie intake per capita and cost to get 2,200 calories for each real consumption decile.

Decile	Calorie per day per capita	Cost to obtain 2,200 calories	Food Share (%)	Number of Observations
1	1,153	0.91	64.6	707
2	1,404	1.04	62.2	685
3	1,574	1.12	59.6	658
4	1,814	1.13	58.1	627
5	1,880	1.24	55.8	696
6	2,016	1.29	53.4	660
7	2,143	1.36	51.0	673
8	2,330	1.47	49.6	738
9	2,682	1.55	48.1	765
10	4,162	1.76	47.1	943
All	2,115	1.29	55.0	7,152

2.12. Calculations of non-food Poverty lines

The non-food component *NFA* in equation 2 is estimated using the non-food expenditure by those whose food expenditure is close to the food poverty line.[2] Therefore the overall poverty line is as follows:

$$Z = Z_F + E_h\left(x^h_{\text{nonfood}} \middle| x^h_{\text{food}} \approx Z_F\right) \quad (6)$$

where x^h indicates total expenditure of household *h*, x^h_{food} and x^h_{nonfood} indicate household expenditure on food and non-food items. The 'approximately equal' symbol (≈) was implemented by centering a ±10% two-sided interval around the food poverty line and calculating the median non-food expenditure of households belonging to that window.

[2] This poverty line estimated in this way is called the upper bound poverty line described in Ravallion (1994, 2016)

Table 2.10 below shows the CBN poverty line on both annually and daily. The food poverty line has been derived from equation 3 above and it shows that the minimum expenditure required to meet basic needs for food. Analysis show that a person requires at least $425 annually and $1.16 daily to meet their basic need for food.

The non-food allowance has been derived from equation 6 and it shows the maximum additional expenditure required, beyond the food poverty line, to cover non-food essentials both annually and daily. The non-food allowance is $329 annually and $0.90 per day.

The poverty line shows the maximum expenditure threshold that a household requires to cover both basic needs for food and additional non-food essentials, annually and daily. The combined poverty line for food and non-food basic needs shows that the expenditure per person annually is $754 and $2.06 daily.

Table 2.10 CBN poverty lines (USD/person)

Poverty lines	Per Year	Per day
Food poverty line (eq. 3)	425	1.16
Non-food allowance (eq. 6)	329	0.90
Poverty Line	754	2.06

2.13. Poverty and Inequality Measures

Once the consumption aggregate and poverty lines are determined, a household poor is considered poor if its real per capita total consumption is below the poverty line. In addition, if a household's real per capita total consumption is below the food poverty line it is considered as being extreme poor. The poverty headcount ratio is calculated as the share of population below the poverty line and captures the prevalence of poverty.

$$P(0) = \frac{1}{N}\sum_{i=1}^{N} I(y_i \leq z)$$

Where N is the population, y_i is the level of welfare (real per capita consumption) of the *i*th individual, z is the poverty line, and I(.) is an indicator function that equals 1 when the constraint is satisfied and 0 otherwise. The poverty gap measures the depth of poverty and indicates the average income or consumption shortfall below the poverty line for individuals or household in poverty. For each household below the poverty line, an analysis was done to measure the difference between the poverty line and the total consumption.

$$P(1) = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{z - y_i}{z}\right) I(y_i \leq z)$$

The Gini Index has been used to measure of income or consumption inequality. It quantifies the extent of disparities across the entire population. Based on the population, the households have been sorted in ascending order based on their income or consumption, from the poorest to the richest using the Lorenz curve. The Gini coefficient ranges from 0 to 100, where 0 indicates perfect equality (when everyone has the same income or consumption) and 100 represents perfect inequality (when one person possesses all the income or consumption, and everyone else has none).

CHAPTER THREE: OVERVIEW OF CONSUMPTION EXPENDITURE PATTERNS

3.1. Overview of Consumption Expenditure Patterns

The SIHBS-2022 collected detailed data on consumption of food and non-food items. Further, for food items, information on the source of consumption was collected including purchases, own-production, and in-kind. The aim was to provide a comprehensive understanding of the sources of food expenditure and consumption patterns among households in Somalia. The survey also focused on the actual quantity consumed from purchases during the reference period, rather than considering the entire amount purchased. The value of food consumption is the sum of the different sources of consumption.

3.2. Food Consumption by Source

Nationally, food consumed from purchases was the main source and accounted for 93 percent of total food consumed, followed by own production and in-kind at 3 percent each. Urban households are more reliant on purchased food at 96 percent followed by rural households which recorded 92 percent. Nomadic households have the lowest percentage of food purchased at 80 percent, which may be due to challenges associated with access to markets in remote areas. However, they more often rely on their own production at 13 percent to meet their food needs (Table 3.1).

Table 3.1 Percentage Distribution of Household Food Consumption by Source and Residence

Place of residence	Purchase	Own Production	In-Kind	Food Away from Home
Place of residence				
Rural	92.4	4.5	2.4	0.7
Urban	95.9	0.6	2.4	1.1
Nomadic	80.3	13.0	6.0	0.7
Total	93.3	2.9	2.8	1.0

3.3. Food and Non-Food Expenditure

Table 3.2 provides information on average annual real food and non-food expenditure per capita by place of residence. The average annual food expenditure per capita for the national population is $451. The average annual food expenditure per capita is higher in urban areas at $497, compared to rural and nomadic areas at $386 and $329 dollars respectively. By region, Bay recorded the highest average annual food expenditure per capita at $610, followed by Nugaal at $559, Bari at $549, and Awdal at $523. The lowest average annual real food expenditure per capita is in Middle Shabelle at $336.

Households spent on average 55 percent of their budget on food expenditure. Households in nomadic and rural areas allocate on average a larger portion of their total expenditure towards food at 60 and 58 respectively compared to urban households' 53 percent. The Bakool region has the highest average food budget share at 73 percent, followed by Middle Shabelle at 69 percent, and Bay region at 63 percent. The lowest average food budget share is in the Waqooyi Galbeed region at 45 percent, followed by Sanaag at 47 percent and Awdal at 49 percent.

Table 3.2 Real Yearly Food and Non-Food Expenditure Per Person and Budget Share by Place of Residence

Place of residence and region	Expenditure ($)		Percentage Share (%)	
	Food	Non-Food	Food	Non-Food
Place of residence				
Rural	386	334	57.5	42.5
Urban	497	476	53.1	46.9
Nomadic	329	315	59.9	40.1
Region				
Awdal	523	587	49.4	50.6
Bakool	387	173	72.7	27.3
Banadir	457	468	52.3	47.7
Bari	549	479	54.8	45.2
Bay	610	352	62.8	37.2
Galgaduud	406	387	53.3	46.7
Gedo	441	407	55.7	44.3
Hiraan	339	253	60.0	40.0
Lower Juba	487	357	56.9	43.1
Lower Shabelle	424	381	56.4	43.6
Waqooyi Galbeed	417	551	45.2	54.8
Middle Shabelle	336	138	69.3	30.7
Mudug	339	287	55.9	44.1
Nugaal	559	496	55.9	44.1
Sanaag	441	671	47.4	52.6
Sool	428	422	53.9	46.1
Togdheer	490	497	53.9	46.1
Total	451	423	55.0	45.0

3.4. National Average Consumption Share by Consumption Category

The total household consumption was calculated as the sum of estimated values of food and non-food expenditures. Table 3.3 represents the average percentage shares of each consumption group in the value of total consumption, with the consumption groups based on COICOP.

As shown below, over half of consumption is spent on food accounting for 55 percent. The second largest average share of consumption was on housing, water, electricity, and gas, which accounted for an average of 16 percent of total consumption. Clothing and footwear accounted for 8 percent of total consumption, while miscellaneous and transport each accounted for 5 percent.

For consumption patterns by place of residence, nomadic households spent the largest share on food expenditure per year, with 60 percent of their total consumption going towards food. This is compared to urban and rural households, which accounted for 53 percent and 58 percent, respectively. Urban and rural households spend the largest share on housing, water, electricity, and gas, at 18 percent 14 percent respectively, while nomadic households have the lowest share of housing, water, electricity, and gas at 11 percent but the highest share on clothing and footwear expenditure at 10 percent.

Table 3.3 Average Budget Share by Consumption Group, Nationally and by Place of Residence

COICOP	Total	Rural	Urban	Nomadic
Food	55.0	57.5	53.1	59.9
Clothing & Footwear	7.8	8.1	7.3	10.2
Housing, water, electricity, gas, and other fuels	16.3	13.6	18.2	11.0
Furnishings, household equipment and household maintenance	3.1	3.1	3.2	2.9
Health	1.3	1.5	1.2	1.5
Transport	4.8	4.8	4.4	6.9
Communication	2.9	2.9	3.0	2.5
Recreation and Culture	0.2	0.1	0.2	0.0
Education	3.6	3.0	4.3	1.2
Miscellaneous	5.1	5.5	5.2	4.0

3.5. Household consumption by region

According to Table 3.4, Bakool and Middle Shabelle have the highest share of spending on food, with an average household spending of 73 percent and 69 percent respectively while Waqooyi Galbeed recorded the least food share of 45 percent.

Waqooyi Galbeed has the highest share of spending on housing, electricity, gas and other fuels at 26 percent followed by Banaadir and Nugaal which each recorded 20 percent, while Middle Shabelle recorded lowest spending on housing, electricity, gas and other fuels at 9 percent.

In terms of health expenditure, Mudug region has the highest share at 4 percent, while other regions have lower shares under 2 percent. The share of expenditure on transport is higher in Sanaag and Galgaduud regions, with 11 percent and 9 percent, respectively, compared to other regions. Lower Juba, Mudug, and Sool regions had the highest share of spending on clothing and footwear at 10 percent, while Nugaal has the lowest at 5 percent. The share spent on education ranged from 5 percent in Awdal, Waqooyi Galbeed, Sool, and Togdheer to below 1 percent in Middle Shabelle.

Table 3.4 Regional Average Budget Shares (%)

Region	Food	Clothing & Footwear	Housing & Utilities	Household related[3]	Health	Transport	Communication	Recreation	Education	Misc.
Awdal	49.4	6.8	19.9	3.0	0.7	4.3	3.0	0.4	5.3	7.3
Bakool	72.7	6.3	9.4	2.4	0.7	1.4	2.4	0.0	2.1	2.6
Banadir	52.3	7.2	20.3	2.9	1.2	4.7	2.5	0.2	4.2	4.5
Bari	54.8	7.7	16.1	2.8	1.2	5.0	2.6	0.3	3.9	5.8
Bay	62.8	6.2	11.2	3.4	0.8	4.9	2.9	0.1	2.7	5.0
Galgaduud	53.3	8.5	13.6	3.0	1.6	8.7	3.1	0.3	3.4	4.8
Gedo	55.7	9.6	12.1	3.6	1.2	4.7	4.0	0.3	3.6	5.4
Hiraan	60.0	6.4	10.4	3.6	1.1	4.2	3.5	0.1	4.0	6.7
Lower Juba	56.9	10.1	16.5	3.4	1.3	2.5	2.8	0.2	2.6	3.9
Lower Shabelle	56.4	8.7	12.9	3.8	1.6	5.8	3.0	0.1	1.9	5.8
Waqooyi Galbeed	45.2	5.9	26.2	2.7	1.1	4.5	3.0	0.2	5.0	6.2
Middle Shabelle	69.3	7.6	9.1	2.5	0.6	3.0	2.6	0.0	0.5	4.9
Mudug	55.9	10.0	14.0	2.6	3.8	3.7	2.8	0.4	4.2	3.0
Nugaal	55.9	5.1	20.2	2.4	1.1	4.4	2.2	0.3	4.2	4.4
Sanaag	47.4	9.6	17.4	2.9	0.9	11.1	2.7	0.2	2.7	5.3
Sool	53.9	10.4	16.1	3.0	1.2	2.7	2.7	0.1	5.2	4.8
Togdheer	53.9	9.7	14.5	4.1	1.3	3.2	3.4	0.2	4.8	5.0

[3] Furnishings, household equipment and household maintenance

3.6. Budget Shares by Consumption Decile

The table divides the population into ten equal parts based on a household's consumption. The lowest decile represents the bottom 10 percent of the population, while the highest decile represents the top 10 percent.

Table 3.5 indicates that, although Somalia tends to spend most of its consumption expenditure on food, this is more elevated amongst low-income households. For instance, the share of food in total consumption of the poorest 10 percent of households was 65 percent, higher than that of the richest 10 percent, which recorded 47 percent.

The share of transport expenditure increases among richer households. The share of transport expenditure for the richest 10 percent of households was 12 percent, which is more than five times higher than that of the poorest 10 percent of households, which recorded only 2 percent.

Miscellaneous expenditure also increases among richer households. The share of miscellaneous expenditure for the richest 10 percent of households was 7 percent, which is almost three times higher than that of the poorest 10 percent of households, which recorded only 2 percent. Housing, water, electricity, gas, and other fuels, as well as education, also tend to have a higher share of consumption expenditure among richer households.

Table 3.5 Average Budget Shares by Consumption Decile (%)

	Food	Clothing & Footwear	Housing & Utilities	Household related[4]	Health	Transport	Comm.[5]	Recreation	Education	Misc.
1	64.6	9.1	14.3	2.6	1.1	2.0	2.1	0.1	1.7	2.4
2	62.2	8.3	15.3	2.6	1.1	2.4	2.6	0.1	2.2	3.3
3	59.6	7.7	16.0	2.6	1.0	3.4	2.2	0.1	3.4	4.1
4	58.1	7.7	15.6	3.0	1.2	3.3	2.4	0.1	3.8	4.8
5	55.8	8.1	17.1	2.9	1.4	3.6	2.6	0.1	3.7	4.7
6	53.4	8.1	17.0	3.0	1.4	4.2	2.8	0.1	4.3	5.8
7	51.0	8.3	17.0	3.5	1.6	5.3	3.5	0.2	4.4	5.4
8	49.6	7.5	17.3	3.6	1.4	5.3	3.4	0.2	4.7	7.1
9	48.1	7.4	18.0	3.3	1.5	6.9	3.4	0.2	4.5	6.8
10	47.1	6.1	15.2	3.9	1.4	11.5	3.9	0.3	3.7	7.1

[4] Furnishings, household equipment and household maintenance

[5] Communication

3.7. Real consumption

Table 3.6 indicates data on real consumption per person per day in Somalia, categorized by National, Rural, Urban, and Nomadic areas. On average, a person in Somalia consumes $2.40 per day. Urban areas have recorded the highest consumption at $2.66 compared to rural areas which accounted for $1.97. Nomadic areas have the lowest mean at $1.77.

The table also divides the population into five equal quintiles, with Q1 representing the bottom 20 percent of the population and Q5 representing the top 20 percent. The data reveals significant differences in consumption patterns between the different quintiles. At the national level, the lowest quintile (Q1) has an average consumption of $0.85 per day, while the highest quintile (Q5) has a consumption rate of $5.10 per day. This means that the consumption rate of the wealthiest quintile is over 6 times that of the poorest quintile. Similar consumption patterns are observed in rural, urban, and nomadic areas. Moreover, there are significant differences between Q4 and Q5 in nomadic areas.

Table 3.6 Real Consumption Per Person Per Day

		Mean					
	Median	All	Q1	Q2	Q3	Q4	Q5
Place of residence							
Total	1.94	2.40	0.85	1.40	1.94	2.70	5.10
Rural	1.65	1.97	0.80	1.22	1.66	2.24	3.96
Urban	2.20	2.66	1.00	1.61	2.20	3.02	5.49
Nomadic	1.25	1.77	0.61	0.89	1.24	1.75	4.39

CHAPTER FOUR: POVERTY AND INEQUALITY STATISTICS

4.1. Introduction

This chapter presents the main findings on poverty levels, using the computed poverty lines as discussed in Chapter 2. A brief of the incidence and distribution of poverty by residence, regional and national levels are presented in Table 4.1. Poverty is one of the main challenges that the country faces, with 54.4 percent of the population living under the poverty line in 2022.

With regards to residence, poverty incidence is highest among the nomadic population at 78.4 percent, followed by rural and urban at 65.5 and 46.1, respectively. Although the nomadic population have the highest poverty rate, they only account 16.3 percent of the poor population compared to urban who have the lowest poverty headcount rate but account for over half of the poor population (54.6 percent) (Table 4.1).

The extreme national poverty rate is the share of the population whose total per capita expenditure is below the food poverty line. Nationally, just over one-fifth of the population are in extreme poverty (20.9 percent). The pattern of extreme poverty is similar to the poverty headcount with the nomadic population having the highest extreme poverty rate at 46.8 percent but account for the lowest share of extreme poor (25.4 percent). Urban areas have the lowest extreme poverty rate (13.8 percent), however, they still account for the largest share of the extreme poor (42.8 percent).

Table 4.1 also shows significant regional variation in poverty incidence, ranging from 39.4 percent in the Awdal region to a high of 87.4 percent in Middle Shabelle. The poverty incidence levels exceed half of the population in the following nine regions: Hiiraan (82.4 percent), Bakool (76.3 percent), Mudug (73.7 percent), Sool (61.9 percent), Lower Juba (61.1 percent), Bay (58.0 percent), Galgaduud (55.2 percent), Gedo (55.2 percent), and Lower Shabelle (54.3 percent).

Figure 4.1 Poverty incidence, by residence

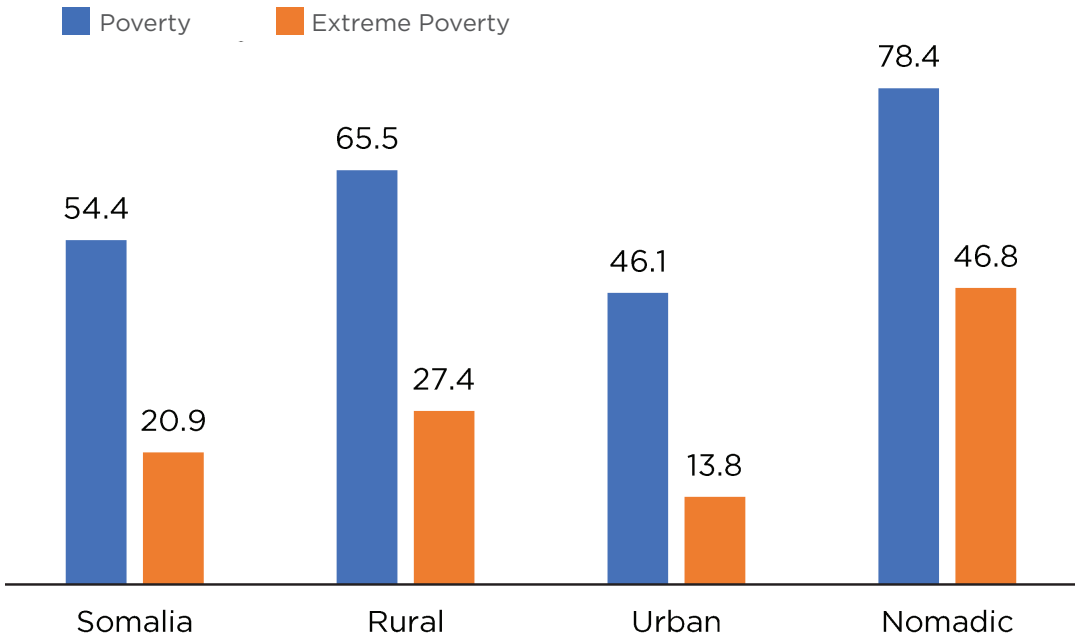


Table 4.1 Summary of National, Urban, Rural, Nomad and Regional Extreme Poverty Levels

Place of residence and region	Poverty (%)		Extreme Poverty (%)		Distribution of Population (%)
	Headcount	Distribution	Headcount	Distribution	
Place of residence					
Rural	65.5	29.1	27.4	31.8	24.2
Urban	46.1	54.6	13.8	42.8	64.5
Nomadic	78.4	16.3	46.8	25.4	11.3
Region					
Awdal	39.4	4.1	11.6	3.1	5.6
Bakool	76.3	4.1	46.2	6.5	3.0
Banadir	44.0	11.2	10.8	7.2	13.9
Bari	44.0	4.8	12.2	3.5	5.9
Bay	58.0	7.1	21.5	6.9	6.7
Galgaduud	55.2	4.9	13.7	3.1	4.8
Gedo	55.2	4.3	18.5	3.8	4.3
Hiraan	82.4	6.6	30.2	6.3	4.4

Lower Juba	61.1	4.6	21.6	4.2	4.1
Lower Shabelle	54.3	10.1	21.5	10.5	10.1
Waqooyi Galbeed	45.1	9.0	14.1	7.3	10.8
Middle Shabelle	87.4	7.0	54.7	11.4	4.4
Mudug	73.7	8.2	35.3	10.2	6.1
Nugaal	42.1	2.5	19.7	3.1	3.3
Sanaag	45.7	3.6	18.2	3.7	4.3
Sool	61.9	3.1	31.4	4.1	2.8
Togdheer	44.7	4.7	18.1	5.0	5.7
Total	**54.4**	**100.0**	**20.9**	**100.0**	**100.0**

4.2. Depth of overall poverty (Poverty Gap)

The national poverty gap is 19.8 percent, however there is a wide variation between the three places of residence. Urban areas have the lowest poverty gap at 15.0 percent, while in nomadic and rural areas the poverty gap is higher at 36.7 and 24.6 percent, respectively (Table 4.2).

Table 4.2 Poverty incidence, by residence

	Poverty ratio (a=0)	Distribution of the poor (%)	Poverty Gap (a=1)	Population (000s)	Number of Poor (000's)
Place of Residence					
Rural	65.5	29.1	24.6	3,717	2,433
Urban	46.1	54.6	15.0	9,905	4,562
Nomadic	78.4	16.3	36.7	1,740	1,364
Total	**54.4**	**100.0**	**19.8**	**15,362**	**8,359**

4.3. Basic Results on Inequality

The analysis of the survey in Table 4.3 presents a quantile per capita consumption and quantile ratios by place of residence. The quantile ratios show the differences in consumption across the consumption distribution. The ratios indicate wide gaps between the poor and the wealthy. For instance, in 2022, at the national level, the 90-10 quantile ratio shows that per-capita consumption was 4.96 times larger at the 90th percentile compared to the 10th percentile. Median consumption was lowest in nomadic households ($455), followed by rural ($602) and urban ($802). Nomadic households had the highest 90th-10th quantile ratio of 5.00 percent, while rural has the lowest with 4.66 percent. However, the 50th-10th quantile ratio is lowest among nomadic households.

Table 4.3 Quantile per capita consumption and quantile ratios by Place of residence

	Total	Rural	Urban	Nomadic
Decile				
10th	317	299	375	231
20th	414	370	494	276
30th	515	441	582	323
40th	600	530	690	379
50th/median	708	602	802	455
60th	826	700	921	530
70th	969	812	1,105	621
80th	1,191	950	1,295	771
90th	1,565	1,260	1,746	1,154
Quantile Ratio				
90th/10th	4.94	4.21	4.66	5.00
80th/20th	2.87	2.57	2.62	2.79
90th/50th	2.21	2.09	2.18	2.53
50th/10th	2.24	2.01	2.14	1.97

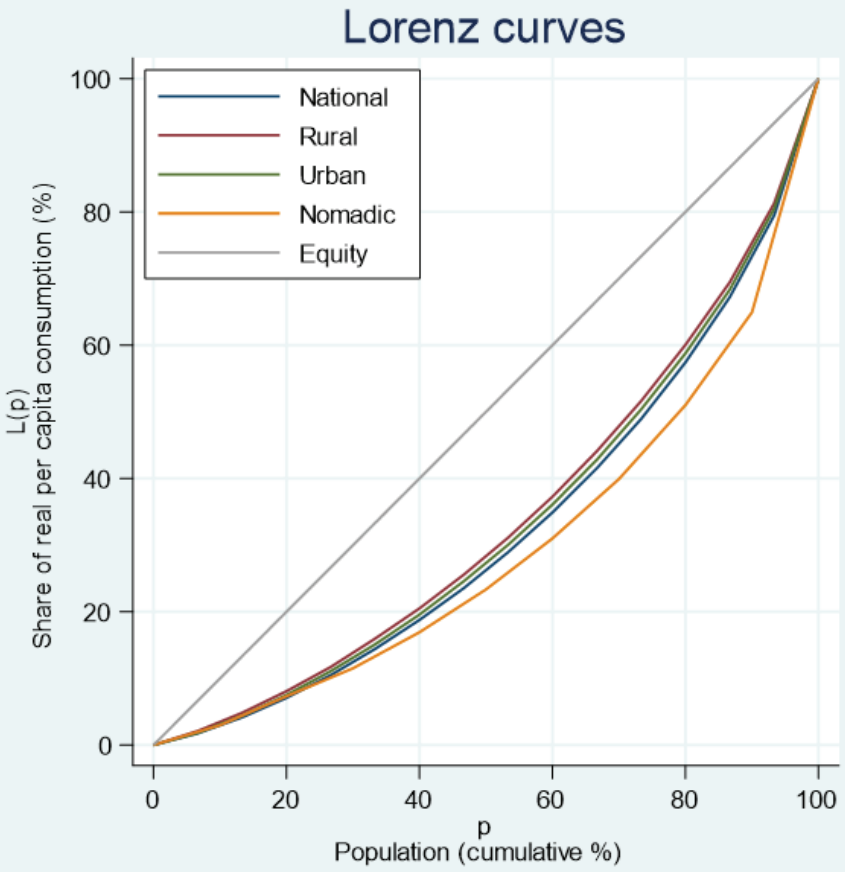
4.4. Gini Index

The changes in the Gini index across residence is presented in Table 4.4. The findings indicate that nationally the Gini index was 35.2 in 2022. The Gini index is similar is rural (31.9) and urban areas (33.6), however, it is highest in nomadic areas (41.7). This is further demonstrated by the Lorenz curve in Figure 4.2. The distribution of per capita consumption expenditure in 2022 is visibly closer to the 45-degree equity line among rural and urban compared to nomadic.

Table 4.4 Inequality estimates - Gini Index by residence

Place of residence	Gini
Rural	31.9
Urban	33.6
Nomadic	41.7
Total	**35.2**

Figure 4.2 Lorenz curve by residence



CHAPTER FIVE: BASIC SOCIO-ECONOMIC POVERTY PROFILES

5.1. Introduction

The chapter focuses on the different poverty rates across different socioeconomic characteristics such as the characteristics of the household head, including sex, age, and education level. It also explores differences in poverty across important socio-economic indicators at both household and population levels, such as household size, access to basic services, housing characteristics, age groups (youth and the elderly), literacy rates among others. By conducting poverty profiling, valuable insights are gained into the variations in poverty measures among different groups. It enables a comparison of characteristics of individuals living in poverty with those who are not, facilitating identification of poverty patterns across various domains within the country, including urban, rural, and nomadic areas, and sociodemographic characteristics.

5.2. Poverty and sex of household head

Analysis by place of residence shows that female-headed households have a higher prevalence of poverty in urban and nomadic settings. In urban areas, the poverty rate for female-headed households is slightly higher than their male counterparts at 48.2 percent and 43.5 percent, respectively. While in nomadic areas, 81.5 percent of households headed by females are poor compared to male-headed households at 77.0 percent. In contrast, in rural areas female-headed households have lower poverty rates than those headed by males, at 62.4 percent and 68.6 percent, respectively (Table 5.1).

Like the poverty headcount ratio, at the national level the depth of poverty of households headed by females is lower compared to their male counterparts at 18.9 percent and 20.7 percent respectively, as shown in Table 5.1. The poverty gap is larger among female-headed households in urban and nomadic households, while it is larger in male-headed households in rural areas.

Figure 5.1 Poverty Measures by Sex of Household Head

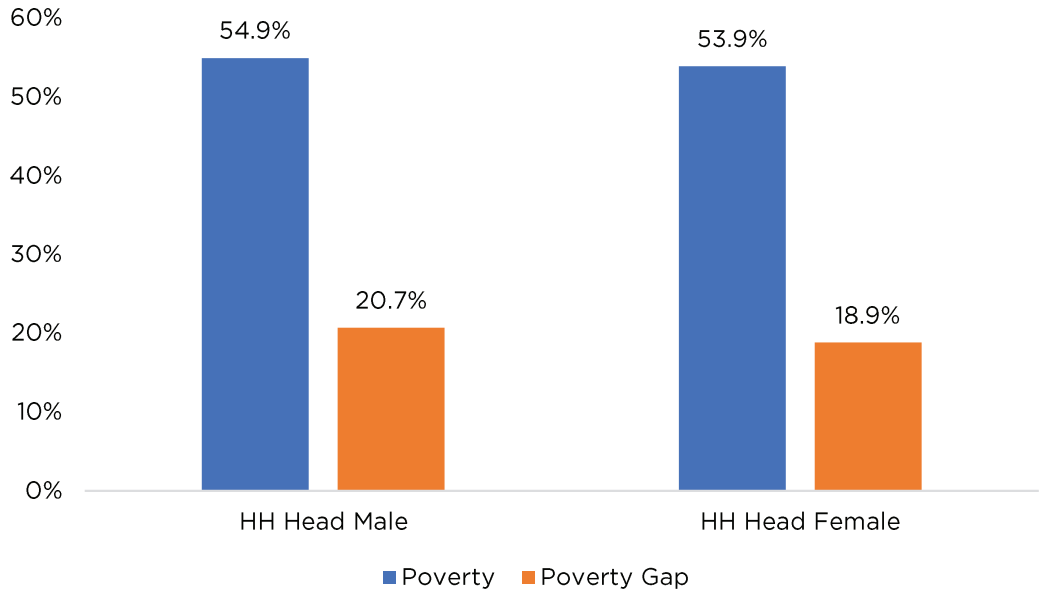


Table 5. 1 Poverty incidences (%), by residence and sex of household head

Place of residence	Poverty	Poverty Gap
Rural		
HH Head Male	68.6	26.7
HH Head Female	62.4	22.5
Urban		
HH Head Male	43.5	14.3
HH Head Female	48.2	15.6
Nomadic		
HH Head Male	77.0	35.6
HH Head Female	81.5	39.1
Total		
HH Head Male	54.9	20.7
HH Head Female	53.9	18.9

5.3. Poverty and Marital status of household head

Nationally, households headed by a married individual have the highest poverty rate at 58.4 percent, followed by widowed and divorced household heads at 53.4 and 52.6 percent, respectively. Conversely, poverty is lowest among households where the head has never been married at 24.8 percent (Table 5.2)

In terms of sex comparison, female-headed households have lower poverty rates across for those that are divorced and widowed. However, when it comes to never-married and married female-headed households, the poverty rate is larger than their male counterparts.

Table 5.2 Poverty and Marital status of household head

Marital status	Total	Male Headed	Female Headed
Married	58.4	57.4	59.7
Divorced	52.6	66.0	51.3
Never married	24.8	21.7	26.5
Widowed	53.4	66.8	52.8

5.4. Poverty and household size

Figure 5.2 shows that poverty incidence tends to rise as the household size increases. Households with 10 or more members experience the highest poverty headcount (63.4 percent). The average household size varies with respect to poverty status as presented in Table 5.3, with poorer households having 7.3 members on average compared to 6 members among non-poor households.

Figure 5.2 Poverty rates by household size

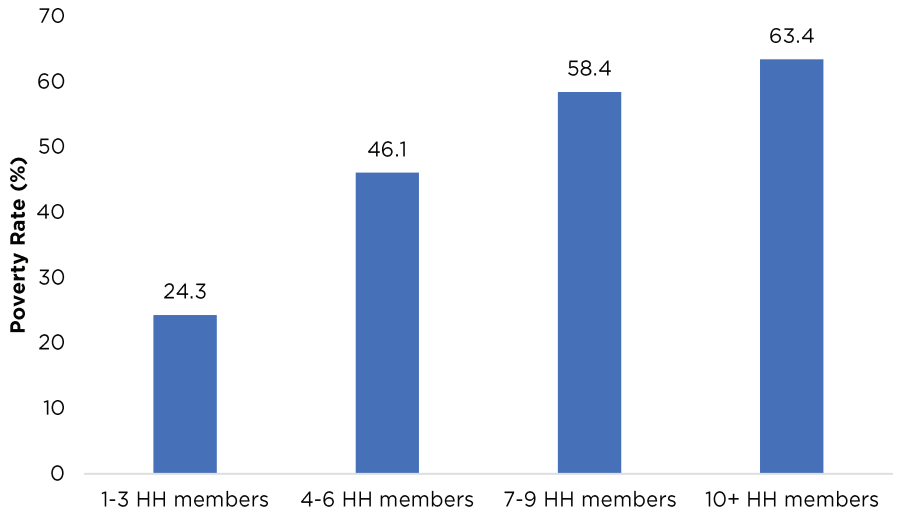


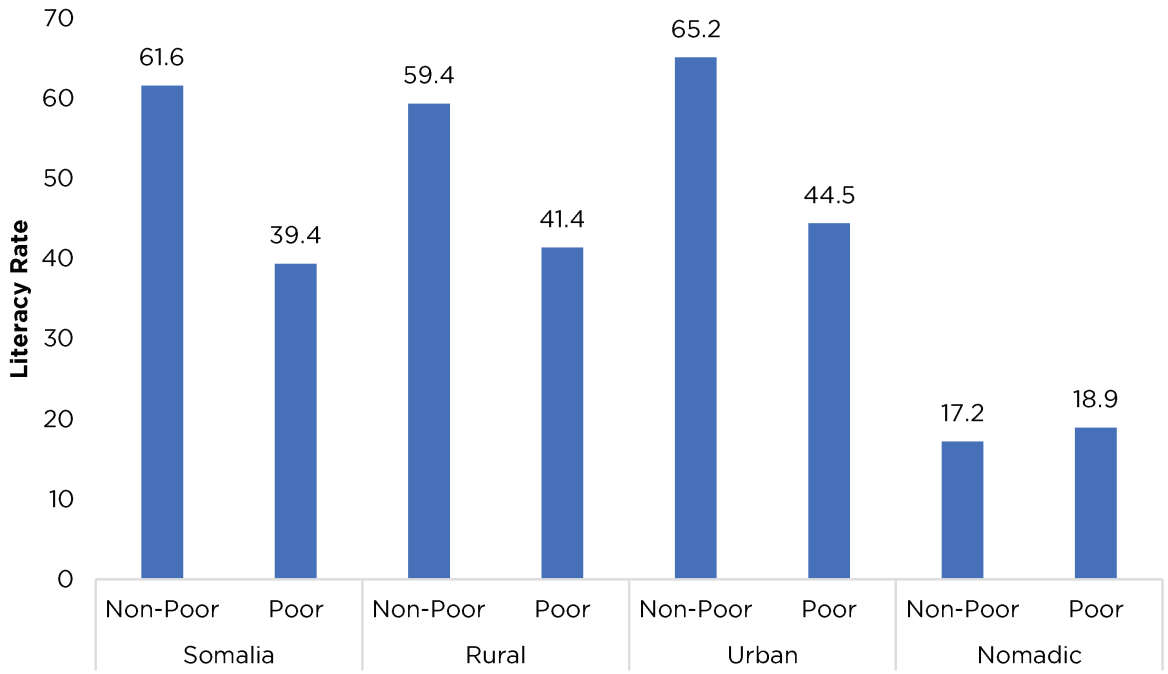
Table 5.3 Household size, by poverty status and residence

Place of residence	Non-Poor	Poor
Rural	5.3	6.8
Urban	6.4	7.9
Nomadic	5.0	6.3
Total	**6.0**	**7.3**

5.5. Poverty and Literacy rate

Generally, poverty declines with a rising literacy rate as presented in Figure 5.3. At the national level, the literacy rate is notably higher among the non-poor compared to the poor, with rates of 61.6 percent and 39.4 percent respectively. In rural and urban areas, the non-poor generally have higher literacy rates. However, in the nomadic settings, literacy rate is almost the same for both poor and non-poor households.

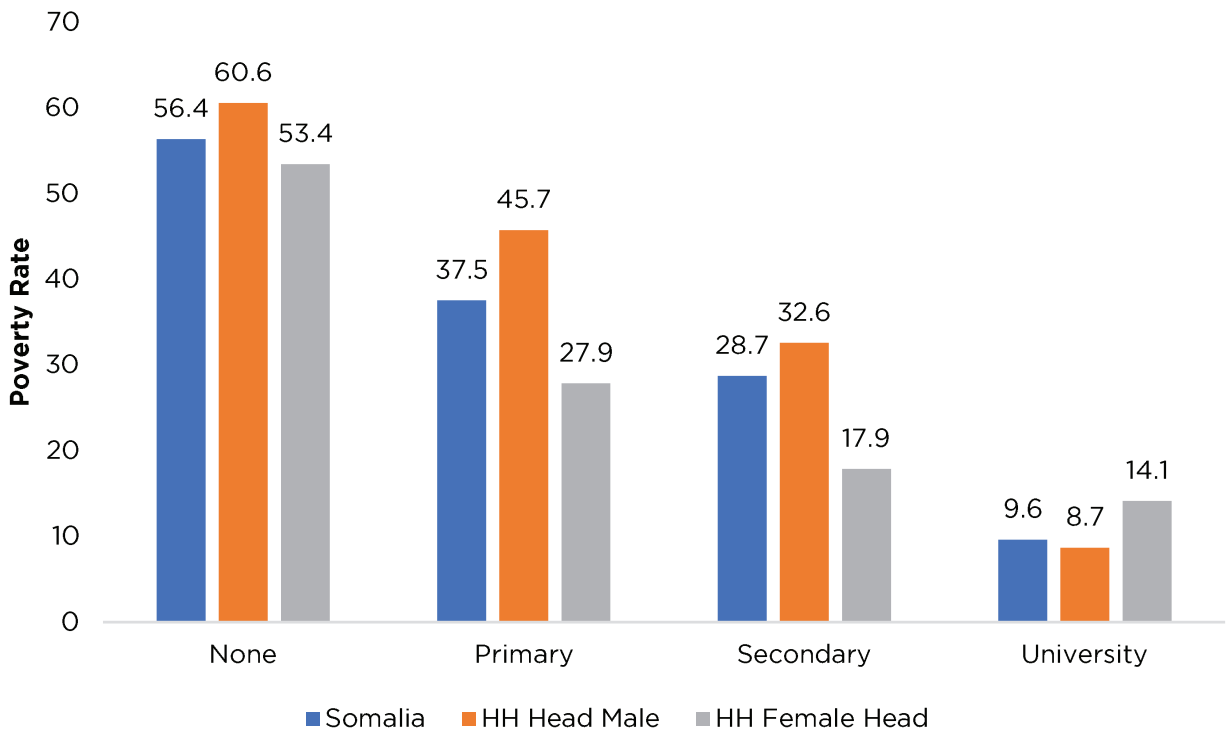
Figure 5.3 Poverty and literacy rate



5.6. Poverty and Level of Formal Education of household head

As the level of formal education increases, poverty rates tend to decline. Poverty rates were highest among households headed by an individual without any formal education and lowest in those whose head had a tertiary education or higher. Approximately 56.4 percent of the households whose head had no formal education live in poverty versus around 9.6 percent of those living in households headed by people with a tertiary education (Figure 5.4).

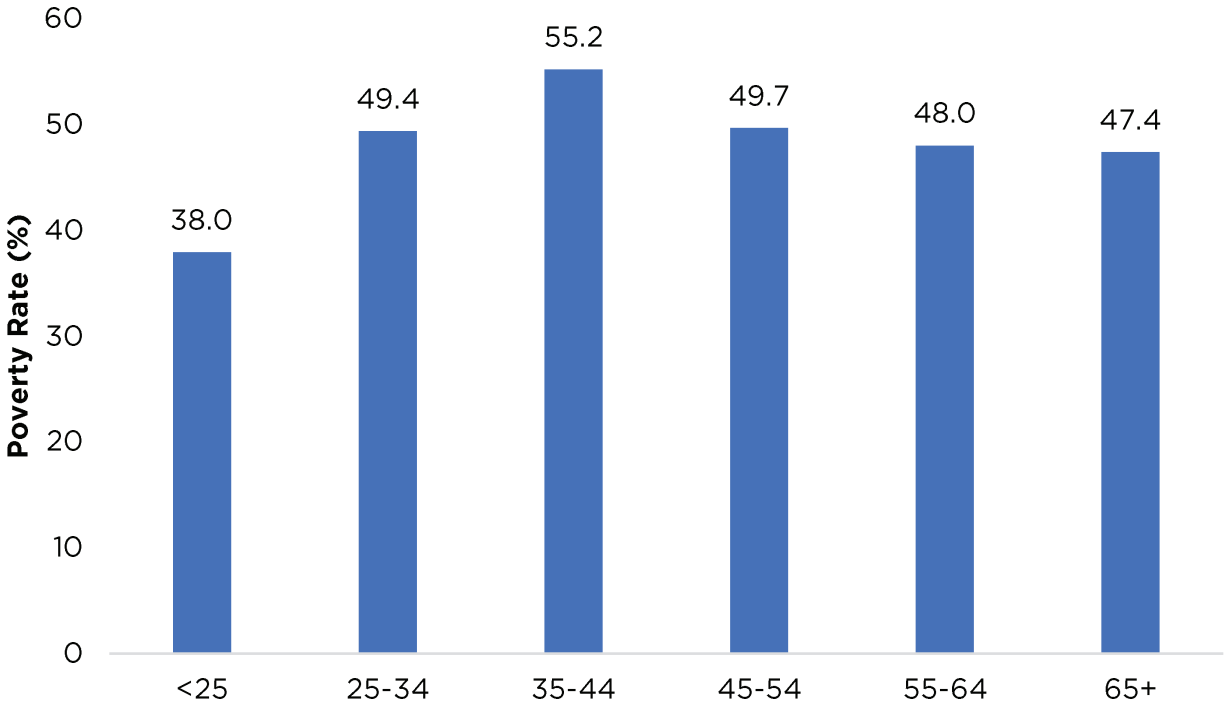
Figure 5.4 Poverty and Formal Educational Level of Household Head



5.7. Poverty and Age of Household head

Household heads between the ages of 35-44 are particularly prone to poverty, while household heads under 25 years old are least vulnerable with 55.2 percent and 38 percent poverty rates, respectively. However, there is a decrease in poverty rate by age among households with heads in the age groups of 45-54 at 49.7 percent. The poverty rate stays constant for households with heads aged 55 and above at 48 percent (Figure5.5).

Figure 5.5 Poverty Rate by Age of household head



5.8. Poverty Estimate by Age Group

Nationally, children aged 0–17 years have the highest poverty rate at 59.2 percent, while age brackets (18–35) and (70+) have the lowest poverty prevalence of around 45 percent. When examining poverty headcount by residence, it is evident that the nomadic population consistently have the highest poverty headcount across all age groups, with the exception of those aged 18-35.

However, it is notable that in all three domains of analysis, the highest poverty headcount among individuals was children aged 0–17 years. Children living in nomadic areas have the highest poverty head count at 80.7 percent, followed by children from rural areas at 69.5 percent, while lowest poverty rate was recorded in children in urban areas at 51.2 percent (Table 5.4).

Table 5.4 Poverty Estimate by Age Group

Place of Residence	0-17		18-35		36-59		60-69		70+	
	Poverty Headcount	Population	Poverty Headcount	Population	Poverty Headcount	Population	Poverty Headcount	Population	Poverty Headcount	Population
Rural	69.4	2,278	57	814	61.3	463	54.7	82	61.1	80
Urban	51.2	5,734	37.6	2,579	43.3	1,205	41.1	206	33.4	181
Nomadic	80.7	1,050	73.3	399	78.2	222	77.9	45	76.4	24
Total	**59.2**	**9,063**	**45.6**	**3,792**	**51.9**	**1,889**	**49.5**	**333**	**44.8**	**284**

5.9. Poverty: Access to Basic Services

Access to basic services such as electricity, water, and sanitation plays a crucial role in analysing poverty. When it comes to access to electricity, a significant percentage of the population have access to electricity at 62 percent compare to those without access at 38 percent. Poverty rates are higher among those who do not have access to electricity, with 77 percent experiencing poverty, compared to 41 percent among those with access. Over half of the poor population (54 percent) does not have access to electricity (Table 5.6).

With respect to access to improved water sources, a similar trend emerges. Seventy-eight percent of the population has access to improved water sources. Poverty rates are higher among those who do not have access to improved water, with 58 percent experiencing poverty, compared to 53 percent among those with access. Twenty-four percent of the poor population do not have access to improved water sources (Table 5.6).

In terms of improved sanitation, a significant proportion of the population, 63 percent, have access to improved sanitation facilities. Unsurprisingly, poverty rates are higher among those without access, at 71 percent, compared to 45 percent among those with access. Moreover, 48 percent of the poor population do not have access to improved sanitation facilities (Table 5.5).

Table 5.5 Poverty and Access to Basic Needs

Basic Needs	Poverty (%)	Distribution of poor	Distribution of Population
Access to Electricity			
No	77.0	53.5	37.8
Yes	40.7	46.5	62.2
Access to improved water			
No	58.2	23.8	22.3
Yes	53.3	76.2	77.7
Access to improved sanitation			
No	70.6	48.3	37.2
Yes	44.8	51.7	62.8

CHAPTER SIX: CONCLUSIONS

6.1. Conclusions

Somalia has formulated its NDP-9 for the period 2020–2024, that not only serves as an Interim Poverty Reduction Strategy Paper (IPRSP) within the framework of the Highly Indebted Poor Countries (HIPC) initiative to meet the criteria for IMF conditionality for debt relief and arrears clearance, but is also a comprehensive government blueprint that guides and enables it attain its development programs under four thematic pillars of economic growth, social development, inclusive politics, and the improvement of security and rule of law.

The attainment of quality data is crucial for the formulation of prudent public policies in the implementation, monitoring and evaluation of government programs as envisioned in NDP-9 and other international development frameworks, such as SDGs, as well as measuring the progress towards reaching completion point for debt relief. The findings of the poverty indicators provide the status of the well-being of the Somali population and also assesses the effectiveness of government poverty alleviation strategies.

Somalia is bolstering its statistical capacity to make data-driven and practical socio-economic interventions to tackle the root causes of deprivation. This poverty analysis report thus furnishes policy makers with evidence-based perspectives to assess the efficiency of development policies and programs through in-depth understanding of people's welfare, monitor progress towards its poverty reduction strategy and take note of lessons for improvement.

This Poverty Analysis Report reveals that food accounts for the highest share of total consumption expenditure in Somalia in 2022. On average, Somali households spend 56 percent of its annual total consumption expenditure on food. The second largest expenditure share is on housing, water, electricity, and gas which accounts for an average of 17 percent of total consumption. The average expenditure share on healthcare is very low at barely 1 percent, even though there are no free medical care services or public health insurance cover in place.

On average, per capita monetary consumption is $2.64 per day at the national level. Urban areas recorded the highest consumption at $2.96, followed by rural areas at $2.24 per day. Nomadic areas registered the lowest daily average consumption rate of $1.91.

Moreover, the report reveals poverty as a major challenge with 54.4 percent of the population live below the poverty line based on the SIHBS-2022. Poverty disaggregation with respect to location reveals poverty is highest among nomadic population at 78.4 percent, followed by rural areas at 65.5 percent, and lowest among urban residents at 46.1 percent. The pattern of extreme poverty is similar to the poverty headcount, as nomadic population have the highest extreme poverty rate at 46.8 percent, followed by rural and urban areas at 27.4 and 13.8 percent, respectively. The report equally reveals significant variation in the poverty rates across regions, with Middle Shabelle and Hiraan recording the highest poverty rates at 87 percent and 82 percent, respectively.

In addition, rural and nomadic residents, male-headed households, children, extended families, the illiterate and those with no formal education are most susceptible to being poor. Poverty is higher among male-headed households at 55 percent, compared to female-headed households at 54 percent at national level. Households with 10 or more members experience the highest poverty headcount, while children (0–17 years) have highest poverty rate at 59.2 percent. The literacy rate is notably higher among the poor at 61.6 percent compared to the non-poor at 39.4 percent. It is also imperative to note that poverty rates are highest among households headed by an individual without any formal education and lowest among household heads who attained a tertiary level of education or higher.

References

Amendola, N., & Vecchi, G. 2022. Durable goods and welfare measurement. Journal of Economic Surveys, 36, 1179–1211. https://doi.org/10.1111/joes.12480

Deaton, A. and S. Zaidi. 2002. "Guidelines for Constructing Consumption Aggregates for Welfare Analysis." LSMS Working Paper no. 135. http://hdl.handle.net/10986/14101

FAO. 2004. "Human Energy Requirements. Report of a Joint FAO/WHO/UNU Expert Consultation. Rome, 17-24 December 2001", *Food and Nutrition Technical Report Series 1*. https://www.fao.org/3/y5686e/y5686e.pdf

Mancini, G. and G. Vecchi. 2022. *On the Construction of the Consumption Aggregate for Inequality and Poverty Analysis.* Washington, DC: World Bank. http://documents.worldbank.org/curated/en/099225003092220001/P1694340e80f9a00a09b20042de5a9cd47e

Ravallion, M. 1994. Poverty Comparisons. London: Routledge.

Ravallion, M. 2016. The Economics of Poverty. History, Measurement and Policy. New York and Oxford: Oxford University Press

Appendix

Appendix 2.1. Conversion factors for non-standard measurement units (NSU)

In this Appendix we report the conversion factors used to harmonize quantities expressed in non-standard measurement units into grams. Conversion factors prepared by the SNBS survey implementation team using Unit of Measurement survey conducted in October 2021.

NSU conversion factors for consumed items

Table B1 includes conversion factors for non-standard measurement units of food items consumed. Conversion factors are used to convert non-standard units into grams.

Table B1. Non-standard unit conversion factors (NSU to grams) for consumed items

ID	Food item	Measurement unit	Conversion Factor
13	Wheat grains	BIG TIN	750
13	Wheat grains	Medium TIN	375
13	Wheat grains	Small TIN	160
14	Wheat flour - white	BIG TIN	750
14	Wheat flour - white	Medium TIN	375
15	Maize grain	BIG TIN	750
15	Maize grain	Medium TIN	350
15	Maize grain	Small TIN	175
16	Maize flour	BIG TIN	700
16	Maize flour	Medium TIN	350
16	Maize flour	Small TIN	175
17	Sorghum grain	BIG TIN	700
17	Sorghum grain	Medium TIN	350
17	Sorghum grain	Small TIN	175
18	Sorghum flour	BIG TIN	650
18	Sorghum flour	Medium TIN	325
18	Sorghum flour	Small TIN	165
19	Millet grain	BIG TIN	750
19	Millet grain	Medium TIN	375
19	Millet grain	Small TIN	175
20	Millet flour	BIG TIN	650
20	Millet flour	Medium TIN	325
20	Millet flour	Small TIN	162
21	Beans, Dried (local red beans)	BIG TIN	800
21	Beans, Dried (local red beans)	Medium TIN	400
21	Beans, Dried (local red beans)	Small TIN	200
22	Cowpeas [imported]	BIG TIN	800
22	Cowpeas [imported]	Medium TIN	400
22	Cowpeas [imported]	Small TIN	200
23	Green beans {salbuko}	BIG TIN	650
23	Green beans {salbuko}	Medium TIN	320

ID	Food item	Measurement unit	Conversion Factor
23	Green beans {salbuko}	Small TIN	160
25	Tinned Beans [imported]	BIG TIN	830
25	Tinned Beans [imported]	Medium TIN	415
25	Tinned Beans [imported]	Small TIN	205
26	White bread	PIECE	100
27	Brown Bread	PIECE	61
28	Other bread and cereal products (specify___)	PIECE	100
29	Popcorn	BIG TIN	1000
29	Popcorn	Medium TIN	500
29	Popcorn	Small TIN	250
59	Goat/ sheep head	BUNCH	1650
60	Goat/ sheep offals	BUNCH	500
82	Tuna fish, fresh	CAN	185
87	Fish, Tuna - Canned	CAN	185
87	Fish, Tuna - Canned	BIG TIN	750
87	Fish, Tuna - Canned	Medium TIN	375
87	Fish, Tuna - Canned	Small TIN	185
101	Cow Milk - fresh	Big bottle	660
101	Cow Milk - fresh	Medium bottle	350
101	Cow Milk - fresh	Small bottle	500
102	Camel Milk - Fresh	Big bottle	660
102	Camel Milk - Fresh	Medium bottle	350
102	Camel Milk - Fresh	Small bottle	500
103	Milk - Powdered	CAN	500
113	Other dairy product (specify)	Big bottle	1000
114	Eggs	PIECE	60
131	Cooking oil	CAN	1000
132	Olive oil	CAN	250
132	Olive oil	Big bottle	1000
133	Sesame oil	BIG TIN	1000
134	Coconut oil	CAN	250
134	Coconut oil	BIG TIN	1000
134	Coconut oil	Medium TIN	500
134	Coconut oil	Small TIN	250
135	Habad sowda oil (black seed oil)	CAN	250
135	Habad sowda oil (black seed oil)	Big bottle	1000
135	Habad sowda oil (black seed oil)	Medium bottle	500
135	Habad sowda oil (black seed oil)	Small bottle	250
137	Other Oils and fats (specify)	CAN	250
141	Bananas	BUNCH	30
141	Bananas	PIECE	150
142	Sweet Banana (Sokaari)	BUNCH	20
143	Mango	PIECE	550
144	Guavas	PIECE	100
145	Papayas	PIECE	250
146	Grapes	PIECE	800

ID	Food item	Measurement unit	Conversion Factor
147	Lemon	PIECE	70
148	Lime	PIECE	40
149	Oranges	PIECE	100
150	Avocado	PIECE	450
151	Apples [Imported]	PIECE	150
152	Watermelon	PIECE	10
153	Coconut	PIECE	550
154	Spondias {Isbaandhays}	PIECE	50
155	Soursop {Canuuni }	PIECE	50
156	Raisins, Dried	PIECE	340
157	Dates - Dried [Imported]	PIECE	1000
158	Pineapple - Canned [Imported]	CAN	350
158	Pineapple - Canned [Imported]	PIECE	350
159	Other canned fruit [imported]	CAN	350
159	Other canned fruit [imported]	PIECE	350
160	Peanuts local	Medium TIN	350
160	Peanuts local	Small TIN	170
161	Sesame seeds	BIG TIN	750
161	Sesame seeds	Medium TIN	320
161	Sesame seeds	Small TIN	150
162	Other Fruits/Nuts (Specify)	PIECE	150
171	Lettuce	BUNCH	100
171	Lettuce	PIECE	100
172	Spinach	BUNCH	2750
172	Spinach	PIECE	320
173	Traditional leaves (Bukuray)	BUNCH	500
173	Traditional leaves (Bukuray)	PIECE	501
174	Begel (kind of salad leaf)	BUNCH	70
174	Begel (kind of salad leaf)	PIECE	70
175	Cabbages	BUNCH	2000
175	Cabbages	PIECE	2000
176	Beetroot	BUNCH	100
176	Beetroot	PIECE	100
177	Green pepper	BUNCH	50
177	Green pepper	PIECE	50
178	Hot pepper	BUNCH	25
178	Hot pepper	PIECE	25
179	Okra (Baamiye)	BUNCH	250
179	Okra (Baamiye)	PIECE	250
180	Cucumbers	BUNCH	100
180	Cucumbers	PIECE	100
181	Tomato	BUNCH	100
181	Tomato	PIECE	100
182	Tomato Paste (canned)	BUNCH	170
182	Tomato Paste (canned)	PIECE	170
183	Pumpkin	BUNCH	1000

ID	Food item	Measurement unit	Conversion Factor
183	Pumpkin	PIECE	4800
184	Carrots	BUNCH	50
184	Carrots	PIECE	50
185	Sweet corn	BUNCH	100
185	Sweet corn	PIECE	100
186	Sweet corn (canned)	BUNCH	340
186	Sweet corn (canned)	PIECE	340
187	Garlic	BUNCH	70
187	Garlic	PIECE	70
188	Onion	BUNCH	100
188	Onion	PIECE	100
189	Other Vegetables (Specify ___)	BUNCH	320
189	Other Vegetables (Specify ___)	PIECE	320
190	Cow peas (Digir Gaduud)	BUNCH	1000
190	Cow peas (Digir Gaduud)	PIECE	1000
191	Mung Peas (Salbuko)	BUNCH	1000
191	Mung Peas (Salbuko)	PIECE	1000
211	White Potatoes	PIECE	100
212	Sweet Potatoes	PIECE	150
213	Cassava	PIECE	250
214	Other roots/tubers	PIECE	250
231	Sugar - white	CAN	1000
232	Honey	Medium bottle	500
233	Jam	PIECE	320
234	Chocolate cream	PIECE	350
235	Custard cream bottle	Medium bottle	320
235	Custard cream bottle	Small bottle	250
236	Chocolate, bar	PIECE	170
237	Biscuits - [Imported]	PIECE	170
238	Biscuits - [Local]	PIECE	150
239	Cake	PIECE	750
241	Ice cream	PIECE	125
242	Chewing Gum 5 pcs include tabuk	PIECE	50
243	Candy	PIECE	70
251	Cerelac	PIECE	400
252	Salt - cooking [local]	Small bottle	320
253	Mayonnaise	Medium bottle	500
255	Clove	BUNCH	120
256	Cardommon	BUNCH	100
257	Cinnamon	BUNCH	100
258	Ginger	BUNCH	120
259	Black pepper	Medium bottle	320
261	Curry powder	PIECE	170
262	Other spices	PIECE	150
263	Baker's Yeast	Small TIN	50
263	Baker's Yeast	BUNCH	20

ID	Food item	Measurement unit	Conversion Factor
264	Baking powder	Medium TIN	170
264	Baking powder	Small TIN	100
265	Bakery vanilla	Medium bottle	320
266	Other products (specify)	PIECE	170
281	Coffee Milled - local [...Qaxwo.....]	PIECE	96
282	Other Milled coffee (imported)	PIECE	96
283	Instant coffee (Nescafe, etc..)	PIECE	96
284	Tea Bag	PIECE	75
285	Black tea (in bulk)	PIECE	100
286	Green leaves for tea	PIECE	75
287	Drinking chocolate and Other(Specify)	PIECE	320
301	Mineral water	Big bottle	1500
302	Sodas	Medium bottle	751
303	Fruit Juice	Medium bottle	752
304	Vegetable juice	Medium bottle	500
305	Foster Powder	PIECE	675
306	Vimto [Squash]	Medium bottle	500
307	Other drinks (specify)	Medium bottle	300
361	Cigarettes/Cigar	PIECE	25
362	Tobacco raw	BUNCH	170
363	Qat - Miraa	BUNCH	500
364	Ethiopian qat	BUNCH	1000
364	Ethiopian qat	PIECE	1000
365	Shisha (for home use)	BUNCH	300

NSU conversion factors for purchased items.

Table B2 includes conversion factors for non-standard measurement units of food items purchased. Conversion factors allow for converting non-standard measurement units into grams.

Table B2. Non-standard units conversion factors (NSU to grams) for purchased items

ID	Food Item	Measurement unit	Conversion factor
11	Rice - White [Local]	BIG TIN	750
13	Wheat grains	BIG TIN	750
13	Wheat grains	Medium TIN	375
13	Wheat grains	Small TIN	160
14	Wheat flour - white	BIG TIN	750
14	Wheat flour - white	Medium TIN	375
14	Wheat flour - white	Small TIN	175
15	Maize grain	BIG TIN	750
15	Maize grain	Medium TIN	350
15	Maize grain	Small TIN	175
16	Maize flour	BIG TIN	700
16	Maize flour	Medium TIN	350
16	Maize flour	Small TIN	175
17	Sorghum grain	BIG TIN	700

ID	Food Item	Measurement unit	Conversion factor
17	Sorghum grain	Medium TIN	350
17	Sorghum grain	Small TIN	175
18	Sorghum flour	BIG TIN	650
18	Sorghum flour	Medium TIN	325
18	Sorghum flour	Small TIN	165
19	Millet grain	BIG TIN	750
19	Millet grain	Medium TIN	375
19	Millet grain	Small TIN	175
20	Millet flour	BIG TIN	650
20	Millet flour	Medium TIN	325
20	Millet flour	Small TIN	162
21	Beans, Dried (local red beans)	BIG TIN	800
21	Beans, Dried (local red beans)	Medium TIN	400
21	Beans, Dried (local red beans)	Small TIN	200
22	Cowpeas [imported]	BIG TIN	800
22	Cowpeas [imported]	Medium TIN	400
22	Cowpeas [imported]	Small TIN	200
23	Green beans {salbuko}	BIG TIN	650
23	Green beans {salbuko}	Medium TIN	320
23	Green beans {salbuko}	Small TIN	160
25	Tinned Beans [imported]	BIG TIN	830
25	Tinned Beans [imported]	Medium TIN	415
25	Tinned Beans [imported]	Small TIN	205
26	White bread	PIECE	100
27	Brown Bread	PIECE	61
28	Other bread and cereal products (specify___)	PIECE	100
29	Popcorn	BIG TIN	1000
29	Popcorn	Medium TIN	500
29	Popcorn	Small TIN	250
59	Goat/ sheep head	BUNCH	1650
60	Goat/ sheep offals	BUNCH	500
82	Tuna fish, fresh	CAN	185
87	Fish, Tuna - Canned	CAN	185
87	Fish, Tuna - Canned	BIG TIN	750
87	Fish, Tuna - Canned	Medium TIN	375
87	Fish, Tuna - Canned	Small TIN	185
101	Cow Milk - fresh	Big bottle	660
101	Cow Milk - fresh	Medium bottle	350
101	Cow Milk - fresh	Small bottle	500
102	Camel Milk - Fresh	Big bottle	660
102	Camel Milk - Fresh	Medium bottle	350
102	Camel Milk - Fresh	Small bottle	500
103	Milk - Powdered	CAN	500
113	Other dairy product (specify)	Big bottle	1000
114	Eggs	PIECE	60
131	Cooking oil	CAN	1000

ID	Food Item	Measurement unit	Conversion factor
132	Olive oil	CAN	250
132	Olive oil	Big bottle	1000
133	Sesame oil	BIG TIN	1000
134	Coconut oil	CAN	250
134	Coconut oil	BIG TIN	1000
134	Coconut oil	Medium TIN	500
134	Coconut oil	Small TIN	250
135	Habad sowda oil (black seed oil)	CAN	250
135	Habad sowda oil (black seed oil)	Big bottle	1000
135	Habad sowda oil (black seed oil)	Medium bottle	500
135	Habad sowda oil (black seed oil)	Small bottle	250
137	Other Oils and fats (specify)	CAN	250
141	Bananas	BUNCH	30
141	Bananas	PIECE	150
142	Sweet Banana (Sokaari)	BUNCH	20
143	Mango	PIECE	550
144	Guavas	PIECE	100
145	Papayas	PIECE	250
146	Grapes	PIECE	800
147	Lemon	PIECE	70
148	Lime	PIECE	40
149	Oranges	PIECE	100
150	Avocado	PIECE	450
151	Apples [Imported]	PIECE	150
152	Watermelon	PIECE	10
153	Coconut	PIECE	550
154	Spondias {Isbaandhays}	PIECE	50
155	Soursop {Canuuni }	PIECE	50
156	Raisins, Dried	PIECE	340
157	Dates - Dried [Imported]	PIECE	1000
158	Pineapple - Canned [Imported]	CAN	350
158	Pineapple - Canned [Imported]	PIECE	350
159	Other canned fruit [imported]	CAN	350
159	Other canned fruit [imported]	PIECE	350
160	Peanuts local	Medium TIN	350
160	Peanuts local	Small TIN	170
161	Sesame seeds	BIG TIN	750
161	Sesame seeds	Medium TIN	320
161	Sesame seeds	Small TIN	150
162	Other Fruits/Nuts (Specify)	PIECE	150
171	Lettuce	BUNCH	100
171	Lettuce	PIECE	100
172	Spinach	BUNCH	2750
172	Spinach	PIECE	320
173	Traditional leaves (Bukuray)	BUNCH	500
173	Traditional leaves (Bukuray)	PIECE	501

ID	Food Item	Measurement unit	Conversion factor
174	Begel (kind of salad leaf)	BUNCH	70
174	Begel (kind of salad leaf)	PIECE	70
175	Cabbages	BUNCH	2000
175	Cabbages	PIECE	2000
176	Beetroot	BUNCH	100
176	Beetroot	PIECE	100
177	Green pepper	BUNCH	50
177	Green pepper	PIECE	50
178	Hot pepper	BUNCH	25
178	Hot pepper	PIECE	25
179	Okra (Baamiye)	BUNCH	250
179	Okra (Baamiye)	PIECE	250
180	Cucumbers	BUNCH	100
180	Cucumbers	PIECE	100
181	Tomato	BUNCH	100
181	Tomato	PIECE	100
182	Tomato Paste (canned)	BUNCH	170
182	Tomato Paste (canned)	PIECE	170
183	Pumpkin	BUNCH	1000
183	Pumpkin	PIECE	4800
184	Carrots	BUNCH	50
184	Carrots	PIECE	50
185	Sweet corn	BUNCH	100
185	Sweet corn	PIECE	100
186	Sweet corn (canned)	BUNCH	340
186	Sweet corn (canned)	PIECE	340
187	Garlic	BUNCH	70
187	Garlic	PIECE	70
188	Onion	BUNCH	100
188	Onion	PIECE	100
189	Other Vegetables (Specify ___)	BUNCH	320
189	Other Vegetables (Specify ___)	PIECE	320
190	Cow peas (Digir Gaduud)	BUNCH	1000
190	Cow peas (Digir Gaduud)	PIECE	1000
191	Mung Peas (Salbuko)	BUNCH	1000
191	Mung Peas (Salbuko)	PIECE	1000
211	White Potatoes	PIECE	100
212	Sweet Potatoes	PIECE	150
213	Cassava	PIECE	250
214	Other roots/tubers	PIECE	250
231	Sugar - white	CAN	1000
232	Honey	Medium bottle	500
233	Jam	PIECE	320
234	Chocolate cream	PIECE	350
235	Custard cream bottle	Medium bottle	320
235	Custard cream bottle	Small bottle	250

ID	Food Item	Measurement unit	Conversion factor
236	Chocolate, bar	PIECE	170
237	Biscuits - [Imported]	PIECE	170
238	Biscuits - [Local]	PIECE	150
239	Cake	PIECE	750
241	Ice cream	PIECE	125
242	Chewing Gum 5 pcs include tabuk	PIECE	50
243	Candy	PIECE	70
251	Cerelac	PIECE	400
252	Salt - cooking [local]	Small bottle	320
253	Mayonnaise	Medium bottle	500
255	Clove	BUNCH	120
256	Cardommon	BUNCH	100
257	Cinnamon	BUNCH	100
258	Ginger	BUNCH	120
259	Black pepper	Medium bottle	320
261	Curry powder	PIECE	170
262	Other spices	PIECE	150
263	Baker's Yeast	Small TIN	50
263	Baker's Yeast	BUNCH	20
264	Baking powder	Medium TIN	170
264	Baking powder	Small TIN	100
265	Bakery vanilla	Medium bottle	320
266	Other products (specify)	PIECE	170
281	Coffee Milled - local [...Qaxwo.....]	PIECE	96
282	Other Milled coffee (imported)	PIECE	96
283	Instant coffee (Nescafe, etc..)	PIECE	96
284	Tea Bag	PIECE	75
285	Black tea (in bulk)	PIECE	1000
286	Green leaves for tea	PIECE	75
287	Drinking chocolate and Other(Specify)	PIECE	320
301	Mineral water	Big bottle	1500
302	Sodas	Medium bottle	751
303	Fruit Juice	Medium bottle	752
304	Vegetable juice	Medium bottle	500
305	Foster Powder	PIECE	675
306	Vimto [Squash]	Medium bottle	500
307	Other drinks (specify)	Medium bottle	300
361	Cigarettes/Cigar	PIECE	25
362	Tobacco raw	BUNCH	170
363	Qat - Miraa	BUNCH	500
364	Ethiopian qat	BUNCH	1000
364	Ethiopian qat	PIECE	1000
365	Shisha (for home use)	BUNCH	300

Appendix 2.2. Non-food non-durables items included and excluded.

Table E1 lists all of the non-food non-durable (NFND) items reported in the SIHBS. Category and COICOP were not included in the questionnaire and were assumed. The last column ("In our out") indicates whether the item was included ("in") or excluded ("out") in/from the consumption aggregate.

Table E1 – NFND items included and excluded from the consumption aggregate

Item	category	COICOP	In or out
Passenger transport by bus and coach	transport	7	in
Mini Bus fares	transport	7	in
Taxi Car	transport	7	in
Hired car with driver	transport	7	in
Bajaj transport	transport	7	in
Other passenger transport by road	transport	7	in
Petrol for motor vehicles	transport	7	in
Diesel for motor vehicles	transport	7	in
Car wash, Washing bay	transport	7	in
Airtime for mobile phones	communication	8	in
Internet cafes	communication	8	in
Telephone calls on public phones	communication	8	in
Newspapers	communication	8	in
Milling costs	communication	8	in
Purchased ice	miscellaneous	13	in
Games of chance/ sports betting	miscellaneous	13	in
Expenses for heating/cooling			
GAS: Natural gas in cylinders	housing	4	in
Kerosene	housing	4	in
Diesel fuel for generators	housing	4	in
Firewood	housing	4	in

Item	category	COICOP	In or out
Charcoal	housing	4	in
Electricity	housing	4	in
Water, refuse, sewerage			
Water supply through network systems	housing	4	in
Water- Vendors	housing	4	in
Garbage and Refuse collection	housing	4	in
Other services relating to the dwelling n.e.c.			
Care-taker services in multi-occupied buildings	housing	4	in
House domestic services			
Domestic maid/ household services	furnishing, Household equipment and routine Household maintenance	5	in
Guard	furnishing, Household equipment and routine Household maintenance	5	in
Telephone services			
Landline Services - Subscription costs (monthly rent)	information and communication	8	in
Cell-phone services Monthly plan (Postpaid)	information and communication	8	in
Internet services - Data bundles (monthly)	information and communication	8	in
Cleaning and Maintenance Products			
Clorox- bleach	furnishing, Household equipment and routine Household maintenance	5	in
Chlorine	furnishing, household equipment and routine household maintenance	5	in
Disinfectant, Detol	furnishing, household equipment and routine household maintenance	5	in
Detergent for Dishes (Bana Clean, etc)	furnishing, household equipment and routine household maintenance	5	in
Household soaps, detergent	furnishing, household equipment and routine household maintenance	5	in
Clothes soap, detergent	furnishing, household equipment and routine household maintenance	5	in
Flash/ Vim etc - for Toilet	furnishing, household equipment and routine household maintenance	5	in

Item	category	COICOP	In or out
Insect killer	furnishing, household equipment and routine household maintenance	5	in
Toilet paper	furnishing, household equipment and routine household maintenance	5	in
Paper napkins, paper towel, other household paper products	furnishing, household equipment and routine household maintenance	5	in
Other cleaning/ maintenance products (specify)	furnishing, household equipment and routine household maintenance	5	in
Baby Care products			
Baby Feeding Bottle	personal care	13	in
Baby Oil	personal care	13	in
Baby shampoo	personal care	13	in
Baby soap	personal care	13	in
Baby Skin powder	personal care	13	in
Children's nappies, Pampers	personal care	13	in
Articles and products for personal care			
Shavers- one time use	personal care	13	in
Razor Blades	personal care	13	in
Shaving cream	personal care	13	in
Hand wash liquid, body soap, bath soap	personal care	13	in
Wet wipes	personal care	13	in
Sanitary pad	personal care	13	in
Perfumes	personal care	13	in
Deodorant	personal care	13	in
Toothpaste	personal care	13	in
Shampoo/Conditioner	personal care	13	in
Body Cream (Glycerine, etc)	personal care	13	in
Soft hair cream/ hair oil	personal care	13	in
Cosmetics/ beauty aids	personal care	13	in
Henna	personal care	13	in
Women's hairdressing			
Hair - washing	personal care	13	in
Hair re-texturing or perming,	personal care	13	in
Hair dying /coloring	personal care	13	in
Braiding Hair/ Styling hair	personal care	13	in
Mens - Barber Shop			
Mens Hair Cuts	personal care	13	in

Item	category	COICOP	In or out
Shaves/ Trimming	personal care	13	in
Shampooing	personal care	13	in
Vehicle operation costs			
Engine Oil	transport	7	in
Brake fluids	transport	7	in
Lubricants	transport	7	in
Coolants	transport	7	in
Puncture repair	transport	7	in
CLOTHING AND FOOTWEAR			
Garments for men: new			
Trousers	clothing	3	in
Jean Trousers	clothing	3	in
Shirt	clothing	3	in
T-Shirt	clothing	3	in
Vest	clothing	3	in
Mawus	clothing	3	in
Shawl	clothing	3	in
Suit jacket	clothing	3	in
Suits	clothing	3	in
Cimaamad	clothing	3	in
Koofi (Hat)	clothing	3	in
Under wear	clothing	3	in
Pyjamas	clothing	3	in
Socks	clothing	3	in
Tailored clothes for men	clothing	3	in
Traditional dresses	clothing	3	in
Garments for men: second-hand			
Trousers	clothing	3	in
Jean trousers	clothing	3	in
Shirts	clothing	3	in
Garments for boys 3-15 (not including school uniforms)			
Trousers	clothing	3	in
Jean trousers	clothing	3	in
Shirt	clothing	3	in
T-Shirt	clothing	3	in
Under wear	clothing	3	in
Pyjamas	clothing	3	in
Tailored clothes for boys	clothing	3	in
Second hand clothes for boys	clothing	3	in

Item	category	COICOP	In or out
Garments for women			
Dirak (baati)	clothing	3	in
Dirak (will)	clothing	3	in
Shaash (scarf)	clothing	3	in
Frock	clothing	3	in
Shawl [gar basaar]	clothing	3	in
Traditional dresses	clothing	3	in
Abaya	clothing	3	in
Skirt [Goono]	clothing	3	in
Shirt / Blouse	clothing	3	in
Trousers/ jeans	clothing	3	in
Hijab	clothing	3	in
Niqab	clothing	3	in
Khimar	clothing	3	in
Bra / Brassières	clothing	3	in
Panties/ ladies briefs (Nigis dumar)	clothing	3	in
Stockings/ Socks	clothing	3	in
Tailored clothes for women	clothing	3	in
Second Hand Clothes for women	clothing	3	in
Garments for girls (3-15) - (not including school uniforms)			
Abaya	clothing	3	in
Dirra	clothing	3	in
Trousers/ jeans	clothing	3	in
Frock	clothing	3	in
Hijab	clothing	3	in
Niqab	clothing	3	in
Khimar	clothing	3	in
T-shirts	clothing	3	in
Underwear	clothing	3	in
Stockings/ Socks	clothing	3	in
Second hand clothes for girls	clothing	3	in
Garments for Infants 0-2 years			
Pyjamas /full body suit	clothing	3	in
Half body suit/ onesie/ vest/ t-shirt	clothing	3	in
Rompers	clothing	3	in
Socks	clothing	3	in
Dress	clothing	3	in
Pants	clothing	3	in
Other infant clothes	clothing	3	in

Item	category	COICOP	In or out
Second hand clothes for infants	clothing	3	in
Footwear for Men			
Open Shoes	clothing	3	in
Sports shoes	clothing	3	in
Boots	clothing	3	in
Ready made sandals	clothing	3	in
Made to measure sandals	clothing	3	in
Slippers	clothing	3	in
Footwear for Boys (3-15)			
Shoes	clothing	3	in
Boots	clothing	3	in
Sports shoes	clothing	3	in
Ready made sandals	clothing	3	in
Made to measure sandals	clothing	3	in
Footwear for Women			
Shoes	clothing	3	in
Sports shoes	clothing	3	in
Boots	clothing	3	in
Sandals	clothing	3	in
Slippers	clothing	3	in
Footwear for Girls (3-15)			
Shoes	clothing	3	in
Boots	clothing	3	in
Sports shoes	clothing	3	in
Sandals	clothing	3	in
Footwear for Infants (0-2 yrs)			
Shoes	clothing	3	in
Sandals	clothing	3	in
Cleaning, repair, tailoring and hire of clothing			
Cleaning of clothing	clothing	3	in
Repair and hire of clothing	clothing	3	in
Jawellery, Clocks and Watches & Other personal effects			
Gold jewelry	personal care	13	out
Silver jewelry	personal care	13	out
Beads	personal care	13	in
Watches	personal care	13	in
Umbrella	personal care	13	in
Hand Bag	personal care	13	in
Wallet	personal care	13	in

Item	category	COICOP	In or out
Sunglasses	personal care	13	in
Luggage/ Suitcase/ Laptop bag	personal care	13	in
Men Belt	personal care	13	in
Women's scarves	personal care	13	in
MEDICINES AND HEALTH PRODUCTS			
Medicines, vaccines and other pharmaceutical preparations (ND)			
Antibiotic	health	6	in
Cold tablets	health	6	in
Dewormers	health	6	in
Herbal medicine	health	6	in
Vitamins	health	6	in
Anti-Typhoid	health	6	in
Anti-Malaria	health	6	in
Painkillers	health	6	in
Treatment drugs for Diarrhoea	health	6	in
Treatment drugs for Tuberculosis	health	6	in
Treatment drugs for Malaria [mosquito based]	health	6	in
Treatment drugs for Measles	health	6	in
Treatment drugs for Respiratory Tract Infection	health	6	in
Treatment drugs for Sexual Transmitted Infections	health	6	in
Treatment drugs for Anaemia	health	6	in
Eye care medicine	health	6	in
Treatment drugs for Obstetrical problems	health	6	in
Other treatment drugs	health	6	in
Other Medical products (ND)			
Syringes	health	6	in
Thermometer	health	6	in
Gloves	health	6	in
Diapers for adults	health	6	in
Surgical Cotton wool	health	6	in
other medical products	health	6	in
Cleaning implements			
Broom - Imported	housing	5	in
Broom - Local	housing	5	in
Mop / Sisal sack mop	housing	5	in
Pull water - squeezer	housing	5	in
Brush- scrubbing brush	housing	5	in
Ceramic ware			
Plates	housing	5	in

Item	category	COICOP	In or out
Glasses	housing	5	in
Tea Cups	housing	5	in
Jug	housing	5	in
Serving Dish	housing	5	in
Plastic wares			
Plate, Plastic	housing	5	in
Jug, Plastic	housing	5	in
Water cup, Plastic	housing	5	in
Tea cup, Plastic	housing	5	in
Pot, Plastic	housing	5	in
Metal Wares			
Knives	housing	5	in
Forks	housing	5	in
Spoons	housing	5	in
Other			
Mirrors	housing	5	in
Basin, metal	housing	5	in
Basin, plastic	housing	5	in
Bucket, metal	housing	5	in
Bucket, plastic	housing	5	in
Cooking pot (Jalmad)	housing	5	in
Flask, Thermos	housing	5	in
Stand for hanging clothes on	housing	5	in
Electric shaver	housing	5	in
Electric Kettle/ Tea Boiler	housing	5	in
Iron box- charcoal	housing	5	in
Torch	housing	5	in
Stationery, Office, and Computer Supplies			
Printer	miscellaneous	13	in
Office supplies (paper, stapler, notebooks, file folders, file boxes, pens, etc.)	miscellaneous		in
Computer equipment (mouse, cables, hard discs, flash disks, memory cards, etc)	miscellaneous		in
Courier charges (UPS, etc) and photocopy charges	miscellaneous		in
Carpets and Other floor coverings			
Carpets	housing	5	in
Mats	housing	5	in
Household Textiles			
Curtains	housing	5	in
Blankets	housing	5	in

Item	category	COICOP	In or out
Bed Sheets	housing	5	in
Mosquito Nets	housing	5	in
Towels	housing	5	in
Repair of household textiles	housing	5	in
Tools			
Hand tools: hammers	housing	5	in
Hand tools: saws	housing	5	in
Hand tools: screwdrivers	housing	5	in
Other Hand tools	housing	5	in
Power tools, other large tools	housing	5	in
Materials for the maintenance and repair of the dwelling			
Cement	housing	5	in
Timber	housing	5	in
Chipboard	housing	5	in
Plywood	housing	5	in
Tiles	housing	5	in
Doors	housing	5	in
Nails/ screws	housing	5	in
Iron sheets	housing	5	in
Housing Painting Colour	housing	5	in
Other materials for maintenance and repairs	housing	5	in
Labor for maintenance and repair of dwelling (plumber, electrician, carpenter, tilers, etc.)	housing	5	in
INSURANCE			
Insurance connected with health/ accident	insurance	12	in
Insurance connected with the dwelling	insurance	12	in
Vehicle Insurance	insurance	12	in
Other insurance (specify)	insurance	12	in
MORTGAGE & FINANCIAL SERVICES			
Mortgage payment - regular payment to purchase house	insurance	12	out
Explicit charges/ murabaha by deposit-taking corporations (banks, etc.)	insurance	12	in
Remittances fees	insurance	12	in
Other financial services (specify)	insurance	12	in
Repair and Spare parts for personal vehicle			
Car tyres	transport	7	in
Bicycle tyres	transport	7	in
Car Battery	transport	7	in
Spark plugs	transport	7	in

Item	category	COICOP	In or out
Shock absorbers	transport	7	in
Other spare parts	transport	7	in
Brakes repair	transport	7	in
Engine repair	transport	7	in
Puncture repair	transport	7	in
Other car repair, garage (mechanic)	transport	7	in
Car body painting and repairs	transport	7	in
Passenger transport by Air, sea			
Passenger transport by air, domestic	transport	7	in
Passenger transport by air, international	transport	7	in
Passenger transport by sea	transport	7	in
Specialized tuition, lessons/certifications			
Pre-primary tuition and Quranic Education	education	10	in
Vocational Training e.g Mechanics, Carpentry,Tailoring and adult education	education	10	in
Driving lessons, tests, licences	education	10	in
Therapeutical Appliances and Equipment			
Spectacles/Spectacles frames/ Contacts	health	6	in
Dentures/Braces	health	6	in
High Blood Pressure apparatus	health	6	in
Glucometer	health	6	in
Other therapeutic appliances/ equipment	health	6	in
Medical Services			
General Practitioner's services	health	6	in
Ophthalmologists Services	health	6	in
Gynaecological services	health	6	in
Pediatrician's services	health	6	in
Radiologist's services	health	6	in
Other specialist services (specify)	health	6	in
General/Minor surgical operation fees	health	6	in
Dental Services			
Dental fees- tooth extracting, filling & root canal	health	6	in
Other dental services	health	6	in
Paramedical Services			
X-Rays/Scan	health	6	in
Laboratory Tests	health	6	in
Ambulance Charges	health	6	in
Services of nurses/mid-wives	health	6	in
Services of Physiotherapist	health	6	in
Other paramedical services	health	6	in

Item	category	COICOP	In or out
Traditional healers			in
Health Facilities Services			
Delivery charges	health	6	in
Inpatient fees (Room, bed, Rehabilitation, and other charges)- Private/Public	health	6	in
Other Health Facilities services(specify)	health	6	in
Telephone and laptop repair			
Laptop repair (screen, hard drive, motherboard, etc.)	information and communication	8	in
Phone repair (Screen, microphone, charging, password reset, etc.)	information and communication	8	in
Recreation			
Toys and hobbies	personal care	13	in
Sport equipment	personal care	13	in
Musical instruments	personal care	13	in
Recreational, teams, sporting services	personal care	13	in
Cinemas, theatres, concerts, etc.	personal care	13	in
Ceremonies and Donations			
Funeral services	recreation	9	out
Wedding costs	recreation	9	out
Other ceremonies	recreation	9	out
Donations to mosque	recreation	9	out
Donations to charity, funeral donations, etc.	recreation	9	out

Appendix 2.3: Rent imputation using the Hedonic Regression.

This appendix covers each step of the rent imputation using the Hedonic regression. Table 15 presents the distribution of renters and non-renters by region. Renters are the minority across the country, although sample sizes by region are not prohibitively low.

Table 15. Distribution of renters and non-renters across regions

Regions	Frequency		Shares	
	Non-renters	Renters	Non-renters	Renters
Awdal	267	81	76.7	23.3
Bakool	322	86	78.9	21.1
Banadir	326	286	53.3	46.7
Bari	272	136	66.7	33.3
Bay	355	53	87.0	13.0
Galgaduud	302	106	74.0	26.0
Gedo	359	49	88.0	12.0
Hiraan	309	99	75.7	24.3
Lower Juba	283	125	69.4	30.6
Lower Shabelle	249	159	61.0	39.0
Waqooyi Galbeed	461	163	73.9	26.1
Middle Shabelle	352	56	86.3	13.7
Mudug	294	114	72.1	27.9
Nugaal	284	124	69.6	30.4
Sanaag	250	110	69.4	30.6
Sool	265	95	73.6	26.4
Togdheer	305	115	72.6	27.4
Somalia	5,255	1,957	72.9	27.1

Renters and owners differ in their dwelling characteristics as well. Table 16 shows mean values for selected characteristics of the dwelling.

Table 16. Selected dwelling characteristics, by tenure status

Dwelling characteristics	Non-renters	Renters
Dwelling type = villa/house (%)	18.7	28.7
Dwelling type = apartment (%)	4.4	6.8
Dwelling type = room (%)	18.6	18.2
Number of bedrooms	33.9	12.0
Exclusive toilet (%)	2.2	2.3
Tile roof (%)	55.7	60.9
Tile or cement floor (%)	34.0	46.5
Access to electricity (%)	2.4	4.2
Access to running water (%)	42.9	68.3
Access to sewerage (%)	48.8	80.8

The specification of the hedonic model is as follows:

$$\begin{aligned}\ln rent_h \; &= \beta_1 villa + \beta_2 nbedroom + \beta_3 floormaterial \\ &+ \beta_4 roofmaterial \; + \; \beta_5 toilet + \beta_6 water \\ &+ \beta_7 electricity + \; \beta_8 sewerage + \; \beta_9 region + \varepsilon_h\end{aligned} \qquad (3)$$

where:

- $\ln rent_h$ is the logarithm of reported actual rent;
- *villa* is a dummy equal to 1 if the dwelling is a villa (bungalow) and 0 otherwise;
- *nbedroom* indicates the number of bedrooms;
- *floormaterial* is a dummy equal to 1 if the floor building material is cement, wood, or vinyl, 0 otherwise (e.g. earth, sand, leaves, etc.);
- *wallmaterial* is a dummy variable equal to 1 if the wall is made of stone or brick, 0 otherwise (e.g. planks, tin, etc.);
- *roofmaterial* is a set of dummies indicating whether the roof is tile, tin, or other;
- *toilet* is a dummy indicating whether the dwelling has an exclusive toilet;
- *water* is a dummy variable equal to 1 if connected to running water, 0 otherwise;
- *electricity* is a dummy variable equal to 1 if connected to electricity network, 0 otherwise;
- *sewerage* is a dummy variable equal to 1 if connected to the sewerage network, 0 otherwise;
- *region* indicates region dummies,

and ε_h is the error term.

Table 17 shows the regression output: Column 4 contains the chosen model, while a few alternative, more parsimonious specifications are shown in columns 1, 2, 3 and 5.

Table 17. OLS hedonic regression alternative specifications, SIHBS

	Dependent variable: ln (rent)				
	(1)	(2)	(3)	(4)	(5)
type = House/Villa	0.9126***	0.5682***	0.5442***	0.4773***	0.5523***
	(0.0614)	(0.0500)	(0.0492)	(0.0465)	(0.0496)
type = Apartment	0.6188***				
	(0.0889)				
n bedrooms	0.3027***	0.2923***	0.2621***	0.2430***	0.2894***
	(0.0236)	(0.0212)	(0.0220)	(0.0214)	(0.0210)
roof = tile/cement		0.6917***	0.6763***	0.5412***	0.6665***
		(0.1638)	(0.1632)	(0.1576)	(0.1637)
roof = tin		0.6496***	0.6041***	0.4609***	0.6246***
		(0.1196)	(0.1160)	(0.1158)	(0.1194)
floor = cement/tile/wood		0.4054***	0.3885***	0.2982***	0.3824***
		(0.0498)	(0.0480)	(0.0472)	(0.0487)
exclusive toilet			0.2637***	0.2574***	
			(0.0460)	(0.0446)	
has running water				0.0995*	0.1587***
				(0.0437)	(0.0474)
has electricity				0.4204***	
				(0.0647)	
has sewerage				0.1100*	
				(0.0493)	
type = Room	0.1365				
	(0.0851)				
location dummies	region	region	region	region	region
Constant	3.2801***	2.6359***	2.5472***	2.2880***	2.5395***
	(0.0936)	(0.1499)	(0.1489)	(0.1428)	(0.1485)
Observations	1954	1954	1954	1954	1954
R-squared	0.596	0.634	0.647	0.674	0.638
Adjusted R-squared	0.592	0.630	0.643	0.670	0.634

Table 18 shows the predicted values computed using Duan's (1983) smearing estimator.

Table 18. Actual rent compared to rent predicted via hedonic regression (USD/household/month)

Regions	Average actual rent	Predicted rent for renters	Predicted rent for non-renters
Awdal	116	133	71
Bakool	23	23	28
Banadir	77	74	95
Bari	61	52	50
Bay	31	35	22
Galgaduud	43	43	38
Gedo	29	32	33
Hiraan	18	20	18
Lower Juba	55	57	39
Lower Shabelle	31	33	32
Waqooyi Galbeed	103	107	70
Middle Shabelle	19	17	16
Mudug	53	56	46
Nugaal	72	58	58
Sanaag	64	73	76
Sool	101	103	72
Togdheer	79	88	44
Somalia	**63**	**64**	**49**

The SIHBS questionnaire also includes a self-reported imputed rent question for non-tenants. Table 19 compares average of self-reported rent declared by non-renters (those who responded) with the average of the imputed rent for owners predicted via hedonic model regression.

Table 19. Average of self-reported rent (USD/household/month) vs. predicted rent via hedonic regression model for non-renters

REGION	Number of non-renters with self-reported imputed rent	Average self-reported rent	Number of non-renters with hedonic imputed rent	Average hedonic imputed rent
Awdal	108	108	267	71
Bakool	205	24	322	28
Banadir	234	125	326	95
Bari	180	75	272	50
Bay	158	28	355	22
Galgaduud	57	43	302	38
Gedo	127	32	359	33
Hiraan	248	15	309	18
Lower Juba	97	51	283	39
Lower Shabelle	158	53	249	32
Waqooyi Galbeed	208	105	461	70
Middle Shabelle	120	21	352	16
Mudug	73	75	294	46
Nugaal	110	134	284	58
Sanaag	165	70	250	76
Sool	129	106	265	72
Togdheer	142	56	305	44
Somalia	2,519	69	5,255	49