



Research Article

Towards Sustainable Food Security in the Intergovernmental Authority on Development (IGAD) Region: The Role of Population Dynamics

Mansoor Ali* 

Department of Geography and Environmental Studies, Samara University, Afar, Ethiopia

Abstract

This paper explores how population dynamics influence sustainable food security in the Intergovernmental Authority on Development region, one of Africa's most rapidly growing demographic zones. The study employs a mixed-methods research design, drawing on secondary data from global and regional databases to analyze demographic trends, labour force changes, urbanization, and nutritional outcomes across eight member states from 2010 to 2020. Results indicate that rapid population growth, youthful age structures, and expanding labour forces have intensified demand for food, employment, and social services. Although declining dependency ratios in several countries suggest emerging opportunities for a demographic dividend, these gains are constrained by unemployment, gender inequality, and limited agricultural modernization. The research also identifies growing urbanization as a key factor reshaping food systems, altering consumption patterns, and increasing pressure on supply chains. Despite some improvements, the prevalence of undernourishment remains high in several countries, reflecting structural vulnerabilities linked to poverty, climate variability, and weak institutional capacity. The findings highlight that demographic change is not inherently detrimental; rather, it can support food security if accompanied by investments in education, youth employment, gender empowerment, and climate-resilient agriculture. The study concludes that sustainable food security in the IGAD region requires integrated demographic and development policies, strengthened regional cooperation, and improved data-driven planning to transform population growth into a catalyst for inclusive and resilient development.

Keywords

Food Security, Population Growth, Demographic Transition, Youth Population, Urbanization, Labour Force Dynamics, Undernourishment, Sustainable Development

1. Introduction

The Intergovernmental Authority on Development (IGAD) region—comprising Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda in the Horn of Africa—constitutes one of Africa's most demographically dynamic areas. With a population exceeding 290 million in 2020,

the region is experiencing a rapid demographic transformation that significantly influences prospects for food security and sustainable development. These shifts highlight the importance of examining the interconnections between population dynamics and development outcomes, particularly in a

*Correspondence: Mansoor Ali (ali.mansoor0223@gmail.com)

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context characterized by recurrent climatic shocks, political instability, and economic fragility.

Population growth across IGAD countries is marked by persistently high fertility rates, youthful age structures, and accelerating urbanization. Fertility levels remain above the global average, while elevated dependency ratios—especially in Somalia and Uganda—limit household savings and national investment, thereby constraining sustainable development. Urbanization has also increased steadily over the past decade, reshaping food systems by altering consumption patterns, weakening traditional agricultural livelihoods, and heightening reliance on imported food supplies.

These demographic pressures are compounded by enduring structural challenges. Widespread poverty, environmental degradation, and weak governance hinder progress toward sustainable development objectives, particularly those related to food security. Environmental stressors such as deforestation, over-cultivation, and unsustainable land management practices intensify ecological decline, while climate variability—manifested in recurrent droughts—disrupts agricultural production and exacerbates displacement and conflict.

Despite these challenges, demographic trends also present opportunities. A large and youthful labour force could generate a demographic dividend if supported by investments in education, healthcare, and employment. Regional and national initiatives emphasize resilience and demographic management; however, implementation gaps, financial limitations, and institutional weaknesses constrain their impact. Education—especially for women and girls—remains critical for reducing fertility and improving socio-economic outcomes, while technological innovations in climate-resilient agriculture offer additional pathways for strengthening food security.

This study argues that the relationship between population dynamics and food security in the IGAD region is multidimensional and requires integrated, multi-sectoral policy responses to promote sustainable and resilient development.

2. Objectives of the Study

Food security and sustainable development remain pressing challenges in the Intergovernmental Authority on Development region, which covers more than five million square kilometers and supports a population exceeding 290 million people. Rapid demographic change, combined with socio-economic constraints and environmental pressures, necessitates a comprehensive examination of how population dynamics influence food security and long-term development outcomes. Accordingly, this study establishes both general and specific objectives to guide analysis and policy-oriented inquiry.

The general objective of the research is to examine the role of population dynamics in shaping food security and sustainable development across the IGAD region, while proposing integrated, evidence-based strategies to enhance resilience and sustainability. This overarching aim seeks to analyze the

interactions between demographic variables—such as population growth, fertility rates, age structure, and urbanization—and their implications for food availability, access, and stability. It also aims to determine whether demographic change functions primarily as a constraint or as an opportunity for promoting inclusive economic growth and sustainable food systems.

To operationalize this goal, the study pursues several specific objectives. First, it analyzes population trends and assesses their implications for food security and sustainable development. Second, it examines the influence of youth demographics on labour markets, agricultural productivity, and food system resilience. Third, it evaluates labour force dynamics, including employment and unemployment patterns, in relation to household food access and economic stability. Finally, the study develops policy recommendations that integrate demographic considerations with food security and environmental sustainability.

3. Research Design and Methodology

This study adopts a regional analytical framework focusing on the Intergovernmental Authority on Development (IGAD) region as a distinct geographic and socio-economic unit. Emphasizing the relationship between population dynamics and food security, the research employs a mixed-methods approach that integrates quantitative and qualitative techniques. This methodological combination enables a comprehensive assessment of the multidimensional factors shaping sustainable development and food security outcomes across the region.

The use of mixed methods is justified by the complexity of the subject matter. Quantitative analysis is applied to demographic variables and development indicators to identify measurable trends, patterns, and interrelationships. Qualitative analysis complements this by examining socio-political, institutional, and cultural contexts that influence policy implementation and human experiences. Together, these approaches enhance both statistical rigor and contextual understanding.

The research design is descriptive and explanatory, aiming to document demographic and food security conditions, analyze their interconnections, and identify pathways for sustainable development. The study encompasses all eight IGAD member states—Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda—selected for their shared regional frameworks and development priorities. The temporal scope spans 2010 to 2020, allowing a decade-long retrospective assessment of demographic and socio-economic change.

Data are derived from secondary sources, including demographic statistics from international databases, food security indicators, and development reports from recognized institutions like UN DESA, the World Bank, FAOSTAT, WFP database, UNDP Human Development Reports, IGAD publications, and national censuses. Simple statistical techniques and

tabular presentations are used for analysis, while triangulation of multiple data sources enhances validity and reliability. Although data gaps and inconsistencies across countries are acknowledged, the methodological framework provides a robust basis for evidence-based analysis, policy recommendations, and future research aimed at strengthening sustainable food security in the IGAD region.

4. Literature Review

Food security has progressively evolved into a multidimensional concept central to global development discourse. The Food and Agriculture Organization defines food security as a condition in which all individuals, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs for an active and healthy life [7]. This definition identifies four fundamental pillars—availability, access, utilization, and stability—which collectively underpin contemporary food security analysis. Earlier conceptualizations focused primarily on food availability at national or global scales; however, subsequent scholarship emphasized that adequate supply alone does not guarantee food security. Maxwell and Smith [17] highlighted the significance of access and utilization, while the 1996 World Food Summit expanded the concept to incorporate nutrition and household-level access. Later, rights-based approaches framed food security as an issue of governance, accountability, and social justice [5].

Each pillar entails distinct technical dimensions. *Food availability* depends largely on agricultural productivity, influenced by irrigation systems, fertilizer use, improved seed varieties, and sustainable land management [8, 11]. *Food access* is determined by household income, market infrastructure, and price stability. Sen's [25] entitlement theory demonstrated that famine often results from distributional failures rather than absolute scarcity. *Utilization* focuses on nutrition and health outcomes, requiring adequate sanitation, maternal education, and dietary diversity [23]. *Stability* emphasizes resilience to shocks such as climate variability, conflict, and economic crises [9, 16].

Institutional and governance structures play a decisive role in shaping food security outcomes. Effective food security strategies require coordinated interventions across agriculture, trade, health, and social protection sectors. Regional initiatives such as the Comprehensive Africa Agriculture Development Programme (CAADP) seek to enhance agricultural investment and policy coherence [18]. Nevertheless, governance challenges—including weak regulatory systems, corruption, and limited political commitment—often undermine implementation [20]. These challenges are particularly pronounced in fragile regions such as the Intergovernmental Authority on Development area, where political instability and institutional weaknesses exacerbate vulnerability.

Food security is closely linked to sustainable development. The World Commission on Environment and Development defined sustainable development as meeting present needs

without compromising the ability of future generations to meet their own needs [28]. This concept integrates economic growth, environmental protection, and social equity. Economic sustainability requires resource efficiency and resilience [19], environmental sustainability emphasizes biodiversity conservation and climate mitigation [22], and social sustainability focuses on equity and inclusion [24]. The adoption of the United Nations Sustainable Development Goals operationalized these principles into measurable targets [27]. Despite progress, challenges remain in balancing growth with environmental stewardship and strengthening institutional capacity [14, 26].

Population dynamics—including growth rates, age structures, migration, and urbanization—are intrinsically linked to food security. Rapid population growth increases food demand, often exceeding gains in agricultural productivity, particularly in Sub-Saharan Africa [9]. Alexandratos and Bruinsma [1] estimated that global food production must increase by at least 60 percent by 2050 to meet rising demand. Age structure is equally significant; youthful populations may generate a demographic dividend when supported by education and employment, but can also intensify food insecurity in the absence of economic opportunities [3]. Urbanization transforms food systems by shifting dietary preferences and complicating distribution networks. Migration—both voluntary and forced—affects agricultural productivity and household food access through remittances and displacement [2, 12].

Indicators such as the Prevalence of Undernourishment, Global Hunger Index, and Food Insecurity Experience Scale are widely used to quantify food insecurity [10]. Demographic data from international population databases inform analysis of population–food system interactions. Integrated modelling approaches increasingly link population growth, environmental change, and food production scenarios [21]. Climate-smart agriculture offers pathways for balancing productivity with sustainability [15], while technological innovations in digital agriculture and biotechnology provide opportunities, albeit with adoption challenges [11].

Empirical studies in the IGAD region reveal a complex interaction between demographic change and food security. Climate variability is a major driver of vulnerability. Conflict and political instability further intensify vulnerability, as shown in Devereux's [6] analysis of Ethiopian famines and in Somalia. [4], documented long-term effects of conflict on child malnutrition, while Hogg and Tubiana [13] emphasized disruptions to pastoralist mobility.

5. Result and Discussions

(i) Population Growth

The Intergovernmental Authority on Development (IGAD) region has experienced significant demographic changes between 2010 and 2020. These shifts in population size and rural–urban distribution have profound implications for food security and sustainable development.

Table 1. Population Distribution (MN) in the IGAD Member States.

Year	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda	Total IGAD
2010	0.93	2.95	90.54	41.6	12.26	9.75	35.41	32.39	225.83
2020	1.11	3.29	118.92	52.22	16.65	10.7	46.79	44.46	294.14

Table 2. Population Share by Rural-Urban (%) in the IGAD Member States.

Year	Item	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
2010	Rural	22.6	65.1	83.0	76.0	61.0	82.1	67.0	81.0
	Urban	77.4	34.9	17.0	24.0	39.0	18.0	33.0	19.0
2020	Rural	21.6	59.0	78.0	72.0	54.0	80.0	65.0	75.0
	Urban	78.4	41.0	22.0	28.0	46.0	20.0	35.0	25.0

Between 2010 and 2020, the IGAD region's population increased from 225.83 million to 294.14 million, reflecting a growth of nearly 68 million people in just one decade. Ethiopia and Uganda recorded the largest absolute increases, with Ethiopia rising from 90.54 million to 118.92 million and Uganda from 32.39 million to 44.46 million. Kenya also experienced substantial growth, adding over 10 million people during the same period. Smaller states such as Djibouti and Eritrea showed modest increases, yet their relative growth rates remain significant given their smaller population bases.

This rapid expansion underscores the demographic pressures facing the region. High fertility rates and youthful age structures continue to drive population growth, intensifying demand for food, housing, education, and healthcare. The increase in total population also places a greater strain on agricultural systems, which remain the backbone of livelihoods in most IGAD countries.

The rural-urban distribution reveals important structural shifts. In 2010, rural populations dominated across most member states, with Ethiopia (83%), Uganda (81%), and South Sudan (82.1%) showing particularly high rural shares. By 2020, rural proportions declined in nearly all countries, though they

remain above 70% in Ethiopia, Uganda, and South Sudan. Urbanization is most pronounced in Djibouti, where the urban share rose from 77.4% in 2010 to 78.4% in 2020, reflecting its city-state characteristics. Kenya and Somalia also experienced notable urban growth, with urban shares rising from 24% to 28% and 39% to 46%, respectively.

This rural-urban transition has critical implications for food security. Urbanization often leads to dietary shifts toward processed and resource-intensive foods, increasing pressure on supply chains. It also disrupts traditional agricultural practices as rural labour migrates to cities, potentially reducing local food production. At the same time, urban centers demand more complex food distribution systems, which, if poorly managed, can exacerbate food insecurity through price volatility and supply disruptions.

(ii) Age Structure

The age structure of populations in the IGAD region provides a crucial lens through which to understand the challenges of sustainable food security. The data from 2010 and 2020 (Tables 3 and 4) reveal both continuity and gradual shifts in demographic composition, with implications for dependency ratios, labour force potential, and food demand patterns.

Table 3. Age Structure (%) in the IGAD Member States - 2010.

Age (Years)	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
0 - 14	36.4	42.6	45.7	43.6	48.7	42.8	44.6	49.5
15 - 24	19.6	20.0	20.2	20.8	18.4	18.0	19.9	20.9
25 - 54	35.7	29.7	27.8	30.8	26.8	33.3	29.2	25.0
55 - 64	4.8	4.1	3.6	2.7	3.6	3.4	3.7	2.6

Age (Years)	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
> 65	3.7	3.7	2.7	2.1	2.4	2.5	2.6	2.0

Table 4. Age Structure (%) in IGAD Member States - 2020.

Age (Years)	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
0 - 14	31.0	40.4	40.5	39.3	47.0	42.4	41.4	45.2
15 - 24	19.9	21.8	21.4	20.6	20.2	19.9	20.7	21.9
25 - 54	38.9	29.0	30.9	33.4	26.8	30.7	30.4	27.9
55 - 64	5.7	4.7	4.1	4.0	3.5	4.3	4.4	2.9
> 65	4.5	4.1	3.1	2.8	2.5	2.7	3.0	2.1

In 2010, children aged 0–14 constituted a significant share of the population across all IGAD states, ranging from 36.4% in Djibouti to 49.5% in Uganda. By 2020, this share had declined slightly in most countries, with Ethiopia dropping from 45.7% to 40.5% and Kenya from 43.6% to 39.3%. However, Somalia and Uganda still maintained very high proportions of young populations at 47% and 45.2%, respectively. This persistent youth bulge indicates high dependency ratios, where large segments of the population rely on working-age adults for sustenance. For food security, this translates into heightened demand for basic staples and nutrition programs, particularly in countries with limited agricultural productivity.

The proportion of individuals aged 25–54 increased across most states between 2010 and 2020, with Djibouti rising from 35.7% to 38.9% and Ethiopia from 27.8% to 30.9%. This shift signals a gradual demographic transition toward a larger labour force. If harnessed effectively, this could generate a demographic dividend, where increased productivity and economic growth support food system resilience. However, without adequate employment opportunities, education, and agricultural modernization, this potential may remain unrealized, leading to underemployment and food insecurity.

The shares of populations aged 55–64 and above 65 remain relatively small, though they show slight increases over the decade. Djibouti, for instance, saw its 65+ population rise from 3.7% to 4.5%. While still modest, these shifts suggest emerging needs for social protection and healthcare systems, which indirectly affect food security by influencing household resource allocation.

The youthful age structure places immense pressure on food systems. High child populations demand robust nutrition interventions to prevent malnutrition and stunting, particularly in fragile states such as Somalia and South Sudan. Meanwhile, the growing working-age population requires policies that link agricultural modernization with employment creation, ensur-

ing that food production keeps pace with demand. Urbanization trends compound these challenges, as younger populations increasingly migrate to cities, altering consumption patterns and straining food distribution networks.

The demographic profile underscores the need for integrated strategies across IGAD. Countries with persistently high youth shares must prioritize investments in education, health, and agricultural innovation to prepare future generations for productive engagement. Those experiencing growth in working-age cohorts should focus on harnessing this demographic dividend through job creation, agribusiness development, and regional trade integration. IGAD's collective framework offers opportunities for coordinated responses, particularly in addressing transboundary challenges such as migration, climate change, and food trade.

(iii) Labour Force and Unemployment

The dynamics of labour force participation and unemployment in the Intergovernmental Authority on Development (IGAD) region provide critical insights into the nexus between population growth, employment opportunities, and food security. The data from Tables 5 and 6 highlight both expansion in labour force size and persistent challenges in job creation, with significant gender disparities and country-specific variations.

Between 2010 and 2020, the IGAD region witnessed a notable increase in its labour force, reflecting demographic expansion and gradual shifts in age structure. Ethiopia recorded the largest growth, with its labour force rising from 40.08 million to 49.11 million, followed by Uganda, which nearly doubled from 12 million to 19.15 million. Kenya also showed substantial growth, increasing from 17.28 million to 21.25 million. Smaller states such as Djibouti and Eritrea experienced modest increases, while South Sudan and Sudan showed slower growth relative to their population size. This expansion underscores the growing pressure on economies to absorb new entrants into the labour market, a challenge directly linked to

food security through income generation and household purchasing power.

Table 5. *Labour Force (MN) in the IGAD Member States.*

	Total		Female		Male	
Country	2010	2020	2010	2020	2010	2020
Djibouti	0.20	0.24	0.05	0.07	0.15	0.17
Eritrea	1.34	1.51	0.64	0.72	0.70	0.79
Ethiopia	40.08	49.11	18.44	21.17	21.64	27.94
Kenya	17.28	21.25	8.40	9.97	8.88	11.29
Somalia	2.17	2.97	0.66	0.93	1.51	2.04
South Sudan	4.11	4.51	2.06	2.26	2.05	2.25
Sudan	9.56	10.72	2.74	2.39	6.82	8.33
Uganda	12.00	19.15	5.94	9.29	6.06	9.86

Table 6. *Total Unemployment Rate (%) in the IGAD Member States.*

Year	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
2010	26.4	5.7	2.3	2.8	19.0	12.5	15.2	3.6
2020	27.7	6.1	4.0	5.6	19.4	14.3	12.0	3.8

The data reveal persistent gender disparities in labour force participation. In Ethiopia, female participation increased from 18.44 million in 2010 to 21.17 million in 2020, yet males still outnumbered females significantly (27.94 million). Uganda showed a similar pattern, with female participation rising from 5.94 million to 9.29 million, compared to 9.86 million males. In Sudan, female participation even declined slightly from 2.74 million to 2.39 million, highlighting structural barriers to women's economic engagement. These disparities have direct implications for food security, as women are often central to agricultural production, household nutrition, and food distribution. Enhancing female labour participation could therefore strengthen resilience and improve food system outcomes.

Despite labour force growth, unemployment rates remain a pressing concern. Djibouti consistently recorded the highest unemployment, rising from 26.4% in 2010 to 27.7% in 2020, reflecting structural weaknesses in its economy. Somalia also faced persistently high unemployment at around 19%, while South Sudan's rate increased from 12.5% to 14.3%, reflecting the impact of conflict and instability. In contrast, Ethiopia and Uganda maintained relatively low unemployment rates, though Ethiopia's rose from 2.3% to 4.0% and Kenya's from 2.8% to 5.6%, suggesting growing challenges in job creation. High unemployment undermines food security by limiting

household incomes, reducing access to adequate nutrition, and exacerbating poverty.

The interplay between labour force dynamics and unemployment directly affects food security in the IGAD region. Expanding labour forces without corresponding job creation risks deepening poverty and food insecurity. Countries with high unemployment, such as Djibouti and Somalia, face acute challenges in ensuring affordable food access for urban populations. Meanwhile, rural economies, where agriculture remains dominant, require modernization and investment to absorb growing labour forces productively. Gender disparities further constrain food security outcomes, as women's limited participation reduces the potential for inclusive agricultural growth and household resilience.

(iv) Age Dependency Ratio and Prevalence of Undernourishment

The age dependency ratio and prevalence of undernourishment in the Intergovernmental Authority on Development (IGAD) region provide critical insights into the demographic pressures and nutritional challenges that shape food security outcomes. The data from [Tables 7, 8, and 9](#) highlight both progress and persistent vulnerabilities, underscoring the need for integrated strategies that address population dynamics, economic capacity, and food system resilience.

Table 7. Age Dependency Ratio in the IGAD Member States.

Year	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
2010	67	86	94	84	105	83	89	106
2020	55	80	77	73	98	82	80	90

Table 8. Prevalence of Undernourishment (MN) in the IGAD Member States.

Year	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
2010	0.2	NA	19.6	9	8.6	NA	NA	6.6
2020	0.1	NA	26.9	13.5	8.4	2.1	4.9	16.5

Table 9. Prevalence of Undernourishment (%) in the IGAD Member States.

Year	Djibouti	Eritrea	Ethiopia	Kenya	Somalia	South Sudan	Sudan	Uganda
2010	19.9	NA	21.9	21.7	71.4	NA	NA	20.4
2020	11.9	NA	23.0	13.5	51.1	19.6	11.1	37.1

Between 2010 and 2020, most IGAD countries experienced a decline in age dependency ratios, suggesting a gradual demographic transition. Ethiopia's ratio fell from 94 to 77, Kenya's from 84 to 73, and Uganda's from 106 to 90. Djibouti recorded the sharpest decline, from 67 to 55. These shifts indicate a growing proportion of working-age populations relative to dependents, offering potential for a demographic dividend if harnessed through employment creation and economic growth. However, Somalia and South Sudan maintained high dependency ratios (98 and 82 respectively in 2020), reflecting continued demographic pressure and limited capacity to translate population structures into economic gains.

The absolute prevalence of undernourishment reveals mixed outcomes. Ethiopia saw a sharp increase, from 19.6 million in 2010 to 26.9 million in 2020, reflecting both population growth and persistent food insecurity. Uganda also experienced a significant rise, from 6.6 million to 16.5 million, highlighting challenges in meeting nutritional needs despite agricultural potential. Kenya's undernourished population grew from 9 million to 13.5 million, while South Sudan reported 2.1 million undernourished in 2020, reflecting the impact of conflict and fragile food systems. In contrast, Djibouti showed improvement, with undernourishment declining from 0.2 million to 0.1 million.

Percentage data provide a clearer picture of relative progress. Somalia, though still facing the highest burden, reduced undernourishment from 71.4% in 2010 to 51.1% in 2020. Djibouti

also improved significantly, from 19.9% to 11.9%. Sudan reported 11.1% in 2020, indicating moderate progress. However, Uganda's prevalence worsened dramatically, rising from 20.4% to 37.1%, while Ethiopia's share increased slightly from 21.9% to 23%. These figures suggest that while some countries are reducing relative food insecurity, others are experiencing setbacks, often linked to rapid population growth, climate shocks, and weak agricultural systems.

The interplay between dependency ratios and undernourishment highlights the dual challenges facing IGAD states. Declining dependency ratios suggest opportunities for economic transformation, yet rising undernourishment in several countries indicates that these demographic shifts are not translating into improved food security. High dependency ratios in Somalia and Uganda exacerbate vulnerability, as large child populations increase demand for nutrition programs while straining household resources. Meanwhile, countries with improving ratios, such as Djibouti and Kenya, must ensure that labour force growth is matched with agricultural productivity and food system modernization.

6. Conclusion and Recommendations

The findings of this study confirm that population dynamics play a decisive role in shaping food security across the IGAD region. Rapid population growth, youthful population struc-

tures, expanding labour forces, and increasing rural–urban migration continue to place significant pressure on food systems, agricultural production, and social services. At the same time, persistent undernourishment, unemployment, poverty, and gender inequality reveal deep structural constraints that limit progress toward sustainable food security. These demographic realities present both serious challenges and important opportunities for the region.

Population growth and urbanization have intensified food demand while transforming patterns of production and consumption. Rural communities remain highly dependent on subsistence agriculture, which is increasingly threatened by climate change, land degradation, and limited access to modern agricultural inputs. In contrast, growing urban populations face challenges related to food affordability, distribution, and market accessibility. Youthful age structures further increase the burden, as large numbers of young people require adequate nutrition, education, and employment opportunities. Without sufficient job creation, expanding labour forces may deepen poverty, social instability, and food insecurity rather than generate economic growth. High dependency ratios in several countries, particularly Somalia and Uganda, further increase household vulnerability and limit productive investment.

The study also highlights that demographic pressures are closely linked with broader development concerns such as environmental degradation, conflict, weak institutions, and inadequate infrastructure. Countries with large rural populations must prioritize agricultural transformation, rural infrastructure development, and climate resilience, while rapidly urbanizing states require stronger food supply systems and improved market integration. Harnessing the demographic dividend will depend largely on strategic investments in education, vocational skills, health services, and gender equality. Regional cooperation through IGAD remains essential for addressing shared challenges such as drought, migration, conflict, and cross-border food trade.

To achieve sustainable food security, governments should adopt integrated and forward-looking policy approaches. Investment in education, youth employment, and agricultural modernization should be prioritized to convert demographic growth into economic opportunity. Promoting gender equality by improving women's access to land, credit, extension services, and training is equally important for strengthening household food security and resilience. Climate-smart agriculture, irrigation expansion, and technological innovation must be strengthened to increase productivity and reduce vulnerability to environmental shocks.

Urban food security should also receive greater attention through improved supply chains, reduced post-harvest losses, and affordable food systems. Targeted nutrition programs, including school feeding, maternal health services, and child nutrition interventions, are necessary to address malnutrition and stunting. Finally, stronger statistical systems, evidence-based planning, and alignment with the Sustainable Development Goals (SDGs) will enhance policy effectiveness. A holistic

and multi-sectoral strategy that aligns demographic realities with inclusive development policies is fundamental for ensuring long-term food security and sustainable development across the IGAD region.

Abbreviations

FAO	Food and Agriculture Organization
IGAD	Intergovernmental Authority on Development
SDGs	Sustainable Development Goals
WFP	World Food Programme

Author Contributions

Mansoor Ali: Conceptualization, Data curation, Formal Analysis, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing

Conflicts of Interest

The author declares no conflicts of interest.

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