SOMALILAND IDP MORTALITY SURVEY REPORT-2023

MINISTRY OF PLANNING AND NATIONAL DEVELOPMENT

PREPARED BY

STATISTICS DEPARTMENT

FOREWORD

Efforts to gather accurate demographic data in Somaliland began in earnest in 2005/6 with a community census conducted by UNDP. This was followed by the Population Estimation Survey of Somaliland (PESS) in 2014, in collaboration with UNFPA. While the PESS focused on estimating total population figures, it did not provide sufficient data on child mortality or other key demographic indicators. Similarly, the Somaliland Health and Demographic Survey (SLHDS) 2020 omitted a chapter on child mortality due to significant data underreporting. The latest available estimates on childhood mortality come from the Multi Indicator Cluster Survey (MICS) conducted in 2011, underscoring a need for updated and official statistics.

The 2023 Somaliland Mortality Survey targeted women aged 15-49 from selected households in IDP camps in Hargeisa and Burao. Its primary goal was to estimate childhood mortality indicators for IDP population, including neonatal, post-neonatal, infant, child, and under-five mortality rates. This information is crucial for stakeholders working to enhance maternal and child health services. The survey also measured other important indicators related to adult mortality, life expectancy, fertility and demographic profile of IDPs in Somaliland including age, sex, household composition, and educational access. Additionally, the survey covered migration patterns of nomadic populations into IDP camps to refine census methodologies and humanitarian responses, and to provide detailed information on the composition and needs of IDPs, especially in the context of recent drought impacts. This information is available in separate report.

The survey findings offer valuable insights into Somaliland's health and development status, highlighting the effectiveness of healthcare systems, including prenatal, neonatal, and pediatric care particularly among IDP camps. High levels of childhood mortality often reflect inadequate healthcare access, poor nutrition, and widespread infectious diseases, while declining rates indicate improvements in healthcare, living conditions, and public health interventions.

This data is crucial for addressing childhood mortality among the IDPs through targeted interventions such as promoting vaccination and nutrition programs, improving the availability and quality of maternal and newborn health services, strengthening the health system, upgrading hygiene and sanitation, and advancing education and advocacy. These measures will also help address various risks associated with demographic and socioeconomic factors. The timing of this report is also significant for monitoring mortality indicators within the NDP III (2022-2026), particularly related to child health and improving maternal and newborn lives. Achieving these goals is essential for meeting NDP III and SDG targets.

To realize these objectives, it is crucial to focus on skilled care and targeted interventions, especially in neonatal and early childhood health, to reduce overall mortality rates among the IDPs. Utilizing the survey evidence will help strengthen commitments and mobilize resources to meet the NDP III and global goals. Therefore, the Ministry of Planning and National Development urge policymakers, program managers, and stakeholders to use this data effectively to enhance the quality of life in Somaliland and maximize the impact on the health sector.

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LIST OF ACRONYMS

AR	Age Ratio
ARSF	Age Ratio Score for Females
ARSM	Age Ratio Score for Males
ASDR	Age Specific Death Rate
ASFR	Age-Specific Fertility Rate
BCG	Bacillus Calmette - Guerin
CAPI	Computer Assisted Personal Interview
CBR	Crude Birth Rate
CDR	Crude Death Rate
CIA	Central Intelligence Agency
CSD	Central Statistics Department
CSPro	Census and Survey Processing Program
DHS	Demographic and Health Survey
DW	Design Weight
EAs	Enumeration Areas
EMW	Ever Married Woman
FAO	Food Agriculture Organization
FCDO	Foreign, Commonwealth & Development Office
GAR	Gross Attendance Ratio
GDP	Gross Domestic Product
GFR	General Fertility Rate
GIS	Geographic Information System
GPS	Global Positioning Unit
HDI	Human Development Index
HH	Household
IDMC	Internal Displacement Monitoring Centre
IDP	Internally Displaced Persons
IOM	Internationa Organization for Migration
MCH	Maternal and Child Health
MICS	Multiple Indicator Cluster Survey
MoPND	Ministry of Planning and National Development
NDP	National Development Plan
NGO	Non-governmental Organization
P & D	Population and Development
PESS	Population Estimation Survey for Somaliland
PSU	Primary Sampling Unit
RW	Response Weight
SDGs	Sustainable Development Goals
SLHDS	Somaliland Health and Demographic Survey
SRS	Sex Ratio Score
TFR	Total Fertility Rate
TOT	Training of Trainers
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
WFP	World Food Program
WHO	World Health Organization

Executive Summary

Overview

The 2023 Somaliland Mortality Survey focused on women aged 15-49, collecting data from 3,350 randomly selected households across 134 Enumeration Areas (EAs) in IDP camps located in Hargeisa and Burao. The primary aim was to estimate childhood mortality indicators among the IDP population, providing critical insights for stakeholders working to improve maternal and child health services. In addition to childhood mortality, the survey also assessed adult mortality, life expectancy, fertility rates, and the overall demographic profile of IDPs in Somaliland. It also examined the migration patterns of nomadic populations into IDP camps, aiming to refine census methodologies and enhance humanitarian responses. The key findings from the survey are summarized in herewith.

Demographic Profile and Household Composition

The IDP camps in Somaliland present distinct demographic and social challenges. The population is predominantly young, with the largest age group being 5-9 years old, comprising 18.1% of males and 16.7% of females. Children and adolescents aged 0-14 make up 47.6% of the total population. While males dominate the younger age groups, the adult age groups (15-64) show a more balanced gender distribution. Females outnumber males in several adult age groups, particularly between 35 to 64 years, likely due to gender-specific differences in life expectancy. The elderly population (65+) is small, comprising only 2.8% of the total population.

Female-headed households are predominant in the camps, accounting for 71.8% of all households, a reflection of the socio-economic and cultural dynamics within IDP communities. The average household size is large, with a mean of 6.9 members, indicating a high dependency ratio and potential challenges in resource distribution within households.

Marital Status and Educational Attainment

Marital status varies significantly across the population, with 45.8% of individuals being married, 5.5% divorced, 1.8% abandoned, 6.5% widowed, and 40.4% never married. Females exhibit higher rates of divorce and widowhood compared to males, with 8.1% of females divorced and 10.6% widowed, compared to 2.2% and 1.3% for males, respectively. Younger age groups, particularly those aged 15-19, are predominantly single (92.5%), with marriage rates increasing with age and peaking between 35-44 years. Educational attainment impacts marital status, with individuals having no education showing higher marriage (54.2%) and widowhood (9.2%) rates compared to those with higher education levels.

Literacy rates reveal a significant gender gap, with 51.4% of the population being literate. Males have a higher literacy rate (59.0%) compared to females (44.9%). Literacy varies significantly by age, with younger individuals (10-14 years) exhibiting the highest literacy Fertility and Childbirth Patterns The overall conception rate is 91%, with the highest rate observed in the 25-29 age group (94%) and the lowest in the 15-19 age group (79%). The current pregnancy rate among ever- married women aged 15-49 is approximately 11%, with the highest proportion (21%) occurring in the 15-19 age group. These findings indicate a high fertility rate within the IDP camps, with a significant number of young women experiencing pregnancy at an early age. The survey also found that 85.3% of children live in their mothers' households, 8.2% reside elsewhere, and 6.5% have deceased, reflecting varied family dynamics and child welfare scenarios. Younger mothers (15-19 years) have the highest percentage of children living at home (89.4%), which decreases with the mother's age. Child mortality rates are highest among

mothers aged 40-44, indicating that as children grow older, they are more likely to leave the maternal home, and child mortality rates are influenced by various factors beyond maternal age.Twin births are relatively uncommon, comprising only 3.2% of all births in the surveyed population. Single births are predominant, with twins more frequently observed among female births compared to male births.

Mortality and Life Expectancy

The survey highlights critical health challenges faced by Somaliland's IDP population, particularly in childhood mortality. The neonatal mortality rate stands at 56 per 1,000 live births, post-neonatal mortality at 34, infant mortality at 90, child mortality at 11, and under-five mortality at 100. The high neonatal mortality rate, accounting for deaths within the first 28 days, points to significant challenges in neonatal care. The overall crude death rate (CDR) is approximately 12.4 deaths per 1,000 population, with a higher CDR observed among males (14.3) compared to females (11.8). Life expectancy in the IDP camps is low, with an average of 52 years. Males have a life expectancy of 48 years, while females have a slightly higher life expectancy of 55 years.

rate at 73.0%, while older age groups, particularly those 65 and above, have much lower rates (10.4%). This decline in literacy with age reflects historical challenges in educational access, underscoring the need for targeted adult education programs.

The highest mortality rates occur among the youngest and oldest age groups, particularly infants under 1 year, with an age-specific death rate (ASDR) of 60 per 1,000.

A significant proportion of deaths (57%) occur at home, with only 28% taking place in health facilities. This pattern suggests considerable barriers to accessing timely and adequate healthcare services, such as limited availability of medical facilities, transportation challenges, and financial constraints. Additionally, 6% of deaths are reported to occur in route to health facilities, highlighting the need for improved healthcare infrastructure and emergency response systems. Pregnancy-related complications remain a significant concern, emphasizing the importance of enhancing maternal healthcare services and ensuring timely access to emergency obstetric care.

Conclusion

The 2023 Somaliland Mortality Survey provides a comprehensive overview of the demographic, health, and social challenges faced by the IDP population in Somaliland. The findings highlight the urgent need for targeted interventions to address high fertility rates, childhood and adult mortality, and the barriers to accessing healthcare services. Improved maternal and child health services, alongside enhanced educational and economic opportunities, are essential for improving the well-being of the IDP population in Somaliland.

1 INTRODUCTION

1. INTRODUCTION

1.1. Background

1.1.1. Geography and People

The Republic of Somaliland is a self-declared independent country located in the Horn of Africa, which is in the easternmost part of the African continent. It covers an estimated surface area of 176,119 square kilometers (68,000 square miles). Somaliland is bordered by Djibouti to the northwest, Ethiopia to the south, Somalia to the east, and the Gulf of Aden to the north. The country boasts a coastline of approximately **850** kilometers along the Gulf of Aden, Central Intelligence Agency (CIA,. 2023). Somaliland has a terrain includes mountain ranges that rise to elevations of 1,800 meters in the central regions and up to 2,100 meters in the eastern parts of the country. The climate is predominantly arid to semi-arid, with hot temperatures and irregular rainfall patterns (World Bank 2021).

The population of Somaliland is culturally homogeneous, with all residents speaking the Somali language and practicing Islam. Society is organized into clans and sub-clans, which play a significant role in the social and political structure. The strong, close-knit family ties and clan affiliations are central to Somaliland's social fabric. Further, accurate estimates of Somaliland's population size and distribution are limited due to the lack of comprehensive census data. However, for planning purposes, various estimates have been developed. According to a report by the United Nations Population Fund (UNFPA 2014), Somaliland's population was estimated at 3.6 million. Assuming an annual growth rate of 2.93%, the Ministry of Planning and National Development (MoPND) projected the population to reach approximately 4.68 million by 2023 (UNFPA, 2014; MoPND, 2023).

Somaliland gained independence from Britain on June 26, 1960. Shortly thereafter, on July 1, 1960, it united with Italian Somalia—a territory under a U.N.-mandated Italian Trusteeship—to form the Somali Republic. Following a period of civil unrest and the collapse of the central Somali government in the late 1980s and early 1990s, Somaliland redeclared its independence on May 18, 1991. This decision was made during the Congress of the Council of Clan Elders, held in Burao from April 27 to May 15, 1991 (Hagmann & Hoehne, 2009).

The Republic of Somaliland's independence was constitutionally affirmed on May 31, 2001, through a national referendum on its constitution, which was approved by 97% of voters (Cohen, 2008). Since then, Somaliland has conducted several elections: three local municipal elections (2002, 2012, and 2021), two parliamentary elections (2005 and 2021), and three presidential elections (2003, 2010, and 2017) (International Crisis Group, 2018).

The governance structure of Somaliland is a democratic system with a multi-party framework. The administrative structure consists of three branches: the Judiciary, the Legislature (comprising the House of Elders and the House of Representatives), and the Executive (headed by the President and his appointed Council of Ministers) (Mohamoud, 2017).

1.1.3. Poverty and Economic Overview

Somaliland faces significant economic challenges, characterized by high levels of poverty and limited economic activity. The lack of recognition as an independent state hampers its ability to attract foreign investment and engage in international trade, exacerbating economic difficulties (World Bank, 2021).

Somaliland's extreme poverty rate is estimated at 52.7%, with notable disparities among different population groups: 49.9% in urban areas, 55.3% among internally displaced persons (IDPs), and 62.9% in rural regions (UNDP, 2018). Although Somaliland was unranked in the latest Human Development Index (HDI) due to data limitations, it remains among the lower tiers globally in terms of human well-being (UNDP, 2020).

The economy is heavily reliant on livestock, which constitutes about 28% of the GDP and provides employment for a significant portion of the workforce (MoPND, 2012). From 2012 to 2019, real GDP growth averaged 2.6% annually, although it contracted by 1% in 2017 due to reduced livestock exports (MoPND, 2020). In 2019, Somaliland's GDP was approximately $2.8 billion, with a GDP per capita of $682 (MoPND, 2020).

Somaliland's economy is predominantly informal, with many people engaged in small-scale businesses such as trading and livestock farming. The economy is dominated by international trade networks managed by a small group of affluent entrepreneurs (World Bank, 2021). Despite these challenges, the private sector has shown resilience, particularly in telecommunications, livestock, and fisheries (International Crisis Group, 2019). The Somaliland Diaspora has been instrumental in supporting the economy through remittances and investment in local businesses. This financial inflow has contributed to the development of a sophisticated banking system and has enabled the growth of various sectors, including telecommunications and services, with investments from countries such as China, South Korea, and several European nations (Menkhaus, 2020).

1.1. health system Overview

Somaliland's health system has faced substantial challenges, primarily due to inadequate resources and infrastructure. Reproductive health services, in particular, are heavily dependent on the overall adequacy and availability of health services, which have been hindered by a fragmented and largely privatized healthcare system and primarily concentrated in major urban centers. (World Health Organization, 2020). Many regions lack access to basic health services, with some areas experiencing a complete absence of higher-level care (MoH Somaliland, 2021).

Initially, health services were provided by unskilled professionals under challenging conditions. Over time, improvements have been made in facility reconstruction and system rebuilding. Despite progress, the health sector continues to rely heavily on the private sector for health services, while public Maternal and Child Health Centers (MCHs) remain crucial but underfunded (International Crisis Group, 2019). Key issues affecting the health system in Somaliland include:

1. Governance and Leadership

There is a need for stronger governance structures and leadership in the health sector (World Health Organization,2020)

2. Human Resources

There is a significant shortage of qualified health professionals, such as medical doctors and midwives, particularly in rural areas. Most health workers are concentrated in urban areas, and those in rural areas are often inadequately trained and poorly compensated (MoH Somaliland, 2021).

3. Service Provision and Efficiency

The health system suffers from inefficiencies in service delivery, irregular supply of medicines and vaccines, and a lack of a robust health financing system (World Bank, 2021).

4. Limited health financing

The Somaliland Government's annual health budget constitutes only 6.14% of the overall national budget, illustrating the severe financial constraints facing the sector (MoF Somaliland, 2022).

1.1.1. Child Health and Nutrition Status in Somaliland

Child health and nutrition are essential for a child's development, well-being, and survival. In Somaliland, critical issues affecting child health include limited access to healthcare, low vaccination rates, and poor education on hygiene and sanitation. According to the Somaliland Health and Demographic Survey 2020, only 13% of children aged 12-23 months have received all basic vaccinations, with 30% receiving the BCG vaccine and only 15% vaccinated against polio and measles. These low vaccination rates highlight challenges such as limited healthcare access, logistical issues, and caregiver awareness. Common health problems include acute respiratory infections in 3% of children under five and fever in 6% in the two weeks preceding the survey. Additionally, 4% experienced diarrhea, but only 2% received healthcare advice or treatment, indicating barriers to care access. Sanitation practices need improvement, with only 49% of children under five having their stools disposed of safely (UNFPA, 2020).

The nutritional status of children in Somaliland is also concerning, influenced by factors such as low household income and severe droughts in recent years. The SLHDS 2020 indicates that 21% of children under five are moderately stunted, and 10% are severely stunted. Furthermore, 13% of children under five are wasted, with 7% severely wasted, and 14% are underweight, with 6% severely underweight (UNFPA, 2020).

1.2. SITUTATION OF IDPs IN SOMALILAND

According to the United Nations Guiding Principles on Internal Displacement, IDPs are individuals or groups forced to flee their homes due to armed conflict, generalized violence, human rights violations, or natural or man-made disasters, without crossing an internationally recognized border (UNHCR, 2010).

Accurate figures for IDPs can be challenging to determine due to the fluctuating nature of displaced populations. Estimates suggest that Somaliland hosts over 600,000 IDPs (UNHCR, 2023). The significant increase in the IDP population has been primarily driven by a prolonged drought from 2017 to 2022. This drought led to severe livestock losses and crop failures, severely affecting the livelihoods of nomadic communities and forcing them into displacement as they lost their primary sources of income (FAO, 2022).

IDPs in Somaliland often reside in overcrowded informal settlements or establish new camps on vacant lands, using makeshift shelters made from plastic and cardboard. Some displaced families occupy government buildings but face frequent eviction threats (UNHCR, 2023). Access to essential services, such as water, food, shelter, and sanitation, is a major concern. IDPs also experience marginalization, increased vulnerability to violence, and inadequate protection in these settings (International Organization for Migration, 2021). The challenges faced by IDPs are indicative of the broader socio-economic and security issues affecting displaced populations, highlighting the need for comprehensive humanitarian assistance and development interventions (World Bank, 2021).

1.3. Rationale for conducting mortality survey in IDP camps

Childhood mortality rates are key indicators of a country's socioeconomic development and healthcare quality. They are essential for evaluating health policies, monitoring progress on the National Development Plan, Health Sector Strategic Plan, and the Global Sustainable Development Goals (SDGs). Specifically, SDG 3.2.1 aims to reduce under-five mortality to below 25 per 1,000 live births by 2030, while SDG 3.2.2 targets reducing neonatal mortality to below 12 per 1,000 live births (United Nations, 2020). On the other hand, updated and official statistics on childhood mortality in Somaliland are lacking. The most recent estimates come from the Multi Indicator

Cluster Survey (MICS) conducted in 2011. The Somaliland Health and Demographic Survey (SLHDS) 2020 did not include a chapter on child mortality due to significant data underreporting (UNICEF, 2011; UNFPA, 2020). Besides, the increase in Internally Displaced Persons (IDPs) due to prolonged drought has heightened the need for humanitarian assistance and evidence-based interventions. Tracking the movement patterns of nomadic populations, including their migration into IDP camps, is crucial for accurate census enumeration and effective intervention planning.

To address these challenges, UNFPA supported the Somaliland government through the Central Statistics Department in conducting a mortality survey in IDP camps. The survey aims to:

- Assess child mortality rates and related indicators to inform national development planning and health interventions
- Analyze the migration patterns of nomadic populations into IDP camps to improve census methodologies and humanitarian responses.
- Provide detailed information on the composition and needs of IDPs, particularly in the context of recent drought impacts, to better target humanitarian efforts and support.

2 METHODOLOGY AND SCOPE

2.1.SAMPLE DESIGN AND IMPLEMENTATION

2.1.1. SAMPLE DESIGN

The mortality survey targeted ever-married women of reproductive age (15-49 years) residing in residential households within urban IDP camps in Somaliland. Given that this population is concentrated in residential areas, the survey was designed as a household-based study. It aimed to cover 3,350 randomly selected households in enumeration areas (EAs) from IDP camps in Hargeisa and Burao, two major cities in Somaliland.

To ensure the sampling frame was current, the enumeration areas (EAs) from the Somaliland Health and Demographic Survey (SLHDS) 2020 were thoroughly reviewed and updated. The GIS team pre-survey digitized the structures of IDP camps to identify their type and size, and subsequently delineated the EA boundaries based on the number of households.

2.1.2. Sample Size considerations

In survey methodology, a larger sample size generally improves precision; however, several factors influence the optimal sample size, including desired precision, survey budget, the number of design domains, and data quality. The Demographic and Health Surveys (DHS) methodology recommends a minimum of 800 completed interviews for key indicators in high-fertility countries, such as total fertility rate, contraceptive prevalence rate, and childhood mortality rates (ICF International, 2015). For the Somaliland mortality survey, which had a single design domain (city/region), a total of 1,675 households were allocated to each selected city/region to ensure adequate precision at the domain level. This resulted in a total sample size of 3,350 households across 134 enumeration areas (EAs).

2.1.3. SAMPLING

The survey employed a two-stage cluster sampling design. In the first stage, 67 Primary Sampling Units (PSUs), or Enumeration Areas (EAs), were selected from IDP camps in each of the chosen cities, ensuring an equal proportion of EAs per city to maintain comparability across regions. This resulted in a total of 134 EAs being chosen. Household listing was performed in each sampled EA to record the number of households and to administer a brief questionnaire. This questionnaire gathered information on nomadic characteristics, including their places of origin, to better understand nomadic movement into IDP camps. The household lists from each EA served as the sampling frame for the second stage. In the second stage, 25 households were systematically selected from each of the 67 PSUs using a random selection process facilitated by an Excel-based template. All eligible ever-married women of reproductive age (15-49 years) residing in these households were interviewed.

2.1.4. Calculation of Weights

Two types of weights were computed for the survey: the design weight and the survey weight. The design weight represents the inverse of the probability of selecting a household unit for the survey. The survey weight, on the other hand, adjusts the design weight to account for non-response. The process for calculating these weights involved the following stages and steps:

First Stage: Selection of PSUs from the selected cities/region:

let EA_h = number of EAs to be sampled in city h; and HH_{hi} = number of households for EA_i in city h. The probability of selecting EA_i in city h is $P_{1hi} = EA_h \times HH_{hi} / \sum_{i \in h} HH_{hi}$

Second stage: Selection of 25 households from each EA using random excel sheet template:

let d_h = total number of households to be sampled from EA; D_h = total number of households in the EA;

The probability of selecting households in EA_i is $P_{2hi} = d_h / D_h$,

Then, the overall probability of selecting household in EA i of city h is:

$P_{3hi} = P_{EAi} \times P_{hi}$

The design weight for each household in EA_i of city h is the inverse of its overall selection probability: $DW_{hi} = 1/ P_{3hi}$

Third stage: adjustment for response rate and computation of final survey weight for households and Ever-married women:

Step one: Enumeration Area (EA) level response rate:

Let n_h be the number of EA selected in city h (stratum); let f_h be the number of EAs interviewed. The EA level response rate in city h is; $R_h^{EA} = f_h / n_h$

Step two: Household level response rate and household le final survey weight:

Let dhj be the number of households sampled in EAj of city h; let mhj be the number of households interviewed in the EAj, then the household level response rate in city h is calculated by;

$$R^{HH} = \sum_{h} DW_{hi} m_{hi} / \sum_{i=1}^{n_h} DW_{hi} d_{hi}$$

where DWhi is the design weight of EAi in city h (Strata); the summation is over all EAs in the city h.

Weight for household level response rate in EAi of city h is;

$$RW_{hi} = 1/ (R_h^{EA} x R_h^{HH})$$

The household level final survey weight of EA j in city h is calculated by multiplying the household design weight by household response rate weight for each of the sampling EA:

$$W_{hi} = DW_{hi} RW_{hjj}$$

Step Three: Ever married women level response rate and ever-married women level final survey weight

Let khj be the number of eligible ever-married women aged 15 to 49 in EAj of city h; let Shj be the number of eligible ever-married women aged 15 to 49 interviewed in the EAj, then ever-married women level response rate in city

h is calculated by;

$$R^{EMW} = \sum_{h} DW_{hi} s_{hi} / \sum_{i=1}^{n_h} DW_{hi} k_{hi}$$

where DWh i is the design weight of EAi in city h (Strata); the summation is over all EAs in the city h.

Weight for ever-married women level response rate in EAi of city h is;

$$RW_{hi}^{EMW} = 1/ R_h^{EMW}$$

Fourth Stage: Normalization of final Survey weights

Final weights for both households and ever-married women were normalized to ensure that the total number of unweighted cases matches the total number of weighted cases at the national level. The normalization process involves adjusting the weights to accurately represent the surveyed population.

2.2. QUESTIONNAIRE DESIGN

The IDP mortality survey utilized three types of questionnaires: the Household Listing Questionnaire, the Household Questionnaire, and the Ever-Married Women Questionnaire.

1. **Household Listing Questionnaire:** This brief, stand-alone questionnaire was used during the initial listing phase to gather information on nomadic characteristics in IDP camps, including places of origin. This data helped in understanding nomadic movements into the camps.
2. **Household Questionnaire:** Designed to capture detailed information about each selected household, this questionnaire provided essential data for the survey.
3. **Ever-Married Women Questionnaire:** This questionnaire was specifically developed to interview all eligible ever-married women within each household.

The questionnaires were adapted and updated from standard Demographic and Health Survey (DHS) instruments, incorporating input from stakeholders and field experts. They were translated into Somali and implemented on the computer-Assisted Personal Interviewing (CAPI) platform developed using CSPro. Prior to full deployment, the questionnaires underwent field pretesting to ensure they effectively captured the required information.

2.3. RECRUITMENT AND TRAINING OF Field staff

UNFPA, P & D experts, conducted a Training of Trainers (TOT) session.

This was followed by training for 39 enumerators and
13 supervisors in Hargeisa, with each group receiving three days of instruction. The training focused on data collection tools, the computer-Assisted Personal Interviewing (CAPI) platform, sampling procedures, and GPS usage for locating enumeration areas (EAs). Field staff were selected from the Central Statistics Department (CSD) of Somaliland, prioritizing individuals with sufficient experience, particularly those who had previously participated in the Somaliland Health and Demographic Survey (SLHDS) 2020. This ensured that the team was well-equipped to handle the complexities of the household survey. There was a field pressing as well to assess the effectiveness of the tools and sampling procedures. Continuous assessments were conducted through in-class evaluations and field pretests. The selection of supervisors was based on their performance in these assessments, ensuring that only the most capable individuals were chosen.

2.4. FIELDWORK PROCESS

Field data collection for the survey was conducted in December 2022, simultaneously in both regions. Thirteen field teams carried out the work, each consisting of one supervisor, three enumerators, and a driver. Additional data quality controllers, including GIS staff and regional coordinators, were involved in overseeing and coordinating the field activities.

Before conducting the mortality survey, which focused on interviewing ever-married women aged 15-49, field teams listed all households within the sampled Enumeration Areas (EAs). They also administered a brief questionnaire to gather information on nomadic characteristics and movement into IDP camps. Data collected using the computer-Assisted Personal Interviewing (CAPI) platform was uploaded to the server daily to ensure real-time monitoring.

2.5. DATA PROCESSING AND ANALYSIS

Data processing for the mortality survey commenced immediately after fieldwork was completed. The technical team from the Somaliland Central Statistics Department (CSD) worked in collaboration with UNFPA experts to manage this phase. Prior to data processing, a detailed tabulation plan was developed, specifying the layout and content of each table based on the survey questionnaire. Electronic files collected in CSPro format were downloaded and then imported into SPSS for processing. The data processing steps included:

- Harmonization: Variable properties were standardized, and all data files were combined into respective datasets.
- Weight Computation: Final weights for households and ever-married women were calculated and incorporated into the dataset.
- Data Cleaning: Basic data exploration was conducted, followed by cleaning, editing, and imputation of missing values.

Variable Generation: Key secondary variables were created as needed.

The final processed data was then used to generate survey tables, which were instrumental in producing the IDP Mortality Survey report.

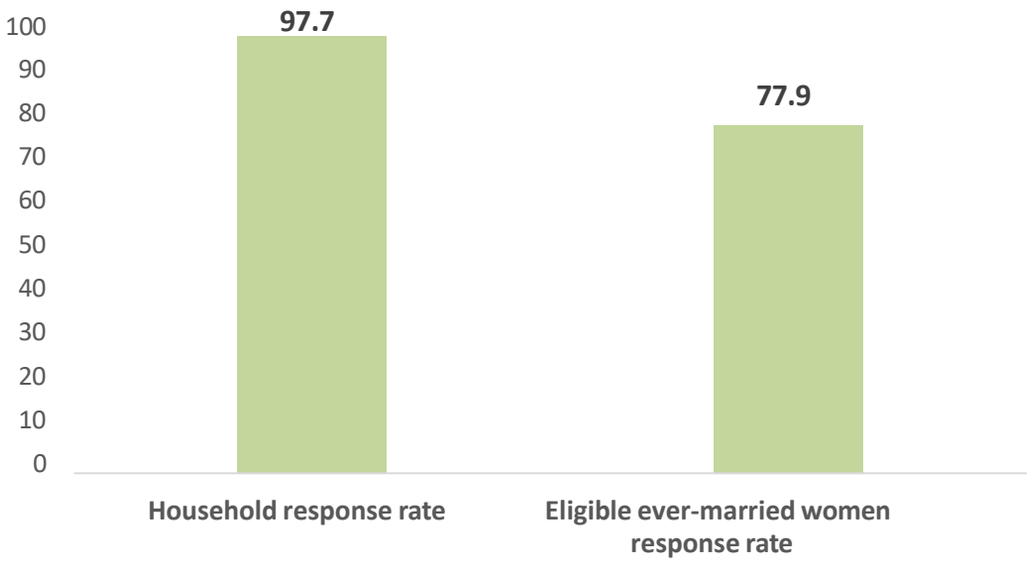
2.6. RESPONSE RATE

The survey data in Table 2.1 and figure 2.1 highlights response rates for both household and individual interviews, providing insights into participant engagement and data quality. Out of 3,350 selected households, 3,274 successfully completed the survey, resulting in a high household response rate of 97.7%. This suggests effective survey implementation and strong participation from the households. In contrast, the individual interviews with ever-married women aged 15-49 showed a lower response rate. Among the 2,571 eligible women identified within the households, only 2,003 were interviewed, leading to a response rate of 77.9%. This discrepancy suggests potential challenges such as availability or willingness to participate among this demographic, which may need to be addressed in future surveys. Overall, the high household response rate indicates reliable data collection, while the lower rate among ever-married women suggests areas for improvement to ensure comprehensive representation in this subgroup.

Table 1: Response rate for household and individual interviews

Result	Total
Household interviews	
Household selected	3,350
Household interviewed	3,274
Household response rate	97.7
Interviews with ever-married women aged 15-49	
Number of eligible ever-married women 15-49	2,571
Number of eligible ever-married women 15-49 interviewed	2,003
Eligible ever-married women response rate	**77.9**

Figure 2. 1: Response rate for household and individual interviews



3 DEMOGRAPHIC CHARACTERISTICS

3. DEMOGRAPHIC CHARACTERISTICS

Internally Displaced Persons (IDPs) in Somaliland constitute a significant and vulnerable segment of the population, primarily displaced due to climatic shocks, and socio-economic instability. The displacement crisis has led to an increase in the number of individuals living in temporary or informal settlements, often with limited access to basic services and resources (Internal Displacement Monitoring Centre (IDMC, 2022).

Literature on displaced populations reveals that IDPs frequently have distinct demographic characteristics compared to the general population. The United Nations High Commissioner for Refugees (UNHCR) has noted that displaced populations often include a higher proportion of women and children, reflecting global patterns where women and children are disproportionately affected by displacement crises (UNHCR, 2021). This demographic imbalance is particularly evident in conflict and emergency situations, where women and children are more likely to be displaced due to their increased vulnerability (Smith & Vaux, 2020). Studies highlight the significance of understanding the age and sex distributions within IDP communities. The IDMC (2022) emphasizes that displaced populations often have a skewed age structure, with a higher proportion of children and youth compared to stable populations. This results in a higher dependency ratio, as younger age groups tend to make up a larger share of the IDP population. Additionally, gender imbalances are common, with a notable number of female- headed households due to the absence of men who may be separated, deceased, or migrating (UNHCR, 2021).

Research also indicates variations in household composition among IDPs based on the duration and causes of displacement. The World Food Programme (WFP, 2022) and the International Organization for Migration (IOM, 2021) report that IDP households often have larger sizes and multiple dependents, which can strain resources and complicate the delivery of humanitarian assistance. The increased number of dependents in these households further exacerbates the challenges faced by displaced families. Educational attainment and school attendance ratios among IDPs are areas of concern. UNICEF (2023) has documented that displaced children and youth frequently encounter barriers to accessing education, including inadequate infrastructure, financial constraints, and interruptions in schooling. These barriers contribute to lower literacy rates and educational attainment levels within displaced communities (World Bank, 2022).

The demographic profile of IDPs in Somaliland is influenced by a range of factors including age, sex, household composition, and educational access. Understanding these characteristics is crucial for developing targeted interventions and policies to address the specific needs of displaced populations and facilitate their integration into stable environments. Therefore, this chapter provides a comprehensive analysis of the demographic characteristics of Internally Displaced Persons (IDPs) in Somaliland for mortality survey in 2023.

Understanding the demographic profile of IDPs is crucial for assessing their needs and designing effective interventions. This chapter explores key aspects such as age distribution, sex ratios, household composition, and educational attainment, providing insights into the socio-economic conditions of this vulnerable population.

By providing a detailed demographic overview, this chapter aims to inform policymakers, humanitarian organizations, and researchers about the specific needs and challenges faced by IDPs in Somaliland.

The insights gained from this data will be instrumental in shaping effective strategies to improve the quality of life and ensure the well-being of the displaced populations

3.1. SURVEY POPULATION BY AGE AND SEX

The table 3.1. presents percentage distributions among IDPs in Somaliland segmented by age groups and gender (male and female). Additionally, it provides insights into dependency age groups, child and adult populations, and the adolescent population. The result reveals a youthful demographic structure in Somaliland IDPs.

The largest age group is 5-9 years, comprising 18.1% of males and 16.7% of females, reflecting a significant proportion of children and early adolescents as indicating by figure 3.1. This trend continues through the 0-14 age range, which makes up 47.6% of the total population. Males are more predominant in the younger age groups, while the adult age groups (15-64) see a more balanced distribution between the sexes. Females outnumber males in several adult age groups, particularly from 35 to 64 years, likely due to gender-specific life expectancy differences. The data also shows that a small segment of the population is elderly (65+), comprising only 2.8% overall.

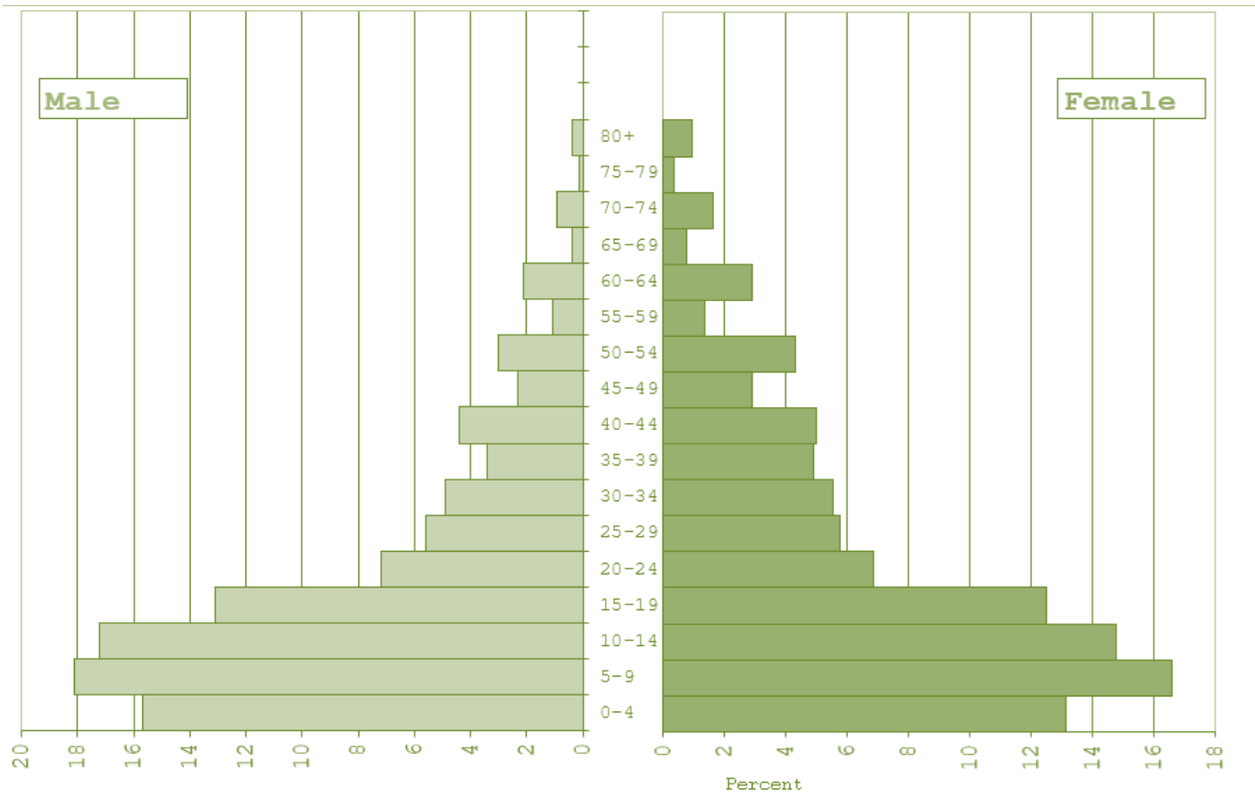
The high percentage of individuals in the younger age groups indicates a youthful population that will require substantial investment in education, healthcare, and infrastructure. Meanwhile, the small proportion of elderly suggests a low dependency burden from this age group at present, though this may increase over time. The overall demographic trends highlight the importance of policies targeting youth development and education to accommodate future population growth.

Table 3: Percentage distribution of household population by age, sex and residence

	Sex		
Age	**Male**	**Female**	**Total**
<5	15.8	13.1	14.3
5-9	18.1	16.7	17.3
10-14	17.3	14.7	15.9
15-19	13	12.4	12.7
20-24	7.2	6.8	7
25-29	5.6	5.8	5.7
30-34	5	5.5	5.
35-39	3.4	4.9	4.2
40-44	4.4	5	4.7
45-49	2.3	2.9	2.6
50-54	3	4.3	3.7
55-59	1.1	1.3	1.2
60-64	2.1	2.9	2.5
65-69	0.4	0.8	0.6
70-74	1	1.6	1.3
75-79	0.1	0.3	0.2

80+		**0.4**	**0.9**	**0.7**
Total		100.0	100.0	100.0
Dependency Age Groups	0-14	51.2	44.4	47.6
	15-64	46.9	51.9	49.5
	65+	1.8	3.7	2.8
Total		100.0	100.0	100.0
Child and adult populations	0-17	59.5	52.7	55.9
	18+	40.5	47.3	44.1
Total		100.0	100.0	100.0
Adolescents 10-19		30.3	27.2	28.7
Number of persons		8,693	9,746	18,439

Figure 3. 1: Population pyramid



3.2. HOUSEHOLD COMPOSITION

The table 3.2 on household composition among Internally Displaced Persons (IDPs) in Somaliland reveals significant trends in headship and household size across the regions of Maroodijeh and Togdheer. Female-headed households are predominant, accounting for 71.8% of households overall. This trend is more pronounced in Togdheer, where 80% of households are led by females, compared to 65.3% in Maroodijeh. Male-headed households make up only 28.2% overall, with Maroodijeh having a slightly higher proportion (34.7%) than Togdheer (20%). This gender distribution may reflect the socio-economic and cultural dynamics affecting IDP communities, including displacement impacts that could necessitate increased female leadership in households. Household size also varies between regions, with large households (9+ members) being particularly common, especially in Maroodijeh, where they constitute 33.3% of the population. This prevalence suggests a strong presence of extended family living arrangements, which could be influenced by cultural practices or economic necessity. The mean household size is larger in Maroodijeh (7.3 members) compared to Togdheer (6.3 members), resulting in an overall

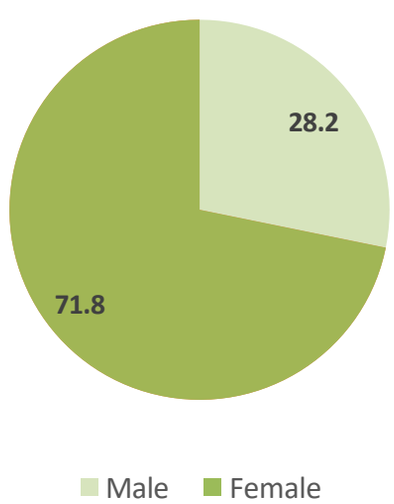
average of 6.9 members. These findings highlight the need for tailored policies and social services that address the unique needs of these IDP communities, with a focus on supporting female- led households and accommodating larger family units.

The regional differences underscore the importance of understanding local dynamics to effectively plan interventions and provide adequate support.

Table 3.2: Percentage distribution of household composition by region

Background characteristics	Region		Total
	Maroodijeex	Togdheer	
Household headship			
Male	34.7	20.0	28.2
Female	65.3	80.0	71.8
Total	100.0	100.0	100.0
Number of usual members			
1	0.8	1.8	1.2
2	1.6	3.3	2.3
3	5.0	6.9	5.8
4	9.0	12.8	10.5
5	10.6	16.5	13.0
6	11.9	17.1	14.0
7	15.6	12.8	14.5
8	12.1	8.4	10.6
9+	33.3	20.3	28.0
Total	100.0	100.0	100.0
Mean size of households	7.3	6.3	6.9

Figure 3. 2: Percentage distribution of household headship by gender



3.3. MARITAL STATUS

Table 3.3 on marital status among IDPs in Somaliland shows notable patterns across demographic groups. Overall, 45.8% of the population are married, 5.5% are divorced, 1.8% are abandoned, 6.5% are widowed, and 40.4% have never married. Females exhibit higher rates of divorce and widowhood compared to males, with 8.1% of females divorced and 10.6% widowed, compared to 2.2% and 1.3% respectively for males. Conversely, males have a higher percentage of never-married individuals (51.2%) compared to females (31.9%).

Age significantly influences marital status. Younger age groups, particularly those aged 15–19, are predominantly single, with 92.5% never married. Marriage rates increase with age, peaking in the 35–44 age group, where approximately 77–80% are married. In older age groups, widowhood becomes more prevalent, with 54.2% of individuals aged 80 and above widowed.

Regional differences are modest; Maroodijeh and Togdheer have similar marital distributions, though Togdheer shows slightly higher rates of divorce and widowhood.

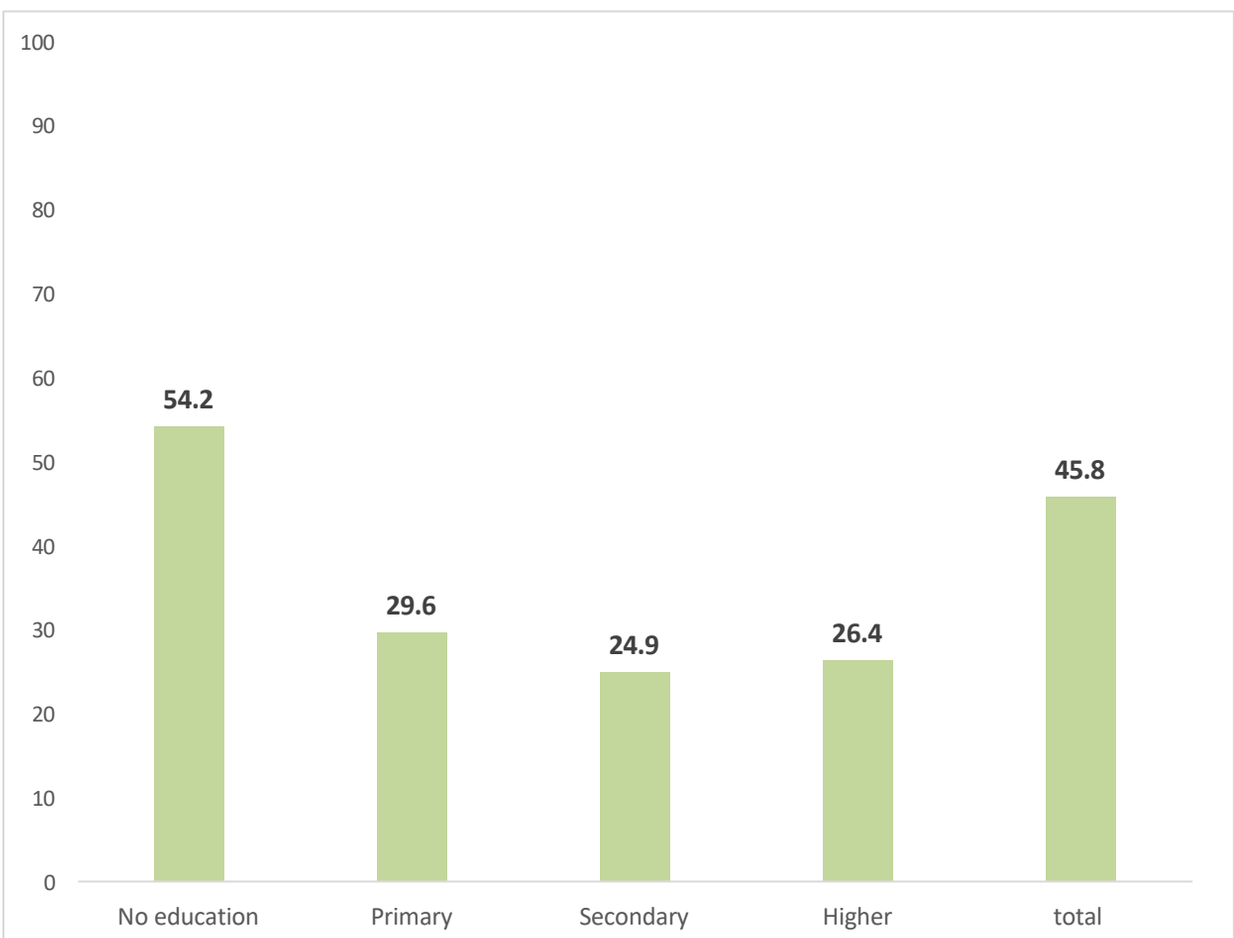
Educational attainment also impacts marital status as indicated by figure 3.3. Individuals with no education have the highest rates of marriage (54.2%) and widowhood (9.2%), while those with higher education levels show lower marriage rates and higher proportions of individuals who have never married. This trend underscores the influence of education on marital patterns and highlights the need for targeted social support to address the diverse needs of different demographic groups within the IDP population.

Table 3. 3: Percentage distribution of Marital status by background characteristics

Background Characteristics	Marital status					Total	Number
	Married	Divorced	Abandoned	Widowed	Never married		
Sex							
Male	44.7	2.2	0.5	1.3	51.2	100.0	4,316
Female	46.6	8.1	2.7	10.6	31.9	100.0	5,518
Age							
15-19	5.8	1.4	0.2	0.2	92.5	100.0	2,395
20-24	26.4	5.5	0.9	0.7	66.5	100.0	1,312
25-29	48.7	6.4	1.1	1.1	42.7	100.0	1,067
30-34	68.6	8.3	0.8	1.4	20.8	100.0	983
35-39	77.9	7.2	1.4	2.6	10.8	100.0	786
40-44	79.5	7.9	1.9	4.2	6.6	100.0	884
45-49	76.1	8.0	1.4	9.5	5.0	100.0	492
50-54	67.1	7.5	4.5	16.4	4.5	100.0	689
55-59	64.7	9.5	4.2	19.5	2.2	100.0	230
60-64	58.5	5.0	5.2	29.2	2.1	100.0	472
65-69	53.7	5.0	3.5	34.6	3.3	100.0	109
70-74	54.7	5.0	6.7	31.8	1.8	100.0	246
75-79	36.0	4.1	12.4	47.5	0.0	100.0	42
80+	31.2	2.7	8.9	54.2	2.9	100.0	128
Region							
Maroodijeex	45.9	4.8	1.5	5.8	42.0	100.0	5,866

Togdheer	45.6	6.5	2.1	7.7	38.1		100.0	3,967
Educational level								
No education		54.2	6.3	2.4	9.2	28.0	100.0	6,582
Primary		29.6	4.9	0.6	1.5	63.4	100.0	1,596
Secondary		24.9	2.1	0.7	0.8	71.4	100.0	1,058
Higher		26.4	2.6	0.0	0.3	70.8	100.0	264
Total		**45.8**	**5.5**	**1.8**	**6.5**	**40.4**	**100.0**	**9,834**

Figure 3. 3: Percentage distribution of married population by level of education



3.4. LITERACY

The literacy rates among IDPs in Somaliland reveal notable disparities based on sex, age, and region as shown by table 3.4. Overall, 51.4% of the population is literate, while 48.6% are illiterate. Males exhibit higher literacy rates at 59.0%, compared to 44.9% for females, highlighting a significant gender gap in educational attainment. Literacy rates also vary widely with age. Young individuals aged 10-14 have the highest literacy rate at 73.0%, whereas older age groups show much lower rates, with only 10.4% of those aged 65 and above being literate. This decline in literacy with age reflects historical educational challenges and underscores the need for targeted adult education programs.

Regional differences further emphasize disparities in literacy. Maroodijeh has a higher literacy rate of 60.6%, whereas Togdheer shows a much lower rate at 38.2%. This suggests significant regional variations in access to and quality of education. Addressing these gaps, particularly the gender disparity and regional differences, will be crucial for improving overall literacy rates and ensuring that educational opportunities are more evenly distributed among the IDP population.

Table 3. 4: Literacy rate by background characteristics

	Literacy			
				Number of persons
Background Characteristic	**Literate**	**illiterate**	**Total**	
Gender				
Male	59	41	100	7,092
Female	44.9	55.1	100	8,301
Age				
9-Jun	52.6	47.4	100	2,586
14-Oct	73	27	100	2,983
15-19	67.8	32.2	100	2,387
20-24	57.2	42.8	100	1,306
25-29	53.8	46.2	100	1,064
30-34	41.8	58.2	100	979
35-39	32.4	67.6	100	780
40-44	30.3	69.7	100	883
45-49	30.6	69.4	100	491
50-54	24.4	75.6	100	686
55-59	25	75	100	230
60-64	15.9	84.1	100	471
65+	10.4	89.6	100	522
Region				
Marodijeex	60.6	39.4	100	9,072
Togdheer	38.2	61.8	100	6,322
Total	**51.4**	**48.6**	**100**	**15,393**

Figure 3. 4: Literacy rate

3.5. EDUCATIONAL ATTAINMENT

As shown in table 3.5, the educational attainment of male for Internally Displaced Persons (IDPs) in Somaliland reveals significant variations by age and region. Among younger males aged 6-14, there is a notable emphasis on early education, with the majority having completed some primary education. As males progress into their teenage years (15-19), educational attainment improves, with many having completed some secondary education, reflecting a median of 8.0 years of schooling. However, older age groups, particularly those over 40, show a decline in educational attainment, with many having only completed some primary education or none at all.

Regional differences also highlight disparities in educational access. Males in Maroodijeh have a median of 7.0 years of schooling, with a higher percentage having completed secondary education compared to Togdheer, where the median is lower at 5.0 years. Togdheer exhibits a higher proportion of males with no education, indicating a need for targeted educational interventions in this region. Overall, the median years of education for male IDPs is 6.0 years, underscoring the need for continued efforts to enhance educational opportunities and address regional disparities to improve educational outcomes across the IDP population.

Table 3. 5: Educational attainment of the male household population,

Background	No Education	Some Primary	Completed Primary	Some Secondary	Completed Secondary	Higher Education	Don't Know	Total	Number of males	
Age										
9-Jun	46.5	53.5						100	598	1
14-Oct	14	79.5	3.1	3.4				100	1,087	4
15-19	7.6	43.2	13.3	16	17.7	1.9	0.2	100	720	8
20-24	2.4	19.8	12.9	11.1	38.2	15.1	0.4	100	351	11

25-29	4.5	26.7	8.9	10.7	28.2	19.6	1.6	100	233	11
30-34	6	18.6	13.6	3.9	34.8	22.2	1	100	156	12
35-39	11.2	17	15.9	6.3	31.9	14.6	3.2	100	83	11
40-44	6.5	29.3	19.6	9.4	20.6	6.2	8.4	100	89	8
45-49	24.1	26.9	7.8	2.4	31.4	7.3		100	39	12
50-54	12.6	31.6	15.3	2.2	27.5	6.5	4.5	100	41	8
55-59	4.4	21	24.4	15.4	27.8	4.3	2.7	100	20	8.7
60-64	28.5	24.1	10		21.7	15.7		100	30	11
65+	39.7	18.3	19.9	5.2	6.5	10.4		100	17	8
Region										
Marodijeh	14.2	49.4	7.9	6.8	15.4	5.5	0.7	100	2,435	7
Togdheer	20.6	51.6	7.3	7.4	8.5	4.2	0.3	100	1,026	5
Total	16.1	50.1	7.7	7	13.4	5.1	0.6	100	3,462	6

Table 3. 6: Educational attainment of the Female household population,

Background	No Education	Some Primary	Complete d Primary	Some Secondary	Completed Secondary	Higher Education	Don't Know	*Total*	Number of Females	
Age										
9-Jun	46.4	53.6						100	578	1
14-Oct	17.6	78.2	2.4	1.8				100	915	3
15-19	11.3	46.2	11.9	17.5	11	2.1		100	688	7
20-24	7.7	29.7	14	10.8	21.7	16.1		100	294	9
25-29	11.4	43.7	16.2	6	16.2	5.6	0.8	100	177	7.8
30-34	20.9	41.8	14.9	5.7	6.8	9	0.8	100	111	7
35-39	10.2	51.9	19.6	9.1	3.1	6		100	41	6
40-44	28.5	43.8	9.2		16.1		2.4	100	37	7
45-49	21.9	46.8	17.7	9.8	3.9			100	23	5
50-54	31.9	35.8	15.8		13.2	3.3		100	28	7
55-59	11.8	35.4	23.6		29.2			100	7	8
60-64	7	42.2	11.9		38.8			100	12	8
65+		100						100	0	7
Region										
Marodijeh	20.7	54.3	7.3	7.1	7.1	3.4	0.1	100	1,980	5
Togdheer	20.8	58.4	7.4	5.4	5.8	2	0.2	100	932	5
Total	20.7	55.7	7.3	6.6	6.7	2.9	0.1	100	2,913	5

4 MATERNAL DEMOGRAPHICS

4. MATERNAL DEMOGRAPHICS (EVER MARRIED WOMEN 15-49)

Somaliland faces numerous challenges in addressing maternal health, particularly within its IDP camps. These camps, which have arisen due to conflict, drought, and other humanitarian crises, are home to thousands of women who face unique obstacles related to health care access, education, and overall well-being.

Women in IDP camps often have limited access to healthcare facilities due to geographical, economic, and infrastructural barriers. The lack of skilled birth attendants and essential medical supplies significantly contributes to higher maternal and infant mortality rates (World Health Organization, 2020). Educational opportunities for women, particularly those in IDP camps, are limited, resulting in lower literacy rates and reduced awareness of health practices (UNICEF, 2020). High fertility rates and closely spaced pregnancies are common among women in Somaliland's IDP camps, increasing the risks associated with childbirth. Traditional cultural norms and limited access to family planning services further exacerbate these patterns (UNFPA, 2019).

Improving maternal health in Somaliland's IDP camps is crucial for enhancing the overall health and well-being of families. By focusing on education, healthcare access, and reproductive health, strategies can be developed to reduce maternal and child mortality rates, contributing to better long-term outcomes for these communities (Save the Children, 2021). This chapter presents the maternal characteristics of surveyed ever-married women aged 15–49 in IDP camps, including distributions of educational levels, literacy rates, and reproductive patterns. These results are instrumental in understanding the overarching challenges addressed in this report and in crafting appropriate strategies to reduce mortality rates among mothers and their children.

Table 4.1 This section provides an overview of the age distribution of women of reproductive age, focusing on both ever-married and never-married women aged 15–49 within the surveyed households. The majority of these women (57%) were under the age of 30, with those aged 15–19 alone constituting 28% of the group. As age increases, the proportion of ever-married women rises, while the proportion of never-married women declines.

Table 4. 1: Age distribution of women of reproductive age

	Ever married Women			Never married women			All women		
Background characteristic	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Weighted number
Age									
15-19	5.3	136	139	63.7	1,105	1,065	28.8	1,241	1,204
20-24	12.5	323	322	20.4	355	373	15.7	678	695
25-29	16.2	418	417	8.9	154	147	13.3	572	564
30-34	19.0	489	478	3.5	61	64	12.8	550	542
35-39	17.7	457	464	1.7	30	28	11.3	487	492
40-44	18.6	479	463	0.9	16	12	11.5	495	475
45-49	10.6	273	288	0.9	15	12	6.7	288	300
Total 15-49	100.0	2,575	2,571	100.0	1,736	1,701	100.0	4,311	4,272

4.2. SCHOOL ATTENDANCE AND ATTAINMENT OF WOMEN OF REPRODUCTIVE AGE

Table 4.2 and Figure 4.1 present a detailed distribution of educational attainment among ever-married women aged 15-49, categorized by age. Overall, 84% of these women have never attended school. The data indicate an increase in the proportion of women with no schooling, rising from 63% in the youngest age group to 93% in the oldest age group.

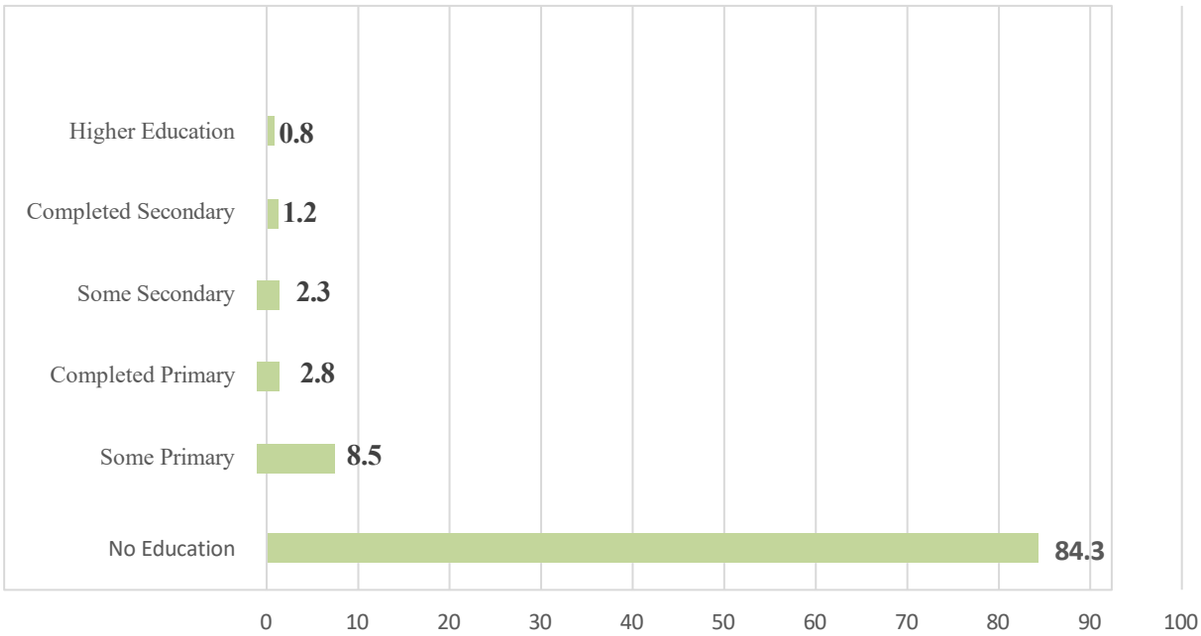
Women aged 15-19 have the highest proportion of school attainment, with 20% having reached some primary level, while women aged 20-24 have the highest proportion of attainment at some secondary level, at 8%.

Table 4. 2: Educational attainment of women of reproductive age.

Background characteristic		Educational attainment of the household members								
		No Education	Some Primary	Completed Primary	Some Secondary	Completed Secondary	Higher Education	Total	Median years completed	Number of women
15-24	15-24	66.9	15.4	6.6	6.3	3.1	1.8	100.0	0.0	468
Age	15-19	63.2	21.0	5.7	5.3	4.2	0.6	100.0	0.0	166
	20-24	68.9	12.3	7.0	6.9	2.5	2.4	100.0	0.0	302
	25-29	84.5	8.8	2.6	2.7	1.3	0.1	100.0	0.0	360
	30-34	86.6	8.5	1.9	1.0	0.7	1.4	100.0	0.0	391
	35-39	93.9	4.8	1.1	0.1	0.1	0.0	100.0	0.0	399
	40-44	93.3	4.6	0.9	0.0	1.1	0.0	100.0	0.0	258
	45-49	93.0	2.5	1.3	2.3	0.0	0.8	100.0	0.0	128
15-49	15-49	84.3	8.5	2.8	2.3	1.2	0.8	100.0	0.0	2,003

1 Completed X grade at the primary level
2 Completed Y grade at the secondary level

Figure 4. 1: Educational attainment of women of reproductive age (%)



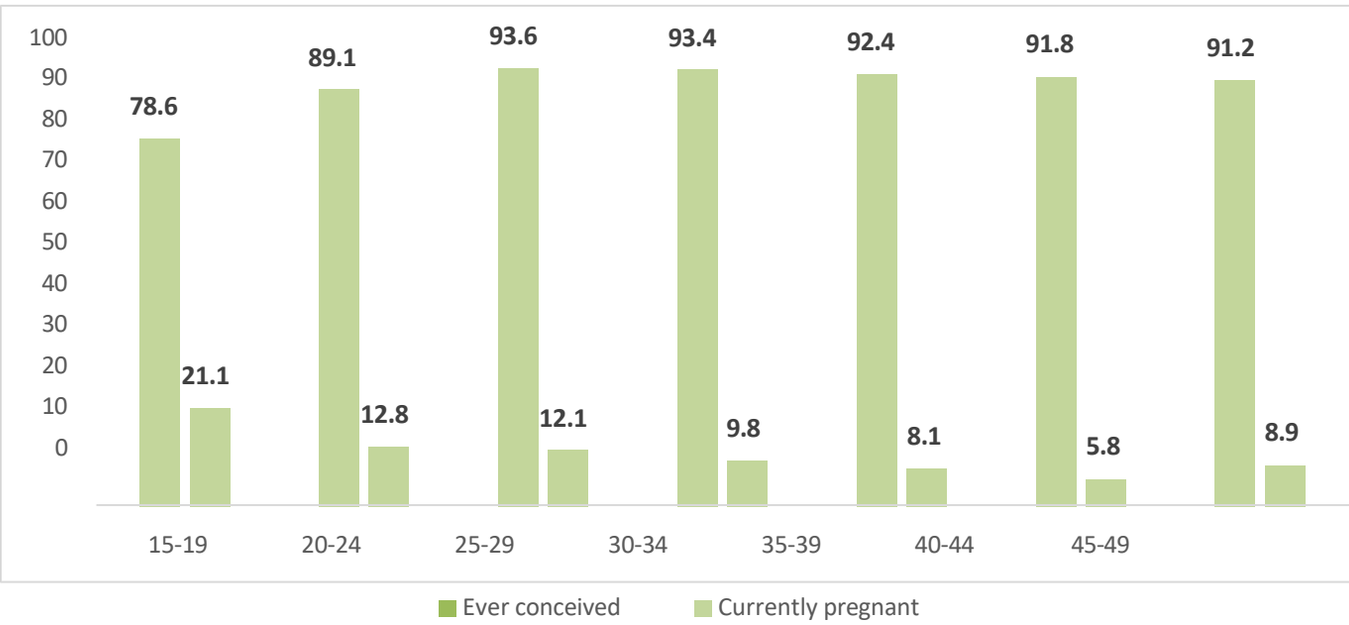
4.3. CONCEPTION AND PREGNANCY STATUS

Table 4. Table 4.3 shows the percentage of ever-married women aged 15–49 who have ever conceived and the percentage who are currently pregnant, categorized by age. The overall conception rate is 91%, while the rate for young adults aged 15–24 is 85%. The 25–29 age group records the highest conception rate at 94%, whereas the 15–19 age group has the lowest rate, at 79%. However, there is not much variation between age groups. The current pregnancy rate for all ever-married women aged 15-49 is approximately 11%, with the highest proportion of current pregnancies (21%) in the 15-19 age group. These results suggest a high fertility rate within the population in IDP camps, with a significant number of women experiencing pregnancy at a young age.

Table 4. 3: Conception and pregnancy status

Background characteristic		Ever conceived	Currently pregnant	Total women aged 15-49
15-24	15-24	85.4	15.7	468
Age	15-19	78.6	21.1	166
	20-24	89.1	12.8	302
	25-29	93.6	12.1	360
	30-34	93.4	9.8	391
	35-39	92.4	8.1	399
	40-44	91.8	5.8	258
	45-49	91.2	8.9	128
15-49	15-49	91.0	10.7	2,003

Figure 4. 2: Pregnancy and conception by age



4.4. BIRTHS (LIVING WITH THE MOTHER, LIVING ELSEWHERE AND DECEASED)

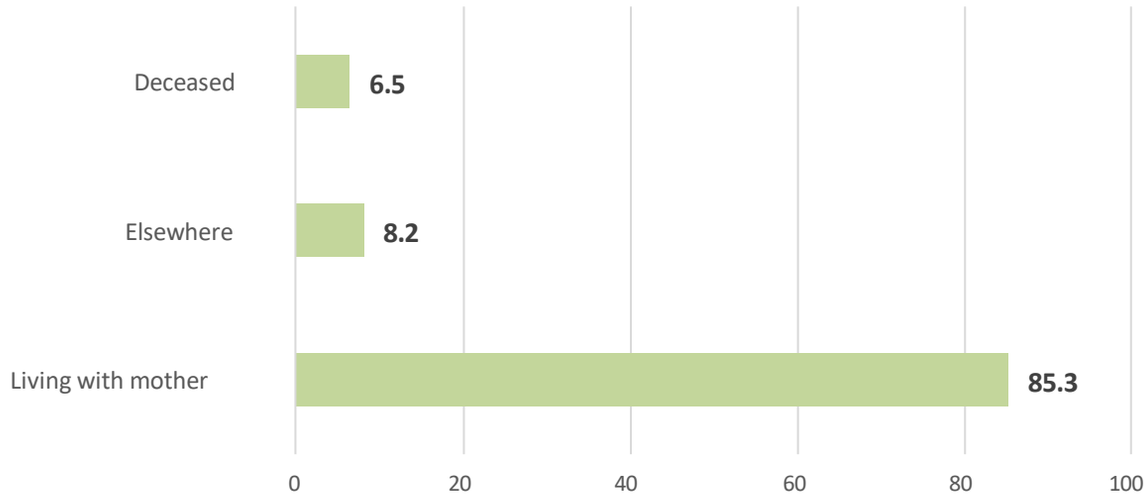
Table 4.4 illustrates the living situations of children born to women aged 15–49 in the IDP communities of Somaliland. The table shows the percentage of children ever born to these women, categorized as currently living with their mother, living elsewhere, or deceased. Overall, 85.3% of children live in their mothers' households, 8.2% reside elsewhere, and 6.5% are deceased. This indicates that the majority of children live at home, a smaller segment lives away, and a notable proportion have died, reflecting varied family dynamics and child welfare conditions.

Among mothers aged 15–19, 89.4% of children live in the household—the highest percentage observed—which gradually decreases to 76.6% for mothers aged 45–49. Conversely, the percentage of children living elsewhere increases with the mother's age, from 4.6% for the youngest age group to 17.4% for the oldest. Child mortality rates vary across age groups, with the highest rate (7.9%) occurring among mothers aged 40-44. This analysis indicates that as children grow, they are more likely to move out of the maternal home, and child mortality rates do not consistently relate with maternal age, suggesting other influencing factors.

Table 4. 4: Living situation of births

Age	living with Mother	Elsewhere	Deceased	Total	Total births
15-19	89.4	4.6	6.0	100.0	217
20-24	89.1	4.1	6.7	100.0	652
25-29	88.8	6.0	5.2	100.0	1,343
30-34	88.2	4.9	6.9	100.0	1,788
35-39	85.2	8.6	6.2	100.0	1,984
40-44	79.1	13.0	7.9	100.0	1,316
45-49	76.6	17.4	6.0	100.0	581
Total	85.3	8.2	6.5	100.0	7,881

Figure 4. 3: living situation of births reported by mothers



4.5. MULTIPLE MARRIAGES AND BIRTHS IN PREVIOUS MARRIAGE

Table 4.6 presents marital patterns and their potential implications on childbearing within the IDP communities of Somaliland. A relatively small percentage of ever-married women, about 3.3%, have been married more than once. This percentage generally increases with the age of the mother, peaking at 6% for the 35-39 age group.

Table 4. 5: Percentage distribution multiple marriages and births in previous marriage by age

Age of mother	Married more than once	Total women aged 15 to 49
15-24	1.3	468
15-19	0.7	166
20-24	1.6	302
25-29	2.1	360
30-34	4.4	391
35-39	5.6	399
40-44	3.7	258
45-49	2.0	128
15-49	3.3	2,003

5 EVALUATION OF DATA

5. EVALUATION OF DATA

5.1. INTRODUCTION

Age is an important demographic variable, as it is used to describe and analyze population structure and to forecast population growth. It is also a crucial factor in shaping demographic analysis, growth projections, and policy decisions.

However, reporting of age is very susceptible to errors. Some individuals may round their age to a legal significance like voting or marriage age. On the other hand, cultural preferences for specific digits can lead to "heaping" on specific endings like 0 or 5. Ignorance, low numeracy, and data collection issues further complicate accurate age recording. Under-counting young children and exaggerating older ages are also common issues, impacting child mortality indicators and raising concerns about data validity. For instance, the evaluation of the quality and completeness of the 2020 Somali Health and Demographic Survey data, showed that births and infant mortality statistics suffered from severe under-reporting caused by respondents failing to report births and infant deaths.

To ensure accurate data structures and avoid misleading anomalies, demographers have developed and widely used various methods and indices to evaluate age-reporting accuracy. Analyzing age-sex ratios, employing the Whipple's and Myer's Blended Indices, and utilizing the UN Age-Sex Accuracy Index are some common approaches.

In cases where the actual age–sex distribution is atypical due to social or structural factors—such as war or the out-migration of a particular sex or age group—the inaccuracies flagged by evaluative indices should not automatically be considered data errors.

Age heaping and digit preference are phenomena commonly encountered in demographic surveys and censuses, and they can affect the accuracy of age reporting in population data. Here's a brief explanation of each:
Age heaping refers to the tendency of individuals to report their age in rounded numbers, such as multiples of 5 or 10. For example, individuals may be more likely to report their age as 30, 35, or 40 instead of their exact age. Age heaping is often observed in populations with low levels of education or numeracy, where individuals may have difficulty accurately recalling or reporting their age. Digit preference, also known as age reporting bias, occurs when individuals consistently prefer certain digits (usually 0 or 5) when reporting their age. For example, individuals may be more likely to report their age as 30 or 35 instead of 31 or 36. Digit preference can result from cultural or social factors, as well as from rounding errors or inaccuracies in age estimation. Both age heaping and digit preference can distort age distributions and affect the reliability of demographic data, particularly in surveys and censuses where self-reported age is collected.

Demographers and statisticians use various methods to adjust for age heaping and digit preference in population data, such as applying statistical techniques like Whipple's index or Myers' blended index to detect and correct for age misreporting.

Understanding and addressing age heaping and digit preference are essential for improving the accuracy and reliability of demographic data.
Inaccurate age data can lead to:

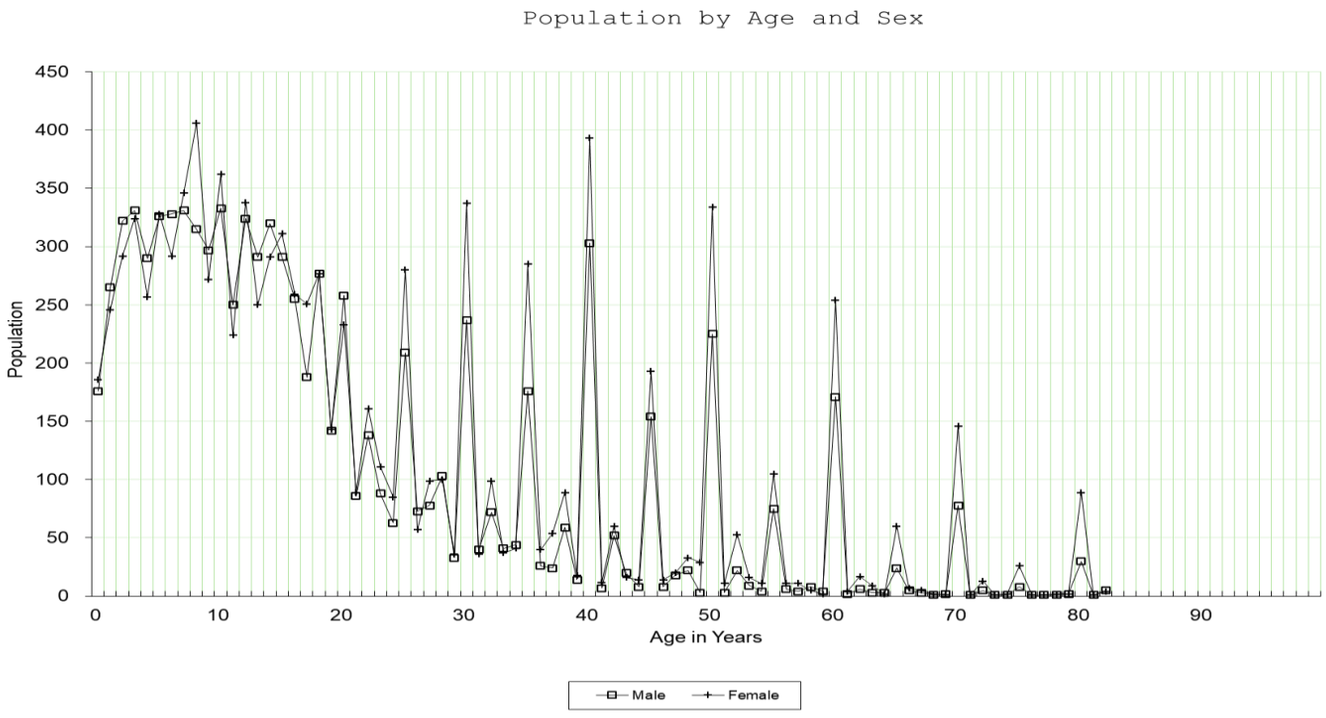
- Misrepresentation of population structure (e.g., underestimation of younger or older populations).
- Difficulty in planning and allocating resources for different age groups (e.g., healthcare, education).
- Challenges in tracking health trends and mortality rates.

5.2.1. Single Year Age and Sex Distribution

To identify the presence of age heaping or digit avoidance in survey data, information on age is plotted in single years. In the absence of drastic changes of fertility and mortality and migration between ages, and assuming that age is accurately reported, it is normal to observe a systematic decline of population numbers. As shown in Figure 5, the age data shows declining numbers but peaks at ages ending in zero and five for both males and females.

The peaks are alternated by dips, resulting from digit avoidance in favor of the preferred digits. Digit preference occurs for most ages ending in 0 or 5—such as 10, 15, 20, 25, up to 90—except for age 5, which shows a dip, indicating an undercount

Figure 5. 1: Population by Age in Single Years



5.2.2. Whipple's index

The Whipple's Index is a demographic metric quantifying the prevalence of age heaping on terminal digits 0 and 5 within the 23-62 age group. It's calculated as the ratio of the population reporting such ages to one-fifth of the total population in the same age range, multiplied by 100 (Spoorenberg, 2009).

The following formula is used to compute Whipple's Index:

$$\frac{\Sigma(P_{25} + P_{30} + \cdots + P_{55} + P_{60})}{(1/5)\,\Sigma(P_{23} + P_{24} + \cdots + P_{60} + P_{61} + P_{62})} \times 100$$

The selection of the range 23 to 62 years is largely arbitrary. The Whipple's Index focuses on ages 23-62 to avoid potential reporting biases that are more prominent in younger and older age groups. Childhood and older ages are excluded from age heaping analysis because their reporting errors, like under-counting or exaggeration, can mask the specific influence of digit preferences. Younger children (0-4) are often under-reported, while older adults may inflate their age or be less represented due to mortality. Excluding these groups allows for a more accurate assessment of digit preference effects in the chosen age range.
A Whipple's Index score of 100 represents perfect accuracy, with no preference for ages ending in 0 or 5. Conversely, a score of 500 indicates extreme heaping, where everyone reports an age ending in those digits. The Whipple's Index scores can be summarized through categories proposed by the United Nations as shown in Table 4 (United Nations, 1973). The Whipple Index is one of the widely used indices to measure age misreporting.

Table 5. 1: Degree of Accuracy of the Age Reporting Using the Whipple's Index

Whipple's Index	Quality of Data	Deviation from perfect
< 105	Very accurate	<5 percent
105–110	Fairly accurate	5-9.99 percent
110–125	Approximate	10-24.99 percent
125–175	Rough	25-74.99 percent
> 175	Very rough	>= 75 percent

Table 16 below compares Whipple's Indices for males, females and both sexes. The age analysis illustrates pronounced age heaping of the population for the ages ending with digits 0 and 5, with a Whipple's Index of 308 and 319 for males and females respectively. This shows that the quality of single year age data is very rough for both sexes with more age heaping evident among females compared to males.

Table 5. 2: Whipple's Index (23-62)

	Male	Female	Both sexes
Index	308	319	314

5.2.3. Myers' Blended Index

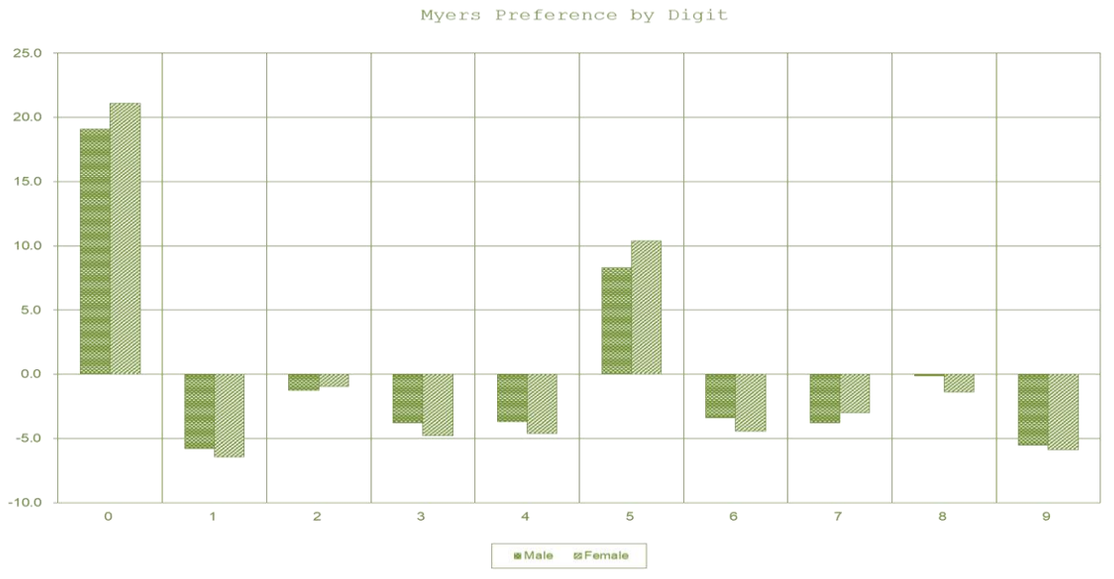
Myer's Blended Method works by comparing the actual number of people with each age-ending digit (0-9) to what you'd expect if everyone reported their age accurately (10% for each digit). This helps reveal any preferences people might have for certain age endings.
Myer's Blended Method helps us understand how much people tend to favor specific digits (0-9) when reporting their age. It gives us a single "summary index" that reflects the overall level of this "age heaping" for all digits (Hobbis, Siegel, & Swanson, 2004). It estimates the minimum prevalence of age misreporting through a summary index ranging from 0 (no preference) to 90 (extreme preference for one digit).
Unlike the Whipple's Index, which only considers digits 0 and 5, Myer's Blended Method analyzes all ten digits (0-9), providing a more complete picture of age heaping. This is important because natural factors like mortality can cause some digits, like 0, to be naturally higher than others. Myer's Blended Method avoids biases that can

skew the analysis of age distribution due to reasons beyond age preference. It takes into account natural variations in population size across different age groups, ensuring a more accurate assessment of heaping (Siegel & Swanson, 2004). The index is determined by calculating the number of people whose age ends with a particular digit for the population aged 10 and over, and then for the population aged 20 and over. Each series is then weighted, and the results are added to obtain a blended population. The sum of the absolute deviations between the observed and expected (10%) age distribution for each digit provides the Myer's Blended Index. A higher index indicates a greater deviation from the ideal scenario and suggests a stronger preference for certain age endings.

Table 17 shows Myer's Blended Index computed from the survey data on age and sex. The Myer's Blended Index calculated was 55 for males, 63 for females and 59 for both sexes. This indicates that more than half of the population had their ages reported with an incorrect terminal digit. The preference for and avoidance of specific digits is graphically presented in Figure 6. The positive and negative scales represent digit preference and avoidance respectively. The most preferred digits according to the results were 0 followed by 5, while the avoided digits from the most to the least were 1, 9, 3, 4, 7, 6, 2, and 8.

Table 5. 3: Myer's Index

	Male	Female	Both sexes
Index *	54.7	62.9	59.3
0	19.1	21.1	20.2
1	-5.8	-6.5	-6.2
2	-1.3	-1.0	-1.1
3	-3.8	-4.8	-4.4
4	-3.7	-4.6	-4.2
5	8.3	10.4	9.4
6	-3.4	-4.4	-3.9
7	-3.8	-3.0	-3.3
8	-0.1	-1.4	-0.8
9	-5.5	-5.9	-5.7
*** The sum of the absolute values of the deviations**			



5.3. Evaluation of age reporting- (UN Age Sex Accuracy Index) OR UN JOINT SCORE

The UN Joint Score combines the Sex Ratio Score and the Age Ratios Score, providing an overall index on data quality. The Age Ratio Score is the average of the sum of absolute deviations of age ratios from the expected 100. The age ratio for a particular age group to the average of the counts for the adjacent cohorts should be approximately equal to 1, or 100 if multiplied by a constant of 100 (United Nations Statistics Division, 2011). The age ratio is the proportion of the population of a given age group, to the average of the number of persons in the immediately preceding and succeeding age groups.

According to UN Statistics Division, in the absence of sharp changes in fertility over the years, mortality by age, significant levels of migration or other distorting factors, the enumerated size of a particular cohort should be approximately equal to the average size of the immediately preceding and subsequent cohorts. Significant departures from this "expected" ratio indicate either the presence of census error in the census enumeration or other factors (UN Statistics Division, 2011).

Age ratio for the age category x to x+4

$$ {}_5AR_x = \frac{{}_5P_x}{\frac{1}{3}({}_5P_{x-5} + {}_5P_x + {}_5P_{x+5})} \times 100 $$

${}_5AR_x$ = Age ratio for the age group x to x+4

${}_5P_x$ = Enumerated population in the age category x to x+4

${}_5P_{x-5}$ = Enumerated population in the adjacent lower age category

${}_5P_{x+5}$ =Enumerated population in the adjacent higher age category.

The sex ratio score, on the other hand, is defined as the average of the sum of absolute deviations of consecutive sex ratios. The number of males for every 100 females defines the sex ratio. For most sub-Saharan African populations, the sex ratio fluctuates between 102 and 105 at birth (with an average of 103), thereafter declining gradually with age, and eventually falling below 100 among the elderly segments of the population. Any major deviations from this pattern can be attributed to age and sex misreporting, and/or to age-sex selective migration or mortality.

The sex ratio is computed as:

$$ \frac{{}_5M_x}{{}_5F_x} \times 100 $$

Where:

${}_5M_x$ = Number of males enumerated in a specific age group

${}_5F_x$ = Number of females enumerated in the same age group.

The UN Age-Sex Accuracy Index (UN Joint Score) combines the age ratio score and the sex ratio score to result in a single index measuring the degree of accuracy of the age-sex distribution, i.e.

Age-Sex Accuracy Index (UN Joint Score) = 3*(SRS) + ARSM +ARSF

Where:
SRS is the Sex Ratio Score
ARSM is the Age Ratio Score for Males
ARSF is the Age Ratio Score for Females.

Data is considered "accurate" if the index is under 20, "inaccurate" if the index is 20 to 40 and "highly inaccurate" if the index is over 40 (United Nations, 1952b). Table 18 provides summary measures of the accuracy of age and sex reporting for the mortality survey, computed from the reported age and sex distribution in addition to different smoothing/adjustment methods applied to the reported ages.

The male age ratio score (48.1) was higher than the female age ratio score (46.3), indicating that age misreporting was slightly higher among males compared to females. This is consistent with the Whipple's and Myer's indices computed earlier. The United Nations Joint Score Index was 27.7, indicating that reporting on age and sex data was moderately inaccurate.

Table 5. 4: Summary of Indices Measuring the Accuracy of Data

		Smoothed				
		Carrier	K.-King		United	
Index	Reported	Farrag	Newton	Arriaga	Nations	Strong
Sex ratio score	10.5	5.20	5.15	5.02	5.60	3.69
Male age ratio score	48.1	7.04	8.24	7.02	5.70	3.08
Female age ratio score	46.3	5.14	6.28	5.53	5.18	2.14
Accuracy index	125.8	27.79	29.98	27.61	27.69	16.29

Note: The accuracy index is the sum of the male and female Age Ratio Scores plus three times the Sex Ratio Score, all calculated using data for ages 10-14 through 65-69.

5.4. Age and sex composition (Population pyramid)

Information on the breakdown of the age and sex of a population is a critical ingredient in the analysis of demographic processes. This includes: (i) determining fertility (which has a great impact on the size and age structure of a population); (ii) mortality (which can be measured by the crude death rate, age-specific death rates and life expectancy at birth); and (iii) observing patterns of migration (that can be internal or international).

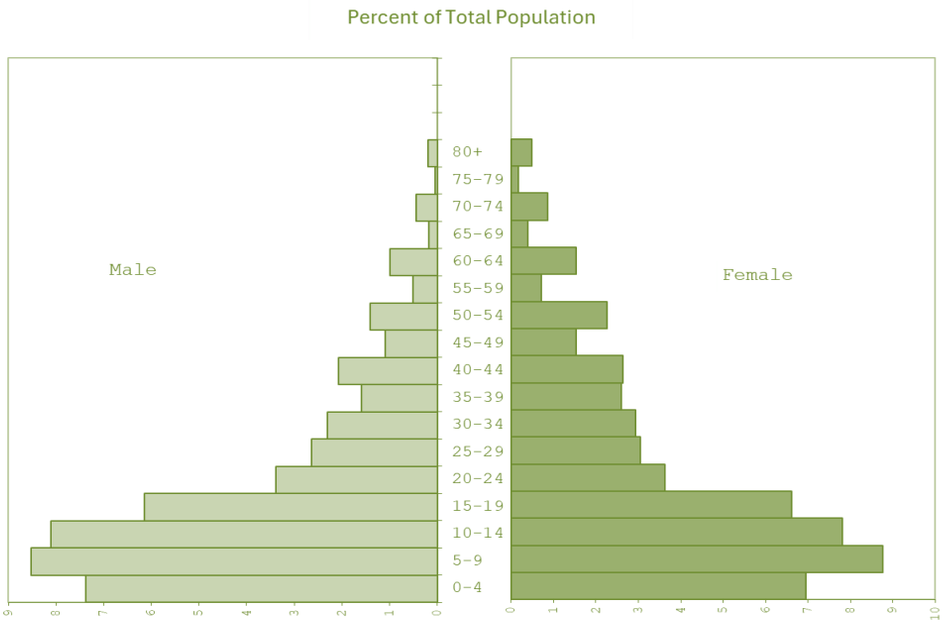
The Mortality Survey collected information on age in completed years of household members, as at the last birthday preceding the time of data collection. Information on the sex of every household member was also collected.

The population pyramid displays the size of a population enumerated in each age group or cohort) by sex. The level of fertility in the population mainly determines the base of the pyramid, while the peak is determined by previous level of mortality and fertility. The levels of migration by age and sex also affect the shape of the pyramid (UN Statistics Division, 2011).

The pyramid (Figure 7) below presents the structure of the IDP population by age and sex for comparison. The pyramid provides an in-depth analysis of the population structure.

Generally, the pyramid shows higher percentages in the younger age groups, implying high fertility rates among the IDPs. Additionally, the population decreases sharply with an increase in age. This pattern follows the typical population pyramid trend of a developing country, characterized by high fertility and mortality rates. However, contrary to the norm, its worthy to note that the population in the age group 5-9 is higher than that of the preceding age group 0-4. This difference can be attributed to under-reporting of the population under 5. This observation is common in surveys in Somaliland and Africa in general.

Figure 5. 4: Population Pyramid



6 FERTILITY

6. FERTILITY

Somaliland has young and rapidly growing population. The region experiences a high Total Fertility Rate (TFR) of approximately 5.7 children per woman, driven by cultural, socio- economic, and healthcare factors (UNFPA, 2020). Cultural norms in Somaliland favor large families, often valuing childbearing as a critical role for women (Hirsi, 2021). Early marriages and high fertility rates are prevalent, reflecting traditional values. Socio-economic conditions, such as limited access to education and healthcare, exacerbate these trends. Women with lower educational attainment generally have higher fertility rates, with education playing a significant role in reducing family size (UNFPA, 2020). Access to modern contraceptives and family planning services is limited in Somaliland. Many women face challenges in accessing reproductive health services due to cultural barriers and inadequate healthcare infrastructure (MSF, 2021). Efforts to improve family planning and maternal health services are ongoing but face significant hurdles.

High fertility rates impact socio-economic development by straining resources such as healthcare and education. Addressing these issues is crucial for improving maternal and child health and promoting sustainable development. Initiatives by NGOs and local authorities aim to enhance educational opportunities, women's rights, and healthcare access (World Health Organization, 2022). The fertility analysis presented in this report is derived from the reproductive history provided by women aged 15-49 in the IDP mortality survey. Participants were asked to detail the total number of sons and daughters they had given birth to throughout their lives. To ensure comprehensive data collection, women were instructed to list all births in chronological order, beginning with the oldest. For each child, information on sex, date of birth, and survival status was recorded, including the age at death for those who had deceased.

Table 6.1 presents data on households with live births within different time frames: 60 months, 24 months, and 12 months, broken down by sex. The survey included approximately 18,750 individuals, with a higher percentage of females (53%) compared to males (47%). Among the surveyed households in IDP camps, about 37% reported having births in the five years preceding the survey (since 2018), while about 63% did not. In terms of births among the interviewed households, there were 2,060 births in the last 60 months, 815 births in the last 24 months, and 429 births in the last 12 months. Across all time frames, the births were almost equally distributed by percentage, with a slightly higher proportion of male births (around 55%) compared to female births (around 45%).

Table 6. 1: Households with livebirths

		Male	Female	Total
Population	Number	8,817	9,933	18,750
	Percent	47.0	53.0	100.0
Total households	Number	-	-	3,274
Household has had a birth since 2018 (Percent)	Yes	-	-	36.7
	No	-	-	63.3
Number of births in 60 months	Number	1,126	934	2,060
	Percent	54.7	45.3	100.0
Number of births in 24 months	Number	445	370	815
	Percent	54.6	45.4	100.0
Number of births in 12 months	Number	235	194	429
	Percent	54.8	45.2	100.0

6.2. BIRTHS BY SEX, BIRTH ORDER AND MOTHER'S SURVIVAL STATUS

Table 6.2 shows the percentage distribution of births over the last five years by sex, birth order, and the mother's survival status. Birth order is divided into four categories: 1, 2, 3, and 4+, with the percentages of male and female births, along with the total number of births for each category. The highest percentage of births in the last five years occurred in the 4+ birth order category, with both male and female births making up 57% of this category. The third birth order category accounts for approximately 15% of births, with a slightly higher percentage of males (16%) compared to females (14%). The first and second birth order categories each constitute 14% of births. In the first birth order category, male and female births are evenly distributed. In the second birth order category, there is a slightly higher percentage of female births (15%) compared to male births (13%). Approximately 98% of births occurred with the mother alive at the time of birth, with almost equal percentages for male and female births.Therefore, it may be needed to focus on expanding access to family planning and reproductive health services, particularly in IDP camps, to address high birth rates in higher birth order categories. Enhancing maternal health services is crucial, with an emphasis on ensuring all mothers receive quality prenatal and postnatal care. Efforts to promote gender equality and empower women through education and economic opportunities should be prioritized to influence reproductive choices positively. Comprehensive support for IDP communities is necessary, including holistic health services and resilience-building programs. Continuous data collection and analysis will help tailor evidence-based interventions, ensuring policies remain responsive to the evolving needs of Somaliland's families.

Table 6. 2: Percentage distribution of births by sex, birth order and mothers' survival status

Background characteristics	Sex		Total	Number of births
	Male	Female		
Birth order				
1	14.0	13.6	13.8	283
2	12.7	15.4	13.9	285
3	16.1	13.8	15.0	308
4+	57.2	57.3	57.2	1,173
Total	100.0	100.0	100.0	2,049

Mother's survival status				
Alive	97.9	98.3	98.1	2,012
Dead	2.1	1.7	1.9	39
Total	100.0	100.0	100.0	2,051
Total	54.7	45.3	100.0	2,049

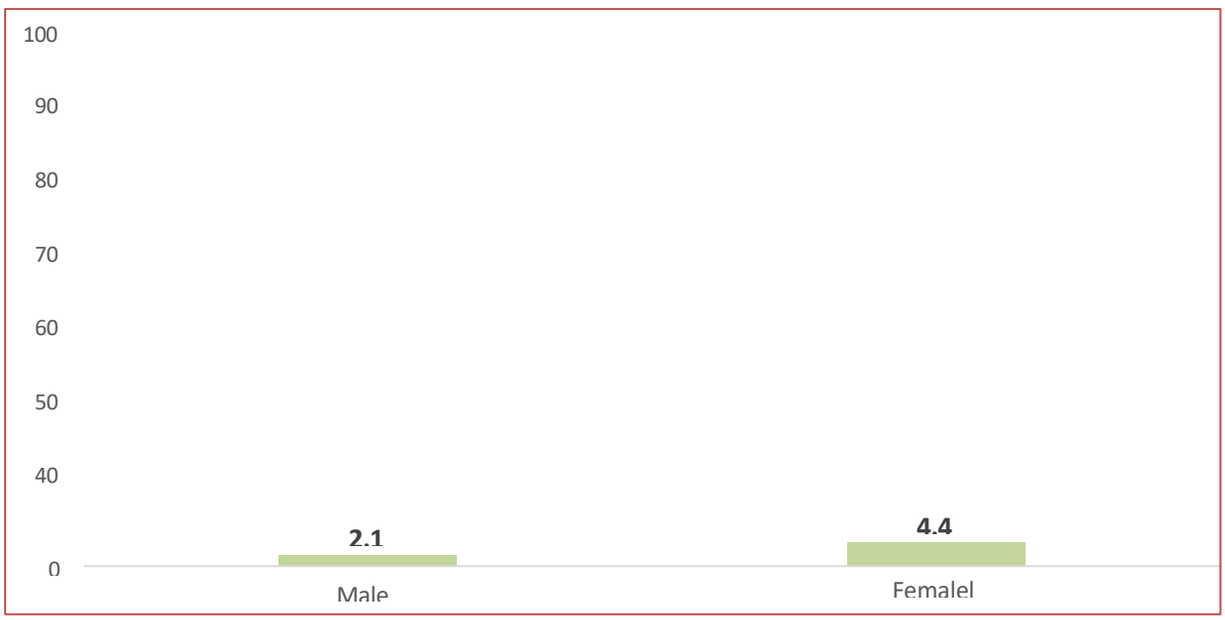
6.3. PREVALENCE OF TWIN BIRTHS

Table 6.3 presents data on the prevalence of twin births, broken down by sex. The data shows that twin births are relatively uncommon, comprising only 3.2% of all births in the surveyed population. Among male births, 97.9% were single births, while 2.1% were twins, out of a total of 1,125 male births. For female births, 95.6% were single births, and 4.4% were twins, with a total of 933 female births recorded. This indicates that twin births occur more frequently among females compared to males within this dataset. Overall, the data reflects a typical pattern where single births are predominant, and twins make up a small proportion of the total births

Table 6. 3: Prevalence of Twin Birth, Somaliland IDS, 2023

Sex	Births		Total	Number
	Single	Twin		
Male	97.9	2.1	100.0	1,125
Female	95.6	4.4	100.0	933
Total	96.8	3.2	100.0	2,058

Figure 6. 1: Percentage of twin births by gender



6.4. SEX RATIO AT BIRTH

Sex ratio compares number of females over the males in a given population. Sex ratio of one indicates an equal number of male and female in the population while sex ratio below one shows access female over the male and vise verse.

Table 6.4 shows the sex ratio across various age groups, indicating the number of males per female in the population. In the youngest age group (<5), the sex ratio is 1.063, with slightly more males than females. The ratio remains close to even in the 5-9 age group (0.970) and shows a slight male predominance in the 10-14 age group (1.037). However, starting from the 15-19 age group, females begin to outnumber males, with the sex ratio dropping to 0.929, and this trend continues into older age groups. The sex ratio steadily declines with age, reaching as low as 0.313 in the 75-79 age group, reflecting significantly more females than males. The overall sex ratio for the IDP population is 0.888, indicating a higher number of females than males across all age groups. This pattern suggests a typical demographic trend where females have higher life expectancy, resulting in a greater female population in older age groups.

Table 6. 4: Sex ratio at birth

Age	Male	Female	Sex ratio
<5	1,386	1,304	1.063
5-9	1,597	1,646	0.970
10-14	1,519	1,465	1.037
15-19	1,153	1,241	0.929
20-24	633	679	0.932
25-29	495	572	0.865
30-34	433	550	0.787
35-39	299	487	0.614
40-44	389	495	0.786
45-49	205	288	0.712
50-54	264	425	0.621
55-59	97	133	0.729
60-64	186	286	0.650
65-69	34	75	0.453
70-74	83	162	0.512
75-79	10	32	0.313
80+	35	92	0.380
Total	8,818	9,932	0.888

6.5. FERTILITY RATES

Fertility refers to the actual reproductive performance of an individual or population, typically measured by the number of live births produced. Fertility rates are key indicators used to understand reproductive behavior and population dynamics. The Total Fertility Rate (TFR) represents the average number of children a woman would have if she experienced the exact current age-specific fertility rates throughout her lifetime (Bongaarts & Feeney, 1998). The General Fertility Rate (GFR) is the number of live births per 1,000 women of childbearing age (usually 15-49) in a given year (World Health Organization, 2014). The Crude Birth Rate (CBR) reflects the number of live births per 1,000 people in the total population annually (United Nations, 2019). These metrics help demographers and policymakers assess reproductive trends, plan for future population needs, and implement targeted health interventions

Table 6.5 presents measures of current fertility rates for the three-year period preceding the survey. This three-year timeframe was chosen to balance the need for up-to-date information with

the requirement for a sufficiently large sample size to ensure statistical accuracy and reliability in the fertility rate estimates. Fertility rates are highest among women aged 20-24, with rates at 367 in Marodijeh and 348 in Togdheer, and a combined total of 360 per 1,000 women. Rates decline in older age groups, with notable decreases in the 30-34 age group and even more so in the 35-39 age group. The total fertility rate (TFR) is 8.3 in Marodijeh, 7.5 in Togdheer, and
7.9 overall, indicating a high average number of children per woman. The general fertility rate (GFR) is higher in Marodijeh (266) compared to Togdheer (218), and the crude birth rate (CBR) is also higher in Marodijeh (63.2) than in Togdheer (53.8), with an overall CBR of 59.3 per 1,000 population.

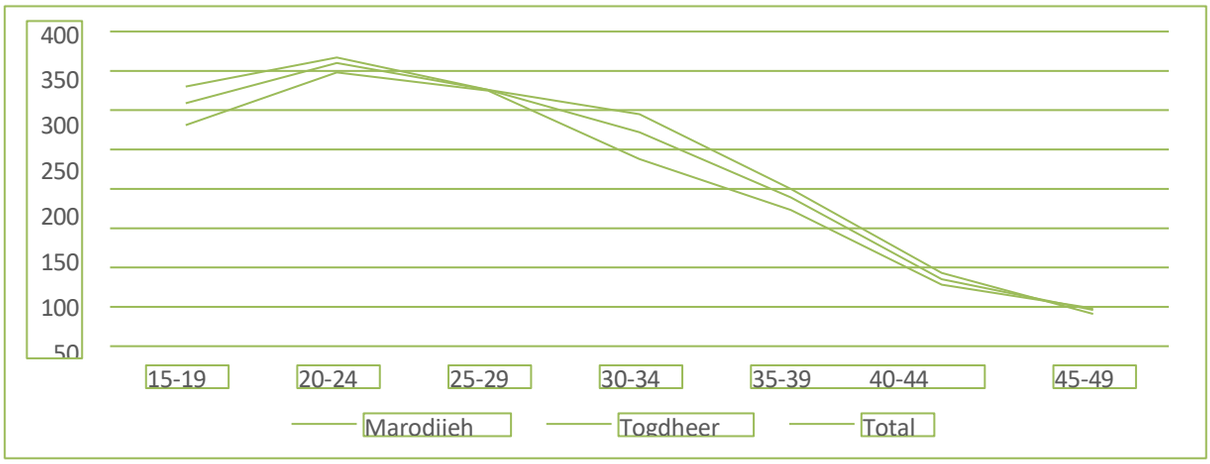
These figures highlight significant fertility levels in both regions, with particularly high rates in younger women and a gradual decline with age. This underscores the need for enhanced reproductive health services and family planning in Somaliland and IDP camps in specific, focusing on high fertility rates among younger women. Targeted interventions for different age groups are also needed to address specific needs and support informed family planning decisions.

Table 6. 5: Current fertility rates,

Age group	Marodijeh	Togdheer	Total
15-19	330	281	309
20-24	367	348	360
25-29	326	325	326
30-34	295	238	272
35-39	200	173	189
40-44	93	78	85
45-49	41	48	46
TFR (15-49)	8.3	7.5	7.9
GFR	266	218	247
CBR	63.2	53.8	59.3

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview. TFR: Total fertility rate expressed per women GFR: General fertility rate expressed per 1,000 women age 15-49 CBR: Crude birth rate expressed per 1,000 population

Figure 6. 2: Age Specific Fertility Rate (ASFR) by region



7 GENERAL MORTALITY

7. GENERAL MORTALITY

Information on mortality rates has significant implications for health and social programs managed by both the government and international partners. Mortality data are essential for assessing development plans and health strategies and for tracking progress towards global development goals, such as those outlined in the United Nations Sustainable Development Goals (SDGs). Understanding mortality patterns helps identify vulnerable populations and enables targeted interventions that can improve health outcomes and reduce inequalities (World Health Organization, 2021). Furthermore, accurate mortality statistics are crucial for resource allocation, allowing policymakers to prioritize areas with the highest need and to measure the effectiveness of health policies and programs over time. By providing insights into the burden of both communicable and non-communicable diseases, mortality data support the design of comprehensive public health initiatives that address the root causes of mortality and promote sustainable development (Lozano et al., 2012).

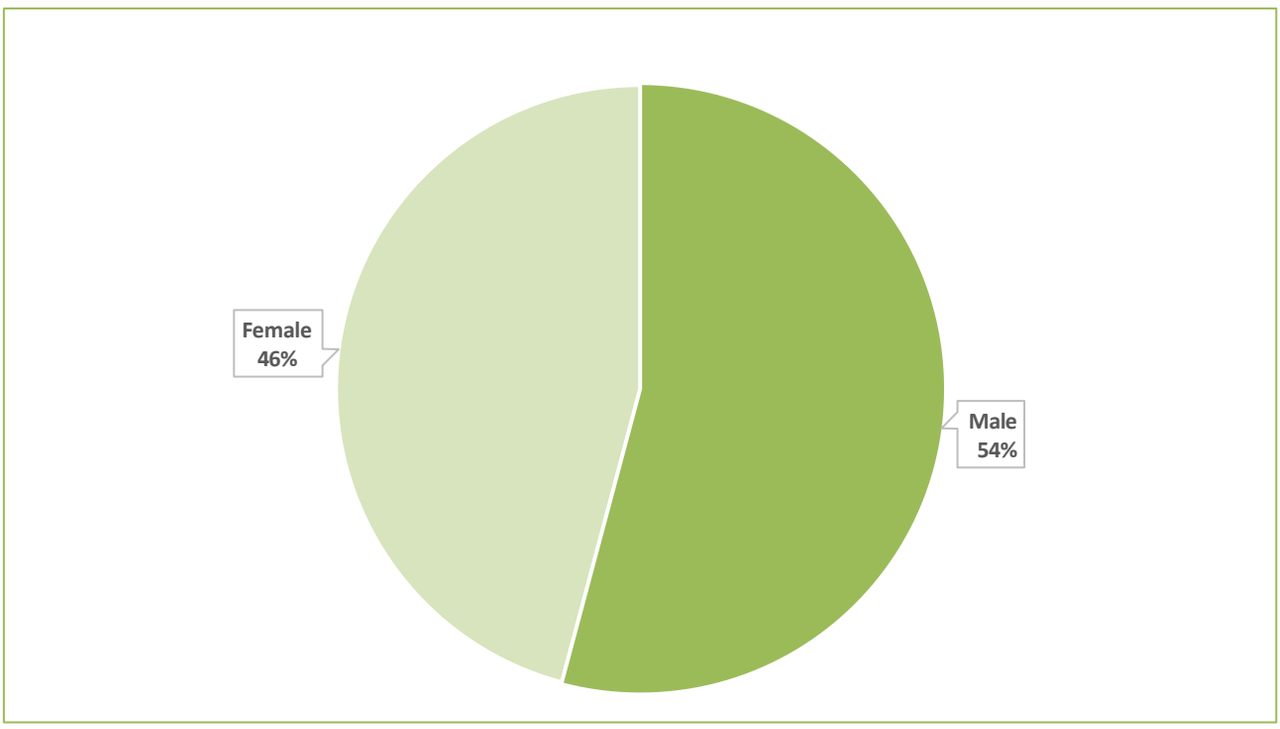
Chapter 7 delves into the critical issue of general mortality within IDP camps in Somaliland, focusing on understanding patterns and determinants of death across different age and gender groups. The chapter examines crude death rates (CDR), age-specific death rates (ASDR), and maternal mortality, providing a comprehensive overview of mortality trends in these vulnerable populations. By analyzing data from mortality survey, the chapter aims to highlight the major health challenges faced by IDP communities, such as high childhood mortality rates and significant gender disparities in death rates. It also explores the circumstances and locations of deaths, offering insights into potential barriers to accessing healthcare. This analysis serves as a foundation for developing targeted health interventions and policy recommendations to improve the health and well-being of individuals living in Somaliland's IDP camps.

Table 7.1 provides a detailed percentage distribution of deaths by sex and age, revealing significant differences in mortality patterns. The data indicate that mortality is higher for males than females, with approximately 54% of deaths being male compared to 46% female. This aligns with global patterns where males often experience higher mortality rates due to biological and behavioral factors (Boseley, 2018). The most substantial proportion of reported deaths occurs within the first five years of life, underscoring the vulnerability of young children to health challenges and environmental conditions. Notably, over half of these early childhood deaths occur within the first year, highlighting the critical need for improved neonatal and infant care to reduce mortality rates during this high-risk period. These findings emphasize the importance of targeted healthcare interventions and policies to address the specific needs of children and reduce gender disparities in mortality rates.

Table 7. 1: Percentage distribution of deaths by age and sex,

	Deaths (2yrs)	Annual deaths	Percentage distribution of deaths
Gender			
Male	253	126	54.2
Female	214	107	45.9
Total	466	233	100.0
Age			
Under 1	43	22	9.3
1-4	32	16	6.8
5-9	21	10	4.4
10-14	10	5	2.1
15-19	27	14	5.8
20-24	17	9	3.7
25-29	20	10	4.3
30-34	31	15	6.6
35-39	29	14	6.2
40-44	25	13	5.4
45-49	19	10	4.1
50-54	40	20	8.7
55-59	28	14	6.0
60-64	24	12	5.2
65-69	26	13	5.6
70-74	28	14	6.0
75-79	19	9	4.0
80+	27	14	5.8
Total	466	233	100.0

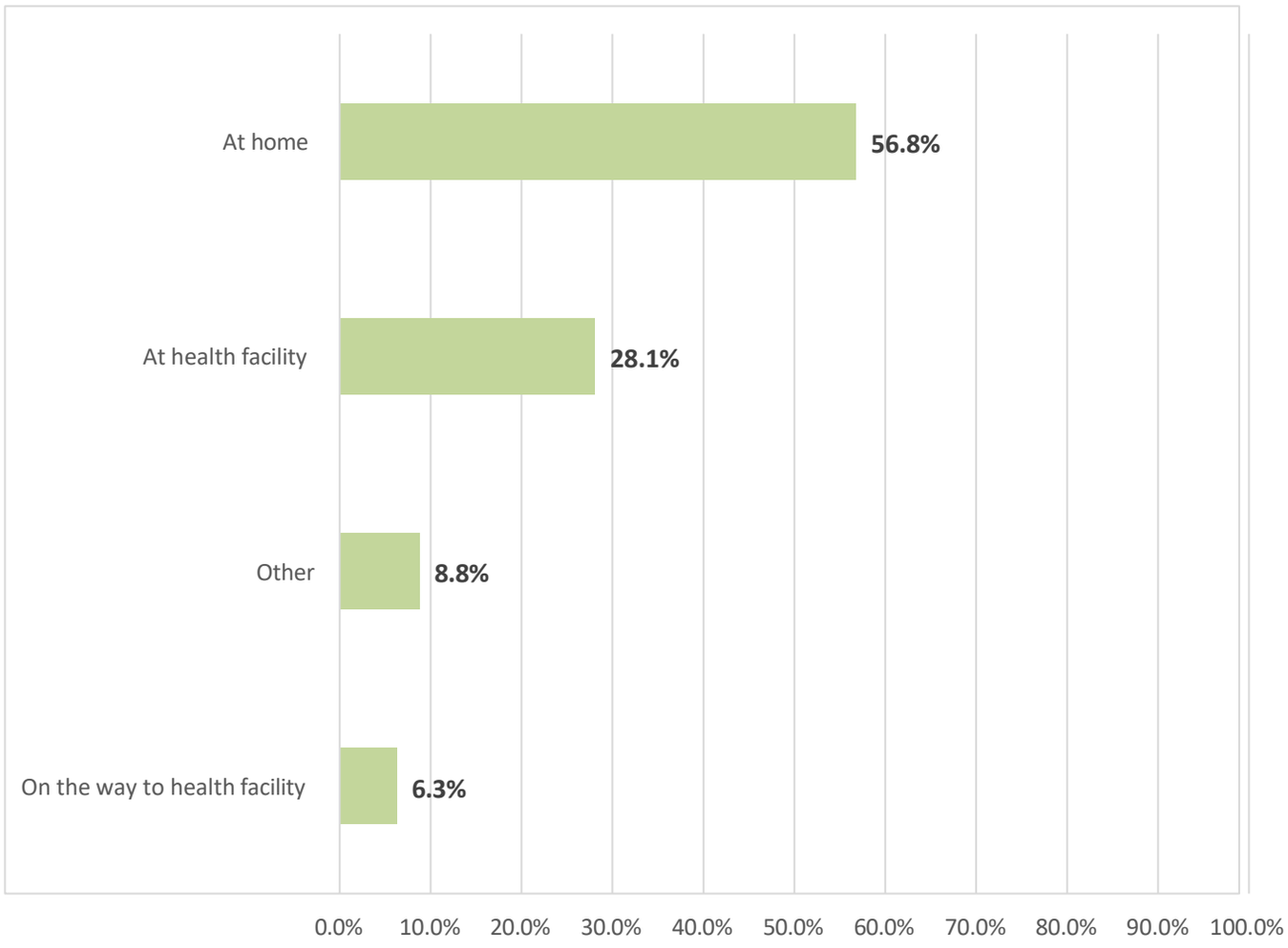
Figure 7. 1: Percentage distribution of deaths by sex



7.2. PLACE OF DEATH

Figure 7.2 illustrates the distribution of deaths by location, revealing that a significant majority (57%) of deaths occur at home, with only 28% taking place in health facilities. This pattern highlights the challenges faced by people, particularly those living in IDP camps, in accessing timely and adequate healthcare services. The high percentage of home deaths suggests potential barriers such as limited availability of medical facilities, transportation issues, or financial constraints that prevent individuals from seeking professional medical care. Additionally, about 6% of deaths are reported to occur en route to health facilities, underscoring the urgent need to improve healthcare infrastructure and emergency response systems to ensure better access to care. These findings emphasize the necessity for policymakers and healthcare providers to focus on expanding healthcare services and improving accessibility, particularly for vulnerable populations in IDP camps, to reduce preventable deaths and improve health outcomes

Figure 7. 2: Percentage deaths by place of deaths occurred



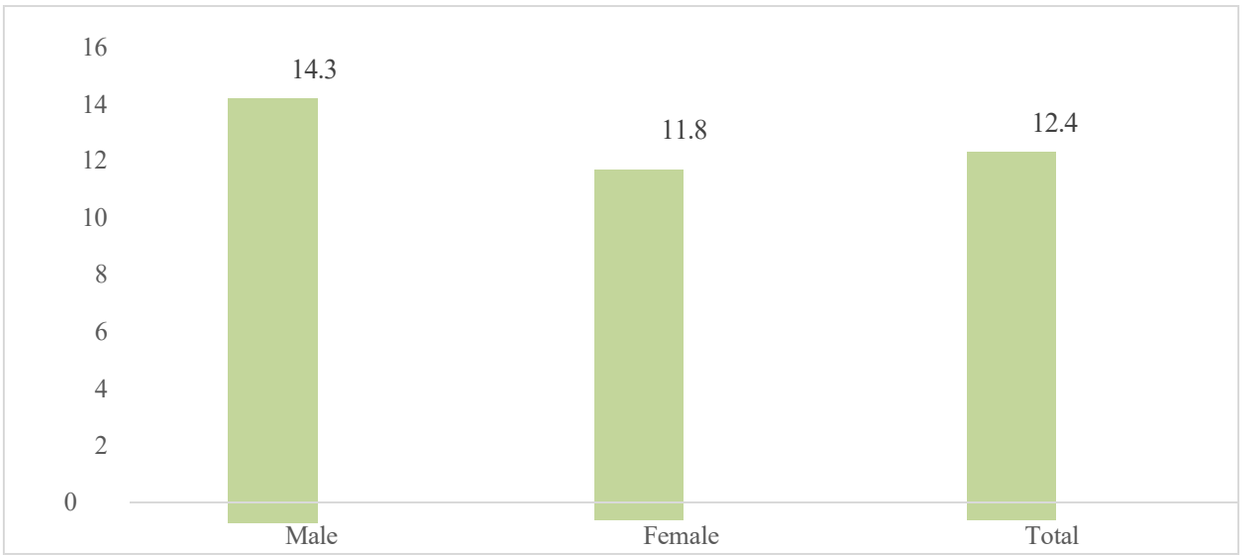
7.3. GRUDE DEATH RATE

The Crude Death Rate (CDR) measures the number of deaths in a given year per 1,000 people in the mid-year or total population. As illustrated in Table 7.2, the overall CDR for Somaliland IDPs is approximately 12.4 deaths per 1,000 population. Notably, the CDR is higher for males than females, with rates of 14.3 and 11.8 deaths per 1,000 population, respectively. This discrepancy highlights a greater mortality burden among the male population in Somaliland IDP camps, which could be attributed to a combination of biological, behavioral, and socioeconomic factors. Men may engage more frequently in high-risk behaviors or have less access to healthcare, contributing to their higher mortality rate (Courtenay, 2000). These statistics underscore the need for targeted health interventions and policies that address the specific health risks faced by men in these communities while continuing efforts to improve overall healthcare access and quality for all residents.

Table 7. 2: Crude Death Rate by gender

	Deaths (2yrs)	Annual deaths	Population	CDR
Gender				
Male	253	126	8,817	14.3
Female	214	107	9,933	11.8
Total	466	233	18,750	12.4

Figure 7. 3: Crude Death Rate (CDR) by gender



7.4. AGE SPECIFIC DEATH RATE (ASDR)

Table 7.4 highlights the age-specific death rates (ASDR) for the Somaliland IDP population showing variations in mortality across different age groups. The ASDR is calculated by dividing the annual number of deaths in a particular age group by the population of that age group, and then multiplying by 1,000 to express it as a rate per 1,000 individuals.

The data reveal that the highest mortality rates occur among the youngest and oldest age groups. Specifically, infants under 1 year have an ASDR

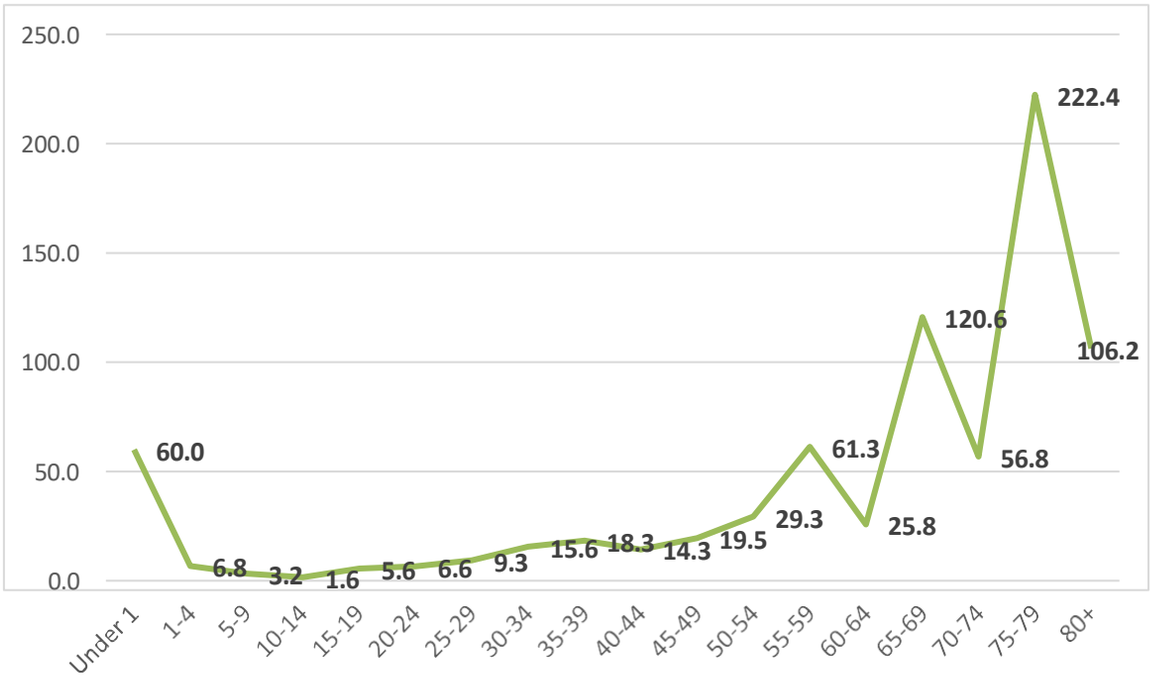
of 60 per 1,000, reflecting the significant challenges and risks associated with infant health and survival in IDP camps. Similarly, older adults, particularly those aged 75-79, exhibit the highest ASDR of 222 per 1,000, indicative of increased vulnerability due to aging and potential lack of access to adequate healthcare and support services. The elderly aged 65-69 and those 80 and older also have high mortality rates of 121 and 106 per 1,000, respectively, further emphasizing the need for targeted health interventions for these age groups. In contrast, children and young adults generally have lower mortality rates. For instance, the ASDR for ages 1-4 is 7 per 1,000, and it remains low through ages 10-14 and 5-9, with rates of 2 and 3 per 1,000, respectively. However, a gradual increase is observed as age progresses, with ASDRs rising in the middle-aged groups, peaking significantly from age 55 onwards. This pattern suggests potential health risks and chronic conditions that may begin to affect individuals in their later years.

Overall, the total ASDR for the entire population is 12 per 1,000, highlighting the overall mortality burden within the Somaliland IDP camps. These insights underscore the critical need for comprehensive healthcare strategies that address both the high infant mortality and the significant challenges faced by the elderly, ensuring equitable access to health services across all age groups.

Table 7. 3: Age specific Death Rate,

	Deaths (2yrs)	Annual deaths	Population	ASDR
Age				
Under 1	43	22	362	60.0
1-4	32	16	2,326	6.8
5-9	21	10	3,240	3.2
10-14	10	5	2,984	1.6
15-19	27	14	2,395	5.6
20-24	17	9	1,312	6.6
25-29	20	10	1,067	9.3
30-34	31	15	983	15.6
35-39	29	14	786	18.3
40-44	25	13	884	14.3
45-49	19	10	492	19.5
50-54	40	20	689	29.3
55-59	28	14	230	61.3
60-64	24	12	472	25.8
65-69	26	13	109	120.6
70-74	28	14	246	56.8
75-79	19	9	42	222.4
80+	27	14	128	106.2
Total	466	233	18,745	12.4

Figure 7. 4: Age Specific Death Rate (ASDR)



7.5. MATERNAL DEATHS

A maternal death is defined as the death of a woman during pregnancy or within 42 days of terminating a pregnancy, regardless of the pregnancy's duration or location, from any cause related to or aggravated by the pregnancy or its management, excluding accidental or incidental causes.

Data on maternal deaths were collected in the death history section of the household questionnaire. During data collection, deaths of women aged 15-49 that occurred within two years prior to the survey were recorded. Detailed information was gathered regarding the timing of death—whether the woman died while pregnant, during childbirth, or within six weeks after delivery. Additionally, the data included whether the death resulted from an accident or violence.

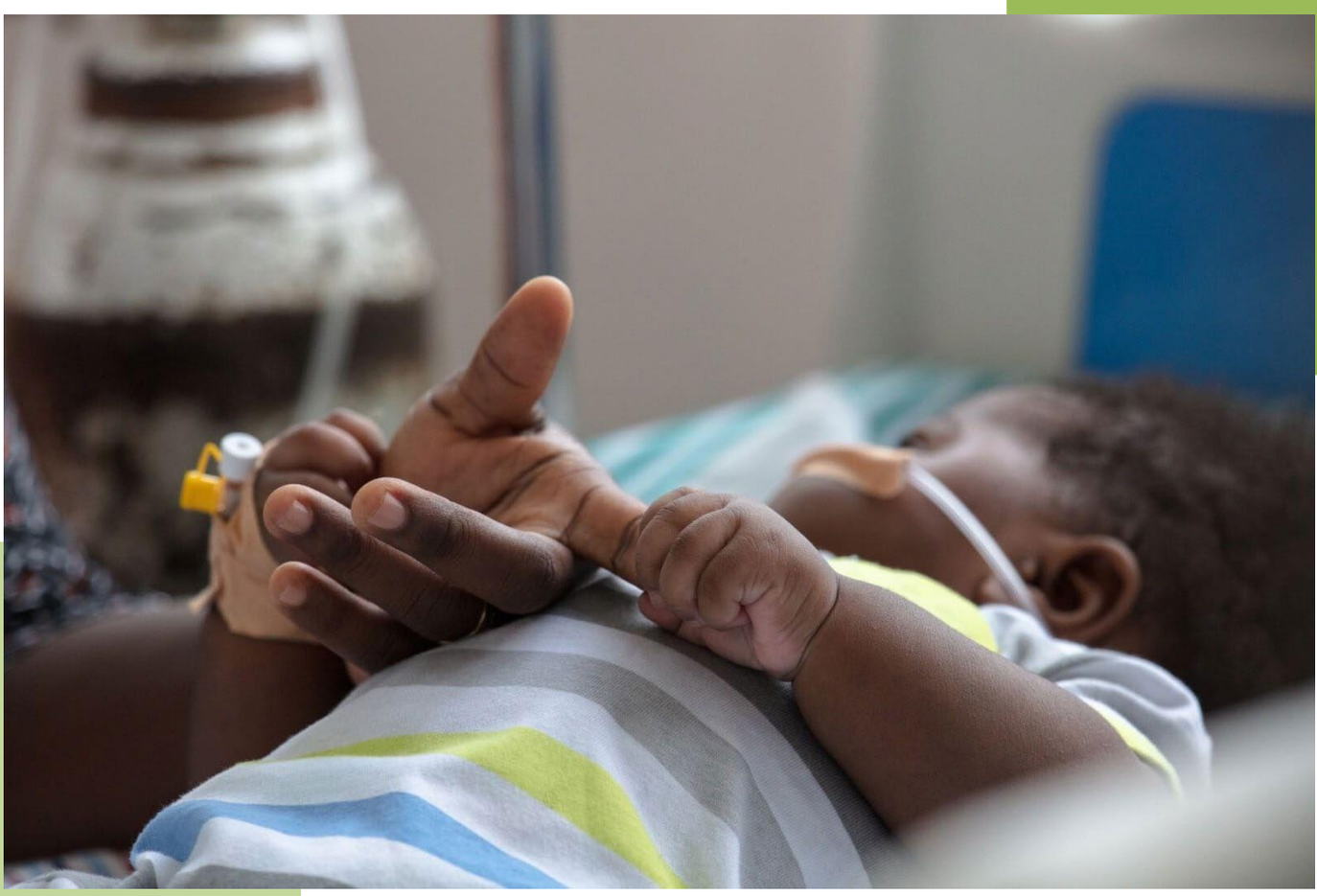
As shown by table 7.4, the data revealed that a total of 74 female deaths in the age group 15-49 years were reported for the 24 months preceding the survey. The highest number of female deaths (17) occurred in the age group 40-44 years, while the lowest number (6 deaths) was observed among women aged 25-29 years. Regarding the timing of maternal deaths, three women died while pregnant, three during childbirth, and one within six weeks after delivery, resulting in a total of seven pregnancy-related deaths. Interestingly, the highest number of maternal- related deaths was recorded in the age group 25- 29, with four deaths.

These findings highlight critical areas for intervention to reduce maternal mortality rates. The relatively high number of maternal deaths among women aged 25-29 underscores the need for targeted healthcare services and support for women in this age group. Additionally, the data indicates that pregnancy-related complications remain a significant concern, emphasizing the importance of enhancing maternal healthcare services and ensuring timely access to emergency obstetric care. Understanding the circumstances and timing of maternal deaths can guide policymakers and healthcare providers in implementing strategies to improve maternal health outcomes and reduce mortality rates.

Table 7. 4: Female and maternal deaths

Age group	Female deaths	Time of death			Couse of death	
		While Pregnant	While giving birth	Within the 6 weeks after delivery	From accident or violence	Maternal deaths
15-19	13	1	0	0	0	1
20-24	9	0	0	0	0	0
25-29	6	1	2	1	0	4
30-34	14	0	0	0	1	0
35-39	7	0	0	0	0	0
40-44	17	1	1	0	0	2
45-49	8	0	0	0	0	0
Total	74	3	3	1	1	7

8 INFANT AND CHILD MORTALITY



8. INFANT AND CHILD MORTALITY

Infant and child mortality rates are essential indicators of a country's health and development status. They provide insights into the overall effectiveness of healthcare systems, including prenatal, neonatal, and pediatric care, and reflect broader socio-economic conditions such as access to healthcare services, nutritional status, and environmental conditions (Black et al., 2013). These indicators are also crucial for improving public health strategies and resource allocation. Accurate mortality data help identify critical health service gaps, monitor the effectiveness of health interventions, and prioritize areas for funding and development. By tracking these rates over time, policymakers can evaluate progress, design targeted health programs, and implement strategies that address specific causes of mortality, ultimately leading to better health outcomes for children (Marmot et al., 2010). These efforts are essential to monitor progress on the National Development Plan, Health Sector Strategic plan and Global Sustainable Development Goals and subsequently for reducing child mortality and promoting sustainable development in Somaliland.

In Somaliland, high rates of infant and child mortality highlight significant challenges within the healthcare system and broader socio-economic factors. Limited access to quality healthcare services, high levels of malnutrition, and inadequate sanitation and clean water contribute to elevated mortality rates among children (UNICEF, 2021). For instance, infectious diseases such as diarrhea and pneumonia, combined with poor maternal health and limited access to vaccines, exacerbate the risk of early child mortality. Addressing these issues requires a multifaceted approach, including strengthening healthcare infrastructure, improving nutrition, and ensuring better sanitation and access to clean water.

This chapter provides an analysis of childhood mortality and survival status, utilizing childhood mortality rates as key indicators. It describes the metrics used, current levels, and variations by selected background characteristics. The mortality rates and survival data presented are based on information collected from the birth histories recorded in the IDP mortality survey's ever-married women's questionnaire. Women aged 15-49 in selected households were asked whether they had ever given birth. If so, they reported the number of living sons and daughters, those living elsewhere, and those who had died. Additionally, they provided a detailed chronological birth history, including the number of live births, whether they were single or multiple, the sex of the children, and the dates of birth (month and year). For children still alive, the current age was recorded, while for deceased children, the age at death was noted.

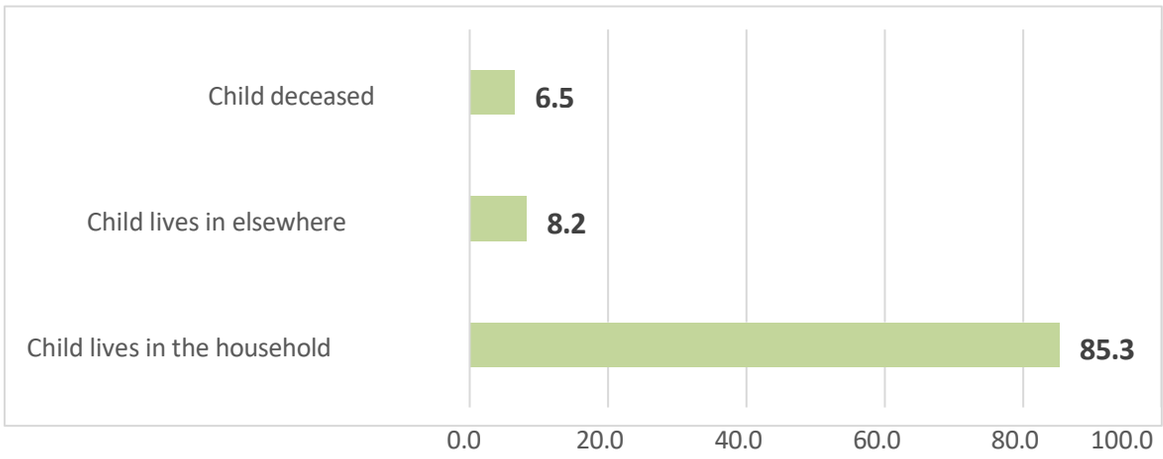
8.1. SURVIVAL STATUS OF BIRTHS

Since mothers are the primary caregivers for children, any strategy to protect children must focus on enhancing household capacity to care for them. Thus, identifying the number of children living with their mother is crucial. During the survey, survival estimates were obtained from mothers' reports using direct estimation. This method involved asking about their childbearing experiences, including the number of children born, those currently living in the household or elsewhere, and those who have died

8.1.1. Mother's residency and survival status

Figure 8.1 highlights that 85.3% of children live in their mothers' households, 8.2% reside elsewhere, and 6.5% have deceased. This summary indicates a majority of children living at home, a smaller segment living away, and a notable child mortality rate, reflecting varied family dynamics and child welfare scenarios

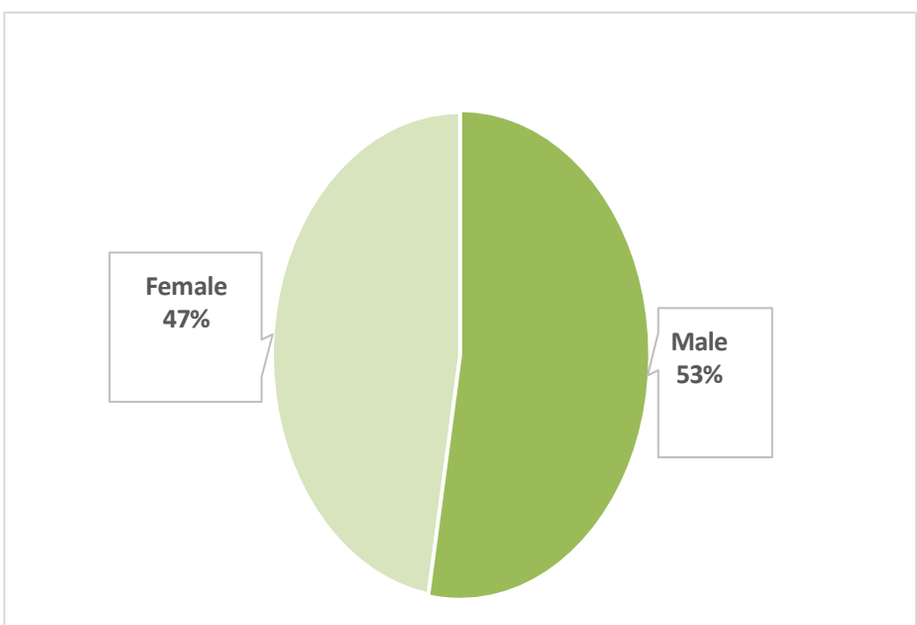
Figure 8. 1: living situation of births reported by mothers



8.1.2. Gender and survival status

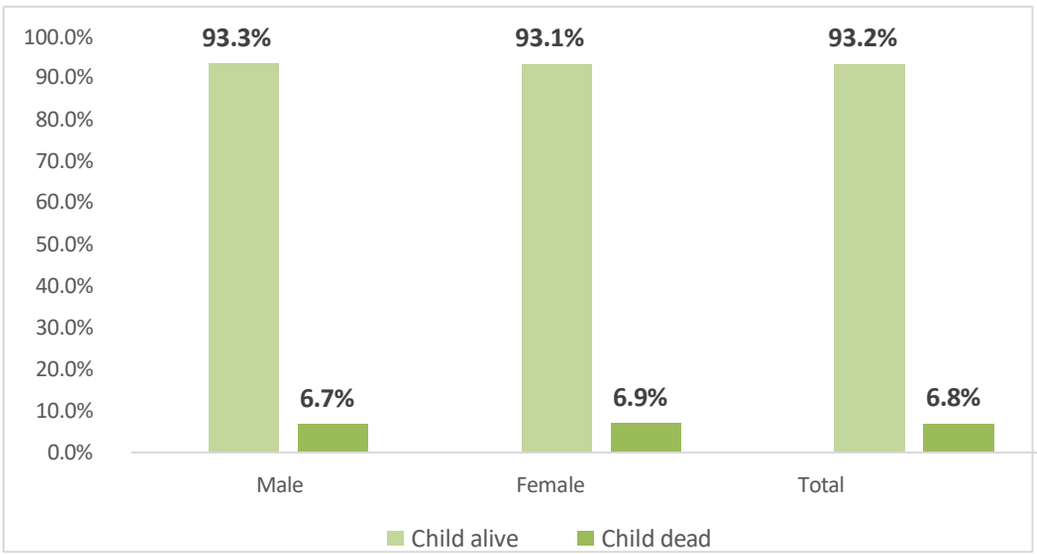
Figure 8.2 compares the gender distribution of living children reported by mothers, revealing that approximately 53% of the living children are male, while 47% are female. This slight male predominance is consistent with typical demographic patterns where a slightly higher number of male births is observed. However, the near-equal distribution between genders suggests a relatively balanced sex ratio in the context of these households. This information is crucial for understanding gender dynamics within the population and can inform gender-sensitive policies and programs aimed at addressing any disparities or ensuring equitable access to resources and services for both boys and girls.

Figure 8. 2: Proportion distribution of living children by gender



Sex differences in mortality can reveal crucial biological, genetic, and sociocultural factors influencing health outcomes. Globally, children under five years old often show higher mortality rates for boys compared to girls. Figure 8.3 illustrates the proportions of surviving and deceased children reported by mothers, differentiated by gender. In the Somaliland IDP camps, the overall proportion of surviving children is approximately 93%. Notably, there is no significant variation in survival rates between male and female children, indicating that gender does not appear to be a major factor affecting survival outcomes in this specific context. This balanced survival rate suggests that, within these camps, both boys and girls face similar health conditions and risks, which could inform targeted health interventions and resource allocation strategies.

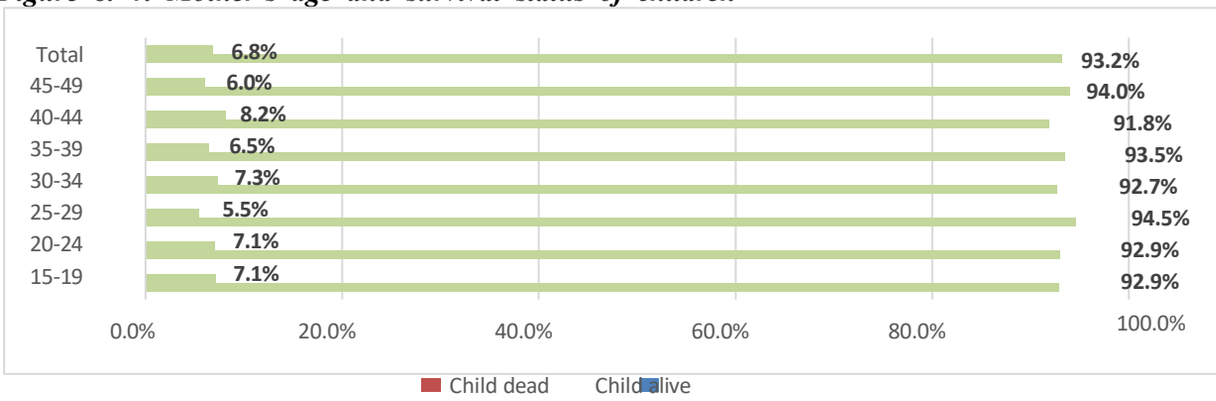
Figure 8. 3: Survival status of children by gender



8.1.3. Mother's age and survival status of births

Figure 8.3 reveals no distinct pattern between a mother's age and the survival status of her children. However, there is a general trend suggesting that children born to older mothers tend to have higher survival rates compared to those born to younger mothers in the Somaliland IDP camps. This trend may reflect better overall health, stability, or access to resources among older mothers, which could contribute to improved child survival. Understanding this dynamic is crucial for developing age-sensitive health interventions and support programs, ensuring that both younger and older mothers receive appropriate care to optimize child survival outcomes

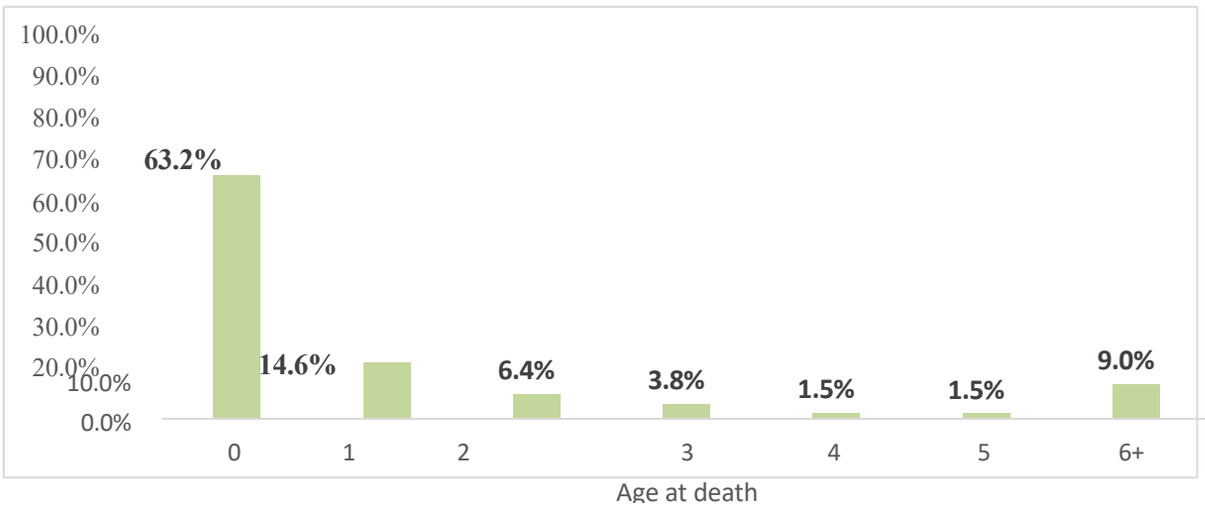
Figure 8. 4: Mother's age and survival status of children



8.1.4. INFANT/CHILD DEATHS BY AGE

Figure 8.4 illustrates the proportion of child deaths occurring within the first five years of life compared to those beyond this period. As anticipated, approximately 91% of the reported child deaths occurred before the age of five. Notably, a significant proportion, nearly 63%, of these deaths happened within the first year of life. This high concentration of infant mortality underscores the critical need for targeted interventions during the neonatal and early infancy periods. Addressing factors contributing to early child mortality, such as access to neonatal care and maternal health services, could significantly improve survival rates in the Somaliland IDP camps.

Figure 8. 5: Age of death of child



8.1.5. LEVELS AND TRENDS OF CHILDHOOD MORTALITY RATES

Levels and Trends of Childhood Mortality Rates: Childhood mortality rates measure the frequency of deaths among children under five years of age, reflecting the overall health and effectiveness of healthcare systems. Levels refer to the current rates of mortality, often expressed as the number of deaths per 1,000 live births. Trends denote the changes in these rates over time, indicating improvements or declines in child health and survival. High levels of childhood mortality typically highlight inadequate healthcare access, poor nutrition, and prevalent infectious diseases. Conversely, declining trends often signal advancements in healthcare, better living conditions, and successful public health interventions (World Health Organization, 2018; Black et al., 2013). Accordingly, childhood mortality rates are expressed by age categories as follows:

Neonatal Mortality:

Neonatal mortality refers to the death of an infant within the first 28 days of life. Neonatal mortality rate is expressed as number of deaths in the first month of life per 1,000 live births. This is a critical indicator of neonatal care quality and maternal health. High neonatal mortality rates often reflect issues such as complications during birth, inadequate prenatal care, or poor postnatal care (World Health Organization, 2018).

Post-Neonatal Mortality:

Post-neonatal mortality encompasses the death of infants between 28 days and under one year of age. This period often highlights the effectiveness of early childhood interventions, nutrition, and environmental factors. Post-neonatal mortality rate is the number of children dead between 28 and 364 days of age in a specified geographic

area per 1000 of live births in the same area. High rates may indicate deficiencies in infant health care and living conditions (Black et al., 2013).

Infant Mortality:
Infant mortality is the death of an infant before their first birthday, including both neonatal and post-neonatal deaths. The infant mortality rate is the number of infant deaths for every 1,000 live births. The indicator provides a broad measure of child health and healthcare effectiveness, encompassing a range of factors from maternal health to disease prevention (World Health Organization, 2018).

Child Mortality:
Child mortality is the probability of dying between the first and the fifth birthday. Child mortality rate is often reported to the deaths of children between first and the firth birthdays per 1,000 of children surviving to the first birthday. Similar to the infant mortality rate, child mortality rate is an indicator of how a country is progressing towards assuring children's rights, specifically their rights to life, health care services, nutrition and protection. (Black et al., 2013).

Under-5 Mortality:
Under-five mortality is the death rate of children before their fifth birthday. It combines infant mortality with the mortality of children aged one to four years. Under-5 mortality rate is always expressed as the number of children who die by the age of 5 years, per 1,000 live births. This rate is a comprehensive indicator of child health and the effectiveness of health interventions across early childhood (World Health Organization, 2018).
Table 8.1 presents the early childhood mortality rates in Somaliland IDP camps for 2023, showing the following rates per 1,000 live births: a neonatal mortality rate of 56, a post-neonatal mortality rate of 34, an infant mortality rate of 90, a child mortality rate of 11, and an under-five mortality rate of 100. The data indicate that neonatal mortality, which accounts for deaths within the first 28 days, is notably high, suggesting significant challenges in neonatal care. The post-neonatal mortality rate, while lower, still contributes to the overall high infant mortality rate of 90. This elevated infant mortality reflects broader issues such as inadequate healthcare and nutrition. The under- five mortality rate of 100, encompassing all child deaths before age five, highlights that while infant mortality is a major concern, there are also considerable risks for children aged one to four. Addressing these mortality rates requires targeted interventions to improve maternal and child health services, focusing particularly on neonatal care and early childhood health to reduce overall mortality rates in this vulnerable population.

Comparatively, the most recent available estimates from the Multi Indicator Cluster Survey (MICS) conducted in Somaliland in 2011, which covers urban and rural including IDPs in these residents, indicated a neonatal mortality rate of 42, a post-neonatal mortality rate of 30, an infant mortality rate of 72, and an under-five mortality rate of 91. These highlight an increase in neonatal and infant mortality rates in the IDP camps compared to the 2011 MICS estimates, suggesting worsening conditions or disparities in healthcare access for this population. The rising mortality rates underscore an urgent need for targeted interventions and improvements in maternal and child health services to address these disparities and enhance survival outcomes for children in Somaliland IDP camps.

Table 8. 1: Early childhood mortality rates,

	Neonatal mortality rate	Post neonatal mortality rate	Infant mortality rate	Child mortality rate	Under five mortality rate
0-4	56	34	90	11	100

8.1.6. DEMOGRAPHIC DIFFERENTIALS OF CHILD MORTALITY RATES

Table 8.2 presents variations in infant and child mortality rates based on socioeconomic and demographic factors such as maternal education, child sex, maternal age at birth, and birth order. The data reveal no clear trend linking maternal education levels to childhood mortality, although children of mothers with secondary education generally experience lower mortality rates compared to those of mothers with no formal education. This indicates the potential protective effect of education on child health, yet the differences are not substantial. Mortality rates are notably higher among male children compared to females; a pattern consistent with global trends where boys often face higher mortality rates. Regarding maternal age, the data show that children born to mothers aged 30-39 and 40-49 face higher mortality rates than those born to younger mothers, suggesting age-related risks or health complications. Additionally, mortality rates increase with birth order; children born after the first are at a higher risk, with the most substantial risk observed in births of the seventh order and beyond. These insights highlight the complex interplay between maternal and child characteristics and underscore the need for targeted interventions addressing both educational disparities and age-related risks to improve childhood survival outcomes.

Table 8. 2: Early childhood mortality rates by demographic characteristics,

	Neonatal mortality rate	Post neonatal mortality rate	Infant mortality rate	Child mortality rate	Under five mortality rate
Highest level of school					
No education	33	22	55	10	65
Primary	67	31	99	3	101
Secondary	39	11	50	5	55
University	0	108	108	0	108
Sex of Child					
Male	38	24	62	11	73
Female	35	22	57	7	64
Mother's age at birth					
<20	30	12	41	5	47
20-29	33	21	54	8	61
30-39	37	29	66	13	79
40-49	110	27	136	9	144
Birth order					
1	18	6	24	1	25
2-3	28	14	42	2	44
4-6	36	26	62	13	74
7+	85	64	149	40	184

9 ADULT MORTALITY

9. ADULT MORTALITY

This Chapter focuses on adult mortality indicators, which are crucial for assessing the health status and development progress of a country. These indicators provide valuable insights into the impact of both infectious and noncommunicable diseases on the adult population. Monitoring adult mortality levels and trends is essential for evaluating the effectiveness of health interventions and identifying emerging health challenges. For the Somaliland government and its international partners, understanding these mortality trends is vital for shaping health and social programs. High adult mortality rates may reflect inadequate healthcare systems, prevalent disease burdens, or socio- economic challenges, while improvements in these rates can signal successful health policies and better living conditions. Consequently, analyzing adult mortality data helps in planning targeted health interventions and resource allocation, thereby contributing to overall national development and health improvement efforts (World Health Organization, 2020; Murray et al., 2015)

Data on adult mortality were gathered through the death history section of the household questionnaire, where respondents were directly asked about deaths occurring within their household during the two years preceding the survey. Mortality rates were then calculated by dividing the number of deaths in each age group by the total person-years of exposure to the risk of dying within that age group during the reference period. To minimize sampling variability, data were aggregated across the age range of 15-49 years. This approach ensures more accurate and reliable mortality estimates by smoothing out fluctuations that may arise from smaller sample sizes.

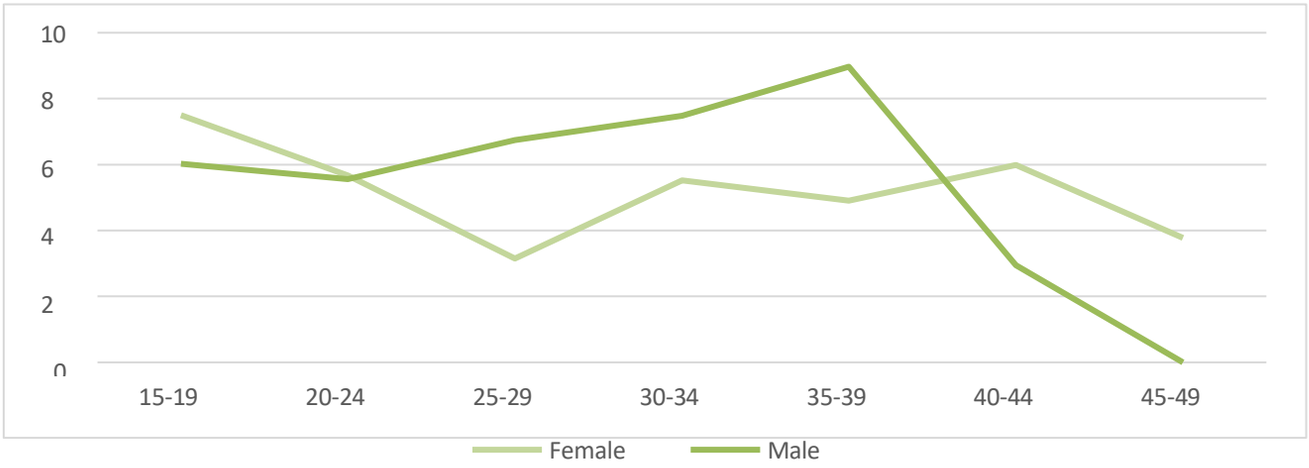
Table 9.1 presents age-specific mortality rates for individuals aged 15-49, revealing a slightly higher overall adult mortality rate for males compared to females within this age group. The male mortality rate stands at 6.04 deaths per 1,000 population, while the female rate is 5.68 per 1,000. Although no distinct pattern emerges across different age groups, there is a tendency for mortality rates to increase with age, particularly among males. This trend is consistent with the findings from the Somaliland Demographic and Health Survey (SLHDS) 2020, which reported a male mortality rate of 5.93 and a female rate of 4.34 per 1,000 population. The similarity between the current findings and the SLHDS underscores the persistence of higher mortality rates among males and highlights the need for targeted health interventions to address age-related mortality risks. Further analysis could help identify specific factors contributing to these patterns and inform strategies to improve health outcomes for both genders.

Table 9. 1: Adult Mortality rates

Age	Female			Male		
	Deaths	Exposure years	Mortality rates [1]	Deaths	Exposure years	Mortality rates [1]
15-19	66	8,790	7.50	50	8,373	6.03
20-24	29	5,152	5.67	25	4,572	5.56
25-29	13	4,178	3.15	25	3,652	6.74
30-34	22	3,917	5.52	22	2,882	7.48
35-39	19	3,948	4.91	24	2,655	8.97
40-44	17	2,913	5.99	7	2,288	2.95
45-49	5	1,281	3.78	0	843	0.00
Total 15-49	172	30,178	5.68	153	25,265	6.04

"1 Expressed per 1,000 population

Figure 9. 1: Adult mortality rate by age and gender



9.2. ADULT MORTALITY PROBABILITIES

Table 9.2 presents the probability of dying between the ages of 15 and 50 (35q15) for both females and males in Somaliland IDPs. The data reveal that approximately 167 per 1,000 women and 172 per 1,000 men are expected to die within this age range based on current mortality probabilities. This slight disparity indicates a marginally higher risk of mortality for men compared to women during these years. The findings highlight the need for gender-sensitive health interventions that address the specific risks faced by men and ensure more effective health strategies for both genders. By focusing on these age-specific mortality rates, policymakers can better target resources and interventions to reduce overall mortality and improve health outcomes within the IDP population.

Table 9. 2: Adult mortality probabilities

Survey	Women 35q15 [1]	Men 35q15 [1]
Somaliland IDPs, 2024	167	172

“1 The probability of dying between exact ages 15 and 50, expressed per 1,000 person-years of exposur

10 LIFE TABLES

10. LIFE TABLES

Life Table is a statistical Model that summarizes mortality experience of a certain population in a specified period. A Life Table is used to measure mortality, survivorship, and the life expectancy of a population at varying ages.

An abridged (5-year cohorts) current or period Life Table based on the current mortality patterns will be constructed. In this survey, the 5-year period between 2018-2022. The sex-age pattern of mortality is utilized in the construction of life tables presented here using the direct approach.

Current of period life tables are based on the mortality experience of a hypothetical cohort of newborn babies, usually 100,000 newborns, who are subject to the age-specific mortality rates on which the table is based. It traces the cohort of newborn babies throughout their lifetime under the assumption that they are subject to the age-specific mortality rates of a region or country.

The Life Tables presented in this chapter have 12 columns: the definition of each is summarized below:

Column	Notation	Definition
1.	*(x, x+ n)*	**Age interval or period** of life between two exact ages stated in years. The Life Tables are organized into age intervals of 0, 1-4, 5-9…, 80+. Each age interval represents a specific range of ages.
2.	*Deaths (5Dx)*	**Deaths** occurring within each age interval (x, x+n)- Number of persons who died within three years preceding the survey by age at death. The number of deaths that have been adjusted to account for under-reporting or over-reporting.
3.	*Pop (5Nx)*	**Population** for each age interval *(x, x+ n)* - Number of persons enumerated as alive in the year of the survey within each age interval.
4.	nMx	**Age-specific death rate.** The number of deaths occurring within a particular age group divided by the corresponding population of that age group, usually expressed per 1,000
5.	*a*	**Linearity Adjustment:** A factor that is used to adjust for the fact that mortality rates typically increase with age in a nonlinear fashion.
6.	*n*	**Years in Interval:** The number of years in the age group.
7.	nqx	**Probability of dying** (Proportion of persons alive at the beginning of the age interval who die during the age interval). The probability of dying between exact age x and exact age x+n for individuals who have survived to exact age x. It is calculated as the ratio of deaths (dx) to the number of survivors (lx) within the age interval.
8.	lx	Of the starting number of newborns in the life table (called the radix of the life table, usually set at 100,000) the number living at the beginning of the age interval (or the number surviving to the beginning of the age interval). lx represents the **number of individuals surviving to a particular age interval** (denoted by x), often expressed as a proportion of the initial population. It shows the number of individuals alive at the beginning of each age interval.
9.	ndx	The number of persons in the cohort who die in the age interval *(x, x+ n)*. *dx* represents the number of deaths occurring within a specific age interval (denoted by x). It is the number among the survival at age x persons who died before reaching age x+1, that is $dx=lx-lx+1$. It is used to calculate mortality rates.
10.	nLx	**Number of years of life** lived by the cohort within the indicated age interval *(x, x+ n)* (or person-years of life in the age interval). It is calculated as the product of the number of survivors (lx) and the mid-point of the age interval.
11.	Tx	**Total person-years of life** contributed by the cohort after attaining age x. It is calculated by summing the person-years lived (Lx) across all age intervals beyond age x.
12.	$\mathring{e}_x$	**Expectation of Life.** Represents the average number of additional years a person at a specific age (denoted by x) is expected to live, based on current mortality rates. Calculated using the formula: ex = Tx / lx. The first entry of this column occupies prime importance as it measures life expectancy at birth.

The following three tables present Life Tables for the Somaliland's internally displaced population (IDPs) from 2020 to 2022. These tables are divided into combined, male, and female data to show mortality experience within the IDP community.

Based on these life tables, overall, a newborn IDP baby in Somaliland can expect to live an average of 51.6 years. This assumes the baby will experience the same mortality rates and patterns observed among IDPs between 2020 and 2022 throughout their life. It's important to note that life expectancy at birth differs by gender, with females (54.7 years) having a higher life expectancy than males (48.1 years).

Table 10-1: Life Table for IDPs - Combined, 2022

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Age	Adjusted Deaths	Reported Population	Mortality Rate	Linearity Adjustment	Years in Interval	Probability of Dying	Individuals Surviving	Deaths in Interval x	Years Lived in Interval x	Cumulative Years Lived	Expectancy of Life at Age x
x, x+n	$_5D_x$	$_5N_x$	$_nM_x$	a	n	$_nq_x$	l_x	$_nd_x$	$_nL_x$	T_x	e_x
0	43	362	0.1188	0.1	1	0.1073	100,000	10,731	101073	5158463	51.6
1-4	32	2327	0.0138	0.4	4	0.0532	89,269	4,753	364681	5422071	60.7
5-9	8	3241	0.0023	0.5	5	0.0115	84,515	973	425010	5057390	59.8
10-14	3	2984	0.0011	0.5	5	0.0055	83,542	461	418863	4632380	55.4
15-19	10	2394	0.0040	0.5	5	0.0197	83,080	1,640	419502	4213517	50.7
20-24	6	1312	0.0047	0.5	5	0.0232	81,441	1,890	411928	3794016	46.6
25-29	6	1067	0.0060	0.5	5	0.0295	79,551	2,350	403627	3382088	42.5
30-34	11	983	0.0110	0.5	5	0.0534	77,201	4,123	396313	2978461	38.6
35-39	9	786	0.0114	0.5	5	0.0554	73,078	4,050	375517	2582148	35.3
40-44	10	884	0.0110	0.5	5	0.0537	69,028	3,707	354408	2206631	32.0
45-49	7	493	0.0132	0.5	5	0.0639	65,321	4,171	337031	1852222	28.4
50-54	15	689	0.0213	0.5	5	0.1009	61,149	6,172	321178	1515192	24.8
55-59	10	230	0.0418	0.5	5	0.1894	54,977	10,413	300918	1194014	21.7
60-64	8	472	0.0178	0.5	5	0.0850	44,565	3,788	232295	893096	20.0
65-69	9	109	0.0817	0.5	5	0.3394	40,776	1,3838	238475	660802	16.2
70-74	10	245	0.0416	0.5	5	0.1882	26,939	5,070	147367	422326	15.7
75-79	6	42	0.1530	0.5	5	0.5533	21,869	12,100	139592	139592	6.4
80+	10	127	0.0795		5	1	21,869	21,869	274959	274959	12.6

Table 10-2: Life Table for IDPs - Males, 2022

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Age	Adjusted Deaths	Reported Population	Mortality Rate	Linearity Adjustment	Years in Interval	Probability of Dying	Individuals Surviving	Deaths in Interval x	Years Lived in Interval x	Cumulative Years Lived	Expectancy of Life at Age x
x	$_5D_x$	$_5N_x$	$_nM_x$	a	n	$_nq_x$	l_x	$_nd_x$	$_nL_x$	T_x	e_x
0	32	176	0.1818	0.1	1	0.1563	100000	15625	101563	4812897	48.1
1-4	18	1208	0.0149	0.4	4	0.0575	84375	4855	345269	5056603	59.9
5-9	2	1597	0.0013	0.5	5	0.0066	79520	525	398910	4711334	59.2
10-14	1	1519	0.0007	0.5	5	0.0035	78995	274	395661	4312425	54.6
15-19	4	1153	0.0032	0.5	5	0.0159	78721	1253	396736	3916763	49.8
20-24	2	633	0.0033	0.5	5	0.0166	77468	1283	390546	3520028	45.4
25-29	4	495	0.0075	0.5	5	0.0367	76185	2795	387912	3129481	41.1
30-34	4	433	0.0104	0.5	5	0.0506	73390	3711	376228	2741570	37.4
35-39	6	299	0.0194	0.5	5	0.0927	69679	6460	364547	2365342	33.9
40-44	2	389	0.0054	0.5	5	0.0268	63219	1695	320333	2000795	31.6
45-49	3	205	0.0142	0.5	5	0.0685	61524	4213	318154	1680462	27.3
50-54	5	264	0.0180	0.5	5	0.0862	57312	4941	298910	1362308	23.8
55-59	4	97	0.0436	0.5	5	0.1965	52371	10292	287588	1063398	20.3
60-64	3	186	0.0185	0.5	5	0.0883	42079	3714	219681	775810	18.4
65-69	4	34	0.1166	0.5	5	0.4514	38365	17316	235114	556129	14.5
70-74	3	83	0.0414	0.5	5	0.1875	21048	3947	115110	321016	15.3
75-79	2	10	0.2378	0.5	5	0.7457	17101	12753	117386	117386	6.9
80+	3	35	0.0831		5	1	17101	17101	205906	205906	12.0

Table 10-3: Life Table for IDPs - Females, 2022

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Age	Adjusted Deaths	Reported Population	Mortality Rate	Linearity Adjustment	Years in Interval	Probability of Dying	Individuals Surviving	Deaths in Interval x	Years Lived in Interval x	Cumulative Years Lived	Expectancy of Life at Age x
x	${}_5D_x$	${}_5N_x$	${}_nM_x$	a	n	${}_nq_x$	l_x	${}_nd_x$	${}_nL_x$	T_x	e_x
0	11	186	0.0591	0.1	1	0.0562	100000	5615	100562	5471858	54.7
1-4	14	1119	0.0125	0.4	4	0.0486	94385	4586	384877	5756173	61.0
5-9	5	1644	0.0033	0.5	5	0.0163	89799	1462	452650	5371296	59.8
10-14	2	1465	0.0015	0.5	5	0.0076	88338	675	443376	4918647	55.7
15-19	6	1241	0.0047	0.5	5	0.0233	87662	2040	443413	4475271	51.1
20-24	4	679	0.0060	0.5	5	0.0294	85622	2514	434394	4031858	47.1
25-29	3	572	0.0047	0.5	5	0.0233	83108	1937	420382	3597464	43.3
30-34	6	530	0.0114	0.5	5	0.0556	81171	4516	417144	3177082	39.1
35-39	3	487	0.0065	0.5	5	0.0318	76655	2438	389369	2759938	36.0
40-44	8	495	0.0154	0.5	5	0.0743	74217	5517	384880	2370568	31.9

	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+
	4	10	5	5	5	7	4	7
	288	425	133	286	75	162	32	92
	0.0125	0.0233	0.0406	0.0173	0.0659	0.0416	0.1265	0.0782
	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
	5	5	5	5	5	5	5	5
	0.0606	0.1100	0.1842	0.0829	0.2831	0.1885	0.4804	1
	68700	64540	57442	46863	42979	30813	25004	25004
	4160	7098	10579	3884	12166	5810	12012	25004
	353902	340444	313657	244027	245310	168591	155050	319758
	1985688	1631787	1291343	977686	733659	488349	155050	319758
	28.9	25.3	22.5	20.9	17.1	15.8	6.2	12.8

11 CONCLUSION AND RECOMMENDATION

11. CONCLUSION AND RECOMMENDATION

11.1. Conclusion

The Somaliland mortality survey highlights persistent health and social challenges, particularly within the IDP camps. The demographic profile of IDPs reveals a predominantly young population with large household sizes, high fertility rates, and low life expectancy. A significant portion of the IDP population is under 15, and many households are led by females. Educational attainment and literacy rates are notably low, with considerable gender and age disparities; females and older individuals face the greatest difficulties. While younger age groups show marginally better educational outcomes, overall median years of education remain low for both genders, indicating a heightened vulnerability and significant resource needs within these communities.

Fertility rates among Somaliland IDPs are exceptionally high, with many households experiencing multiple births in recent years. Younger women exhibit higher fertility rates, which decline with age. Although twin births are rare, there is a higher prevalence of twins among females compared to males. Additionally, while most children born to women aged 15 to 49 reside at home, a notable number live away, reflecting diverse family dynamics and child welfare conditions. There is also a small but increasing incidence of remarriage among older women, affecting family structures.

Mortality data underscores critical health challenges faced by Somaliland IDPs, particularly high rates of neonatal and infant mortality. This points to an urgent need for improved maternal and child health interventions. Although maternal education offers some protective benefits, disparities in child mortality persist based on factors such as child sex, maternal age, and birth order. Gender disparities in mortality and life expectancy are pronounced, with males experiencing higher death rates across age groups.

The majority of deaths occur at home, suggesting potential gaps in access to healthcare facilities. Maternal mortality, especially among women aged 25-29, remains a pressing issue, highlighting the need for targeted reproductive health services and emergency obstetric care.

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11.2. Recommendations

1. **Enhancing Healthcare Access and Child Health Outcomes:** Collaborative efforts from the government, healthcare providers, and international organizations are essential to improve healthcare access and increase vaccination outreach. Educating IDP communities on hygiene and sanitation is crucial for enhancing child health outcomes in Somaliland.
2. **Tailored Healthcare Interventions:** There is an urgent need for targeted interventions to improve healthcare access and infrastructure, specifically tailored to the needs of different age and gender groups. These interventions should address the identified mortality challenges to improve survival rates and health outcomes for vulnerable populations in IDP camps.
3. **Promoting Education and Gender Equality:** Targeted educational interventions and policies are needed to promote gender equality and address systemic barriers to education and literacy in displaced communities. Addressing these issues is vital for improving the overall well-being and future prospects of IDPs in Somaliland.
4. **Empowering Women:** Efforts should focus on empowering women and enhancing their socio-economic status. This includes providing access to resources, education, and opportunities that enable women to improve their quality of life and contribute meaningfully to their communities.
5. **Family Planning and Reproductive Health Services:** Improving access to comprehensive family planning and reproductive health services in IDP camps is crucial. Initiatives should focus on providing education and resources to manage high fertility levels effectively, especially among younger women with higher fertility rates.

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