



THE STATE OF UGANDA POPULATION REPORT 2023

**Mindset Change for A Favourable Population
Age Structure: A Prerequisite for Wealth Creation**

NOVEMBER 2023

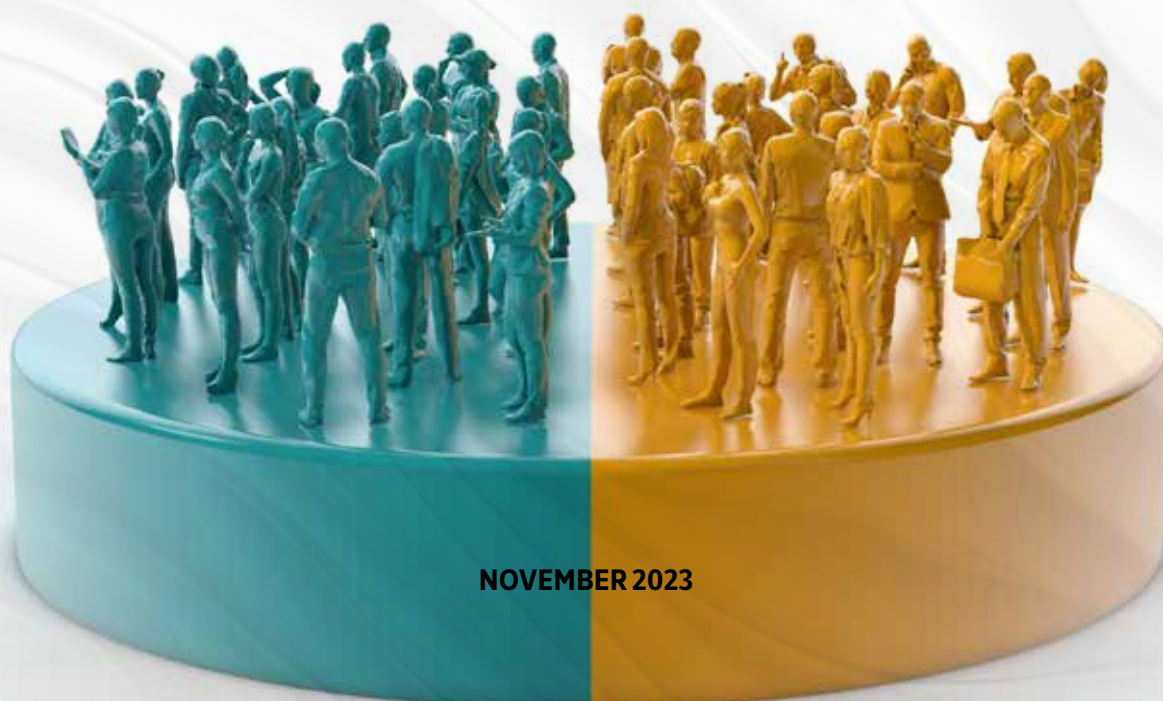




THE REPUBLIC OF UGANDA

STATE OF UGANDA POPULATION REPORT

**MINDSET CHANGE FOR A FAVOURABLE POPULATION AGE
STRUCTURE: A PREREQUISITE FOR WEALTH CREATION**



NOVEMBER 2023

FOREWORD



It is with great pleasure that the Ministry of Finance, Planning, and Economic Development presents the 23rd edition of the State of Uganda Population Report. The Report's theme is: ***"Mindset Change for A Favourable Population Age Structure: A Prerequisite for Wealth Creation"*** The theme is mindful of the aspirations of the 2020 National Population Policy, the 2018 Demographic Dividend Roadmap, and the Vision 2040. Uganda's Population Age Structure and Wealth Creation, Inclusive Education, Mindset Change, and Economic Growth, Mindset Change and Skilling for Wealth Creation, Investing in Agriculture for Wealth Creation, Digital Transformation and Wealth Creation, and Policy Frameworks for Mindset Change are the sub-themes that speak to the Report through the collaborative effort of dedicated researchers, policymakers, and experts in the field offering valuable insights and analysis that are crucial for national development.

This Report is particularly timely given Uganda's current population, projected at 46 million, marked by a notable growth rate of 3.0%, underscoring its youthful demographic. The nation is undergoing rapid urbanization at a rate of 5.2%, presenting attendant challenges in employment and infrastructure. In addressing these challenges, the Government's focus continues to revolve around increasing household incomes, agricultural commercialization, private sector support, investing in Uganda's population, improving infrastructure, and accelerating strategic investments in innovation, minerals, oil, and gas industry. This has been done through high-impact public investments, full implementation of the Parish Development Model (PDM) and Emyooga Fund, and enhanced government efficiency. To ensure the success of these efforts, the Government has continued to maintain peace, security, good governance, and the rule of law as foundational elements.

The Government has continued supporting the implementation of the 2020 National Population Policy, which, in addition to fundamentals like infrastructure development such as roads, energy, and Information and Communication Technology, has aided the Country in prioritizing Human Capital Development to harness the Demographic Dividend. Consequently, this population-influencing Policy focuses on accelerating the decline in both fertility and mortality to change the population age structure and reduce child dependency. The Government has also prioritized investments in young people's health, education, skilling, and job creation to accelerate socio-economic transformation. Under the overall coordination of the National Population Council (NPC), implementing this Policy is directing the Country on a trajectory to harness the Demographic Dividend.

It is essential to commend the efforts of the Ugandan Government and its associated sector entities. There has been a commendable increase in modern contraceptive use, rising from 35% in 2016 to 38% in 2023, geared at reducing the high fertility rates that translate into pressures on the environment and household savings for investment. Equally noteworthy is the decline in infant mortality, dropping from 64 deaths per 1,000 live births in 2016 to 52 deaths per 1,000 live births in 2023, ultimately improving the quality of people's lives.

The Mid-Term Review of the Third National Development Plan (NDP III) and the Review of the Addis Ababa Declaration on Population and Development (AADPD@10) have played a pivotal role in shaping this Report. These reviews have provided invaluable insights and a reflective juncture, allowing us to assess our progress, identify challenges, and strategically plan the way forward. This critical analysis reaffirms our dedication to realizing our National Vision and strengthens our resolve to meet global goals.

As we navigate an ever-changing global landscape, data-driven decision-making is paramount. The findings presented in this Report are not mere statistics; they represent the lives, aspirations, and challenges of Ugandans from all walks of life. This knowledge equips us with the tools necessary to design policies and programs that are effective and inclusive, addressing every citizen's needs and ensuring that no one is left behind.

The Ministry of Finance, Planning, and Economic Development congratulates the National Population Council on successfully producing the 2023 State of Uganda Population Report.

To the readers, I encourage you to engage deeply with the findings presented herein. Let us use this knowledge to foster meaningful dialogue, drive evidence-based policies, and inspire positive change. Together, we can build a future where every Ugandan has the opportunity to thrive and contribute to the growth and prosperity of our great nation.



Amos Lugoloobi (M.P)

Minister of State for Finance, Planning and Economic Development (Planning)

ACKNOWLEDGMENT



The United Nations Population Fund (UNFPA) annually produces the State of World Population (SWoP) report highlighting current and emerging population issues requiring policy and program action at global, regional, national, and sub-national levels. Countries domesticate the population issues highlighted in the SwoP at the country level through the annual state of the population reports that consider the country's context. Uganda's yearly corresponding report is the State of Uganda Population Report (SUPRE).

The theme of the 23rd edition of Uganda's country report is **"Mindset Change for a Favourable Population Age Structure: A Prerequisite for Wealth Creation."** A favorable population age structure is considered crucial for wealth creation in a society. The concept revolves around having a balanced distribution of age groups, with a significant portion of the population in the working-age category. The report focuses on some critical points related to the mindset change required for achieving a favorable population age structure.

The Council appreciates the exceptional work done by the authors in developing the articles for the SUPRE. These include; Dr. Betty Kyaddondo, Mr. Adrian Ssesenga,

Ms. Amolo Ritah, Mr. Arineitwe Killian, Dr. Rosemary Nakijoba, Dr. Charles Lwanga, Dr. Fred Maniragaba, Mr. Paulino Ariho, Mr. John Mpande, Dr. Martha Kibukamusoke, Mr. Ahumuza John Mary Vianney, Mr. Grace Bwengye, and Mr. Olupot David.

The Council, in a particular way, acknowledges and appreciates the outstanding work done by the Technical Working Group for the invaluable professional support provided during the process. The Technical Committee, drawn from the various Ministries, Departments, and Agencies (MDA's), included, Mr. Johnson Kagugube (UNFPA), Dr. Peninah Agaba (MUK), Mr. Kajubi Mark (UBOS), Mr. Orishaba Innocent (MoLG), Ms. Judith Mutabazi (NPA), Ms Mutamba Sylvia Richbell (MFPED), Lt. Mbwali Ashah Praise (OWC), Mr. Kawunde Isa (OPM), Mr. James Peter Olemo (NPC), Ms. Amolo Ritah (NPC), and Mr. Tushabe Humphrey Stuart (NPC).

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Special thanks go to Hon. Amos Lugoloobi (M.P), the Minister of State for Finance, Planning and Economic Development (Planning), Prof. Fred Wabwire-Mangen, the Chairperson Council and Council members for providing an enabling operational environment, overall leadership and oversight of the National Population Council.

Samuel S. Omwa

**Ag. Director General
National Population Council**

MESSAGE FROM THE UNFPA REPRESENTATIVE



Mindset change, a shift in attitudes, beliefs and perceptions towards a better life is a key component in influencing social norms and practices that impact directly sexual reproductive health rights and choices. Mindset shifts can significantly change vital population indicators, leading to lower fertility patterns, and reduction in early and unwanted pregnancies, thus, impacting on the population's age structure. Over the years, Uganda has made significant efforts and investments in its people to improve critical indicators of demography, economy, health, migration, and the environment. Notable progress has been made in some of the sexual reproductive health indicators as in the recent Uganda Demographic and Health Survey 2022 key findings, notably, a 44-percentage reduction in maternal mortality, reduction in unmet need for family planning from 28 percent to 22 percent, modern contraceptive prevalence from 35 percent to 38 percent, total fertility rates declined from 5.4 to 5.2 children per woman of reproductive age. Despite this progress, it is worth noting that some of the major demographic dividend impactful interventions such as keeping girls in school to delay on set of child marriages and pregnancy

are high and have stagnated. Teenage pregnancy (24 percent) and child marriages (34 percent) remain a major challenge among young girls less than 19 years. This is partly attributed to multi-dimensional poverty driven mainly by social cultural beliefs, attitudes and perceptions, a major hindrance to the required change.

The community mobilization and mindset change programme as espoused in the National Development Plan III continues to pursue the goal of empowering citizens, families and communities for increased responsibility and effective participation in sustainable national development. This can only be achieved if the country implements a comprehensive community mobilization (CMM) strategy addressing the barriers that stand in the way to reduce child abuse, sexual exploitation, gender-based violence and all forms of harmful practices including child marriages and female genital mutilation, which contribute to high unwanted teenage pregnancies. This requires equipping and operationalizing community mobilization and empowerment, intensify advocacy, social mobilization, and behavioral change communication through institutions/ structures at national and local government, and non-state actors including religious and cultural institutions for effective citizen mobilization and dissemination of information to guide and shape the mindset/attitudes of the population.

Harnessing of the demographic dividend is one of the key strategies in achieving Uganda's aspirations of transforming from a peasant to a middle-income country by 2040. The bedrock of this strategy is rapid fertility decline, arising mainly from young people delaying marriage and childbirth as they complete their education and build careers,



which will trigger the age structure transformation and in turn effect harnessing of the demographic dividend. Teenage pregnancy is a key bottleneck to harnessing the demographic dividend if no action is taken. There is a need to deliberately invest in girl child education, including re-entry guidelines for adolescent mothers. The cost of inaction to reducing teenage pregnancy results in socio-economic consequences to the individual, family, community, and nation.

The State of Uganda Population Report offers us an opportunity to reflect on the achievements with regards to issues of sexual reproductive health, gender-based violence, population and development for a better future for all Ugandans.

As we mark 30 years of the International Conference on Population and Development and 10 years of the Addis Ababa declaration on population and development, a lot remains to be done to achieve the three transformative results which demand for evidence, innovation, integrated approaches, and partnership to ensure that no one is left behind. UNFPA uses a human rights-based approach in programming to address the three transformative results of zero preventable maternal death; zero gender-based violence; and zero unmet need for family planning.

We need to combine our voices, resources, and efforts to improve the quality of life of the population of Uganda, and ensure No body is Left Behind and reach the furthest behind.

Gift Malunga

Gift Malunga

UNFPA Representative

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LIST OF ACRONYMS

A'Level	Advanced Level of Education
AFIRD	Agency for Integrated Rural Development
AGI	Agro-Industrialization
AIDS	Acquired Immunodeficiency Syndrome
AU	African Union
AVC	Agricultural Value Chain
BTVET	Business, Technical and Vocational Education and Training
CBC	Competence-Based Curriculum
CBET	Competency-based Education and Training
CGS	Competitive Grant Scheme
CMMC	Community Mobilization and Mindset Change Programme
COARD	Client-Oriented Agricultural Research and Development
CRDP	Convention on the Rights of Persons with Disabilities
DAC	Development Assistance Committee
DD	Demographic Dividend
DDA	Diary Development Authority
DIFD	Department for International Development
EAC	East African Community
ECOSOC	United Nations Economic and Social Council
EOC	Equal Opportunities Commission
FAO	Food and Agriculture Organization
FAO	Food and Agricultural Organization
FGD	Focus Group Discussion
FY	Financial Year
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GoU	Government of Uganda
GoU	Government of Uganda
HAI	Help Age International
HIV	Human immunodeficiency virus
HRNS	Hanns R. Neumann Stiftung
ICT	Information and Communications Technologies
IE	Inclusive Education
ILUD	Integrated Land Use Design
IT	Information Technology
KII	Key Informant Interviews
KYDP	K-Youth Development Programme

LEAP	Learning Entrepreneurship and Agriculture Practically
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDAs	Ministries, Departments, and Agencies
MGLSD	Ministry of Gender Labour and Social Development
MoES	Ministry of Education and Sports
MoGLSD	Ministry of Gender, Labor and Social Development
NARO	National Agricultural Research Organization
NARS	National Agricultural Research System
NCHE	National Council for Higher Education
NDP II	Second National Development Plan
NDP III	Third National Development Plan
NDP	National Development Plan
NEDP	National Enterprise Development Program
NLFS	National Labour Force Survey 2021
NPC	National Population Council
NPP	National Population Policy
NSYEA	National Strategy for Youth Employment in Agriculture
NYAP	National Youth Action Plan
NYP	National Youth Policy
O'Level	Ordinary Level of Education
OECD	The Organization for Economic Co-operation and Development
OPS	Older Persons
PARIS	Public Agricultural Research Institutes
PDM	Parish Development Model
PPPs	Public-Private Partnerships
PWDs	Persons with Disabilities
RYFA	RWAMPS Youth Farmers Groups Limited
SACCO	Saving and Credit Cooperative Societies
SDGs	Sustainable Development Goals
SMEs	Small and Medium Enterprises
SMU	Saemaul Undong
SQ	Survey Questionnaire
TVET	Technical Vocational Education and Training
UAAS	Uganda Annual Agricultural Survey
UACE	Uganda Advanced Certificate of Education
UBOS	Uganda Bureau of Statistics
UCC	Uganda Communications Commission
UCDA	Uganda Coffee Development Authority
UCE	Uganda Certificate of Education
UFDS	Uganda Functional Difficulties Survey
UGX	Uganda Shillings

ULS	Uganda Labourforce Survey
UN	United Nations
UN CEPA	United Nations Committee of Experts on Public Administration
UN DESA	United Nations Department for Economic and Social Affairs
UN	United Nations
UNCOPs	Uganda National Council for Older Persons
UNDESA	United Nations Department for Economic and Social Affairs
UNECA	United Nations Economic Commission for Africa
UNFPA	United Nations Population Fund
UNGEI	United Nations Girls Education Initiative
UPHC	Uganda Population and Housing Census
VET	Vocational Education Training
VSLA	Village Savings and Loans Associations
WHO	World Health Organization
X	Twitter
YADE	Youth Agri-Skilling for Decent Employment
YEP	Youth Entrepreneurship Program
YETA	Youth Empowerment Through Agriculture
YIELD	Young Innovators in Entrepreneurship and Leadership Development
YIGs	Youth Investment Groups
YIYA	Youth Inspiring Youth in Agriculture Initiative
YLP	Youth Livelihood Programme
ZARDI	Zonal Agricultural Research and Development Institutes



EXECUTIVE SUMMARY

Chapter one presents an overview of Uganda's demographic and socioeconomic context and highlights the key findings from the Uganda Demographic and Health Survey. The projected population of Uganda in 2023 is 46.2 million. Females account for 51% of the total population, and males 49%. About 44% are aged 0-14 years, 53% are aged 15-64 years, constituting the economically productive age group, and only 3% are aged 65 and above. Uganda has a total working population of 20.5 million persons aged 14-64 years, with the majority (51%) being own-use production workers, followed by (49%) in employment. The TFR has decreased from 5.4 in 2016 to 5.2 children per woman in 2022. Teenage pregnancy slightly dropped from 25% in 2016 to 24% in 2022. The slow pace is, however, a result of a low contraceptive prevalence rate (CPR), early sexual debut, early marriages, and near-universal marital union. In addition, the teenage pregnancy rate is high and has stagnated at 24%. The Country's Infant Mortality Rate (IMR) has declined from 43 deaths per 1,000 live births in 2016 to 36 in 2022. The under-five mortality rate declined from 64 deaths per 1,000 live births in 2016 to 52 in 2022. In addition, Maternal Mortality Ratio (MMR) has dropped from 336 deaths per 100,000 live births in 2016 to 189 deaths per 100,000 live births in 2022.

Chapter two analyzes Uganda's population age structure and wealth creation. It looks at the mortality and estimation of productive person-years of life lost to AIDS in Uganda. The chapter also highlights the disparities in human capital transition, highlighting the opportunities and constraints. Concerning older persons, the chapter looks at the factors influencing older persons' involvement in savings and credit cooperative groups. The section presents analytical results from an explorative analysis of socio-economic determinants of Uganda's early childhood education attendance.

Chapter three discusses digital transformation and wealth creation. The chapter explores the advances in Information and Communications Technology (ICTs), including the Internet, which have created avenues of inclusion for some, especially persons with disabilities. Still, it has also widened the extent to which they are excluded from the social and economic potential of the digital society.

It explicitly analyses access and adoption of digital technologies among persons with disability. It also looks at the effect of digitalization on youth employment.

Chapter four addresses the issue of mindset and skilling for wealth creation. It specifically looks at the mentality among youth to propel skills development for wealth creation in Uganda. The chapter discusses the role of government in skilling programs for youths' employability in Uganda, the extent to which the integration of vocational education has contributed to mindset change among youth and wealth creation and the obstacles that have been preventing youth training programs for positive mindset to drive skills development as a means of creating wealth.

Agriculture is the backbone of Uganda's economy. Chapter five delves into the issues of investing in agriculture for wealth creation. It examines the relationship between mindset, agricultural development, and socioeconomic transformation. It also looks at the participation of youth in agriculture, highlighting the opportunities and challenges.

Lastly, chapter six looks at the policy framework for mindset change. Specifically, the chapter underscores the need to make policy and legislative reforms for the country to harness the role of community mobilization and mindset change programs for wealth creation. In the spirit of leaving no one behind, the chapter highlights the inclusion and participation of PWDS in development programs.



CHAPTER 1

OVERVIEW OF UGANDA'S POPULATION IN 2023

1.0 Introduction

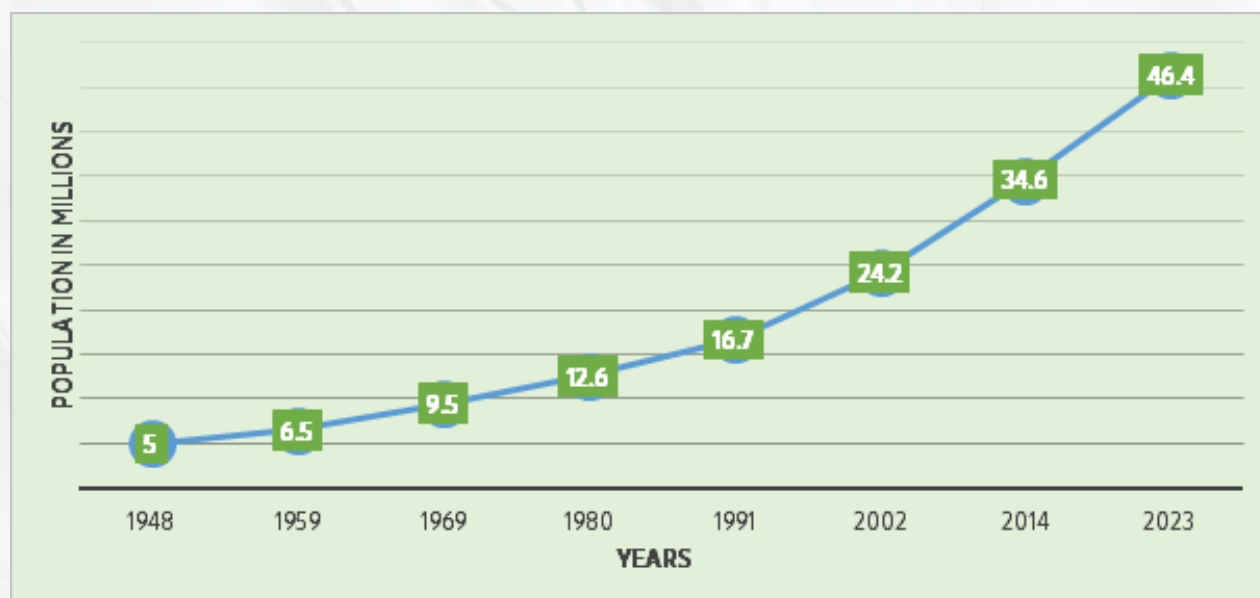
This year's State of Uganda Population Report theme is **"Mindset change for a favorable population age structure; a prerequisite for wealth creation."** Studies have proven that mindset shifts can significantly change vital population indicators, leading to a population's age structure shift. Over the years, Uganda has made significant efforts and investments in its people to improve critical indicators of demography, economy, health, migration, and the environment. Below is a highlight of the status of Uganda's population indicators.

2.0 Demographic and Socio-economic Context

Population

Uganda's population has increased from 9.5 million in 1969 to 34.6 million in 2014, representing an average annual population growth rate of 3.0% between 2002 and 2014. The population is projected at 46.2 million in 2023. This high population growth rate has been fueled mainly by a persistently high but declining fertility coupled with a high but declining mortality.

Figure 1: Uganda's Population Trends 1948-2014 and Projections



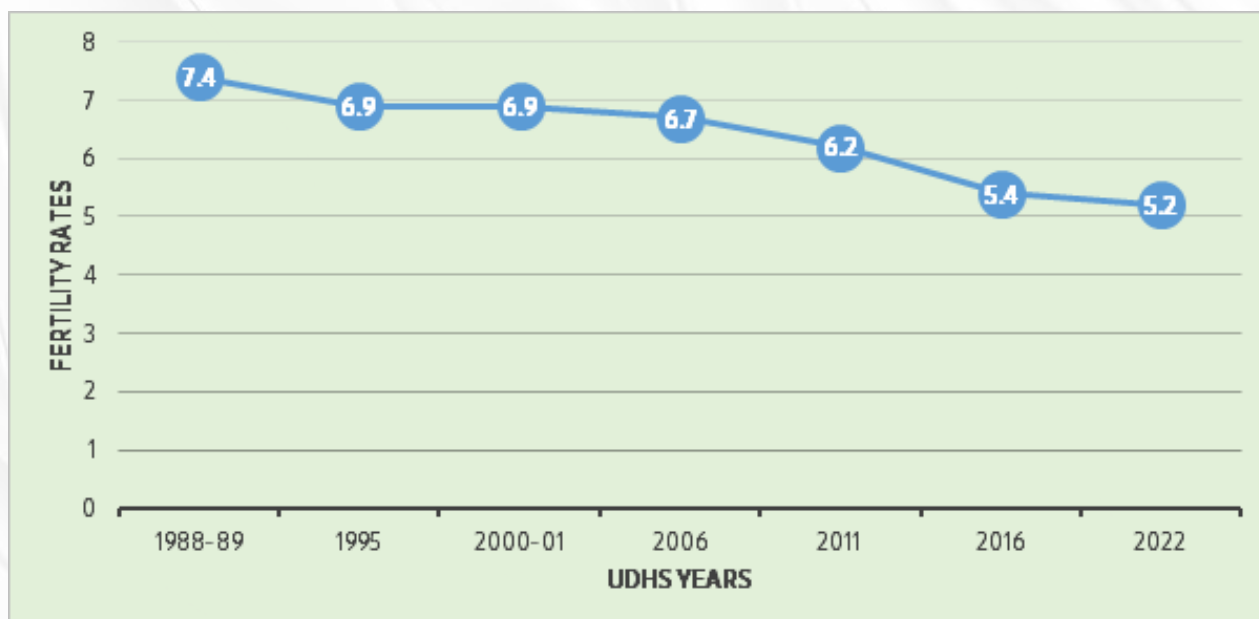
Source: UBOS 2023

Total Fertility Rate

Uganda has experienced a decline in its Total Fertility Rate (TFR) over the past few decades, though at a slow pace. In the 1980s and 1990s, the TFR hovered around seven children per woman. However, efforts from the Government have contributed to a reduction in fertility rates. By the 2010s, the TFR had decreased to 5.2 children per woman in 2023. These changes are attributed to initiatives promoting family planning, improving reproductive health awareness, and enhancing overall access to contraception. The shift reflects evolving societal attitudes toward family size and increased opportunities for women.

The slow pace is, however, a result of a low contraceptive prevalence rate (CPR), early sexual debut, early marriages, and near-universal marital union. In addition, the teenage pregnancy rate is high and has stagnated between 25% and 24% over the past ten years. The situation is worsened by the low status of women and the cultural practices that encourage early marriages, preference for the male child, and large family sizes.

Figure 2: Total Fertility Rates 1988/89–2022



Source: UBOS 2023

Age Structure

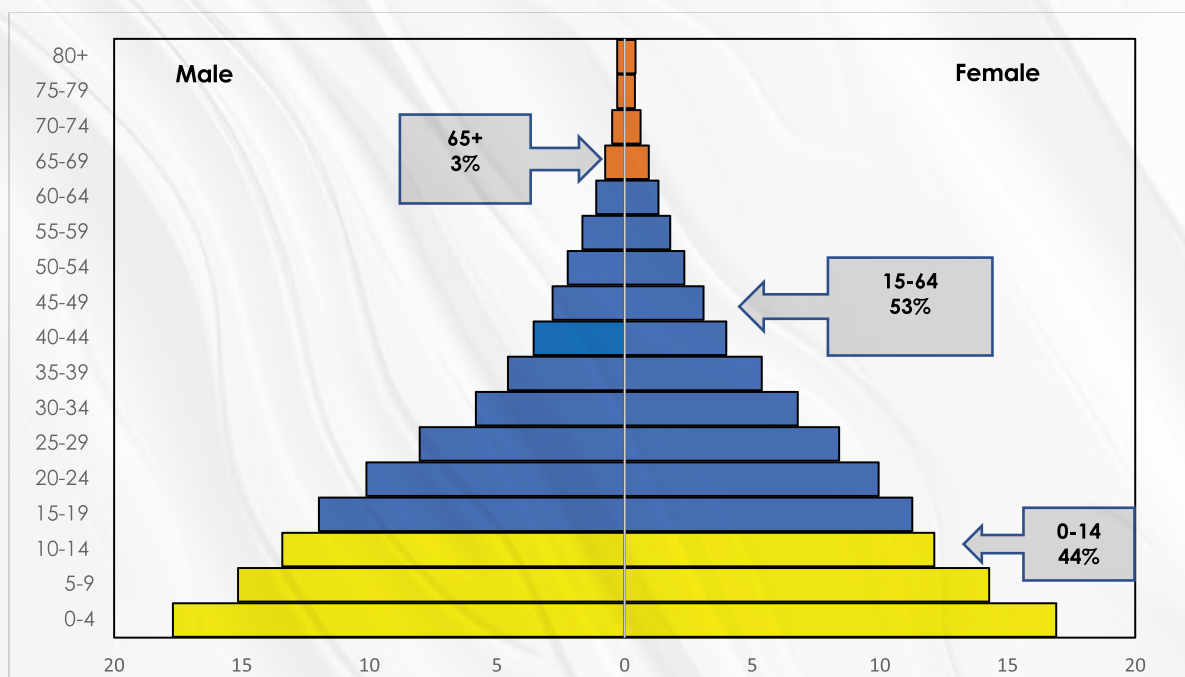
Uganda's population growth rate is still amongst the highest in the world, at 3.2 % per annum, with a Total Fertility Rate of 5.2 children per woman. This high fertility has produced an age structure that is child-heavy and not conducive to development. This predominantly young population forms a broad base of the country's population structure.

About 44% are aged 0-14 years, 53% are aged 15-64 years, constituting the economically productive age group, and only 3% are aged 65 and above (Figure 3). Uganda has a total working population of 20.5 million persons aged 14-64 years, with the majority (51%) being own-use production workers, followed by (49%) in employment (NLFS 2021). Agriculture, forestry, and fishing have been the dominant sectors, with 6 in 10 total workers. The employment-to-population ratio is 43 in 100 persons, an increase from 39% in UNHS 2019/20. Findings on status in employment showed that the majority (47%) were independent workers without employees, while 34% were employees.

This predominantly young population creates a high population momentum, which means that the country's population continues to increase because of the large cohorts of young women entering their childbearing years, with 53.9% beginning childbearing by age 19.6. The dependency ratio remains unfavorably high at 103, indicating a heavy burden on the economically productive population and impacting the Government's efforts to provide adequate and quality social services. If Uganda invested in reducing fertility and improving the economic reforms, the age structure would transform into more young people in the working age population, reducing dependency to 58 and increasing GDP per capita to \$9,650 by 2040 (Vision 2040).

Among the youth aged 18 to 30, 37% are employed only, and 41% are not in Education Employment or Training (NEETs). Almost all employed youth (9 in 10) were in informal employment, excluding agriculture, though 72% are satisfied with their primary jobs. The youth unemployment rate in Uganda was estimated at 17% in 2021. The Youth Labor Force Participation Rate is estimated at 51% compared to 43 % registered during 2019/20, showing an increase of 8% in age points within one year (NLFS, 2021). In 2021, more than half of the youth (48%) were in transition, 24% had transited to employment, and 22% had not yet started transition. More than half of the youth who transited to employment (51%) had transited to satisfactory self-employment, while 47% were in stable jobs (employees).

Figure 3: Uganda's Population Pyramid



Source: UBOS 2023

Urbanization

Uganda is urbanizing rapidly at a rate of 5.2 % annually, implying 27% of Uganda’s population lives in urban areas. Solid waste collection efficiency in these metropolitan areas stands at 30%. Urbanization has been considered a prerequisite for the country to achieve upper-middle-income status as part of achieving Vision 2040. During the 10-year (2020-2030) period alone, Uganda’s urban population is projected to grow by 69%, adding an estimated 8.1 million people to the country’s urban areas alone. An estimated 70% of GDP can be generated in Uganda’s urban areas, where only 27 % of the population lives.

One in three urban residents lives in informal settlements – also called slums – without access to essential services. Women are typically overrepresented in these slums and face particular marginalization. They are often affected by poor sanitation and lack of access to sexual and reproductive health services. In these slums, few children attend school regularly. Instead, they work in the informal economy, selling goods or providing cheap services. They then tend to marry earlier, have worse job opportunities, and go on to have more children. That leads to persistent high fertility levels in these informal settlements. Sustainable urban planning should, therefore, focus on inclusive services for these vulnerable households in accelerating the demographic transition.

The Government of Uganda deliberately gazetted Municipal Councils, Town Councils, Town Boards, and Cities as a launch pad for urbanization. As the cities massively develop, rays of hope for opportunities for accelerating socio-economic transformation, such as employment creation, efficient land utilization, access to better social amenities, resources, and facilities, and improved living standards, arise. The anticipation of more trade and economic growth due to investment, industrialization, innovation, high technology, and resource sharing becomes an optimism for the urban and rural populace. Its contribution manifests in improving the incomes and quality of the population through increased productivity, inclusiveness, and well-being. If well-managed, urbanization has enormous potential to help the country accelerate the demographic transition and realize demographic dividends since fertility rates tend to be considerably lower in urban areas.



Literacy

Literacy levels of the population have improved from 74% in 2017 to 76% in 2021, notwithstanding the lag effects of COVID-19 lockdowns on human capital development that still linger, including learning losses in the education sector and the slow recovery of jobs. This continues to negatively affect the quality and uptake by households of some social services like education and healthcare.

3.0 Education

Enrolment levels

Article 30 and 34 (2) of the 1995 constitution of the Republic of Uganda, as amended, provides for the right to basic education for every Ugandan. The Government has put in place policies to guide the implementation of educational programs that include the Universal Primary Education (UPE), Universal Secondary Education (USE) Policy, Special Needs Education (SNE) Policy, Non-Formal Education (NFE) Policy, and the Physical Education and Sports (PES) Policy.

Nine in every ten persons aged 6–12 years (91%), about eight in every ten persons aged 13–18 years (79%) and nearly one in every four persons aged 19–24 years (23%) are currently attending school. Thirty-eight percent of children aged three years to five years are attending pre-primary.

The Primary school Net Enrollment Ratio is slightly higher for females (81%) than males (79%). Urban areas have a higher NER (83%) than rural areas (79%). Among the sub-regions, the highest NER is noted in Kampala (88%), Kigezi (85%), and Elgon (85%), while the least is the Karamoja sub-region (42%).

The primary school Gross Enrollment Ratio (GER) for Uganda is estimated at 118 percent, and the GER for girls is slightly higher than that of boys (119% and 117%, respectively). Enrolment in schools above the official age is more pronounced in the sub-regions of Teso (143%), Elgon (136%), and West Nile (131%).

The Secondary School Net Enrolment Ratio is 27%, implying that many secondary school-age children (13 to 18) are not enrolled in secondary school. The rate is slightly higher for females (29%) than males (26%). Urban areas have a higher Secondary School NER (43%) than rural areas (24%). Sub-regional comparison reveals that Kampala (52%) has the highest secondary school NER while Karamoja (12%) and Acholi (7%) have the lowest.

The secondary School Gross Enrolment Rate is estimated at 37%. The GER for females is slightly higher than that of males (37% and 36% respectively). Urban areas have a higher Secondary School GER (53%) than rural areas (31%). The sub-regional differences show that Acholi (13%) and Karamoja (19%) have the lowest Secondary GER. (UNHS, 2019/2020). Uganda can benefit from its growing labor force when educated and has high-quality skills, making it competitive in the global market.

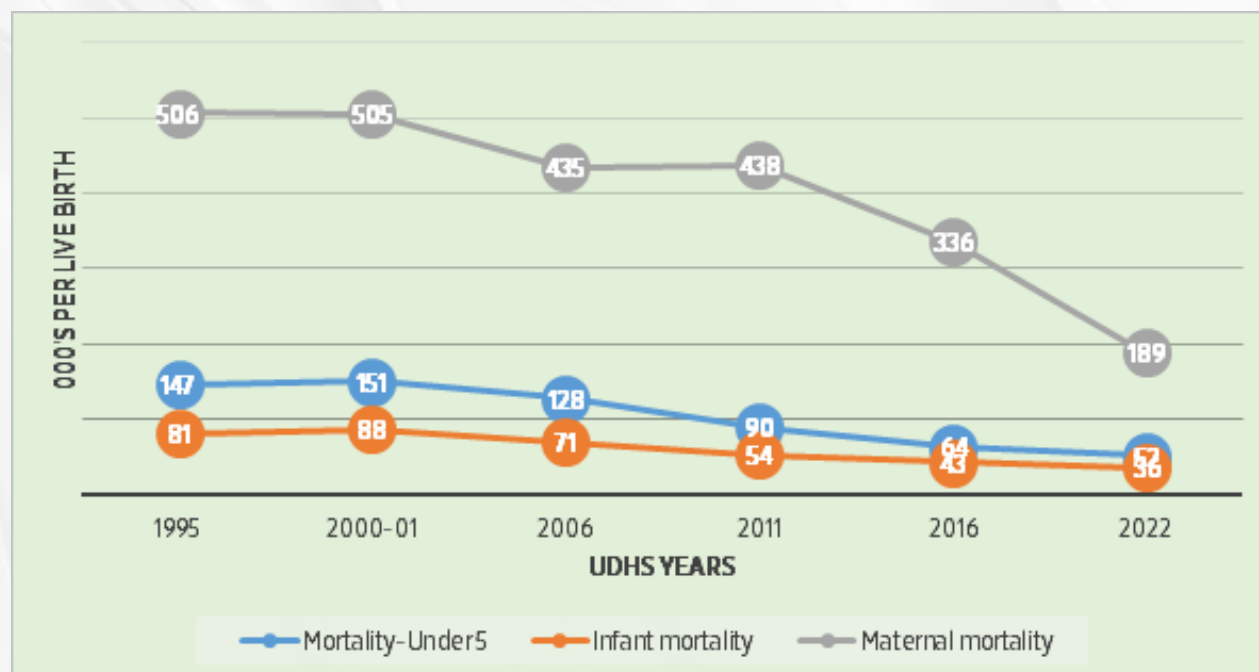
4.0 Health

Mortality (Infant and Maternal)

Infant and child mortality rates are primary indicators of a country's socio-economic situation and quality of life. Generally, there has been a decline in mortality levels. The Country's Infant Mortality Rate (IMR) has declined from 81 deaths per 1,000 live births in 1995 to 43 deaths to 36 live births in 2022. The under-five mortality rate declined from 147 deaths per 1,000 live births in 1995 to 52 in 2022.

In addition, Maternal Mortality Rate (MMR) has declined from 506 deaths per 100,000 live births in 1988 to 336 deaths per 100,000 live births in 2016 to 189 deaths per 100,000 live births in 2023. (UDHS, 2022).

Figure 4: Mortality (Infant, Maternal, and Under Five) trends 1995-2022



Source: UDHS 2023

HIV and AIDS

Uganda has made significant progress in fighting HIV and AIDS. However, the magnitude of the epidemic remains high. Uganda’s HIV epidemic is severe, mature, generalized, and heterogeneous, with differing impacts on different population sub-groups. An estimated 1.4 million people are living with HIV. It can be noted with dismay that every year, there are 54,000 new HIV infections and 17,000 AIDS-related deaths.

The weekly infections amount to 1,100, with 64% female and 36% male. Among adults aged 15-49 years, the HIV prevalence is estimated at 5.5%. For young people aged 15-24 years, 4 out of 5 new HIV infections are adolescent girls and young women. Young people are responsible for 34% of new HIV infections annually. Overall, 90% of people living with HIV/AIDS know their status; of these, 94% are on antiretroviral therapy (ART), of which 94% are virally suppressed.

Table 1: Performance of Key HIV Indicators

INDICATORS	2020/21	2021/22	2022/23
HIV Incidence Rate: Adults (15-49)	0.24%	0.23%	0.22%
HIV Prevalence, Adults 15-49 years	5.20%	5.20%	5.10%
New Infections (adults and Children)	54,000	52,000	51,516
% HEI testing +ve at 6 week	3%	1.80%	1.40%
Annual HIV-related Deaths	18000	17000	17,466
Estimated PLHIVs	1,414,183	1,420,020	1,433,337

Source: The 2023 Joint Aids Review Report

HIV prevalence is 15 to 40% in fishing communities, 31.3% among female sex workers, 18% in the partners of female sex workers, 12.7% in men who have sex with men, and 18.2% among men in uniformed services. 11% of new infections in the previous 12 months were attributed to female sex workers.



Table 2: HIV Prevalence, Adults 15-49 years for the different Local Governments

NO.	DISTRICT/CITY	HIV PREVALENCE (%) 15- 49	ART COVERAGE (%) 15+
	NATIONAL	5.1%	85.2%
1.	Fort portal City	17.8%	88%
2.	Mbarara	14.4%	87%
3.	Soroti City	13.3%	91%
4.	Kyotera	13.2%	82%
5.	Kalangala	12.8%	89%
6.	Lira City	12.1%	90%
7.	Masaka	11.9%	83%
8.	Gulu City	11.3%	84%
9.	Masaka City	11.2%	88%
10.	Kabarole	10.6%	89%
11.	Kalungu	9.5%	88%
12.	Kiruhura	9.5%	87%
13.	Omoro	9.3%	78%
14.	Bushenyi	9.2%	90%
15.	Lyantonde	9.1%	81%

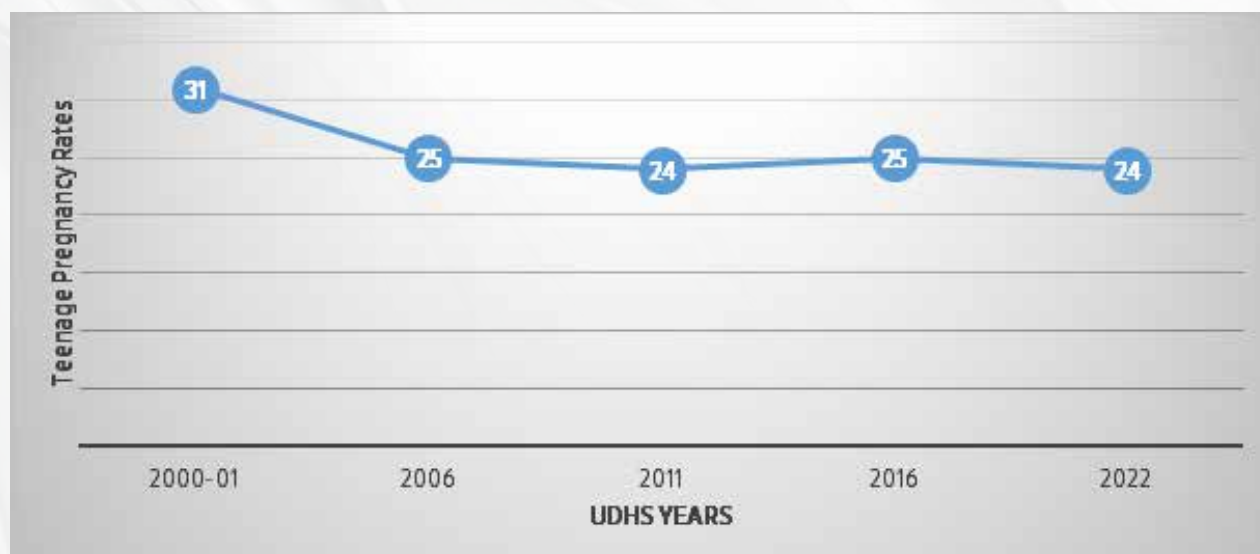
Teenage Pregnancy

Uganda’s teenage pregnancy rate of 24% is worrying, though it may seem low compared to 28% in Sub-Saharan countries and West and Central Africa. These pregnancies have severe health impacts. Young mothers in Uganda risk poor maternal and child health, being isolated, attempting unsafe abortions, failing to continue with school and poverty.

An average of 1,000 teenage pregnancies are reported per day in Uganda. One in four (25%) girls in Uganda aged 15-19 years have had a child or are pregnant. 34% of Ugandan girls are married by 18 years. 28% of maternal deaths occur among young girls (15-25 years). If the current teenage pregnancy rate is reduced from 24% to 10%, as targeted in the current Health Sector Development Plan. Then, each year, about half of the health care expenditure for teenage mothers will be saved, equivalent to UgX 592 billion (169 million USD), and the per capita health care expenditure will reduce from 280 USD to 105 USD. Also, the resultant education cost for children born by teenage mothers of over UGX 53 billion will be saved.

Investing strategically in adolescent girls’ education is key in fighting teenage pregnancy. Education of all children is a right and increases the chances of being socially and economically empowered. Keeping girls in school is a high-impact intervention that reduces child marriage and teenage pregnancy. There is a need to deliberately invest in girl child education, including re-entry guidelines for adolescent mothers, if we are to harness the demographic dividend.

Figure 5: Trends of Teenage Pregnancy 2000-2022



Source: UDHS 2023

Gender-Based Violence

Gender-based violence (GBV) is an everyday threat for Ugandan women and girls. 56% of married women aged 15-49 suffer physical or sexual violence by a husband (UBOS, 2021). More than one in three women (36%) experience sexual violence, most often from a partner. Child sexual abuse is also pervasive, with 59% of women reporting sexual abuse in childhood. Also, 33% of girls below the age of 15 years were forced to have their first sex. Among women who experience GBV, only a minority report it to the Police.

By the end of 2022, 32,041 cases (representing 13.8% of the total reported cases) were due to assault compared to 29,317 cases reported in 2021, giving a 9.3% increase in assault cases registered countrywide. A total of 17,698 cases of Domestic Violence were reported to Police in 2022 compared to 17,533 cases reported in 2021, thus giving a 0.94% increase in the volume of Domestic Violence registered. A total of 301 cases of murder as a result of Domestic Violence were reported to the Police in 2022 compared to 376 cases reported in 2021, giving a 19.9% decrease.

In 2022, 14,693 sex-related cases, representing 6.3% of the overall registered crimes in this category countrywide, were reported to the Police compared to 16,373 cases reported in 2021, giving a decrease of 10.3%. (2022 Police Annual Crime Report).

Uganda has committed to ending GBV as part of the United Nations' Sustainable Development Goal (SDG) No. 5 and integrated its targets into its National Development Plan. Laws and policies that target GBV include the Prohibition of Female Genital Mutilation Act (2010), the Domestic Violence Act (2010), the Prevention of Trafficking in Persons Act (2009), the Uganda Gender Policy (2007), and the National Policy on Elimination of Gender Based Violence in Uganda (2016).

5.0 Economy

Uganda's economy has increased in GDP per capita from US\$1,043 in FY2021/22 to US\$1,088 in FY2022/23 (or GNI per capita of US\$1,071). This growth is mainly attributed to the economy's three sectors: services, industry, and agriculture. The services sector experienced a growth rate of 6.2% and contributed 42.6% of GDP, while the industry sector experienced a growth rate of 3.9% and contributed 26.1% of GDP. The agriculture, forestry, and fishing sectors also experienced a growth rate of 5.0% and contributed 24% of the GDP.



The economy grew by 5.4%, an improvement from the revised growth rate of 4.6% in FY 2020/21. The size of the economy increased from Ughs. 162,883 billion in FY 2020/21 to UGX. 184,288 billion in FY 2022/23. This can also be attributed to the growth in the taxpayer register from 1,594,116 to 3,067,983 taxpayers who raised the revenue. However, the register is only 34% of the 9 million Ugandans eligible to pay tax.

Various Government initiatives have aided the growth of Uganda's economy in line with Uganda Vision 2040, where Uganda aspires to be prosperous and have resourceful citizens who contribute to national development through gainful employment, savings, and investments. They strive to earn high incomes and desire a stable economic environment.

The Government has thus implemented critical development programs, including EMYOOGA to support small service providers and businesses, the Parish Development Model as a strategy to support local communities, the Small Business Recovery Fund to assist small and medium enterprises, and the Uganda Development Bank to support manufacturers. These initiatives have helped boost private sector activity and promote increased regional trade.

6.0 Poverty

The national poverty rate decreased from 21.4% in 2016/17 to 20.3% in 2019/20. This decline is consistent with the overall long-term trend. However, the incidence of poverty is higher in rural areas than in urban areas. Only 24.87% of those who were poor in 2015/16 remained poor in 2018/19. This indicates that chronic poverty is falling in the long run (UNPS 2018/19). However, 22% of those who were non-poor in 2015/16 fell into poverty in 2018/19. This highlights the need to design programs that prevent the non-poor from falling into poverty.

The Northern Region of the country is the primary hub of poverty. Poverty levels across its sub-regions vary, with the overall poverty rate in the region increasing from 32.6% in 2016/17 to 35.92% in 2019/20. The Acholi Sub-region has the highest poverty rate at 67.68%, a significant increase of 100% from the 2016/17 level. Karamoja and Lango Sub-regions also witnessed a rise in poverty rates, while West Nile was the only sub-region that experienced a decrease. On the other hand, the Eastern Region showed an improvement, with an overall reduction in poverty from 35.67% to 29.2%. The Central Region slightly decreased the poverty rate, but the number of poor people increased. The Western Region saw increased poverty in the Kigezi and Ankole Sub-regions. However, Bunyoro significantly reduced poverty from 17.26% to 9.78% in 2019/20. (Poverty Status Report, 2021)

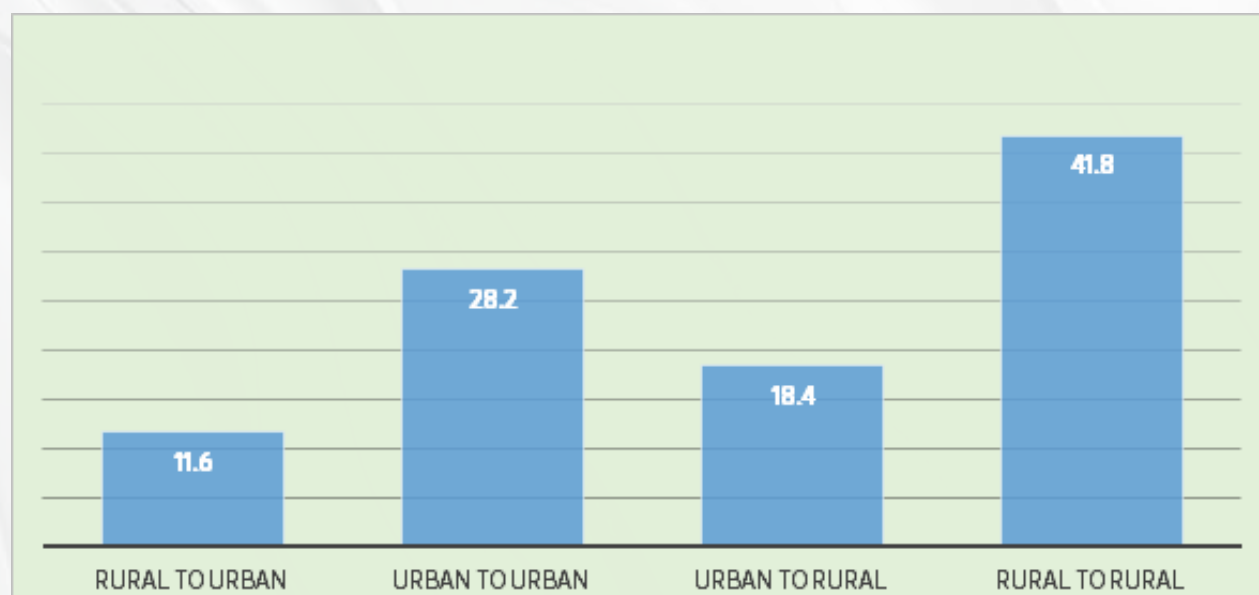
Around 30.1% of Ugandans (12.3 million people) live below the poverty line of USD 1.77 per person daily. The poverty headcount at USD 1.9 per person per day is 41.1% (16.9 million people) (UNHS, 2020). There are about 3.5 million persons living below the food poverty line. Overall, rural poverty is more than two times higher than urban poverty, but the gap seems to be closing, especially with solid growth in agriculture.

7.0 Migration, Refugees, and Labour Externalisation

Internal Migration

Migration is one of the three components of population change, complementing fertility (births) and mortality (deaths). It is the geographic movement of people across a specified country boundary to establish a new residence. Migration is common among Ugandans, and people migrate for various reasons, depending on the location. 30% of individuals migrate to join or follow their family, while 24% migrate for employment opportunities. Furthermore, 21% moved due to marriage (UNHS 2020).

Figure 6: Patterns in Migration (%)



Source: UBOS 2020

Refugees

Uganda is known to have been hosting refugees since 1942, notably the 8,000 Polish refugees that fled to Uganda during the Second World War. In the 1950s and 60s, Uganda hosted approximately 78,000 Southern Sudanese and Rwandese refugees again. As of September 2023, Uganda is a host to 1,500,000 multi-national refugees coming from over 38 countries. However, 99% of the refugees come from 8 countries: South Sudan, the Democratic Republic of Congo, Burundi, Somalia, Rwanda, Eritrea, Ethiopia, and Sudan.

Uganda is Africa’s largest refugee-hosting country and one of the three largest refugee-hosting countries in the world because of its proximity to neighboring countries known for political instability in the last decades and its generally favorable refugee protection mechanisms. More than 1.5 million foreign nationals live in Uganda, of which 80% are refugees and asylum seekers.

The West Nile sub-region, where Yumbe and Nebbi Districts are located, hosts over 60% of this category. 57.3% are from South Sudan and 31.9% from the Democratic Republic of the Congo.

Refugees are settled within refugee-gazetted settlements that are integrated into local communities. There are 13 refugee settlements in 11 Local Government Districts, supported with relevant services.

Table 3: Refugees by Countries of Origin

Country of origin	Population	%age of the total no. of refugees
South Sudan	891,331	57.3
Dem. Rep. of the Congo	498,338	31.9
Somalia	69,614	3.3
Burundi	42,641	2.6
Eritrea	36,900	2.2
Rwanda	23,808	1.5

Ethiopia	9,139	0.6
Sudan	5,776	0.5
Others	1,114	0.07

Source: Ministry of Internal Affairs

Labor externalization

The labor externalization program is a Government of Uganda strategic initiative intended to facilitate the recruitment of Ugandan migrant workers to decent employment opportunities and promote the protection of their rights and welfare in destination countries. The externalization program aims to create a safe, orderly, regular, and formal channel for Ugandans seeking employment abroad and establish a short-term window for addressing the unemployment challenge in the country. The Ministry of Gender, Labor, and Social Development (MoGLSD) implements the program. It is responsible for licensing and regulating private companies/agencies and signing bilateral agreements on behalf of Uganda with countries interested in importing labor from Uganda.

The number of Ugandans migrating for labor in this program has increased from 2,539 in 2016 to 93,396 in 2022. The top three destination countries are Saudi Arabia (81%), the United Arab Emirates (9), and Qatar (5%) (Table 4). The factors contributing to labor externalization include high unemployment levels in Uganda and the availability of job opportunities abroad. However, mass migration has given birth to issues of migrant rights and created the need for effective monitoring and regulation. The trends also show that the migrant workers population comprises more females (84%) than males (16%) due to the jobs available and the skills required in the destination countries (Table 5).

Table 4: Number of Externalized Migrant Workers from 2016 to October 2023

Destination	2016	2017	2018	2019	2020	2021	2022	2023	Total
Saudi Arabia	175	1,621	12,366	13,537	4,538	79,742	85,928	19,198	217,105
UAE	383	303	2,556	10,182	2,585	3,110	2,076	2,381	23,576
Qatar	487	520	923	256	1,148	4,136	3,695	2,074	13,239
Iraq	646	217	2,189	485	36	677	885	28	5,163
Jordan	-	1,427	2,582	306	205	-	-	-	4,520
Somalia	96	162	745	139	172	832	700	81	2,927
Afghanistan	342	416	228	414	50	-	-	-	1,450
Bahrain	410	451	23	6	183	24	6	-	1,103
Kuwait	-	-	-	38	109	21	95	84	347
Poland	-	-	-	-	-	11	7	-	18
Romania	-	-	-	-	-	-	4	-	4
Total	2,539	5,117	21,612	25,363	9,026	88,553	93,396	23,846	269,452

Source: Ministry of Gender, Labor and Social Development

Table 5: Number of Externalized Migrant Workers by Sex from 2016 to October 2023

Year	Number		Total	Percent	
	Female	Male		Female	Male
2016	504	2,035	2,539	20%	80%
2017	2,991	2,126	5,117	58%	42%
2018	14,982	6,630	21,612	69%	31%
2019	17,605	7,758	25,363	69%	31%
2020	5,449	3,577	9,026	60%	40%
2021	77,606	10,947	88,553	88%	12%
2022	84,623	8,773	93,396	91%	9%
2023	21,933	1,913	23,846	92%	8%
Total	225,693	43,759	269,452	84%	16%

Source: Ministry of Gender, Labor and Social Development



CHAPTER 2

POPULATION AGE STRUCTURE AND WEALTH CREATION

2.1 MORTALITY MODELING AND ESTIMATION OF PRODUCTIVE PERSON-YEARS OF LIFE LOST DUE TO AIDS IN UGANDA

Charles Lwanga¹

Introduction

The Human Immunodeficiency Virus type 1 (HIV-1), the virus that causes Acquired Immunodeficiency Syndrome (AIDS), emerged in 1982 in Uganda and continues to have a substantial impact on the population and the healthcare system throughout the country (Lwanga et al., 2020; Mugerwa et al., 1996; Schoepf, 2003). In 1985, the disease was first recognized as AIDS. At the time, the initial small numbers of deaths were rising rapidly. Since then, the HIV prevalence rate among adults aged 15 to 64 is about 6.2% (7.6% among females & 4.7% among males), accounting for roughly 1.2 million people in Uganda living with HIV (Government of Uganda, 2017). In response to the threat of HIV, the government of Uganda has, from time to time, been introducing interventions such as abstinence; faithfulness and condom use (ABC); HIV counseling and testing; safe male circumcision; elimination of mother-to-child transmission; antiretroviral therapy; women empowerment; and pre-exposure prophylaxis (PrEP) therapy. These interventions were, and still are, aimed at limiting the risk of HIV infection and the danger of overwhelming the healthcare system. Over time, as society seeks to live a normal life, decisions about the extent and nature of these interventions to control the spread of HIV have been a challenge, given the need to balance the likely direct effects on AIDS mortality against the likely indirect effects on mortality from other health-threatening conditions.

Regarding mortality, its estimation in many African countries and Uganda, in particular, has been, and is still, hindered given that the majority of deaths in these countries are not individually registered, and no assigned cause of death is documented. As a result, mortality measurement has been one of the more intractable difficulties facing population scientists. Several methods have been developed, but most are based on assumptions and models - for example, the Coale-Demeny Regional, UN, and Brass standard life tables. The premise behind these models is that the mortality pattern for the population in question would resemble that of the model table. However, some models may or may not apply to the population in question. According to Lwanga and colleagues, there are two main reasons to explain this inappropriateness: a) some of these models do not take into consideration sudden changes in the burden of disease resulting from the emergence and re-emergence of diseases, and b) model tables often employed do not take into account of the **hump** in the mortality curve which often results from emergent diseases such as AIDS which were developed before the HIV/AIDS pandemic (Lwanga et al., 2020).

There is a consensus that the economic burden of emergent diseases, for instance, AIDS, is substantial. One of the main elements of this economic burden is the cost of productive years of life lost due to AIDS-related premature mortality and the national economy (Fernandes et al., 2023; Hanly et al., 2022; Hanly & Sharp, 2014). According to the life expectancy human capital investment model, the cost of productive years of life lost influences one's urge to invest in income-generating activities, thus affecting wealth creation. The model asserts that living longer influences changes in current and future risks, which makes it certain for individuals to create more wealth (Hansen C. W., 2013). This implies that interventions aimed at reducing premature mortality, mainly from preventable diseases, may result in reduced costs of lost productive years of life and improvements in the well-being of Ugandans, which, if taken together, leads to wealth creation (Government of Uganda, 2020).

¹ Department of Population Studies, School of Statistics, Makerere University, College of Business and Management Sciences Email: charles.lwanga@mak.ac.ug Tel: 0772575745



The study used In-Depth models to estimate mortality, quantify the burden of mortality related to AIDS, and, after that, estimate the productive years of life lost (PYLL), which in this study is characterized as 'Mortality modeling and estimating the productive years of life lost.' The model is a relatively new method of mortality estimation model that applies to the AIDS-affected and afflicted Ugandan population with high prevalence rates (HIV-1) (INDEPTH, 2004). The study draws on childhood mortality rates estimated from the 1991 census, as this study aims at modeling mortality and productive years of life lost as a result of AIDS in the early years of the pandemic when the impact was emerging. Subsequently, mortality, as well as PYLL estimates in the context of the pandemic, are dependent on estimated AIDS-related deaths and on the population exposed.

Mortality and wealth creation

The relationship between mortality and wealth in the development literature seems inconclusive. Some researchers argue that an increase in wealth in one decade leads to a reduction in mortality or an increase in life expectancy in the next decade (Lewer et al., 2020; Sen, 1998). Sen argues that this relationship works through public expenditure and poverty reduction. Other researchers assert that premature mortality in the previous decade influences income creation in subsequent decades (Fernandes et al., 2023).

Regardless of the approach taken in analyzing the relationship between wealth creation and mortality, historically, death in terms of raw counts and mortality rates has been central in assessing the health status of the community. In light of AIDS, such studies would give a good picture of AIDS fatality, and they may provide a misleading picture of the mortality burden and its subsequent as an indicator of creating wealth. This is because they lack information on how long someone who died of AIDS-related illnesses might otherwise have been expected to live and contribute towards creating wealth. Because people dying from AIDS have been predominantly young adults with limited multi-morbidity, the dominant ideology has it that they would have taken longer to die of other causes, thus having a significant impact on their life expectancy and, consequently, economic success.

Raw counts of deaths may, as a result, mislead policy and the public as well as examine the link between premature mortality and wealth creation, creating an impression of either over- or underestimation of the total impact of AIDS-related deaths. In epidemiology, demography, and economic studies, a standard measure is often used to account for this difficulty: the years of productive years of life lost (PYLL), defined as the average number of years someone would be expected to live had the individual not died prematurely. In its computation, the age at death was used instead of the mere occurrence of death. PYLL is important to this study because it attempts to measure the social and economic impact of AIDS mortality on Ugandan society, thus influencing the amount of wealth one would create in a life time. In addition, it often emphasizes the death of the younger as opposed to usual mortality statistics usually dominated by the death of older persons. While no single indicator can adequately assess the social and economic impact of mortality on society, especially in terms of wealth creation, PYLL has been proposed to be used in estimation because of its emphasis on the cost of productivity lost (Hanly et al., 2022; Rumisha et al., 2020). Building on the arguments above, estimating the economic impact of premature mortality from the perspective of human capital is mainly unknown.

The main objective was to model AIDS-related mortality and its impact on Uganda's age structure. The specific objectives were to estimate productive years of life lost (PYLL) due to AIDS-related mortality, assess the impact of AIDS-related mortality on Uganda's age structure, and link premature mortality to income generation.

The modeling uses childhood mortality estimates from the 1991 census. It comprises two main components: (a) estimating the AIDS death in the early stages of the pandemic, assuming that all AIDS-related deaths were premature and contributed to PYLL irrespective of age; (ii) computing productive years of life lost (PYLL) due to

the pandemic which is dependent on estimated AIDS deaths by age and sex and on the population exposed. The study used childhood mortality estimates from the 1991 census for two reasons: a) those infected were not using highly active antiretroviral therapy (HAART); b) many of the HIV+ persons had progressed to AIDS. These two reasons would enable the modeling process to measure well the implied impact. The study applied In-Depth models to determine the age patterns of premature mortality due to AIDS.

Given that Uganda suffers from HIV-1, the study used In-Depth standard model pattern two and childhood mortality to estimate the proportion of infant survivors as $l_1 = 1 - q_0$ and childhood survivors as $l_5 = 1 - q_0$ and infant survivors from the standard INDEPTH model table as $l_{s1} = 1 - q_0$ and childhood survivors as, $l_{s5} = 1 - q_0$. The study adjusted the estimates using correction factors (γ_x), which accounts for additional AIDS deaths. Then, the study used the proportion of survivors at age one and age five derived earlier but transformed into logits to estimate initial values of α^* and β^* coefficients as;

$$\beta^* = \frac{\text{logit}(l_5) - \text{logit}(l_1)}{\text{logit}(l_{s5}) - \text{logit}(l_{s1})} \quad (1)$$

Brass and Coale recommended the two-parameter regression model $-\lambda_x = \alpha + \beta \lambda_x^s$ in capturing the convolution of the age pattern of mortality for a population with regard to the standard mortality pattern (Brass & Coale, 1968). In practice, the relationship uses the logit transformation of the survivorship function $-l_x$, such that

$$\lambda_x = \text{logit}(l_x) = \frac{1}{2} \ln\left(\frac{1-l_x}{l_x}\right) \quad (2)$$

Combining equation 1 & 2, α^* becomes;

$$\alpha^* = \text{logit}(l_1) - \beta^* \text{logit}(l_{s1}) \quad \text{OR} \quad \alpha^* = \text{logit}(l_5) - \beta^* \text{logit}(l_{s5}) \quad (3)$$

Where l_{s1} and l_{s5} are selected from the INDEPTH standard mortality model table, and l_1 and l_5 are derived from childhood mortality estimates as discussed earlier.

In equation 3, λ_x and λ_x^s are lifetables expressed as logits and relate to each other through the linear relationship. At the same time, α & β are relationship constants determined by fitting the relational logit model. λ_x^s is the appropriate standard model lifetable for the population, and the superscript 's' describes values based on the standard model lifetable (Moultrie et al., 2013; United Nations, 1983). Consequently, from regression analysis, the fitted lifetable is generated from the standard lifetable using the values of α & β coefficients as:

$$\lambda_x^{fitted} = \alpha + \beta \lambda_x^s, \text{ and the fitted survival function } l_x^{fitted} = \frac{1}{\exp(1 + 2\lambda_x^{fitted})} \quad (4)$$

The study generated the first survival curve (lfstx) estimate from the model lifetable and the appropriate correction factors. Then, the values of α^* & β^* were used in equations 1 and 3. To account for AIDS mortality, correction factors were used to adjust the survival function. The study listed the adjusted survival and standard values corresponding to respective age groups and applied the logit transformation to these values. Equation 2, described earlier, was used to regress logits of the adjusted against the logits of the standard mortality pattern to generate the final values of α and β -the final values of the estimated survival function (l_x). The parameter displays the level of mortality in the population in relation to the standard model. A higher value of ' α ' implies a higher mortality in the study population or a lower probability of surviving to a particular age x and a lower likelihood of surviving between any two ages x and x+n. The parameter denotes the slope, and when it increases, mortality increases at older ages (ages above that at which $l_x = 0.5$), but it decreases at younger ages. The estimated regression line and logits of the INDEPTH standard mortality pattern are then used to estimate the logits of the fitted line (or fitted lifetable). Furthermore, the study applied anti-logits to obtain the



estimated survival values of the fitted line (Furthermore, our subsequent modeling draws on AIDS-related death estimated by completing other lifetable functions.

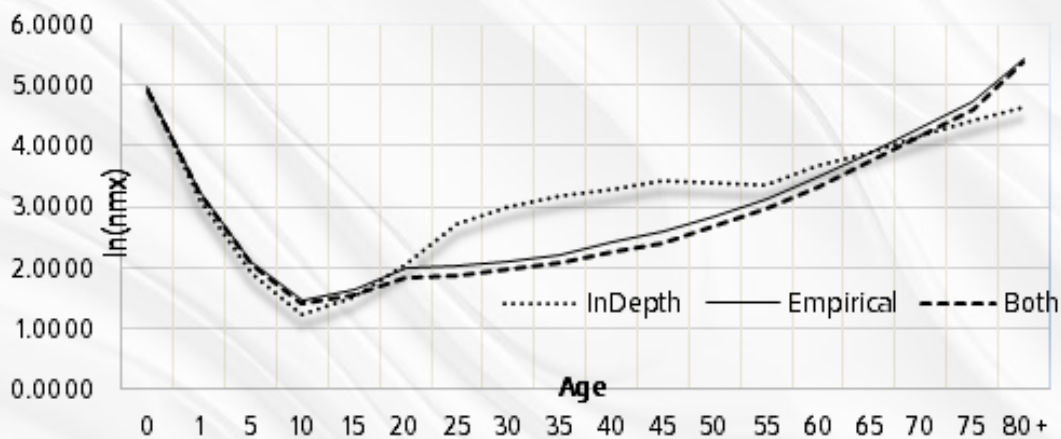
The estimated lifetable deaths were aggregated into 13 age groups to calculate the productive years of life lost (PYLL) due to AIDS. Though retiring from work does not necessarily mean one is tired, the official retirement age is 60. Productive years of life lost (PYLL) were calculated for those who died up to age 59. All AIDS-related deaths were assumed to be premature, and that they contributed to PYLL for those who died before 60 years. As a summary measure of population health, weights were not applied when calculating PYLL because doing so would indicate weighting years of health life at different ages differently, something not as convincing as thought earlier; similarly, the analysis was not by specific cause of death. As a result, years of health life were treated as equal irrespective of age when it occurred (Murray et al., 2012a). The lifetable method was used because it appears to be suitable for long-term illnesses like AIDS and the retirement age to estimate the number of years left. PYLL was calculated by multiplying the number of lifetable deaths in each age group, stratified by sex, by the corresponding remaining years to retirement estimated using In-Depth models. The estimated PYLL in each age group is summed up to obtain the total PYLL for all up to age 59 as in (5);

$$\text{PYLL rate per 1000 persons} = \frac{\text{Total PYLL}}{\text{Total Population before 60 years}} * 1000 \quad (5)$$

Findings

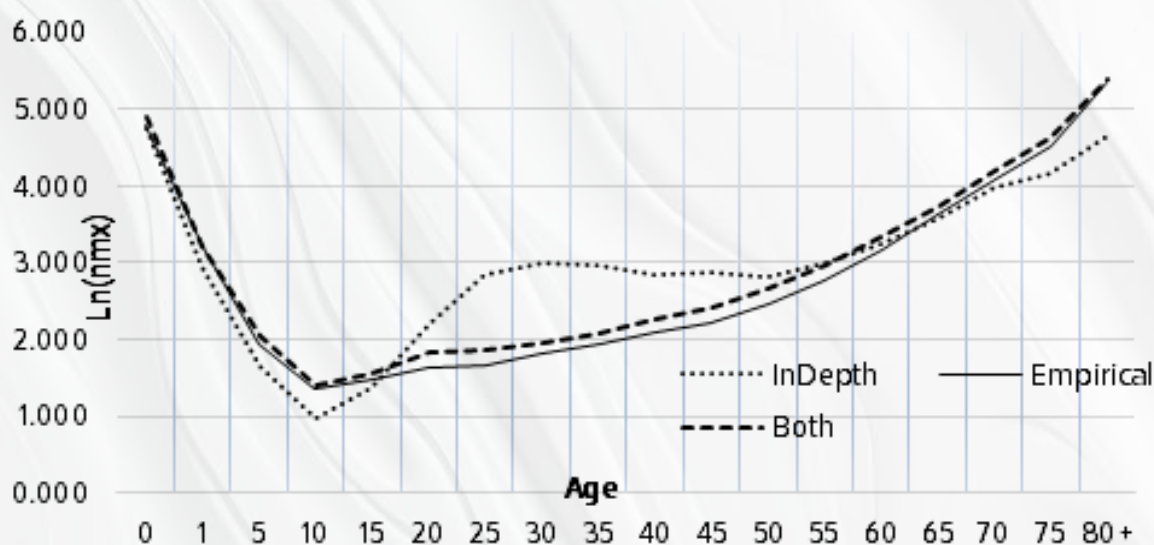
This study has quantified the burden of AIDS in Uganda measured by mortality rate and productive PYLL. Our estimates of life expectancy in Uganda are not the first; the observed mortality estimates from the 1991 census reported lower rates, with an average life expectancy for males of 45.7 and 50.5 for females (see Table B2). These estimates are roughly comparable to our In-Depth estimates (41.3 for males & 46.1 for females). Besides, figures (7 & 8) present the implied mortality pattern on the age structure alongside the observed (empirical) 1991 pattern for contrast. In both figures (7 & 8), four salient features were observed: a) a normal U-shaped pattern common to most populations; b) a hump showing the impact of AIDS-related mortality in early adulthood; c) a considerably different pattern for females, peaking between 20–50 years, while that of males peaks within the age range 25–55; and d) the size of the hump indicating that the impact of AIDS-related mortality is more pronounced among males than females.

Figure 7: Male Mortality Pattern on the age structure before and after the HIV epidemic (InDepth LTs), IMR=131.4; U5MR=215.6



Source: Author's computation based on In-depth models & the 1991 Uganda Population and Housing Census childhood mortality estimates

Figure 8: Female Mortality Pattern on the age structure before and after the HIV epidemic (InDepth LTs); IMR=111.8; U5MR=193.7



Source: Author's computation based on In-depth models & the 1991 Uganda Population and Housing Census childhood mortality estimates

In this study, similar to the 1991 census results, the expectation of life at birth was very low. In-depth models estimate the life expectancy for males to be 41 years compared to 46 for females. The study findings show that the probability that a 15-year-old was unlikely to celebrate his 60th birthday is about 0.55 for males and 0.45 for females. The corresponding figures (A1 and A2) for males are 0.33 while that of females is nearly 0.25 (Appendix 3 and 4, Table B1 and B2). As is usually the case in most populations, the mortality risk increases with age as the biological limit sets. Nevertheless, the difference between the In-depth model estimates and the observed figures (7 and 8) appears insignificant. Besides, it is important to mention that the pattern of elderly appears more explicit for females, which indicates that the pattern seems somewhat different and not as enormous as previously thought.

A total of 170,202 AIDS-related lifetable deaths in Uganda in 1991 have been quantified, 59% of which were males. AIDS-related deaths accounted for 4,664,696 PYLL, 51% of which were males, with an overall average of 289.6 per 1000 (Appendix 5, Table B3). If they had not died, these deaths would engage in income-generating activities, thus creating wealth in the present and coming decades. In addition, it is important to note that these estimates reflect the burden of AIDS associated with retirement age. Thus, the attributable fraction of individuals 60 years and over is not considered otherwise; the burden could be lower than those presented here. This is because of the lower incidence of HIV/AIDS among older people.

Discussion

The study aimed at estimating AIDS-related mortality and person-years lost due to AIDS and linking the various strands of the analysis to wealth creation through its adverse effects on the age structure. Life expectancy at birth for both males and females was found to be lower but comparable to the 1991 census estimates. One possible explanation for the slight difference is the methodological difference between the census and



the In-Depth modeling approach, which uses only childhood mortality to model the mortality pattern. Low expectation of life symbolizes premature mortality among young adults. These individuals would have contributed significantly to the country's income generation in future decades if they had not died prematurely.

Figures 7 & 8 show an unusual mortality pattern among young adults with a swelling or lump. We advance three arguments that can be used to explain these results: First, the crest of the curve corresponds with the mean age of fertility for females and the prime-reproductive health age range within which they must have children. While the current technology (for example, the use of in vitro fertilization (IVF) and intrauterine insemination (IUI) can be used as a substitute to assist a woman in conceiving, in the early 1990s, it was not possible, and the only possibility for conception was through unprotected sex. It is because of this that many males and females may have contracted HIV and, after that, progressed to AIDS, which could have increased AIDS-related deaths for the respective age range. Secondly, before the introduction of HAART, PMCTP, and PrEP, the process of delivering a baby was associated with an increase in the progression from the HIV state to AIDS. This, in one way, could have increased maternity-related deaths among mothers. Third, most females complete their schooling within this age range. In a country where marriage seems to be universal, many females could have contracted HIV either within marriage or in the process of conceiving. This is because schooling in Uganda is usually considered incompatible with marriage and childbearing (UBOS & ORC Macro, 2001).

Given the negative impact of AIDS on the age structure, as illustrated by figures (7 & 8), premature mortality related to AIDS has a profound economic effect on the household it afflicts. Incomes decline as breadwinners fall ill and die and as other household members take time off their productive income-generating activities to care for the sick relative. At the micro level, the long-term effect extends beyond the afflicted household to extended families. Extended families have to look after surviving children, which increases the child dependency ratio, as well as providing some form of informal health insurance. The increase in financial hardship and the frequent need to take time off affects the available incomes, which would otherwise have been used for investing in income-generating activities, thus affecting wealth creation. If both the afflicted and affected individuals receive a fixed salary in the public and private formal sector, loss in income is also extended to declining productivity on the job, which affects the employers' capacity to generate more income.

At the macro level, premature mortality affects human capital accumulation and the subsequent transfer among generations. For example, Figures (7 & 8) show how the death of young adults could have a negative impact on the education of their children and, accordingly, the incentives to invest in human capital. Relatedly, premature mortality among young adults may also affect the productivity of the employees living with AIDS as the death disrupts the companies' operations. The costs include direct financial costs and indirect costs, including managerial time devoted to hiring and training new staff recruited to replace the affected and sometimes the afflicted. These arguments show how premature mortality resulting from AIDS-related illness would have both micro and macro effects on future investments, thus affecting wealth creation (Hansen C. W., 2013).

Differences in the mortality pattern between males and females could be explained by three arguments: First, AIDS has imposed a considerable burden in terms of premature death. Second, females live longer than males, implying that their death occurs later. Third, just like with other studies (Lwanga et al., 2020), the AIDS epidemic had a negative impact on childhood mortality before the introduction of Mother-To-Child Transmission of HIV (PMTCT) and the HAART, which consequently negatively impacted the life expectancies at birth for the affected populations. However, the impact seems to have affected males more than females. Therefore, in a country where young adult males are integrated into all areas of economic activities than women, it is evident

that premature mortality has impacted income-generating activities, thus affecting wealth creation.

As a matter of policy, mortality estimations, as well as the PYLL estimations presented in this study, highlight the importance of HIV/AIDS control programs. Policymakers can use results in setting priorities for resource allocation for health care programs. Using In-Depth models in estimating mortality and the lifetable approach in evaluating PYLL presents a paradigm shift from other classic mortality-related studies. Different measures used in calculating mortality, as well as PYLL, are complementary and can provide policymakers with a broad insight into the burden of AIDS in Uganda. Nonetheless, the study is limited to In-Depth methods in estimating mortality, and when the assumptions behind this method are violated, results may differ from the actual burden.

Conclusion

The study indicates that the economic burden of AIDS-related premature mortality is substantial, especially in terms of PYL. The pattern of mortality is U-shaped, with a hump in the age structure in the early adulthood. The low life expectancy seems to have affected individual investments and wealth creation. This is because, according to the life expectancy human development model, the longer an individual lives, the more they are likely to adjust current and future risks, thus creating more income.

Policy recommendation

1. The AIDS control program should prioritize AIDS control interventions to;
 - To reduce premature AIDS-related deaths;
 - To reduce the economic burden associated with AIDS,
 - To increase the expectation of life.
2. The Ministry of Gender, Labour and Social Development and the Ministry of Finance Planning and Economic Development should use these results in planning because incomes and outflows of pension depend on the mortality pattern.
3. Insurance companies should use these results when planning because premiums often depend on the mortality pattern.

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2.2 GENDER DISPARITIES IN HUMAN CAPITAL TRANSITION: OPPORTUNITIES AND CHALLENGES

Paulino Ariho²

Introduction

Human capital transition is one of the key factors in a country's economic growth (Ouattara & Amenssin, 2022). Countries' economic growth and development heavily depend on the quantity and quality of their labor force (Sabir, 2015). Human capital boosts labor productivity while easing the transition to skilled employment (Angelopoulos et al., 2017). Human capital transition has been defined as moving from relatively low to much higher levels (Hippe & Fouquet, 2019). In many parts of the world, there are still significant educational disparities between men and women (Østby et al., 2016). Whereas women have improved their educational attainment considerably compared to men since the 1960s (van Hek et al., 2016), inequalities still exist across and within regions and countries. Sub-Saharan Africa (SSA) region's sustained expansion of education is unquestionable (Baten et al., 2021). Still, achieving gender equality in education in the region remains challenging (Adeyeye & Ighorojeh, 2019).

Uganda has been slow to achieve a human capital transition (UN, 2017). The persistence of gender disparities (Baten et al., 2021), which may affect employment patterns and economic productivity, has hampered Uganda's human capital transition. Girls and young women continue to lag behind boys and young men in finishing school and obtaining the necessary education and training for skilled jobs and leadership of profitable businesses (Nath et al., 2018; World Bank Group, 2021). Previous studies investigated various aspects of disparities and inequalities in Uganda (Kakama & Basaza, 2022; Lwanga-Ntale, 2014; World Bank Group, 2021). However, limited research has specifically investigated the factors contributing to gender disparities in education attainment. Therefore, this quantitative study examines how much of the gender disparity in secondary education completion can be attributed to differences in the characteristics of men and women. The study will help identify challenges and opportunities for achieving human capital transition in Uganda. The study's findings will help policymakers and development practitioners develop targeted interventions to address gender inequalities, promote gender equality, and facilitate a more seamless human capital transition in Uganda.

The study's main objective was to examine gender disparities in secondary education completion and assess Uganda's opportunities and challenges to human capital transition. Specifically, the study evaluated the extent of gender disparity in secondary and higher education completion rates among the working-age population in Uganda, quantified the contribution of demographic and socioeconomic factors to the gender disparity in education completion among the working-age population in Uganda, and identified the opportunities and challenges to human capital transition in Uganda.

The study examined data from the 1991 to 2014 Uganda National Population and Housing Censuses (UPHC). The study examined trends in population size disaggregated by gender and secondary education completion. This was to help identify patterns or shifts over time that may contribute to the human capital transition. The census data not only provides data on the age and sex composition but also information on educational attainment, among other factors. Significant patterns and trends that emerged from the analysis were identified. Furthermore, the population data for the most recent census (2014) were broken down by gender to identify gender disparities in age distributions and used in the decomposition analysis.

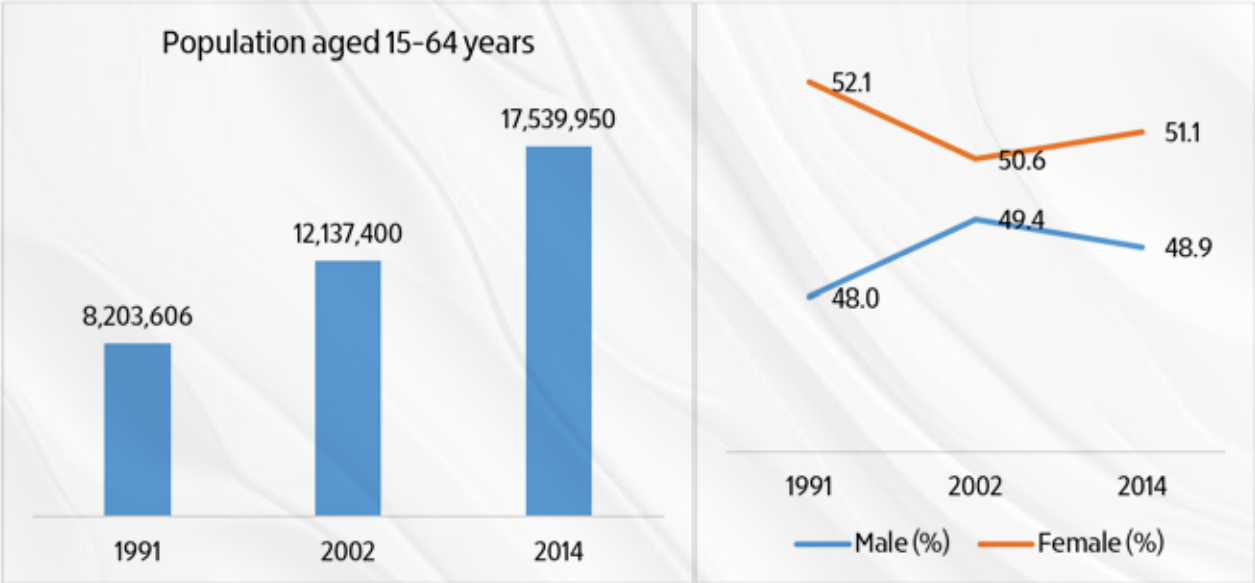
² Department of Sociology, Anthropology and Population Studies, Kyambogo University, Email: arihopaulino@yahoo.com, Tel: 0789584443

Data analysis involved descriptive analysis of the working age–sex structure and human capital development indicators. This helped to explore patterns, trends, and variations across different age and sex groups. Statistical analysis was performed on the most recent census (2014) to assess the significance and magnitude of the relationship between population age–sex structure and education completion. The multivariate binary logistic decomposition regression was used to determine the factors associated with gender disparity in completing at least a secondary education. The decomposition model assessed the contribution of selected elements to the observed gender disparities and quantified this contribution into percentages.

Findings

The findings in Figure 9 indicate that the working-age population (15–64 years) increased from 8,203,606 people in 1991 to 12,137,400 in 2002 and 17,539,950 people in 2014. The results further indicate that for all the years, the percentage of females was higher than that of males, although the share of the female population in the working age category reduced from 52.1% in 1991 to 51% in 2002 and 2014.

Figure 9: 1991-2014 Trend in working-age populations

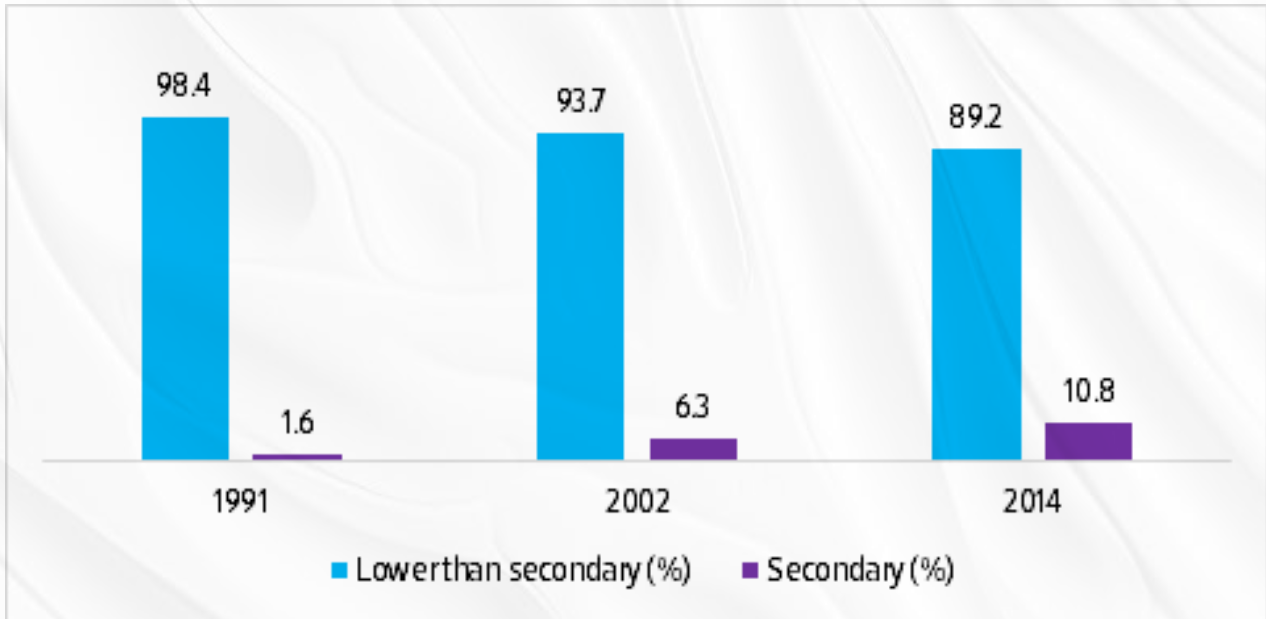


Education completion among the working population in Uganda

The findings in Figure 10 indicate that the proportion of the working-age population with less than secondary education remained high. Completing secondary and higher education increased from 2% in 1991 to 6% in 2002 and 11% in 2014. The findings indicate that completion of secondary and higher education crucial for human capital transition has remained low.



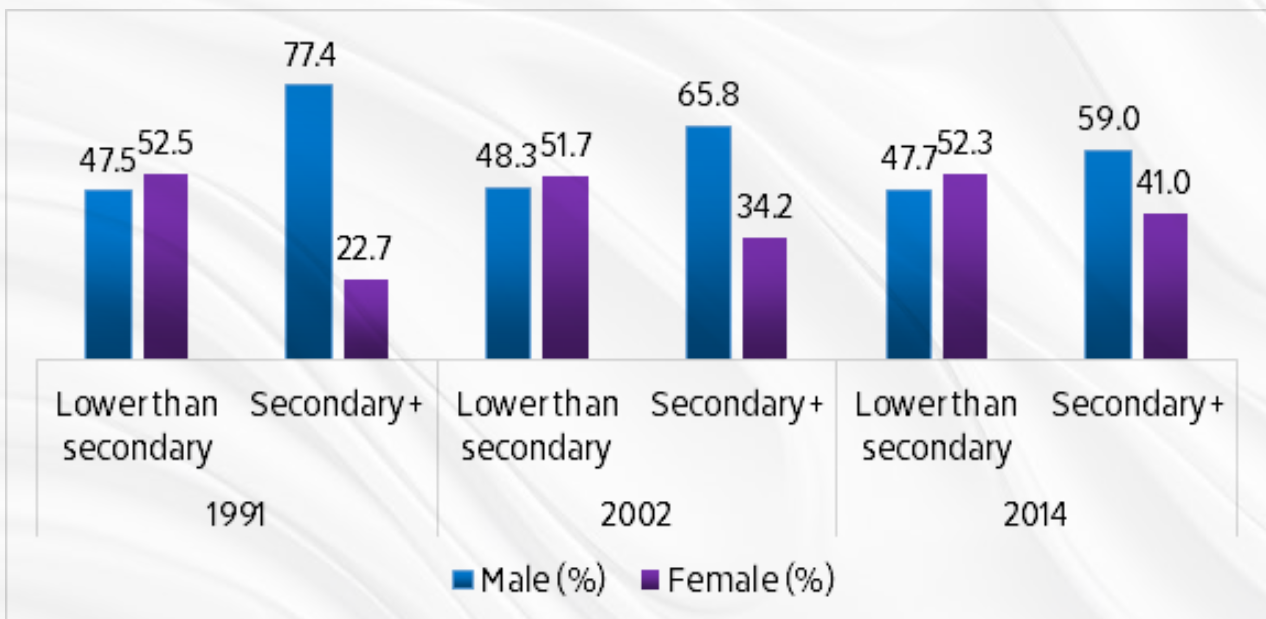
Figure 10: Trend in education completion



Gender variations in education completion

The findings in Figure 11 indicate that in 1991, of the total population aged 15 to 64 years who had attained secondary education and higher, males constituted 77% compared to only 23% of their female counterparts. In addition, the results show that of the population that had attained secondary and higher education, the proportion of females was 34% and 41% in 2002 and 2014, respectively. The results show a decline in the gender gap in secondary education completion, but this has been slow. Despite narrowing the gender gap in secondary and higher education completion, the gap remains significant.

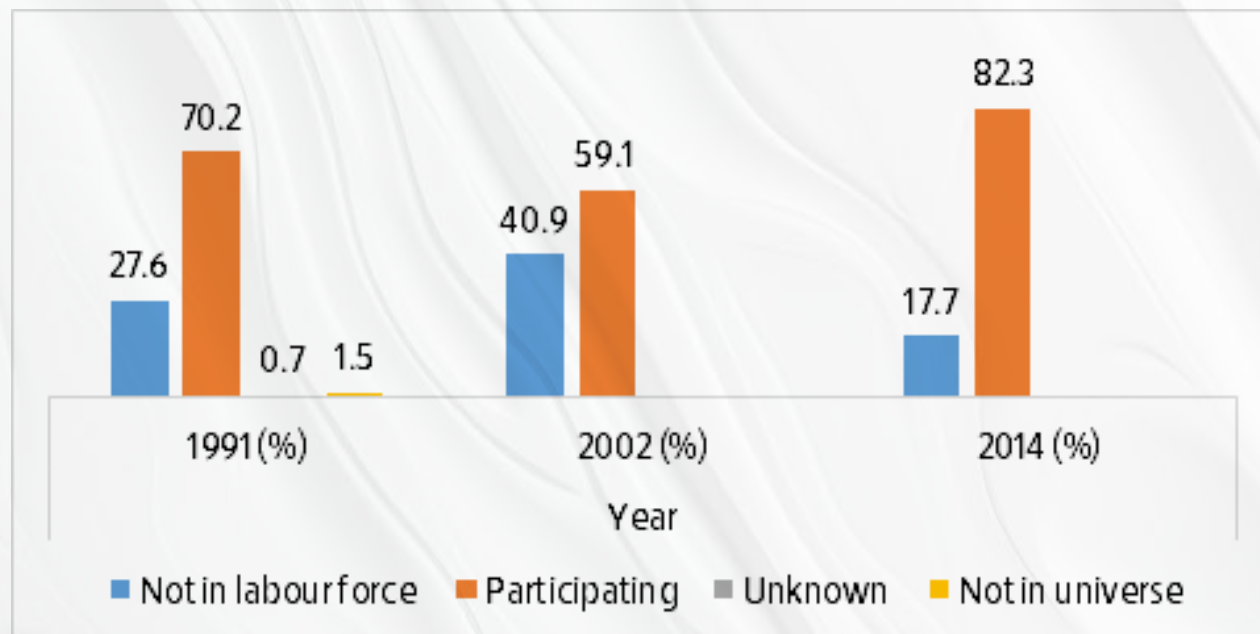
Figure 11: Trend in education attainment by gender



Labor force participation among the working population in Uganda

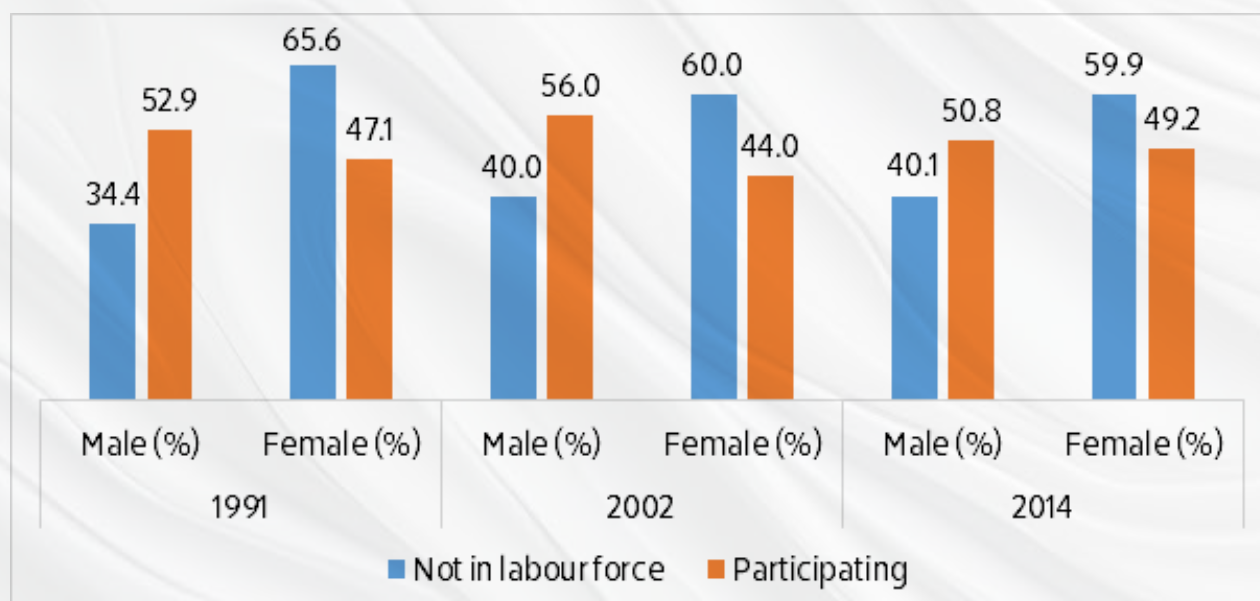
The results in Figure 12 show that the proportion of the population that was in the labor market reduced from 70% in 1991 to 59% in 2002 but increased to 82% in 2014.

Figure 12: Trend in labor force participation



The findings in Figure 13 indicate that in 1991, of the total population aged 15 to 64 years who participated in the labor force, 53% were males, females constituted 44%, and 49% of the population participated in the labor force in 2002 and 2014, respectively. The results show a narrowing of the gender gap in labor force participation.

Figure 13: Labour force participation by gender



Although the results in Figure 11 point to a narrowing of the gender gap in labor force participation, the findings in Table 6 indicate that there still exist some gender disparities in the working-age population's work. Specifically, women constituted 75%, 76%, and 55% of the population in unpaid work in 1991, 2002, and 2014

respectively. Relatedly, whereas self-employment and wage-salary employment are still male-dominated, the female population in the two categories increased over the study period.

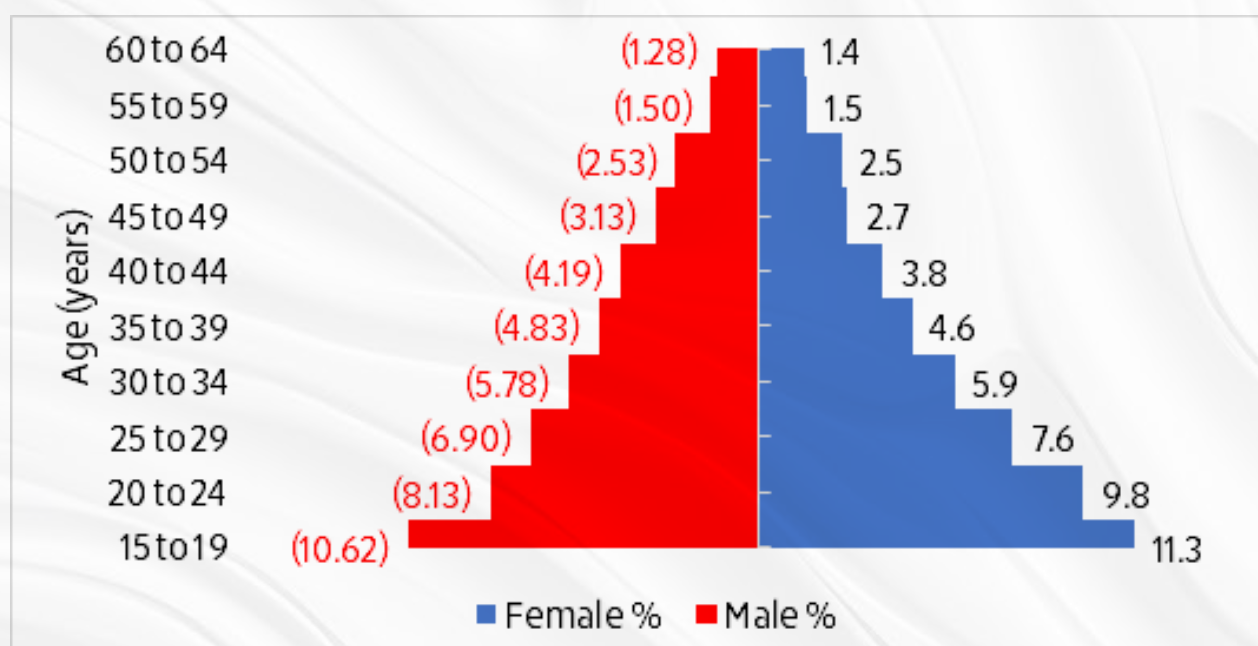
Table 6: Class of work by gender

Class of work	1991		2002		2014	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
NIU (not in universe)	36.7	63.3	41.4	58.6	40.7	59.4
Self-employed	69.4	30.6	75.9	24.2	50.4	49.6
Wage/salary worker	79.3	20.7	73.8	26.2	52.8	47.2
Unpaid worker	25.4	74.6	24.1	75.9	45.1	54.9

Analysis of the gender disparity in the most recent (2014) census

The findings in Figure 14 demonstrated a sex/gender disparity in age structure. Considering the age groups older than 14 years, the graph shows a gender variation.

Figure 14: Age-Sex-composition of Population aged 15+ years



The findings in Appendix Table 1 reveal significant gender disparity ($P < 0.001$) in education completion. More than half (59%) of the population which had completed secondary education and higher were men. Table 1 also indicates that in 2014, there was a significant gender variation ($P < 0.001$) in place of residence, with women comprising slightly more than half (51%) of the working-age population that resided in rural areas while also making 52% of those that lived in urban areas. Women also dominated the work-age population residing in the country's major regions. Regarding marital status, except for the population that had never married, where more than half (58%) of the population were men, the women dominated other categories of marital status. Relatedly, apart from the category of the population that said they had no religion, women comprised most of the population in the Christian category.

Decomposition of the gender disparity in education completion

The findings in Table 7 indicate that the majority (64%) of the gender disparity in completion of at least secondary education was associated with the differences in the characteristics of men and women.

Table 7: Summary decomposition of education completion

Component	Coef.	STE	P-value	%
Difference in characteristics (E)	-27.696	0.588	<0.001	63.5
Difference in coefficients (C)	-15.934	0.759	<0.001	36.5
Total	-43.62983	0.43801	<0.001	100.0

The detailed decomposition results in Appendix Table 2 indicate that the gender disparity in completion of at least a secondary level of education was associated with the variation in age, urban place of residence, marital status, religion, main source of livelihood, receipt of remittances, disability status, relation to head of household, and household size.

The study findings highlight a gender disparity in education attainment. For instance, whereas 59% of the working-age population that had attained secondary and higher education in 2014 were men, 52% of those who reported having achieved lower than secondary education were female. Despite narrowing the gender gap in secondary and higher education completion, the gap remains significant. This finding is comparable to what has been reported in previous studies. For instance, it has been reported that men have slightly more post-secondary degrees than women among all adults worldwide (Pew Research Center, 2016).

The decomposition results highlight the role of marriage in increasing the gender disparity in secondary and higher education completion. The findings show that being married has a negative impact on women's completion rates of secondary and higher education compared to men. This may be attributed to factors such as increased family responsibilities, limited educational opportunities, or traditional gender roles. Marriage has been reported to be an obstacle to higher education attainment in a study conducted in Syria (Almelhem et al., 2022). Family responsibilities and early motherhood were documented to be among the key factors hindering women's attainment of higher education in Rwanda (Tusiime et al., 2017). It is essential to recognize the potential barriers married women may encounter in pursuing education and identify strategies to support their educational aspirations.

The findings also reveal that age differences between men and women play a role in explaining the existing disparities in education completion. As women age, their completion rates decrease further relative to men, highlighting the need for targeted interventions to address this issue. As the population increases due to high fertility, "youth bulges" may have a detrimental effect on educational gender equality (Østby et al., 2016). The rapid growth in the number of students could mean that in some communities, education will be expanded to boys first, favoring boys at the expense of girls (Østby et al., 2016).

The findings revealed significant regional disparities between men and women completing secondary and higher education. In the East Central and Eastern, North, Karamoja, West Nile, and Western and South West regions, women experienced lower education completion rates than men, leading to the observed gender disparity. Regional variation in secondary school dropout rates has been reported in Uganda (Nath et al., 2018). This is partly in line with the findings of a study conducted in India (Husain, 2011) and another in Nigeria, where regional diversities were reported to influence the gender disparity in education (Adeyeye & Ighorojeh, 2019). Relatedly, place of residence was also associated with the gender disparity in completing secondary and higher education. Increased urbanization can potentially lower costs and increase the returns on education at both the societal and personal levels (Østby et al., 2016).



The gender disparity in education completion was associated with the distribution of disability among women and men. This finding is linked to the fact that more than half (57%) of the population who reported having a disability were women. One of the factors that can marginalize a child's life, including their education, is having a disability (Hayes & Bulat, 2017). Disability also significantly affects the transition to formal education (Then & Pohlmann-Rother, 2023).

Challenges and Opportunities for achieving a human capital transition in Uganda

Whereas the gender gap in education attainment and labor force participation has narrowed over time, with women becoming more involved in paid work, there are still significant gender disparities in the type of work performed by the working-age population. Women, for example, continue to be predominant in unpaid work, while men continue to be dominant in self-employment and wage-salary employment. The significant gender disparities in educational attainment and labor-force participation are a problem for human capital transition because it means that many women and girls are not reaching their full potential and contributing to the economy. Furthermore, Uganda's high unemployment rate makes human capital transition difficult because many young people cannot gain the skills and experience required to succeed in the workforce.

Uganda's population is young and growing. This presents an opportunity for human capital transition if the government and other stakeholders invest in workforce education and training programs. The Ugandan government is implementing several initiatives to promote human capital development. Among these initiatives are investments in early childhood education and care, increased access to secondary education, and vocational training programs. This narrowing of the gender gap in labor force participation can be attributed to a variety of factors, including increased female educational attainment, changing social norms and attitudes toward gender roles, and government policies and initiatives that promote women's employment and education. With the continued implementation of universal primary and secondary education, there is an opportunity to close the gender gap in higher education attainment and labor force participation, which are crucial to Uganda's human capital transition. This will, however, require tackling the challenge of school dropout, especially among girls and young women.

Conclusions

The results show a decline in the gender gap in secondary education completion, but this has been slow. Similarly, the gender gap in labor force participation has narrowed, with women becoming more involved in paid work. However, women remain predominant in unpaid work while men dominate in self-employment and wage-salary employment. The narrowing of the gender gap in labor force participation can be attributed to a variety of factors, including increased female educational attainment, changing social norms and attitudes toward gender roles, and government policies and initiatives that promote women's employment. The findings show that gender disparities in educational completion in Uganda are caused by temporal variation in the population's social, economic and demographic characteristics and differences in the effects of characteristics. The study's findings show that differences between men and women in age, urban residence, marital status, religion, employment income, and household size account for 64% of the gender gap in completion of at least secondary education. The findings suggest that gender disparities in educational attainment in Uganda result from individual characteristics and the effects of societal and household dynamics.

Addressing gender disparities in Uganda's education and labor force participation requires a multifaceted approach. Efforts should focus on expanding educational opportunities for women and challenging societal norms, promoting policies that promote women's employment, and targeting individual and household-level factors that contribute to gender gaps.

Policy Recommendations

Comprehensive policies and interventions are required to promote equal access for men and women to decision-making, economic opportunities, and education. Greater gender equality in Uganda will also require initiatives to counter-cultural norms and stereotypes restricting women's labor participation. Societies can work to create a more inclusive and equitable environment for all by addressing both individual and structural factors.

Interventions should be targeted to help girls and women from disadvantaged backgrounds. This could include giving scholarships and financial aid to girls from low-income families. Gender equality should be promoted in educational and training programs and challenging traditional gender roles that discourage girls and women from pursuing specific fields of study or careers. Gender stereotypes and biases must be addressed in the classroom, which could be accomplished through teacher training, student workshops, and parental involvement.

Targeted interventions for adult education and skill development for women are required, particularly in Uganda's North, Karamoja, and West Nile regions. Government, local leaders, and civil society organizations should continue sensitizing the communities on the importance of education attainment by women.

Implementing programs to assist people from disadvantaged backgrounds in developing the skills and knowledge required to succeed in the labor market will significantly enhance the human capital transition in Uganda. Government programs and initiatives that support women's employment, entrepreneurship, and economic empowerment must be strengthened and expanded.

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2.3 FACTORS INFLUENCING OLDER PERSONS' INVOLVEMENT IN SAVING AND CREDIT COOPERATIVE GROUPS IN THE SLUMS OF KAMPALA

Fred Maniragaba³

Introduction

The world is experiencing unprecedented demographic dynamics as the older persons' population is rapidly increasing. According to the Uganda National Council for Older Persons (UNCOPs) Act and the Uganda's Ministry of Gender Labour and Social Development (MoGLSD, older persons are defined as persons aged 60 years and older (MoGLSD, 2009). Similarly, the United Nations (UN) definition rhymes with that of Uganda (UNECA, 2007). Globally, one in every nine persons is aged 60 years and older. This ratio is expected to reduce to one person in every five people by 2050 (UN, 2017).

In the developing world, over 30% of older persons will constitute the proportion of the aging population by 2050 (UN, 2009). The population of older persons in Uganda, like elsewhere in the world, is steadily increasing, mainly due to the reduction in adult mortality (MoGLSD, 2009; UBOS, 2016). The Uganda census report 2002 indicated that in 11 years only (from 1991 to 2002), the number of older persons (aged 60 years and older) almost doubled from 686,000 to 1.1 million persons, respectively.

Whereas it is imperative to underscore that the numbers of older persons are increasing in Uganda (UBOS, 2016), older persons are still a minority group of people who are primarily vulnerable and economically disadvantaged. Most are grappling with socioeconomic challenges and exclusion from social protection programs (Adisa, 2019; UN, 2017). Worse still, a significant proportion of them is dependent since they hardly save, nor do they involve themselves in savings and credit and cooperative societies (SACCOs) or groups as a form of socio-economic security in their old age (Galor, 2018; UNDESA, 2019).

Saving and credit groups or societies (SACCOs) are considered semi-formal financial institutions that the government does not control. The first African country entrants into the SACCO community included Ghana, Uganda, Nigeria, Tanzania, and Kenya in 1960. These SACCOs were intended to assist people in getting out of their impoverished conditions and improving their economic statuses (Yemane, 2023). Slums are defined as settlement areas with improper housing facilities and poor sanitation. Slums are generally found in cities in developing countries (UNDESA, 2019).

Owing to the above discourse, it is inexorable that older persons in the slums within towns in Uganda can get various benefits from SACCOs, such as gaining healthy coping skills and behaviors and improved quality of life through reduced economic dependence. However, despite the benefits associated with SACCOs, there is a paucity of information on older persons' involvement in SACCOs, especially in the towns of Uganda. This study assessed the factors influencing older persons' participation in SACCOs in the slums of Kampala.

Older persons' involvement in saving and credit cooperative groups

Older persons are resourceful people who have been and are still contributing immensely to the development of Uganda (Nzabona, Ntozi, & Rutaremwa, 2013). However, despite their resourcefulness, there is limited research on their participation in savings and credit cooperative societies in the slums of Kampala. Numerous studies on saving groups in Uganda focused mainly on areas such as SACCOS as a source of financing agriculture. In contrast, limited studies have been done to understand better the older persons' involvement in SACCOs for their old age economic benefit. This knowledge gap creates few evidence-based policies to guide resource allocation to the priority needs of older persons.

³ Lecturer, Department of Population Studies, School of Statistics, Makerere University; College of Business and Management Sciences, Email: fmaniragaba@gmail.com Tel: 0777821673

The main objective was to assess the factors influencing older persons' involvement in SACCOs in the slums of Kampala. Specifically, the study intended to examine the association between demographic characteristics and older persons' participation in savings and credit cooperative groups and assess the association between socio-economic factors and older persons' involvement in savings and credit cooperative groups.

The study utilized secondary data on the determinants of access to safe water and health services by older persons aged 60 years and older from the slums of Kampala, Uganda. The study targeted 600 respondents and successfully interviewed 593 of them. Selection of the study sample involved multi-stage cluster random sampling, and the data were collected in October 2022 in three out of five divisions of Kampala, Kawempe, Nakawa, and Rubaga.

The outcome variable for this study was older persons' involvement in credit and saving groups, which was measured based on whether older persons were involved in SACCO groups or not. The responses were coded as "yes" for those who reported being involved and "no" for otherwise. The explanatory demographic variables were: age, categorized as 60-69, 70-79 and 80+ years, and sex. Socio-economic explanatory variables were education level, occupation, religion, division of residence, marital status, living arrangement, rent status of the respondent, type of house, household's primary source of information, control of household assets, responsibility of food purchase, relationship with household head, and number of children a respondent had.

The study used STATA software version 15 to analyze the data. Data were univariate, bivariate, and multivariate level. At the univariate level, frequency distributions were computed to describe the background characteristics of the respondents. At the bivariate level, the Pearson Chi-squared test, set at $p < 0.05$, was used to establish the association between the dependent variable (involvement in credit and saving groups) and each independent variable. The binary logistic regression, a multivariable technique, was used for this analysis because of the dichotomous nature of the dependent variable.

The study team obtained ethical clearance from the Vector Control Division Research Ethic Committee under VCDREC 162 and Uganda National Council for Science and Technology (UNCST) HS2487ES. Voluntary verbal informed consent was sought from all the respondents before the commencement of each interview. Information was held with utmost confidentiality.

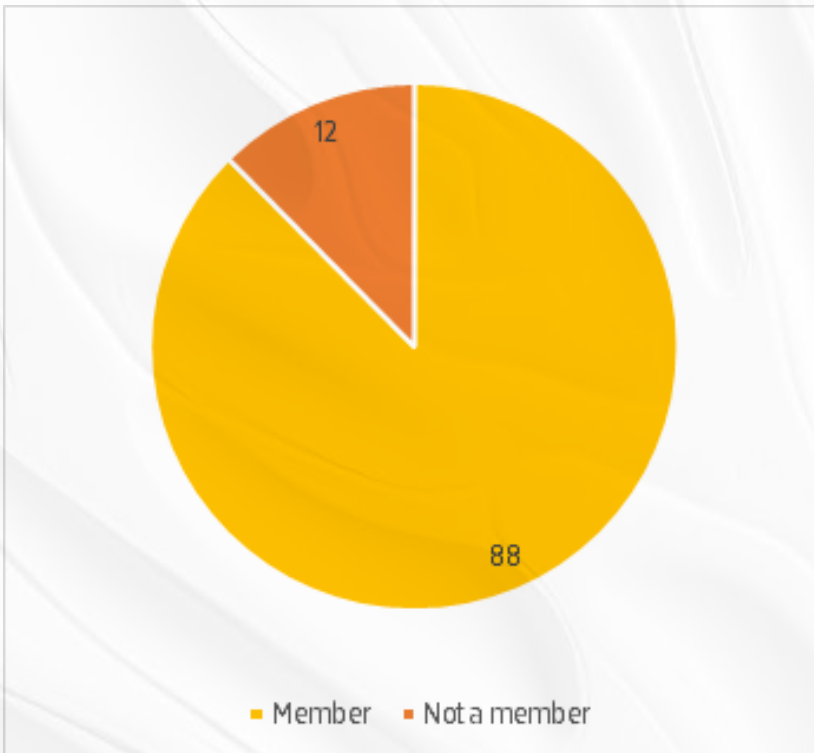
Findings

SACCO Membership

Savings and credit cooperative society membership is important to older persons as they enable them to be economically self-reliant, guard against uncertainties in future income flows, and are a source of later-life social security. Figure 15 shows that most (88%) of the respondents were members of SACCOs compared to 12% who were not members.



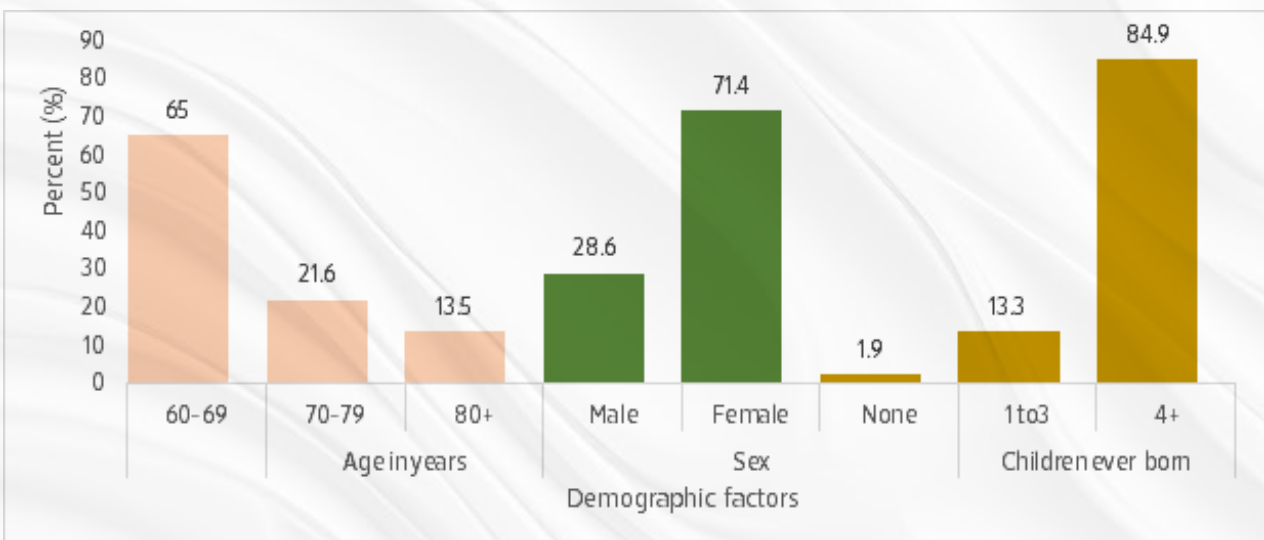
Figure 15: Percent distribution of respondents by SACCO membership



Distribution of the respondents by demographic factors

Regarding demographic factors, results in Figure 2 show that nearly two-thirds (65%) of the respondents were aged 60-69 years and 70-79 years (24%), while the proportion of the older was 14%. Regarding the respondents' sex, the results in Figure 16 further show that nearly three-quarters (71%) of the respondents were females. The figure also shows that most (85%) respondents had produced more than four children.

Figure 16: Percent distribution of the respondents by demographic factors



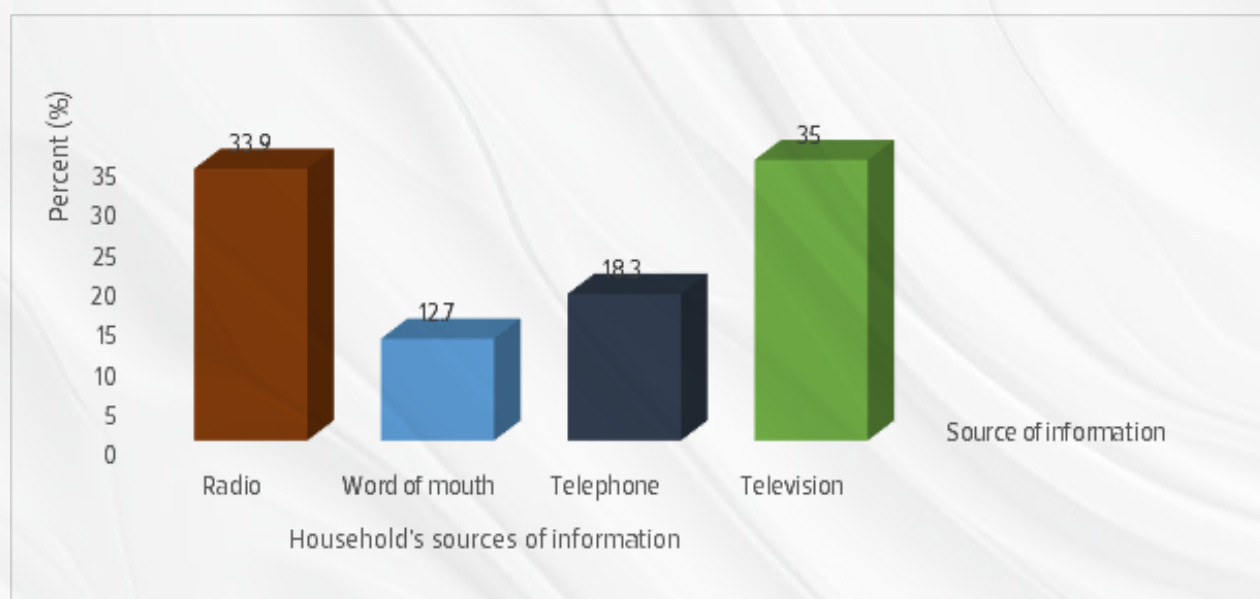
Socio-economic characteristics of the respondents

Table 1 (Appendix 2) presents the results of the selected socio-economic factors. The results show that less than half (48%) of the older persons had completed primary education. Slightly more than five in every ten (51%) reported that their occupation was business. Regarding religion, nearly one-third (33%) of the respondents were Catholics, 30% were Anglicans and 24% were Muslims. A large proportion (35%) of the respondents were from Kawempe divisions, Nakawa (34%) and Rubaga (32%), respectively, and lastly, marital status, a sizable proportion (44%) of the respondents were widows, followed by married (34%).

Household assets

Household assets are essential in addressing the various needs of its members. For instance, to enrich findings on people's welfare, the Uganda National Housing and Population Census of 2014 collected data on ownership of household assets, such as those relating to disseminating information like telephone, radio, and television (UBOS, 2016). The findings on household assets are displayed in Figure 17. Accessibility to information increases awareness of available opportunities, such as saving and credit groups where older persons can hold membership. The findings in Figure 3 indicate that almost over one-third (35%) of the respondents owned a television set, followed by a radio set (34%) and other devices used for information dissemination.

Figure 17: Percent distribution of respondents by household source of information



Household characteristics

Table 8 displays findings on the housing hold characteristics of the respondents. The results show that nearly three-quarters (74%) of the respondents were not renting houses they were residing in, Seven in ten (71%) were controlling their household assets, 69% were purchasing their food, and over three-quarters (79%) were heads of their households.

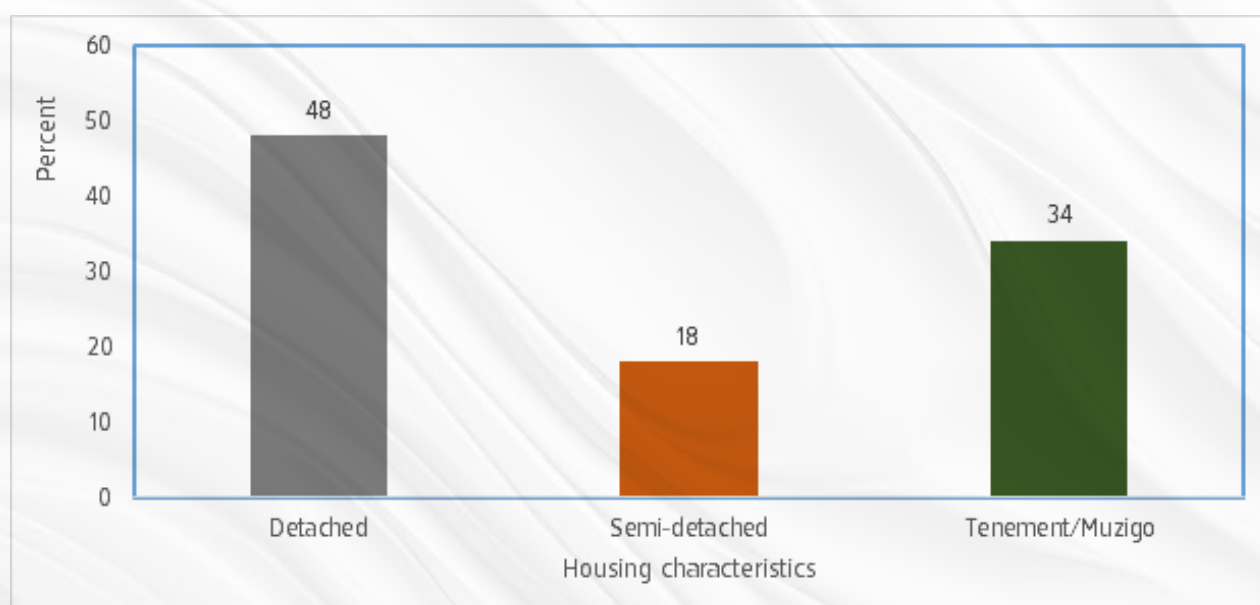


Table 8: Distribution of the respondents by household characteristics

Variable	Frequency (n)	Percent (%)
Living arrangement		
Lives alone	68	11.5
Does not live alone	525	88.5
Rent status		
Renting	155	26.1
Not renting	438	73.9
Control of household assets		
Self	421	71.0
Spouse	50	8.4
Children	122	20.6
Responsibility of purchase of own food		
Self	408	68.8
Others	185	31.2
Relationship with head of household		
Head	471	79.4
Spouse	60	10.2
Children	44	7.4
Relatives	18	3.0

On housing, Figure 18 shows the nature of houses older persons in the slums of Kampala reside in. Since shelter is an essential human need, it is crucial to understand the nature of housing and living conditions of older persons based on housing characteristics to develop appropriate policy interventions to address their housing needs. The Figure shows that, on average, nearly 5 out of 10 houses (48%) in which the older persons resided were detached, while 34% of the respondents reported living in tenements.

Figure 18: Distribution of the respondents by housing characteristics



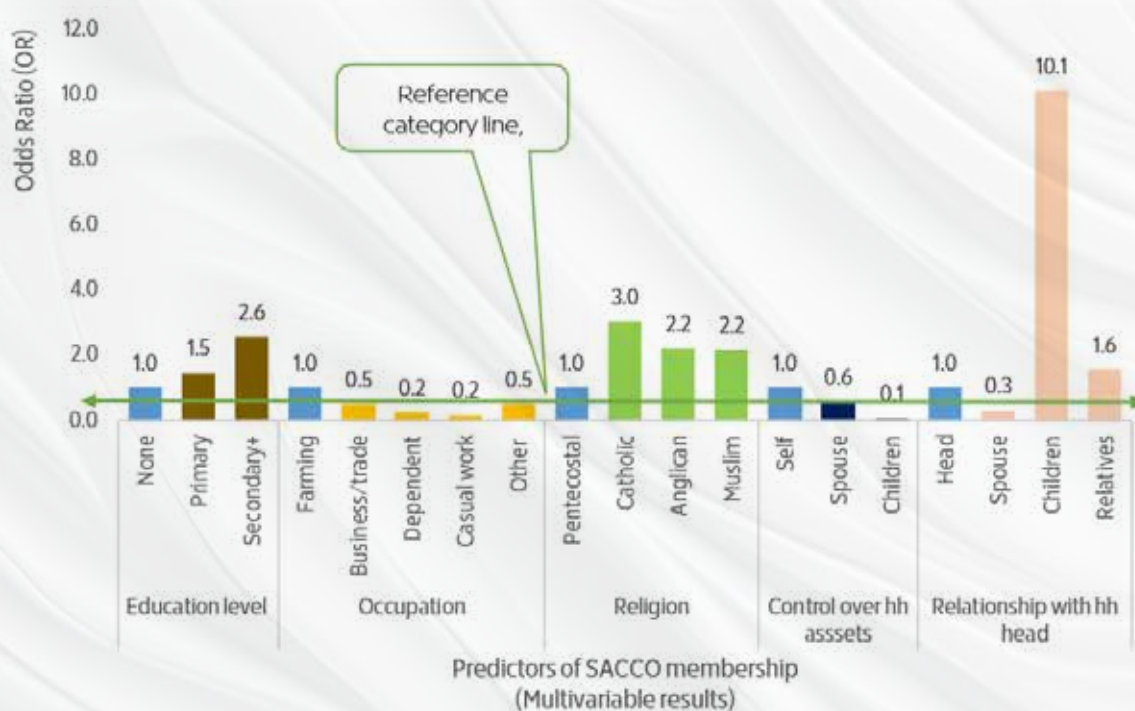
Differentials in the Involvement in SACCOs among older persons by socio-demographic characteristics

Table 3 (Appendix 3) presents bivariate results for the association between SACCO involvement and selected socio-demographic factors. Age of the respondents, sex, religion, division of residence, marital status, living arrangement, house renting, type of house, household's primary source of information, responsibility of purchase of food, relationship with the household head, and the number of children the respondents had were not significantly associated with involvement in credit and saving groups. The results in the table show that the prevalence of not being a member of a SACCO was higher among the older persons who had no education (92.9%; $p=0.0275$), Dependents (95%; $p=0.0175$) and those whose household assets were under the control of their children (97%; $p=0.0264$).

Predictors of older persons' involvement in credit and saving groups

The findings in Figure 19 indicate that involvement in saving and credit groups was significantly associated with the education level of the older persons, occupation, religion, control of household assets, and relationship with the head of household. The findings specifically reveal that older persons who had obtained secondary level of education had increased odds of involving themselves in saving and credit groups compared to their counterparts with no education (OR=2.582, 95% CI=1.056–6.314), the dependents had reduced odds of getting involved in saving and credit groups compared to the farmers (OR=0.237, 95% CI=0.064–0.880), odds of being involved in saving and credit groups were high among those who were affiliated to catholic religion compared to the Pentecostals (OR=3.031, 95% CI=1.001–9.184). Older persons whose children controlled their household assets were less likely to be involved in saving and credit groups relative to controlling them by self (OR=0.063, 95% CI=0.015–0.267), and older persons who were children of the household head had increased odds of being involved in saving and credit groups compared to the household heads themselves (OR=10.118, 95% CI=1.892–54.114).

Figure 19: Predictors of older persons' involvement in credit and saving groups





Discussion of the study findings

The main objective of the study was to examine older persons' involvement in saving and credit groups in the slums of Kampala. The findings show that participation in saving and credit groups among older persons was positively associated with secondary education level, being a catholic, and children of the household. However, being a dependent and controlling household asset by children was negatively associated with saving and credit based on odds ratios less than 1.

An older person with a secondary level of education had increased odds of getting involved in credit and saving groups compared to those with no education. It could be suggestive that credit and saving groups are part of people's socializing entities, where education could perhaps come into play to enable older persons to maintain their youthful social cohesion in older age. This agrees with a study done in Turkey (Bilgili & Arpacı, 2014) and also with Ghența, Matei, Mladen-Macovei, and Bobârnat (2022).

Occupation is significantly associated with involvement in saving and credit groups. Compared to the older persons whose occupation was farming, the odds of older persons' participation in saving and credit groups reduced among their counterparts who reported that they were dependents. This is not surprising because the older persons who depended on others for material and financial support could have been of low socio-economic status and could hardly afford a credit and saving group membership. This finding agrees with a study done in Korea (Ku, Lee, & Lee, 2021), which found that dependent older persons have low financial saving power.

The study also found that religion predicts involvement in saving and credit groups by older persons. Older persons affiliated with the catholic faith were more likely to get involved in credit and savings groups than their Pentecostal counterparts. This could, perhaps, be attributed to the frequent religious church attendance that positively affects the decision to save by the congregants. This finding aligns with a study done in Kenya (León, 2013; Wambaria, 2005), where the catholic church mobilizes and encourages its members to save for development.

Older persons whose household assets were under the control of their children were less likely to get involved in saving and credit groups. The dependent situation of the older persons could have perhaps taken away their independence in financial decision-making and left them in a low socio-economic position with limited income to save. This finding aligns with other studies that show that older persons are vulnerable to social and economic aspects of life (Du, Dai, Liu, & Tao, 2022; Wangliu, 2023).

Respondents who reported that they were children to the household head had increased odds of getting involved in credit and saving groups than household heads. The disparity in this could be attributed to age differences. Whereas the leaders of the households were in advanced age and unable to work for money physically and were possibly dependents, their children could have been a little younger, energetic, and able to work for money, which they could use in these saving groups. The study agrees with Mumin, Razak, and Domanban (2013).

Conclusions and Policy Implications

Based on the study findings, education significantly influences older persons' involvement in saving and credit groups. Older persons who obtained secondary education were more likely to participate in these groups. Religion is also a critical factor that predicts involvement in saving and groups, as older persons affiliated with the Catholic religion were more likely to participate in these groups than their Pentecostal counterparts. The other predictors of involvement in saving and saving groups were being a child to the household head, being a dependent, and having household assets under the control of children rather than the household head.

Policy recommendations

The study recommends the Government of Uganda, through the Ministry of Gender Labor and Social Development (MoGLSD), should lower the age of Social Assistance Grant for Empowerment (SAGE) beneficiaries from age 80 to age 60 to avail a significant proportion of the older persons nationwide, with enough resources to use in SACCOs. This is an excellent strategy for economically empowering older persons to age gracefully with dignity.

The positive association between level of education and SACCOs calls for strengthening universal primary and secondary education to enable young people to tap into education-associated opportunities, such as formal employment so that they reach old age when they are economically empowered. Adult education should also be emphasized to create awareness about SACCOs and their benefits. The Ministry of Education and Sports should champion these initiatives.

Uganda Government, through the Ministries of Gender Labor and Social Development, ICT and National Guidance, and Non-Governmental Organizations such as religious groups, should encourage and develop a culture sensitization and provide older persons with information on the benefits of joining saving and credit groups for their economic empowerment. This can be a perfect strategy for promoting positive aging in the country.



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2.4 SOCIO-ECONOMIC DETERMINANTS OF EARLY CHILDHOOD EDUCATION ATTENDANCE IN UGANDA: EVIDENCE FROM THE 2016 UGANDA DEMOGRAPHIC AND HEALTH SURVEY (2016 UDHS)

Adrian Ssessanga⁴

Introduction

Early childhood development forms the springboard for a country's population quality. Most notably, the acquisition of life skills that include a lifetime's mental and physical health, education, labor market productivity, and well-being is founded in one's early childhood (Britto, Lye, et al. 2017). Strategic investment in the child's infant years of 3-5 years produces livelier, healthier, and more productive adults, which benefits the families, communities, and countries they live in. As such, early childhood development, the process of nurturing a child's life skills, is powerfully underscored in the Sustainable Development Goals and World Development frameworks as a critical pillar for forming an elite and productive society (Richter, Cappa, et al. 2020). Global economies have thus invested more deliberately in support systems for early childhood development, and indeed, the success stories have transformed most countries into leading economies with strong and resilient human capital.



4 Centre for Population and Applied Statistics (CPAS), Makerere University, Kampala, Uganda; email ssessanga@gmail.com or telephone +256754175964/ 772369812

That notwithstanding, early childhood development is implemented differently across the world. Whereas the fraternity of the developed world has universally embraced it, the low and middle-income countries, facing affordability challenges, have left mainly the work of early childhood development to the informal sector (Lu, Cuartas, et al. 2020). The informal nature of early childhood development in low and middle-income countries has borne inequalities in attaining a more elaborate package of child nurturing that essentially entails the aforementioned acquisition of life skills that include a lifetime's mental and physical health, education, labor market productivity, and wellbeing. It has thus meant that children whose parents are of particular socio-economic characteristics may have their children attain the requisite early childhood development. In contrast, others are raised in a more speculative rather than predictive life-cycle. French, Outhwaite et al. (2020) postulate that this notion of unequal early childhood development prospects is even more prominent in Sub-Saharan Africa. They argue that this is due to the region's rather infant human capital development initiatives plus a plethora of the erstwhile predominant issues of poverty, hunger, and social conflict. Being part of Sub-Saharan Africa, Uganda is no exception to these shortcomings.

In Uganda, as with other African countries, early childhood development is entrenched in the country's traditional ethos, with nurturing one's child primarily vested in the child's societal upbringing and parental guidance (Ezati, McBrien, et al. 2016). To ensure that the mix of tradition and parental guidance is not foregone, the country's Early Childhood Care and Education (ECCE) policy further underscores the need to interweave the indigenous and formal early childhood development practices that then tantamount to early childhood education (Strachan, Kabwijamu, et al. 2020). This, therefore, overstates the importance of a child's demographic environment towards their early childhood development prospects underpinning the centrality of their immediate caregivers, who are, in most cases, the child's parents. It also unearths the uneven predictability of a child's chances of attaining early childhood education, which is the compounded formation of a child with a blend of informal and formal life skills. Suffice it to state that the country's vision of attaining middle-income status (Vision 2040) emphasizes the importance of early childhood development as the core of the country's human capital development.

Early childhood education in Uganda

Whereas early childhood education has been highlighted in Uganda's development frameworks as a critical ingredient of the quality of the country's human capital, the provision of the service is primarily managed by the private sector with no deliberate investment by the government beyond its policy and regulatory function. As such, interventions that seek to ensure that early childhood education is provided to all befitting children (3-5 years) have only been operationalized by a particular category of parents with peculiar socio-economic characteristics. Despite this selectivity, no deliberate measures have been put in place to understand the socio-economic factors of these parents, yet this could be used as an enabler for the rest of the parents to ensure that their children also acquire the highly critical early childhood education.

This paper, therefore, sought to explore the socio-economic determinants of early childhood education attendance in Uganda using evidence from the 2016 Uganda Demographic and Health Survey (2016 UDHS). Specifically, the paper sought to understand the socioeconomic characteristics of mothers and fathers to children aged 3 to 5 years and examine the socioeconomic factors influencing a child's chances to attend early childhood education.

The study used the 2016 UDHS data. Attendance of early childhood education is the outcome variable. It is categorized as binary, i.e., attendance and no early childhood education attendance. From the questionnaire data available, six explanatory variables were analyzed, which, based on a literature review, could influence a child's ability to attend early childhood education, which leads to human capital development. These included the education level of the mother and father, occupation of mother and father, marital status, children ever born, residence, and region. All variables had binary outcomes. Early childhood education attendance

was categorized into a child attending early childhood education and a child not attending early childhood education. Education level had a category of mothers and fathers whose highest level of education was secondary level and above and a category of those whose level was below secondary. The occupation was categorized into children whose mother and father were not working, having a professional/technical job, and unskilled manual work. Marital status was categorized into children whose parents were never married, married, no longer living together, and widowed. Children ever born had categories of children whose mothers had three children and below and those with more than three children. The residence was categorized as rural and urban, while the region had districts organized as Kampala, Central, Eastern, Western, and Northern Uganda.

Results

This section presents analytical results from an explorative analysis of Uganda's early childhood education attendance socio-economic determinants. Descriptive results on the socio-economic characteristics of mothers to children aged 3 to 5 years and multivariate analysis results using the adjusted odds ratios for a child to attend early childhood education are presented.

Socio-economic characteristics of parents to children aged 3 to 5 years

The socio-economic factors of mothers and fathers to children aged 3 to 5 years associated with early childhood education included occupation, education level, marital status, children ever born, residence, and region.

Results in Table 9 show that most (63%) children aged 3 to 5 are not attending early childhood education.

The study results established that most of the children's mothers (81%) and fathers (93%) had an occupation where they served as professionals and technical persons. Hardly 5% of the mothers (4%) and fathers (3%) were engaged in occupations of unskilled manual work. A notable percentage of mothers (15%) reported not working compared to the fathers (4%).

Regarding the parents' education level, most mothers (79%) and fathers (67%) had their highest level of education in levels below secondary education. As for marital status, most parents (87%) were married and living together. A notable proportion of 9% were no longer living together. Two percent of the mothers reported they had never married, while another 2% were widowed. When mothers were asked about the total number of children born to them, most mothers (62%) reported having more than three children ever born to them.

Regarding the residence, most children (83%) lived in rural areas. The region with the most children, in the ages of 3 to 5 years, was Eastern (29%), closely followed by Northern (27%), Western (25%) then Central (15%) and Kampala (4%).

Table 9: Socio-economic characteristics of parents to children aged 3 to 5 years

Socio-economic characteristics	Description	Freq.	Percent
Attendance of early childhood education (ECE)	Child attending ECE	1,865	37.25
	Child not attending ECE	3,142	62.75
Occupation of mother	not working	768	15.13
	unskilled manual	186	3.66
	professional/technical	4,123	81.21
Occupation of father	not working	189	4.28
	unskilled manual	127	2.88
	professional/technical	4,101	92.85

Education level of the mother	below secondary	3,991	78.55
	secondary and above	1,090	21.45
Education level of the father	below secondary	2,981	67.31
	secondary and above	1,448	32.69
Marital status of the mother	never married	105	2.07
	Married & living together	4,429	87.17
	no longer living together	444	8.74
	widowed	103	2.03
Total children ever born	More than 3 children	3,143	61.86
	3 children and below	1,938	38.14
Residence	Urban	866	17.04
	Rural	4,215	82.96
Region	Kampala	189	3.72
	Central	775	15.25
	Eastern	1,463	28.79
	Western	1,262	24.84
	Northern	1,392	27.4

Multivariate analysis of socioeconomic factors associated with children's attendance of early childhood education

The significant variables at the multivariate level were included in a logistic regression model (Table 10). The model shows the association between a child's chances of attending early childhood education and the explanatory factors of parents' occupation, education level, total children ever born, residence, and region.

Results indicate that a child whose mother [OR= 2.15; CI:1.79 – 2.57] and father [OR=1.62; CI: 1.39 – 1.88] have secondary level education and above is twice more likely to attend early childhood education as compared to the child with parents whose levels of education are below secondary. It is postulated that highly elite parents will wish their children to follow a related educational path by enrolling them in early childhood education rather promptly to sharpen their intellectual abilities to adapt to formal learning environments early (Ghosh and Dey, 2020). The mother's education level is especially underscored as highly influential in prompting the child to attend early childhood education because the mother has more bonding time with the child (Rao, Cohrsen et al. 2021, Cuartas 2022). It is no wonder that regression results have also revealed that children whose mothers have secondary-level education and above have higher odds of attending early childhood education than children whose fathers have the same level of education.

Concerning the occupation of a child's parents, a child whose mother [OR=1.20; CI: 0.99 – 1.46] is a professional or technical person is more likely to attend early childhood education than a child whose mother is not working. The mother's occupation is more significant to a child's chances of attending early childhood education than that of the child's father. Related studies suggest that a mother's career is especially vital because the mother has firmer control and superior consciousness of the child's needs (Nomaguchi and Milkie 2020; Azizah, Saleh et al. 2022). It is thus argued that given a boost in her purchasing power, the mother will ensure that their child attends early childhood education out of the maternal sense of duty to nurture them.

The total number of children ever born to the mother also presented a significant relationship to a child's chances of attending early childhood education. A child whose mother has three children and below is more likely [OR=1.16; CI: 1.01 – 1.34] to attend early childhood education than a child whose mother has had more than three children. Families with fewer children are more manageable and present better opportunities for improved progressive outcomes, such as the quality and sustainability of schooling for all children (Alidou and Verpoorten 2019). This is mainly postulated for families in countries such as Uganda that are characteristic of low and middle-income economies.

Regression results on the child's residence showed that a child living in urban areas is more likely [OR=1.77; CI: 1.45 – 2.17] to attend early childhood education than a child in rural areas. Given that the private sector in Uganda largely operationalizes the early childhood education program, it is noteworthy that urban centers where the private sector finds higher demand for the service are where they concentrate the early childhood education centers. Scholars on this subject matter add that families based in rural areas lead a subsistence lifestyle that cannot afford the luxury of enrolling their preschool children in early childhood education (Skylstad, Nalugya et al., 2022)

The region where the child lives also showed a significant relationship with attendance in early childhood education. It revealed that children who live in the Central [OR=1.80; CI: 1.17 – 2.78], Eastern [OR=0.53; CI: 0.35 – 0.81] and Northern [OR=0.40; CI: 0.26 – 0.61] regions are more likely to attend early childhood education compared to their counterparts living in Kampala. The varying regional odds in attending early childhood education are majorly premised on the varying access levels of children in different regions, precipitated by the uneven availability of early childhood education centers across the country's provinces (UWEZO 2021). As such, the Central region with the highest odds also has the highest concentration of early childhood education centers, while the Northern region has the fewest centers.

Table 10: Adjusted odds ratios for the regression of children's attendance of early childhood education with the parents' selected socio-economic characteristics

Attendance of ECE	Odds Ratio	P> z	[95% Conf. Interval]	
Occupation of mother (rc=not working)				
unskilled manual	0.8523523	0.470	0.552424	1.315121
professional/technical	1.203923	0.059	0.9933	1.459207
Occupation of father (rc=not working)				
unskilled manual	1.435239	0.207	0.819196	2.514553
professional/technical	1.435158	0.075	0.964511	2.135462
Education level of mother (rc=below secondary)				
secondary and above	2.146129	0.000	1.793991	2.567388
Education level of father (rc=below secondary)				
secondary and above	1.616825	0.000	1.388685	1.882444
Total children ever born (rc= above 3)				
3 children and below	1.160848	0.039	1.007397	1.337672
Residence (rc= rural)				
Urban	1.774961	0.000	1.454267	2.166373
Region (rc= Kampala)				
Central	1.803992	0.008	1.16938	2.783002

Eastern	0.5312889	0.003	0.347702	0.811811
Northern	0.3974698	0.000	0.257699	0.613049
Western	1.123234	0.588	0.737665	1.710337
_cons	0.2941008	0.000	0.166996	0.51795

Conclusion

Early childhood education is critical for developing the country's human capital. However, the early childhood education program is not publicly available to children in Uganda. The program is operationalized by the private sector and harbors access and affordability inequalities. As a result, children in rural areas and those living in the Northern region of Uganda have fewer odds of attending early childhood education for reasons bordering on affordability and limited access.

The socio-economic characteristics of a child's parents are vital determinants of their chances of attending early childhood education. As such, the parent's education levels and occupations are critical enablers for a child to participate in early childhood education. The characteristics of a child's mother are more essential to the child's ability to attend early childhood education than its father. This is because the mother has firmer control and superior consciousness of the child's needs, including attaining early childhood education.

Recommendations

Early childhood education service delivery should be an integral part of the Ministry of Education and Sports strategic plan to ensure that the program's performance is assessed as part of the Ministry's key performance indicators. The performance assessment should look out for, among other things, a costed contribution of the early childhood education program to the country's goal of human capital development to further demonstrate its critical importance and the need to promote it across the country.

The government, through the Ministry of Education and Sports, should seek to provide subsidies, such as the school facilities grant through public-private partnership arrangements, to private sector players providing early childhood education services so that they are encouraged to extend the early childhood education services to rural communities and the underserved regions.

The government, through the Ministry of Education and Sports, should invest more deliberately in the operationalization of the policy strategy to develop early childhood education center infrastructure, learning materials, and other early learning implements within all public primary institutions since these are accessible by Ugandans of all caliber in all parts of the country.

There should be collaborative efforts amongst units of the Ministry of Education and Sports, Ministry of Gender, Labour and Social Development, and the Ministry of Local Government from the national to community level to sensitize the population on the need to enroll children in early childhood education. The sensitization campaigns should carry illustrations of children's gains when they access the program with messages tailored for both the female and male populations.

The government, through its poverty alleviation programs such as the Parish Development Model, Emyooga, the Youth Livelihood Program, and Operation Wealth Creation, should seek to target the empowerment of women as these are best placed to facilitate a child's attendance of early childhood education when they earn an income.

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CHAPTER 3

DIGITAL TRANSFORMATION AND WEALTH CREATION

3.1 ACCESS AND ADOPTION OF DIGITAL TECHNOLOGIES AMONG PERSONS WITH DISABILITIES

Martha Kibukamusoke,⁵ Drake Patrick Mirembe⁶, and Jude T. Lubega⁷

Introduction

The term persons with disabilities is used to apply to all persons with long-term physical, mental, intellectual, or sensory impairments which, in interaction with various attitudinal and environmental barriers, hinder their full and effective participation in society on an equal basis with others. The Uganda Persons with Disabilities Act 2006 defines disability as “a substantial functional limitation of daily life activities caused by physical, mental or sensory impairment and environmental barriers resulting in limited participation.” Uganda’s Persons with Disabilities Act 2020 highlights a disability to be a substantial functional limitation of a person’s daily life activities caused by physical, mental, or sensory impairment and environmental barriers, resulting in limited participation in society on an equal basis with others and includes an impairment specified in Schedule 3 to this Act.

The World Health Organization (WHO) considers disabilities an umbrella term covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. This makes disability a complex phenomenon, reflecting an interaction between a person’s body features and the society in which they live”.

According to the WHO estimates, over 1 billion people experience disability, which corresponds to about 15% of the world’s population, with up to 190 million (3.8%) people aged 15 years having significant difficulties in functioning, often requiring health care services (WHO, 2011). The number of people experiencing disability is increasing due to a rise in chronic health conditions and the ageing population. Furthermore, the World Health Organization notes that 80% of persons with disabilities live in developing countries (Scholz, Yalcin & Priestley, 2017).

While advances in Information and Communications Technology (ICTs), including the Internet, have created avenues of inclusion for some, especially persons with disabilities, it has also widened the extent to which they are excluded from the social and economic potential of the digital society. The access and adoption of ICT have enhanced the social, cultural, political, and economic integration in communities by enlarging the scope of activities available to them. Several studies show how internet use in the general population depends on various biological, economic, social, or organizational aspects. Age is negatively related to internet use, but higher education, higher income, having a job, and being coupled are linked to increased internet access, use, and adoption (Helsper & Van, 2017). Studies that address potentially problematic features in internet use, e.g., navigation and orientation, have defined search queries and evaluated information to include persons with disabilities (Liebert & Morahan, 2004).

This study aimed to determine the extent of access and adoption of ICT skills for E-services among persons with disabilities in Uganda. Through a mixed methods approach, the study found that having a hearing impairment increases the odds of Internet access compared to the general population. However, once online, there were no differences in many areas of usage and increased chances that people with disabilities engaged in five activities: downloading videos, playing games online, reviewing products or services, sharing their content, and posting to blogs, as seconded by (Dobransky & Hargittai, 2006). The study recommends that the relevant

5 Cavendish University

6 Makerere University

7 Nkumba University



laws and policies in place that can be used concerning ICT access and usage among persons with disabilities include but are not limited to The National Council for Disability Act, 2003; The RCDF Policy 2010/11–2014/15; The National Information and Communications Technology Policy for Uganda 2014 and Persons with Disabilities Act, 2020.

Digitalization among Persons with Disabilities

Assistive technology enables and promotes the inclusion, participation, and engagement of persons with disabilities. Indeed, article 20 of the United Nations Convention on the Rights of Persons with Disabilities (CRDP) calls for effective measures to facilitate access to quality assistive devices and technologies delivered at affordable cost and in the manner and at the time of choice of persons with disabilities. In Uganda, most people who need these technologies do not have access to them, and many are unaware of such technologies and their functionalities. Section 5 (L) of the Act mandates the Uganda Communication Commission (UCC) to “Promote research into the development and use of new communication techniques and technologies, including those which promote accessibility of Persons with Disabilities (PWDs) and other members of society to communications services.” At a national level, Article 21(1) of Uganda’s Constitution upholds Uganda’s commitment to safeguarding equality and freedom from discrimination for all, including PWDs. Under the article, discrimination was defined in clause (3) to mean ‘give different treatment to different persons attributable only or mainly to their respective descriptions by sex, race, color, ethnic origin, tribe, birth, creed or religion, or social or economic standings, political opinion or disability. The Uganda Bureau of Statistics Census 2014 Report indicated that 12.4% of the Ugandan population lives with some form of disability, implying that approximately 4.5 million Ugandans are persons with disability, hence a development concern currently estimated at 6 million. Despite the available evidence from renowned scholars and publishers like the Economist (2009), an extra ten phones per 100 people in a typical developing country boosts Gross Domestic Product (GDP) growth by 0.8 percentage points, and the uptake of ICTs by PWDs in Uganda is still low. Thus, to leverage the benefits that accrue from access and usage of ICTs, such as boosting production, improving household incomes, reducing inequalities, and widening market options, among others, the Uganda Vision 2040 highlights the use of ICTs as one of the pillars in the attainment of this Vision.

ICTs can significantly increase the socio-economic livelihoods of communities in Uganda, including PWDs. However, there is a growing outcry from the public and key stakeholders that Persons with Disabilities are increasingly becoming isolated from accessing and using ICTs despite the available evidence of the impact of ICTs. Thus, the study suggests ways through which ICT inclusiveness programs are implemented with key ecosystem partners to cater to the needs of Persons with Disabilities. Against this background, the study emphasized various initiatives to ensure access, usage, and accelerated uptake of ICTs by Persons with Disabilities.

The study aimed to determine the extent of access and adoption of ICT skills for e-services among persons with disabilities in Uganda. The specific study objectives included the following: To determine the state of access and usage of ICTs by persons with disabilities, to establish the level of knowledge and adoption of ICTs for e-services among persons with disabilities, and to ascertain the extent to which the policy environment provides access to e-services to persons with disabilities.

The study used a mixed research approach involving qualitative and quantitative data collection and analysis methods. The methods include surveys, Key Informant Interviews (KII), and Focus Group Discussions (FGD). The data collection instruments or tools included the Key Informant interview guide and focus group discussion guide. In addition to the methods, the following complemented the data collection and are as follows. The stakeholder consultations, tool digitization, and pre-test of data collection tools. The quantitative data was analyzed using the statistical analysis tools known as STATA.

According to the Persons with Disabilities Act, there are eight (8) categories of disabilities, i.e., Physical disability, Hearing disability, Visual disability, Deaf and Blind disability, mental disability, little people, Albinism, and Multiple disabilities. The study mainly focused on three (3) categories of disabilities, i.e., physical, visual, and hearing disability. The study covered the country's five regions (both rural and Urban). The purposive sampling technique was used to select respondents who participated in the survey.

The Uganda Bureau of Statistics report (2019) states that 12.5% of the Ugandan population has at least one form of disability; therefore, approximately 4.5 million Ugandans are persons with a disability. 15% disability prevalence rate is among persons aged five years and above, and nearly 61% are among the 85+ of age in Uganda. Taking 4.5 million to represent the population size with 3% as the desired level of precision and a confidence level of 95%, assuming a response rate of 50% (full complete forms), the estimated logical sample size obtained is 1,067. Therefore, a sample size of 2,198 respondents was selected to ensure sufficient convergence given the data stratification per region and respondent demographics. Respondents were selected from 5 regions of Uganda, as shown in Tables 10 and 11 below.

Out of the targeted 2,198 respondents, 2,096 took part in the study, giving a 98% response rate, which is scientifically acceptable as representative of the target population and can be relied on to make sound conclusions from the study. Tables 11 and 12 below summarize all data collected under this study.

Table 11: Respondents who took part in the study

Category	Respondents	Data Collection Method	Number	Sampling Technique
Persons with disabilities	Physical disability, visual disability, hearing disability	Survey questionnaire	2003	Purposive sampling
District Unions (DU)	Senior Management, Program Officers, ICT and Communication Officers	KII	55	Purposive sampling
Sector opinion leaders	Academics, practitioners, civil society organizations, political leaders	FGD	38	Purposive sampling
	Total		2,096	

Source: Primary data 2023

Primary Data Collection

Key Informant Interviews (KII) were used to collect opinions from the district union leaders within the selected districts. The responses were used to generate thematic issues per the study's objectives.

The survey questionnaires were also used to collect opinions from persons with disabilities within selected districts. The questionnaires were administered through one-on-one engagement with the respondents. A total of 120 people served as enumerators for the data collection exercise. Each participant received a clear and comprehensive explanation of the research's objectives, and informed consent was obtained, ensuring their awareness of the study's purpose, potential risks, and their right to withdraw at any point.

Focus group discussions comprised 7-10 participants with district union leaders (DU) in each region. These broadly discussed the level of awareness of ICT devices among persons with disabilities and the factors influencing the use of ICTs among persons with disabilities.

Table 12: Data collected per region

Region	KII	Questionnaires
Northern	5 District Union Leaders	364 PWDs
Western	19 District Union Leaders	333 PWDs
Eastern	10 District Union Leaders	356 PWDs
Central	16 District Union Leaders	704 PWDs
West Nile	5 District Union Leaders	246 PWDs
Total	55	2,003

Ethical considerations: The entire research process was carried out with due care of ethical concerns. The researchers got consent from respondents to participate in the study with a high degree of openness regarding the purpose and nature of the study. The study ensured biases were avoided in study design, data acquisition, analysis, and interpretation. Volunteerism was guaranteed by not forcing any respondent to participate in the study. A guarantee of protection of the dignity of the respondents was expected, which resulted in a high response rate. To ensure our research’s ethical and respectful conduct, we partnered with the National Union of Disabled Persons in Uganda (NUDIPU), which profoundly understands the challenges and sensitivities concerning persons with disabilities. Stringent measures were implemented to safeguard all participants’ confidentiality and anonymity and mitigate potential harm or discomfort. The research adhered to ethical standards and principles relevant to vulnerable populations, especially persons with disabilities, as outlined in the United Nations Convention on the Rights of Persons with Disabilities (CRPD).

Data analysis: Before analysis, the data was cleaned and validated using the STATA statistical analysis tool to analyze quantitative data. Results were presented in both graphical and text formats (using info-graphics). At the same time, qualitative data was analyzed using thematic content analysis to classify, sort, and arrange information and examine relationships within the data. Analysis of the quantitative and qualitative data findings were then synthesized to provide an in-depth understanding of key results in line with the objectives.

Findings

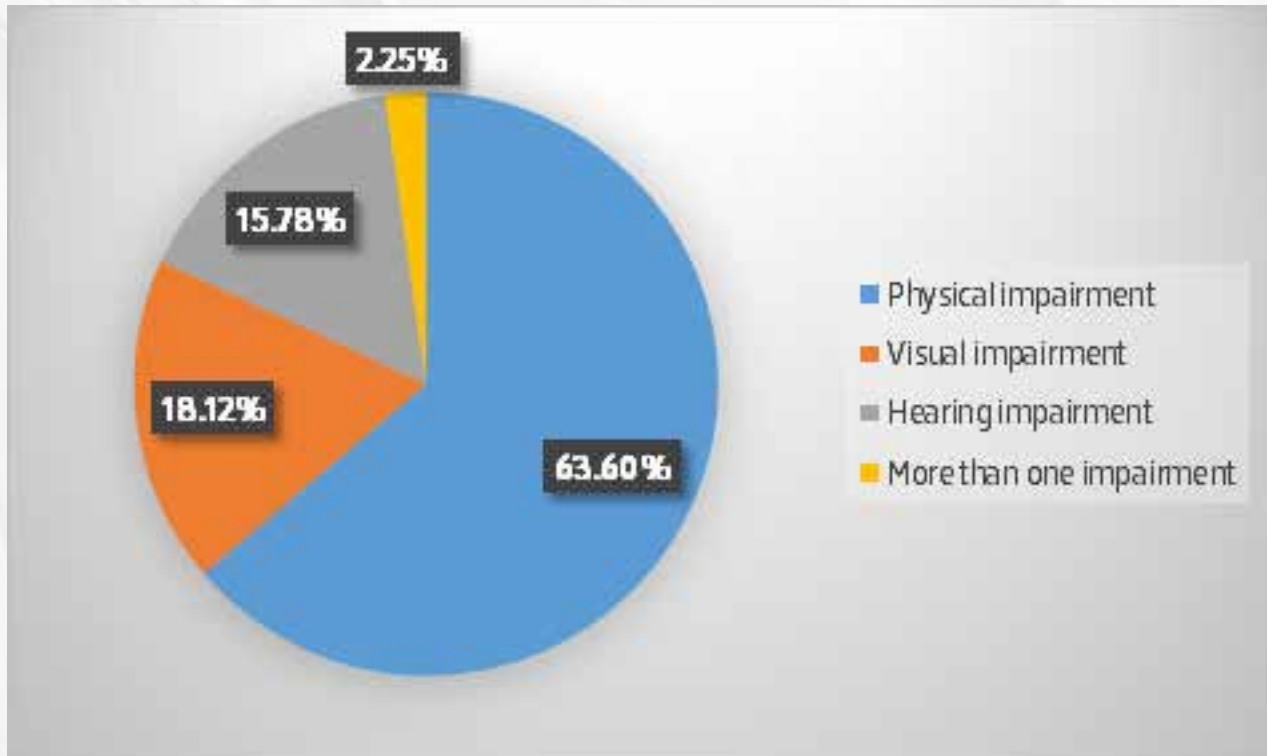
Background demographics

As shown in Table 2 above, the study was undertaken in 5 regions of Uganda. A total of 2,003 persons with disabilities participated in the study. The mean age of the study respondents was 35 years. More than half of the respondents (51.2%) were male, and (48.8%) were female. Half (50.8%) were from rural areas, while (49.2%) were from urban areas. However, (47.9%) were self-employed and (44.5%) were married.

Disability types

Figure 20 below shows that the study focused on three (3) main disability categories: Physical, Visual, and hearing. The most prevalent disability from the three categories was physical, 63.6%. The second was visual 18.12%, and lastly, hearing 15.78%.

Figure 20: Categories of disabilities



Education level

The study also found that 33.5% of the respondents had an education background of primary level, 25.5% UCE, 9.8% tertiary or vocational, 5.4% Diploma, Bachelor's degree, 4.1%, UACE, 4.0%. Those who had a master's degree qualification were 0.5%, and PhD were 0.1%, while (15.9%) had not attained any formal education. This shows that persons with disabilities are neglected in terms of the acquisition of education, as indicated by one of the PWDs from eastern Uganda below.

"Most of us cannot continue for further education because we do not know where to find the right schools to accommodate us, especially for the higher classes S.6 onwards since the ones available in our areas don't cater for persons with disability" Visually Impaired, PWD, Eastern Uganda.

Employment status

The study found that at least 47.8% of the respondents were self-employed, and 30.7% were unemployed. Of the employed, 9.1% had a diploma, 1.2% had a master's degree, and were in formal employment. Out of the 47.8% that were self-employed, 16.6% of these had attained a primary level of education, and 14.3% attained UCE.

This is also supported by the World Development Report, 2016, which states that many persons with disabilities pursue self-employment due to the barriers to getting jobs in the competitive labor market. The Internet and digital technologies are changing the field of self-employment and entrepreneurship through online work and micro-work sites such as Desk, Elance, and Amazon Mechanical Turk. Individuals with disabilities can now



find and interact with clients and sell their goods and services across physical and infrastructural obstacles. The growing recognition of telework and remote distributed work through the internet as feasible and productive ways to work can facilitate a more inclusive work environment for employees with disabilities requiring schedule flexibility and alternative work arrangements.

State of awareness, access, adoption and usage of ICT

ICTs and assistive technology today permeate almost all development activities, including healthcare, employment, accessing online government services, political participation, emergency, and humanitarian actions, and ensuring access to accessible and assistive technologies for persons with disabilities is, hence, an essential element in all dimensions of development. While advances in ICTs, including the Internet, have created avenues of inclusion for some, especially persons with disabilities, it has also widened the extent to which they are excluded from the social and economic potential of the digital society (CIPESA, 2019). The study aimed to determine if respondents were aware of owned gadgets that can enable the access and use of ICTs.

Level of awareness of ICT devices

District Unions (DUs) are service providers and advocates for persons with disabilities using and accessing ICT devices. It was, therefore, important to understand the level of awareness, access, and usage amongst the leaders of organizations for persons with disabilities. Analysis of results showed a high level of awareness and usage at (63%) of ICT devices amongst leaders of DUs, where at least 53.2% indicated the use of ICT devices in their day-to-day activities. As confirmed below, the least used devices from the results were tablets, laptops, and desktops.

"We have computers, printers, the phone at the district union, and some of us know how to use them, the rest of the things are performed by the administrator and these smartphones we have them because we also communicate to our people on WhatsApp, although we don't have laptops but we know they are there and hope we can get some from UCC to help us the leaders in our work" **DU-chairperson, Eastern Region**

"Majority of the beneficiaries they don't have smart phones, sometimes we have to send them money and they request we send on the neighbor's phone because that's the only way we can refund their transport." **DU, project manager USDC, Bunyoro**

"My feature phone does not have features that a smart phone has. I always get help from my neighbor to access certain things" **Physically Impaired, PWD, Western Uganda.**

Ownership of ICT devices

The study found that the majority, 54.8%, of the respondents owned feature phones (Kabiriti), 51.7% owned radios, 23% owned smartphones, 20.6% owned televisions, and a few, 4.7% owned a laptop, and 2.4% owned a tablet or an iPad. The most used devices were radios, feature phones, televisions, and smartphones for communication and entertainment.

"Many persons with disabilities do not have such gadgets." **DU Chairperson, Napak, Karamoja**

"I own a phone, it is not a smart phone. I use it to text my people." **KII, Physically Impaired, PWD, Western Uganda**

Persons with disabilities primarily own radios and feature phones, thus having a low capacity to buy/own smartphones, as shown in Table 13 below.

Table 13: Ownership of ICT devices

	Feature phone	Smartphone	Tablet/iPad	Television	Laptop	Radio	Desktop computer
Awareness of	843	963	741	901	884	807	785
Ever used	840	399	149	463	264	720	270
Access to	629	328	87	447	177	682	194
Currently using	757	430	44	448	117	875	105
Own	1098	469	48	412	94	1035	51
None of the above	224	624	1188	611	980	321	1083

Source: Primary data 2023

The study further found that ICT device ownership is higher in the central region than in the other areas, as shown in Table 14 below. The least owned ICT devices were laptops and desktops, which are assumed always to be owned by people with a certain level of education. Most of them had primary-level education, which reflects what ICT devices they could use and, hence, own.

Table 14: Ownership of ICT devices against sub-regions.

Sub-regions	Feature phone %	Smartphone %	Tablet/iPad %	Television %	Laptop %	Radio %	Desktop %
Acholi	4.3	2.0	0.1	1.1	0.8	6.0	0.1
Ankole	2.2	1.5	0	1.9	0.2	2.6	0
Bukedi	0.8	0.5	0.1	0.2	0.1	0.9	0.1
Bunyoro	4.4	1.2	0	1.3	0.1	2.4	0.1
Busoga	3.9	1.1	0.1	1.4	0.2	3.9	0.2
Central	14.3	8.2	1.2	8.1	1.7	11.6	1.3
Eastern	1.6	0.8	0	0.5	0.1	1.3	0
Elgon	0.9	0.3	0	0.2	0	0.8	0.1
Kampala	0.6	0.3	0.1	0.4	0.2	0.4	0
Karamoja	0.5	0.1	0	0.1	0	0.5	0
Kigezi	0.7	0.5	0	0.5	0	1.0	0
Lango	4.5	1.2	0.1	1.5	0.3	7.1	0.1
Rwenzori	1.7	0.9	0.2	0.9	0.2	1.1	0.1
Teso	3.9	3.9	0.1	0.4	0.1	2.5	0.1
Tooro	1.6	0.4	0	0.5	0	7.6	0
West Nile	8.5	3.2	0.1	1.3	0.4	51.7	0

Source: Primary data 2023



Usage of Owned Devices

The study found that the persons who owned the devices used them for the following. Although a few respondents indicated using their phones for education and news, they mainly used their devices for entertainment and communication. Therefore, in terms of education and information, 16.8% indicated using feature phones, 19.3% use smartphones, 9.7% use a tablet or an iPad, 18.6% use Television, 12.4% use laptops, 24.4% use Radio, and 11.9% use computers to a greater extent for education.

In terms of communication, 54.5% indicated using feature phones, 30.1% pointed to using a smartphone, 10.2% indicated using a tablet or an iPad, 18.5% indicated using a television, 10.1% indicated using a laptop, 32.9% indicated using a radio and 9.9% indicated to use Desktop computer to a greater extent for communication. Feature phones were used mainly for communication and education but not for business. The radio, which is second owned among the devices, was used mainly for news, entertainment, and communication, respectively. Therefore, the radio could be the wrong ICT device to use while educating persons with disabilities, especially those with hearing disability.

Awareness and usage of assistive Devices/Technology

Assistive technology (AT) is a term for assistive, adaptive, and rehabilitative devices for people with disabilities and older people. Disabled people often have difficulty performing activities of Daily Living (ADLs) independently or even with assistance. ADLs are self-care activities that include toileting, mobility (ambulation), eating, bathing, dressing, and grooming. Assistive technology can alleviate the effects of disabilities that limit the ability to perform ADLs. Assistive technology promotes greater independence by enabling people to perform tasks they were formerly unable to accomplish or had great difficulty achieving by providing enhancements to, or changing methods of interacting with, the technology needed to accomplish such tasks, thus an enabler to social participation (Parant et al., 2017).

The study found that there's low awareness and usage of assistive devices, where 3.04% of the respondents indicated knowing of and actively using the audio players and recorders, 1.7% actively using the Perkins Braille, 1.34% actively using the talking web browser and 1.15% actively using the Magnifier and Braille note taker; 1.04% actively use text to audio convertors while only 0.89% indicated to use touch screen computers. Regarding ownership, 2.8% owned audio players, 1.44% owned communication boards, and 1.25% owned magnifiers. The majority, about 80% of the individual persons with disabilities, neither own nor have access to the assistive technologies considered in this research.



"I have heard that there exists assistive devices that are very expensive to buy but I don't know what they look like and I do not know where to get them in case I want." Visually Impaired, PWD, Northern Uganda

"Most persons with disabilities are not aware and have not been trained to use digital services." (DU, Chairperson Koboko, West Nile)

"Assistive devices for persons with disability are very expensive to acquire and not very easy to find on market. Even the one we use was donated to us so that it can ease how we perform our day-today work." (DU, Chairperson Mityana, Central Region)



It is apparent that assistive devices for persons with disability are costly to acquire and are not common devices accessed on the market in Uganda. This is a significant deterrent for persons with disabilities to own and use such devices. Table 15 below summarizes the number of respondents aware of, own, and access specific assistive devices.

Table 15: Awareness, access, and usage of assistive devices by individual persons with devices

Device	Aware of	Ever used	Access to	Currently Own using	None	
Perkins Braille	430	83	40	34	27	1534
Magnifier or hand-held video desktop	350	84	39	23	25	1614
Braille note taker	334	57	20	23	18	1631
Communications Board	360	121	75	32	29	1604
Audio player & recorder	539	169	85	61	56	1372
Scanning pens	247	53	18	14	11	1714
Screen reader software	287	71	36	23	20	1683
Barcode scanners	244	53	24	15	11	1722
Talking web browser	263	61	27	27	14	1699
Touch screen computer	410	111	48	18	19	1545
Text to audio converter	276	59	24	21	15	1693
Specialized keyboard	287	51	18	15	14	1683

Source: Primary data 2023

Apart from the list of devices highlighted in Table 14 above, some respondents indicated being aware of other assistive devices, which included; (Hearing Aid 23%, electronic wheelchairs 18%, White cane 17%, Audio Bible 7%, Talking computer 7%, crutches 7%, Optical glasses 4%, artificial hands 2% and Google assistant 2%). The results indicate low knowledge of assistive devices for persons with disability. Hence, a lot of sensitization needs to be done if there is going to be increased adoption, as shown in Table 16 below.

Table 16: Other assistive devices

No	Assistive Device	Percentage %
1	White cane	16.8
2	Hearing aid	22.9
3	Electronic wheel chair	18.1
4	Optical glasses	3.6
5	Google assistant	2.4
6	Talking computer	7.2
7	Audio Bible	7.2
8	Crutches	7.2
9	Obit reader	2.4
10	Artificial hands	2.4
11	Others (Braille watch, digital calculator, victor reader	9.6

Source: Primary data 2023

Usage of Assistive Devices

This study further sought to establish the level of ownership and usage of assistive devices in organizations, and the results indicated that 52.7% are aware of the existence of assistive devices; however, they have seen very few PWDs own these devices, such as screen readers, Perkins Braille, recorders/ audio players, text to audio converter and magnifier in that order. The reason why the majority don't own them is entirely dependent on the cost and limited access to these specialized devices. However, it is clear that even though the organizations for persons with disability heard about the different assistive devices, access, and use has been very low due to the reasons already indicated. The government needs to come in to support through the purchase and donation of the devices to change this situation if there can be hope for increased access and use.

Adoption of ICT Platforms

The study sought to understand the level of awareness and usage of ICT platforms by persons with disabilities. The study established a low use of ICT platforms, although persons with disabilities are aware of ICT platforms, as shown in Table 17 and Figure 18 below.

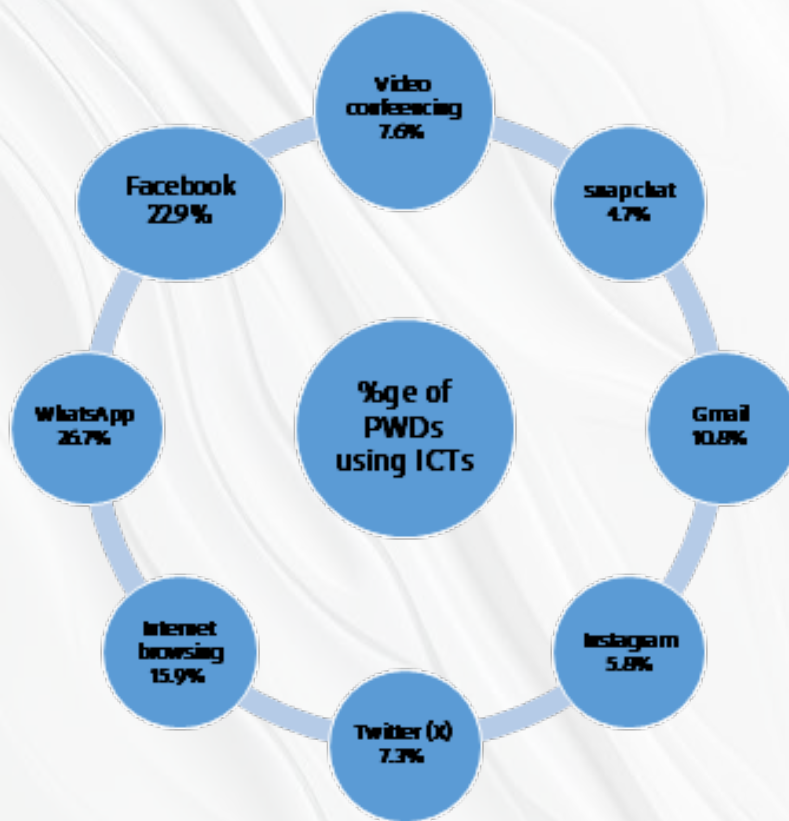
Table 17: Awareness of ICT platforms among individual persons with disabilities

No	ICT platforms	Percentage
1	Video conferencing	27
2	Snapchat	20.1
3	Gmail	25.2
4	Facebook	42.3
5	WhatsApp	41.1
6	Twitter (X)	31.2
7	Instagram	25.7
8	Internet browsing	35.1

Source: Primary data 2023

The respondents were asked what services they accessed using the platforms mentioned earlier. Results show that 24.5% access E-commerce, 22.3% access online transport services, 21.1% access E-learning platforms, 19.9% access E-News, 15.1% access LinkedIn, and 13% are aware of Collaborative tools, instructional software, and electronic textbooks (Figure 21).

Figure 21: Usage of ICTs by persons with disabilities



Other platforms like LinkedIn, Electronic textbooks, and E-news were the least used. Notably, most (57.7%) respondents were neither aware nor currently using the stated ICT platforms.

Through the key informant interviews, the following were noted.

“ *Accessibility to some of the platforms is hard for persons with disabilities and also depends on the category of disabilities some can't use those services.”* (DU Chairperson, Yumbe, West Nile)

“Those living in urban areas can easily use them but in rural areas they cannot.” (DU, Chairperson, Elgon, Mbale) **”**

Through the interviews, the different sector opinion leaders' were asked their opinion on whether persons with disabilities can easily use and access ICT platforms. It was indicated that persons with disabilities can easily access the internet, social media, Email charts, and Microsoft packages. However, they also showed that persons with disabilities can't easily use these services, especially E-commerce platforms, e-learning, online press releases, and collaboration services.



On the other hand, opinions from DU leaders didn't differ from those of sector opinion leaders, for they indicated that persons with disabilities could not easily use the stated ICT platforms, i.e., Twitter (X), Instagram, LinkedIn, Snapchat, E-textbooks, E-news, video conferencing platforms, instructional software, and emails. DU leaders further backed up their opinions for the following reasons.

“*Very few persons with disabilities own smartphones, ICT devices are expensive and majority of the person with disabilities cannot afford them.*” (DU, Chairperson, Northern region)

“*Limited awareness of the services available on ICT devices.*” Visually Impaired, PWD, Lango, Northern Uganda

“*Low levels of education amongst persons with disabilities.*” Visually Impaired, PWD, Western Uganda”

Despite the low awareness and usage of ICT platforms amongst individual persons with disabilities, responses from the leaders within regarding their level of access, use, and understanding of the different ICT platforms showed an active usage of some of the stated ICT services, i.e., internet browsing, WhatsApp, Facebook and Twitter (X). Low usage was highlighted in the use of Instagram, LinkedIn, and Snapchat, but having an awareness of their existence. WhatsApp, internet browsing, and Facebook were the most prevalent services being used by the leaders, as shown in Figure 22 below.

Figure 22: Awareness and usage of ICT platforms by leaders



Internet Access by PWDs

Individuals with disabilities were asked to state the devices they use to access the internet. It should be noted that some PWDs use more than one device to access the internet. As shown in Table 18 below, the majority (51.1%) of the respondents do not use the internet, but out of the 48.9% who use the internet, they use more than one device. 21.1% use smartphones to access the internet, 6.1% use laptops, 4.2% use desktop computers, 4.2% modem/Mi-fi, and 3% use iPads or tablets.

Table 18: Devices used by PWDs to access the Internet

No	Internet devices	Percentage
1	Lap top	6.1
2	Desktop	4.2
3	Modem/Mifi	4.2
4	I-Pad or tablet	3
5	Feature phone	10.3
6	Smartphone	21.1
7	Do not have internet	51.1

Source: Primary data 2023

Level of knowledge in performing Basic ICT operations among PWDs

ICT skills such as the basic operation of ICT hardware, typing, document creation, and using the internet and computers safely are essential in the current digital era of digital technologies. Individual persons with disabilities were asked to rate their level of knowledge in performing ICT operations, and it was evident that the majority, above 60%, had never even acquired or had an opportunity to learn such skills. As shown in Table 19 below, the results clearly illustrate that ICT literacy for persons with disability is still very low, and affirmative action to raise it to the required standards. Doing so will increase the consumption of ICT-related services by persons with disability and expose them to opportunities to improve their economic status.

Table 19: Level of ICT knowledge among PWDs

ICT skill	Never	Poor	Fair	Good	Very good
	Percentage				
Basic Operation of ICT Hardware – Including printers, scanners, photocopiers, smartphones, tablets and projectors	61.1	11.4	13.5	8.6	4.7
Typing – The ability to use a word processing program (such as Microsoft Word) to create letters, agendas, notes etc	61.8	11.2	12.2	8.6	5.5
Document Creation – The ability to use software (such as Microsoft Word, Microsoft Publisher or Adobe Creative) to produce professional documents like PowerPoint presentations, letters	66.3	11.2	10.2	7.9	3.6
Using computers and the internet safely;	64.7	12.1	10.3	7.7	4.4
i) browsing the internet,					
ii) email communication and social media,					
iii) collaborative communications like chat rooms,					
iv) keeping personal information private, and avoiding viruses, identity theft, and other online threats					
Networking and systems administration	72.7	13.2	7.2	4.1	1.9

Source: Primary data 2023



Access to E-government Services by PWDs

In the current error, the government uses technological communication devices such as computers and the Internet to provide public services to citizens and other persons in Uganda. In Uganda, there is an e-tax for the Uganda Revenue Authority, Integrated Financial Management System (IFMIS), UMEME and National Water and Sewerage Cooperation services, UNEB, and E-passport application, among others. In this study, it was essential to determine how e-services have contributed to the well-being of persons with disabilities through gathering opinions from the DU leaders. Notably, 85% of the respondents were from the urban area, and 15% were from rural areas. The categories of service providers included special needs schools (38.33%), Media Houses (26.67%), Health Centers (11.67%), Telecom e-extensions (6.67%), Government Officials (6.67%), ICT Providers (6.67%), Financial Service Providers (3.34%).

However, DUs were also asked to give opinions on the extent to which persons with disabilities can access and use e-government services in their communities. The majority of the respondents, i.e., 71%, indicated that persons with disabilities cannot access E-government Services, and 78% indicated that they cannot use E-government Services. This means that the government has not done enough to educate persons with disability on the use of their services, hence limiting them from opportunities that can enhance their wealth and economic status. The deterring factors identified in restricting the use of these services include Expensive devices, low levels of awareness/ Knowledge of the existence of assistive devices, and low illiteracy levels amongst persons with disabilities. This is talked about by one of the respondents below.

“Low literacy levels among persons with disabilities. Expensive assistive technologies. Persons with disabilities are vulnerable and some can’t use these ICTs. There’s limited awareness of these ICTs among persons with disabilities.”
(Ceshire Services Uganda, Project manager, Accountant, Project Officer, Interpreter, Bunyoro)

Barriers to Access and Use of E-government Services

From the opinion of service providers, the majority (86%) indicated the barriers to access and use of e-government services by persons with disabilities include expensive assistive technologies, lack of awareness of existing ICTs, and lack of appropriate ICT knowledge. Other barriers highlighted were lack of interest by persons with disabilities in the use of technologies, low levels of education, and the disabilities amongst persons with disabilities. Generally, the barriers to ICT usage among persons with disabilities are summarized in Table 20 below;

Table 20: Barriers to access and usage of ICT by persons with disabilities

Barriers to Access e-services	Barriers to Usage
65.6% Expensive Assistive technologies	68.1% Expensive Assistive Technologies
62.4% Lack of appropriate ICT Knowledge and skills by persons with disabilities	65.5% Limited Knowledge and skills among persons with disability
60.7% Limited of awareness of existing ICTs	60.1% Low levels of literacy among persons with disability
37.7% Lack of appropriate technologies	56.1% Lack of ICT service providers with specialized skills to meet the needs of persons with disabilities
36.1% Poor implementation of laws and policies	1.7% Others, i.e, lack of ICT devices, poverty among persons with disabilities, rural areas don't have
2.9% Others, i.e., expensive internet, limited access to electricity, Low levels of illiteracy	

Source: Primary data 2023

Service providers offering digital and communication services

The study found that there have been different initiatives towards increasing ICT access and usage by persons with disabilities. A few (25.5%) DUs indicated they have programs towards awareness and use of ICTs for persons with disabilities, which are as follows.

- a) Through Radio talk shows
- b) Using International Day of Persons with Disabilities as a platform to create awareness on ICT devices for persons with disabilities
- c) Conducting training programs for persons with disabilities on the use of ICT devices
- d) Providing scholarships to persons with disabilities to attend primary-level education
- e) Partnering with other organizations to implement projects on ICT for persons with disabilities
- f) The government has undertaken an initiative to provide computers to all secondary schools and developed policies on inclusion for persons with disabilities in ICT.

From the discussion with the service providers, 61.7% indicated they were not aware of any initiatives/services/devices from the government or other organizations enabling the inclusion of persons with disabilities to improve persons with disabilities' access and usage to ICT. The 38.3% who were aware highlighted the following organizations, as shown in Table 21 below.



Table 21: Organizations providing initiatives to increase ICT awareness, access, and usage

Organization	Initiative
Sight savers Uganda	Teaching and training youths in inclusive education
Sense International Uganda	Supporting financial support to Organizations to procure equipment used by persons with disabilities
UCC	provision of ICT devices, especially for schools
Upendo organization	Provision of educational materials to persons with disabilities.
The government of Uganda	Persons with disabilities have been given parliamentary positions and grants through the leadership at the district level.

Source: Primary data 2023

National Laws and policies relating to disability, ICT, and Access to Information

Regarding awareness of national standards and regulations on inclusivity, the study found that several national standards, policies, and regulations exist for persons with disabilities in Uganda and around the globe. At least 56.4% of the DU leaders know national standards and regulations on the inclusivity of PWDs. However, 60% of the respondents indicated that these national standards have not well addressed the gaps in the inclusion of persons with disabilities, and this was attributed to the following reasons: some schools lack special needs teachers, ramps in buildings and roads either do not exist or are not fully implemented, limited awareness of these policies, provision of inclusive education has not been practiced in the majority of the schools, organizations do not give priority to the persons with disabilities during employment. This was also supported by one of the respondents, as stated below.

“There is need for more effort in inclusion for Persons with Disabilities towards accessibility to ICT. This includes making conversational websites easy to use for persons with disabilities, creating a special program to empower skills and knowledge to Persons with disabilities in ICT at local level plus informing them of the available efforts that can make them access ICT information” Physically impaired PWD, Masindi.

Conclusions

The study had several conclusions that have been deduced, as presented below.

Background demographics

- Most of the respondents (63.6%) had a physical disability, followed by a visual disability (18.12%) and a hearing disability (15.78%).
- The mean age of the study respondents was 35 years. More than half of the respondents (51.2%) were male, and 48.8% were female, while half (50.8%) were from rural areas and the rest 49.2% were from urban areas, less than a half (33.5%) of the respondents had attained primary education, whereas (47.9%) were self-employed and (44.5%) were married.

Awareness, access, and use of ICTs

- There was a high level of awareness and usage at (63%) of ICT devices amongst DU, where at least 53.2% indicated the use of ICT devices in their day-to-day activities.
- There's low awareness and usage of assistive devices among persons with disabilities, with only 3.04% indicating to have active usage of the audio players and recorders, 1.7% actively using the Perkins Braille, 1.34% actively using the talking web browser, 1.15% actively using Magnifier and Braille note taker, 1.04% actively using text to audio convertors.
- In terms of Internet access, the majority (55.4%) of persons with disabilities do not use the Internet. 31.3% use their smartphones to access the internet, 17.7% use feature phones, 9.45 use laptops, 8.4% use desktop computers, 8.4% modem/MiFi, and 7.1% use iPads or tablets.

Knowledge of ICT services

- The majority, 60%, had never even acquired or had an opportunity to learn ICT skills such as basic operation of ICT hardware, typing, document creation, and safely using the internet and computers.
- The majority (54.6%) of the sector opinion leaders indicated that although PWDs do not know how to use e-services, help can be provided, and this has contributed to the well-being of persons with disabilities in that they have brought services closer to people, thus limiting mobility and have promoted real-time communication and ease of access of information.
- Persons with Disabilities cannot access e-government services, as opined by the DUs. This is mainly attributed to the low levels of education attained by persons with disabilities.
- Most (75%) individuals with disabilities have never had training in digital literacy, the use of assistive technologies, the use of e-commerce platforms, the use of e-government platforms, and E-learning.

Recommendations

The following are the recommendations.

- Regarding the limited awareness, access, and usage of the different ICT devices and services, the government can consider subsidizing the cost of assistive devices to be affordable for persons with disabilities.
- UCC can support by providing ICT infrastructure like computers to special needs schools, district unions, community access points, and others for persons with disabilities to easily access some ICT services.
- The government can also consider a tax waiver on the high cost of acquiring assistive devices and encourage the development of local ICT innovations for PWDs.
- The government and responsible line ministry can develop and implement initiatives for ICT skills development for PWDs and encourage development partners, CSOs, NGOs, and others to invest in ICT for PWDs. It is assumed that the collaboration with a number of organizations, both from the public and private sectors, will be able to inform policy and implementation of activities that can be implemented to work on issues faced by persons with disabilities. The selection of a committee to initiate the execution of the different ICT policies for persons with disabilities could be a good start for positive change.
- For policy implementation, the government can widen the implementation scope by electing a committee to initiate the execution of the various ICT policies for persons with disabilities.
- Low levels of digital literacy among persons with Disabilities could be worked on by organizing capacity-building workshops designed for each category of disability in the areas of ICT, as well as developing localized digital content that can be used in capacity-building through the responsible line ministry-the Ministry of Gender, Labor and Social Development (MoGLSD) and UCC.



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3.2 THE EFFECT OF DIGITALISATION ON YOUTH EMPLOYMENT

Dr. Betty Kyaddondo⁸

Zoe Juliet Nabawanuka Thembo⁹

Introduction

Uganda's population, according to the 2014 National Population and Housing Census (NPHC), was 34.6 million people, with nearly a quarter (22.5%) (UBOS, 2016) of the total population aged between 18 and 30 years. At the current rate of population growth of 3.03%, projections show that the population will increase to 44.2 million in 2021¹⁰ (UBOS, 2022) and that by 2050, the number of youths living in Uganda will have increased to 21 million (UBOS, 2018). Over time, both the population and the labor force (working-age population) have increased. The overall labor force increased from 18.8 million in 2016/17 to 19.3 million in 2017/18 (UBOS, 2018) to 23.4 million in 2021/22 (UBOS, 2021). However, the proportion of employment has decreased over the years from 62% in 2017/18 to 49% in 2021/22 (UBOS, 2021). A faster labor force growth rate than overall employment growth suggests that unemployment, especially among young people, is increasing. The 2021/22 National Labor Force Survey indicates that 41% (9.3 million) of youth are neither in education, employment, or receiving training (NEET). Therefore, accelerated investment in job creation for these youth remains a pertinent concern. By encouraging skills development and boosting access to information and resources, digital transformation offers many opportunities to improve youth employment.

Digitalization, according to the Organisation for Economic Co-operation and Development, is the use of digital technologies and interconnection that leads to new or changes to existing activities (OECD, 2019). Uganda's Vision 2040 recognizes the contribution of ICT to economic diversification and transformation of the economy (NPA, 2013). The third National Development Plan (NDP III) also positions digital transformation as an integral program to increase household incomes and improve the quality of life of Ugandans. The COVID-19 pandemic accelerated the use of digital platforms in communication, business, service delivery, and enterprises. Digitalization has thus proved essential in business management, with more digital and virtual tools to enhance job creation. With Artificial Intelligence, for example, introducing a new dimension to automation generation, digital transformation offers an opportunity for youth to be more innovative and engage more actively in job creation (AUC/OECD, 2021).

Digitalization among the youth

Whereas the young population in Uganda is seen as a threat due to high dependency and unemployment, from a demographic dividend lens, if the youth is leveraged correctly, there is excellent potential for significant economic growth and increased productivity through youth employment (NPC, 2018). Digital transformation is one of the prevailing opportunities for youth employment through economic growth and development (Signé, 2022). It is known for reducing business production costs, improving productivity and earnings, developing new business lines, and providing a wealth of new and accessible opportunities for young people (Signé & Fox, 2021). Across Africa, digital solutions are becoming increasingly important, with an estimated 230 million jobs in Sub-Saharan Africa (SSA) alone needing digital skills by the decade's end (Charles Howard, 2023). However, skills deficiencies and a lack of basic digital skills to use technology to solve real-life problems that are key for life-long learning in the digital world and higher-level digital skills development in the future are failing to be equitably accessed.

8 Director Family Health Department, National Population Council Email: bettykyad@gmail.com Tel: 0772506533

9 National Programmes Officer, National Population Council. Email: jzmukisa91@gmail.com Tel: 0779659493

Despite the challenges standing in the way of technological evolution in Uganda, Ugandans of all ages, and more so, youth and the millennials, are struggling to embrace ICT in business transactions, especially mobile money use in transacting business. However, digital adoption among youth is highly uneven across income, gender, geographical situation, and education groups. It is, therefore, important to understand what facilitates the utilization of digital technology among youth in Uganda, highlight prevailing opportunities and challenges, and generate solutions to improving digitalization for youth employment and wealth creation.

The overall objective of this study was to establish the extent to which digitization enhances youth employment in Uganda and the strategies in place to ensure accessibility and affordability of ICT services to the youth. The specific objectives were to Identify determinants of using digital technology among youth in Uganda, Establish the relationship between digital transformation and youth employment, Examine the level of utilization, and establish opportunities and challenges of digital technology among youth in Uganda.

The study was mainly quantitative. The study team obtained secondary data from a meta-data set of the 2020/21/22 Labour Force Survey and data from Uganda's Digital DataRe Portal. The study team reviewed relevant reports, annual work plans, and budgets from Ministries, Departments, and Agencies and credible sources at the international level to help make a case for digitization and youth employment. The secondary data was first transposed into Excel to generate frequencies, which were used to produce comparable graphs and charts that have been used and referenced to assess the effect of digitalization on youth employment while identifying the facilitating and constraining factors, as well as prevailing opportunities and challenges to using digital technology.

Findings and Discussion

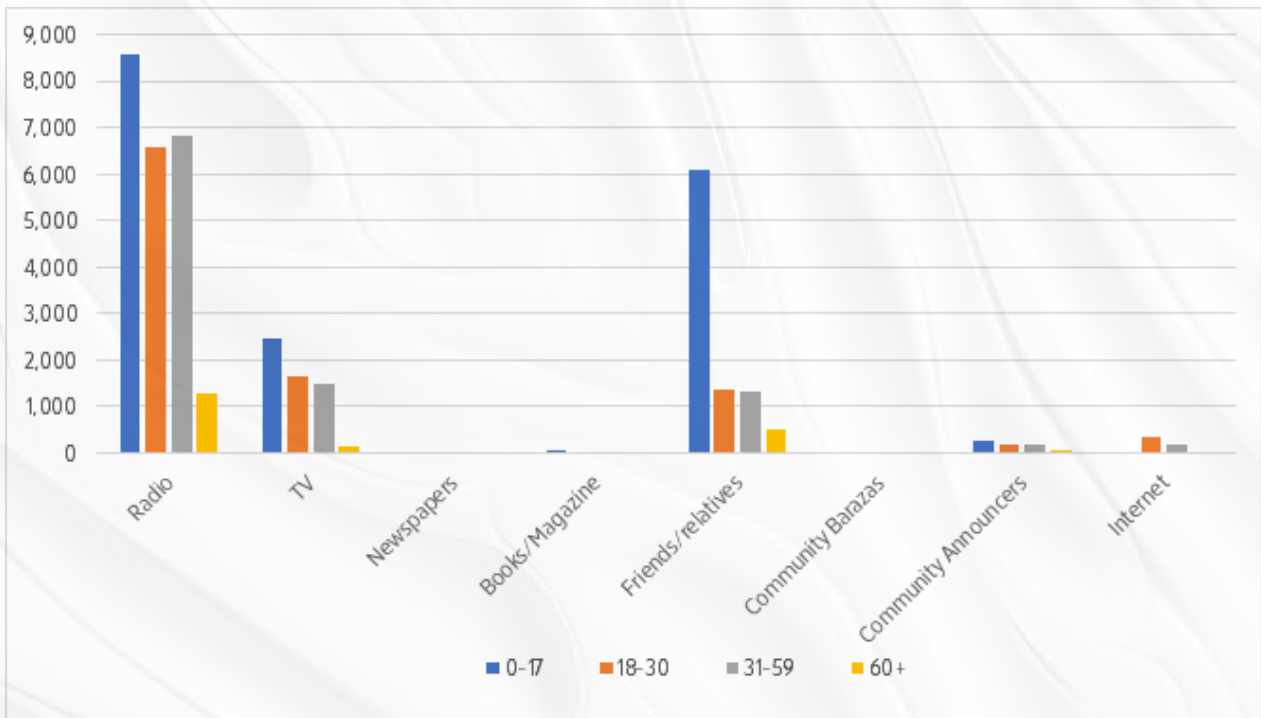
Access and availability of ICT Services among youth in Uganda

Uganda developed the Uganda Vision 2040, outlining commitments to accelerate digital transformation and support all economic sectors. This was followed by Uganda's Digital Transformation Roadmap, which builds on commitments set under the Digital Uganda Vision to achieve operational momentum and make great strides that translate from paper to action.

The Global ICT Development Index rates Uganda below the general average of nationwide telephone penetration in Africa of 74.60 per 100 inhabitants, while on the Global Connectivity Index, the country is rated at position 77 out of 79 profiled countries (Huawei Technologies Co., 2020). Even though the country's internet penetration rate is at an average of 43% due to limited infrastructure, the number of registered internet users has steadily grown over the years to over 20 million (NewVision, 2020). However, there are still fewer internet users (almost insignificant number) nationwide who use the internet as a source of information. Most Ugandans get information from radio, Television, and friends or family (see Figure 23 below). However, when the exact data for the source of information is disaggregated for age (Figure 24), a small proportion of youth (3.6%) were using the internet. Still, it is important to note that internet use in the country is more common among the youth aged 18 – 30.

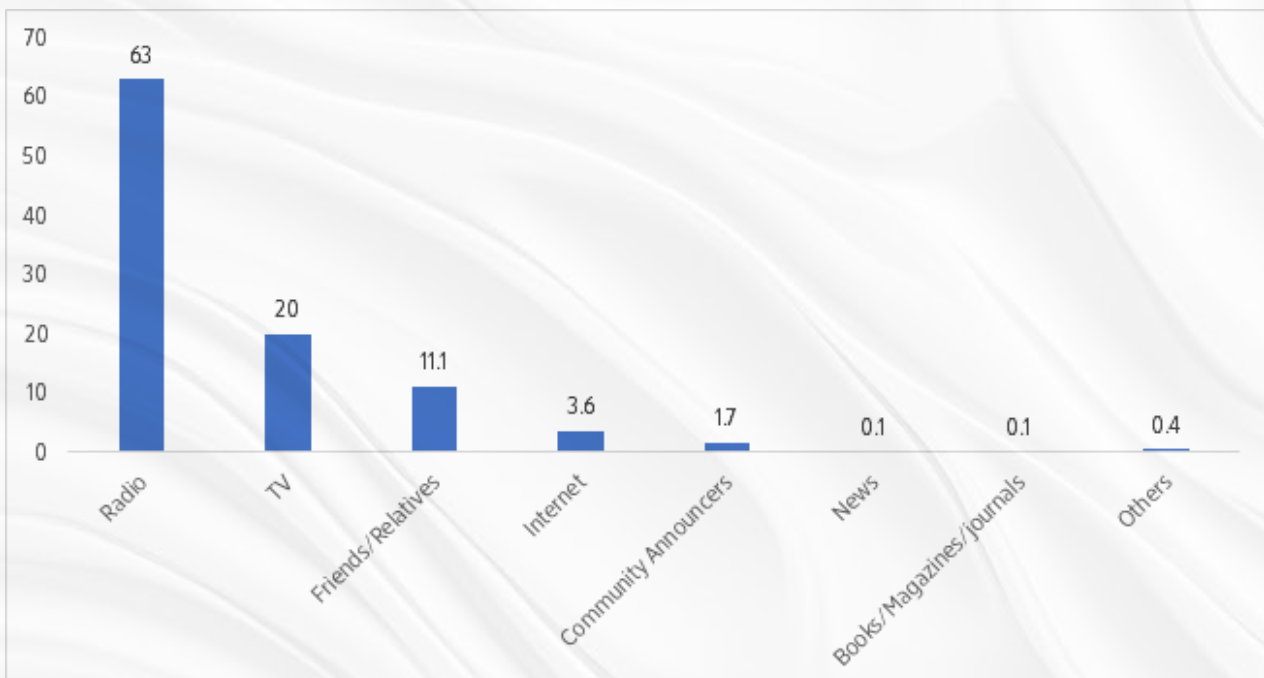


Figure 23: Main source of information



Source: National Labour Force Survey 2021/22

Figure 24: Main source of Information, Youth (18-30)



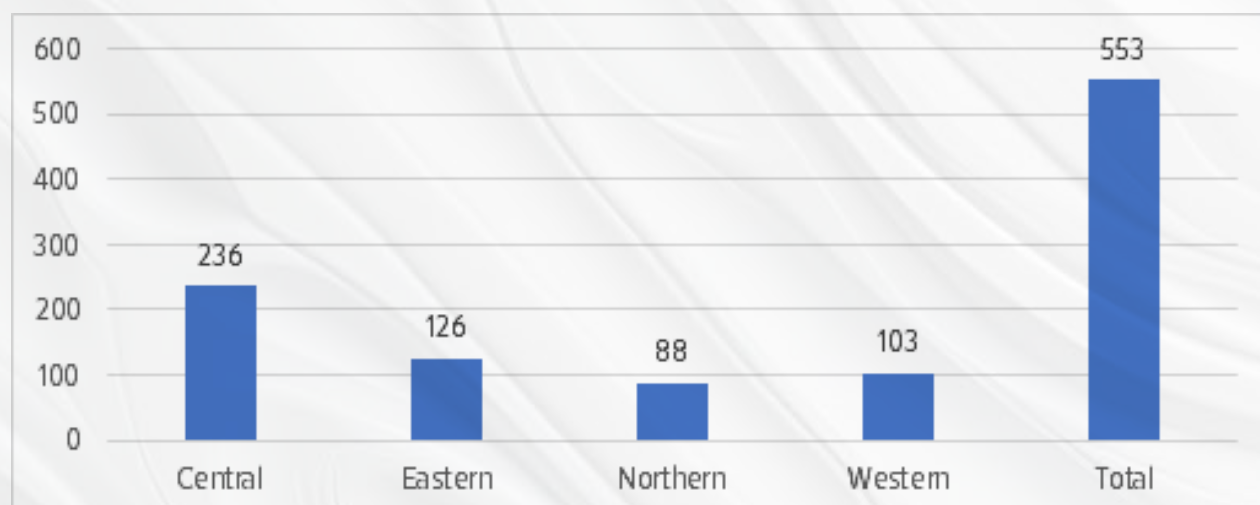
Source: National Labour Force Survey 2021/22

Country-wide ICT coverage and upgrading

The government has extensively developed ICT infrastructure countrywide to raise national coverage, increase universal internet access, and improve connectivity. In FY2021/22, the Government connected two hundred sixty-four (264) additional MDAs/DLGs and target user sites to the National Backbone Infrastructure (NBI). Total internet subscriptions for the first time crossed the 22 million - mark at the end of September 2021, translating into a broadband penetration rate of 52%. The government upgraded ICT services by prioritizing the introduction of ICT in lower and higher learning institutions, strengthening public-private partnerships to sustain investments in ICT infrastructure, and abolishing the Over the Top (OTT) tax on social media services, among others.

The data from UBOS (Figure 25 below) indicates regional disparities in internet use among youth across the country's four regions. More youth in the central part of the country (43%) accessed the internet compared to less than one quarter (18%) of youth in western Uganda. Youth in Northern Uganda were least privileged to use the internet as only 16% accessed and used the internet. There are also gender disparities, with more males (40.1%) than females (59.9%) accessing the internet. The gap between women and men and between urban and rural dwellers increased when demand for the internet increased worldwide as people sought to mitigate the risks associated with COVID-19 and the economic fallout of the lockdowns. The 2022 After Access survey indicates that the main reasons for Ugandans being unable to access the Internet relate to lack of awareness and knowledge of the Internet, higher cost of data tariffs (due to limited Internet penetration), and lack of affordable smart devices, all of which are more common in rural areas and among the females.

Figure 25: Internet use among youth by region



Source: National Labour Force Survey 2021/22

Using standard software packages is challenging for youth residing in rural areas since most do not have digital learning in schools compared to urban areas. There are also cultural differences between rural and urban areas that affect digital technology, with the rural people having conservative traditions, which may hinder the use of digital technology among youth (Niyigena, Jiang, Ziou, Shaw, & Hasan, 2020). It is also important to note that in terms of access, income, and education remain the significant predictors of the use of ICT, therefore, higher use among the central compared to the other regions.



Commercialization of ICT and Enhanced Research and Development

The National Information Technology Authority Uganda (NITA-U) constructed and equipped Innovation Hubs and Business Process Outsourcing (BPO) Centers nationwide to promote technology innovation and create employment opportunities for the youth. Through the hubs, Innovators are facilitated with grants to enhance skills development, develop innovative solutions to local challenges, and are supported to compete in the global market, thus creating employment opportunities and increasing the number of innovators and jobs. In addition, the government provided an environment for innovators to thrive by developing an Artificial Intelligence Blueprint to promote the development and adoption of emerging technology Solutions. The government launched its first satellite into international space and is expected to increase private sector investment in space science, technology research, and innovation. Partnership with the private sector will be crucial in driving new technologies among the youth. The Government has also established regional ICT hubs across the country where youth can be accommodated to develop their ideas into solutions to help youth in job creation. These include Mbarara University, Muni University, Makerere University, Innovation village -Ntinda, Soroti University, and Makerere University Business School.

ICT Human Capital

To create a competent human resource, the government prioritized several interventions, including developing a well-grounded ICT professional workforce; developing an ICT professional's quality assurance framework; providing digital literacy training; developing ICT centers of excellence; and reviewing and implementing ICT training curriculum at all levels of the education system. 708 students are enrolled for Uganda Institute of Information and Communications Technology (UICT) diploma and certificate courses every academic year against a target of 1,500 students per year. The enrolment is still low compared to the number of youths who should be enrolled. Besides, the enrolment is still below the annual target, which hinders the creation of the annually targeted 30,000 jobs within the ICT sector.

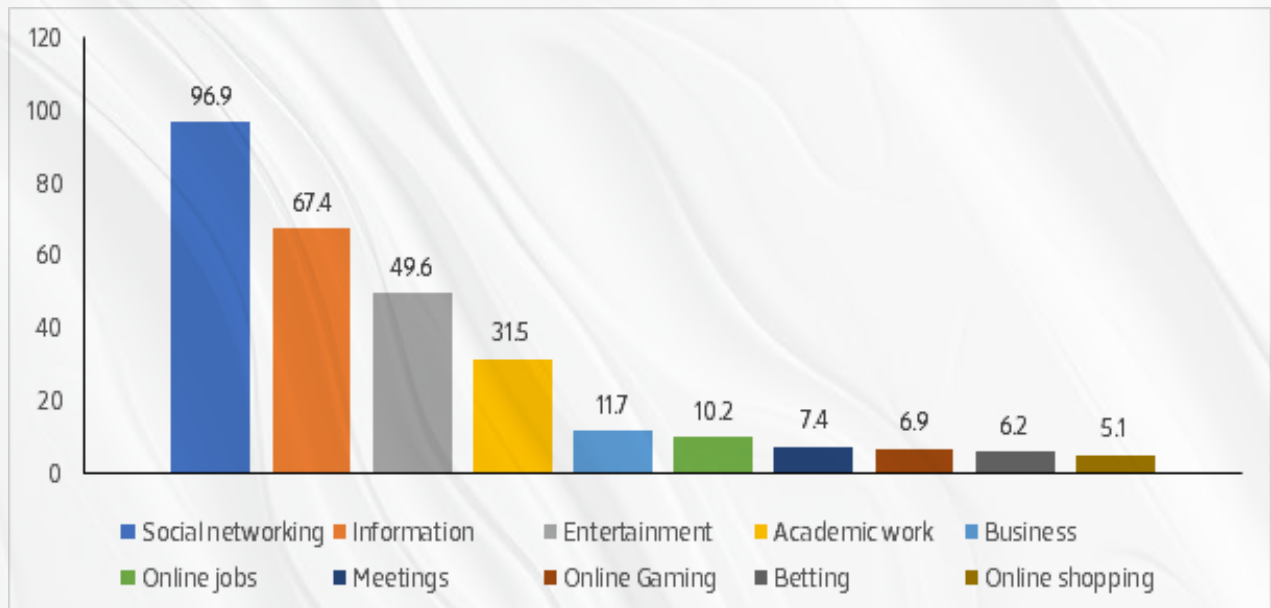
Digitalization and Youth Employment

This section identifies how digitalization can facilitate the rapid expansion of youth entrepreneurship. Youth are likely to use technology to create their jobs rather than rely on others to create chances as they join the labor market and digital technology becomes more pervasive. Youth are developing and running their businesses, whether it is through smartphone apps for digital start-ups or Internet kiosks for maintaining and repairing technology and as social media influencers. There are limitations because of a lack of public understanding and mistrust of the benefits of entrepreneurship, which prevents many youths from starting their own companies.

Why use the Internet?

There are different reasons for using the Internet, as shown in Figure 26. Among these are social networking, searching for information, entertainment (music and videos), transacting business and online financial transactions, shopping, gaming, and meetings. More youth aged 18 – 30 (19.3%) used the internet compared to the other age groups.

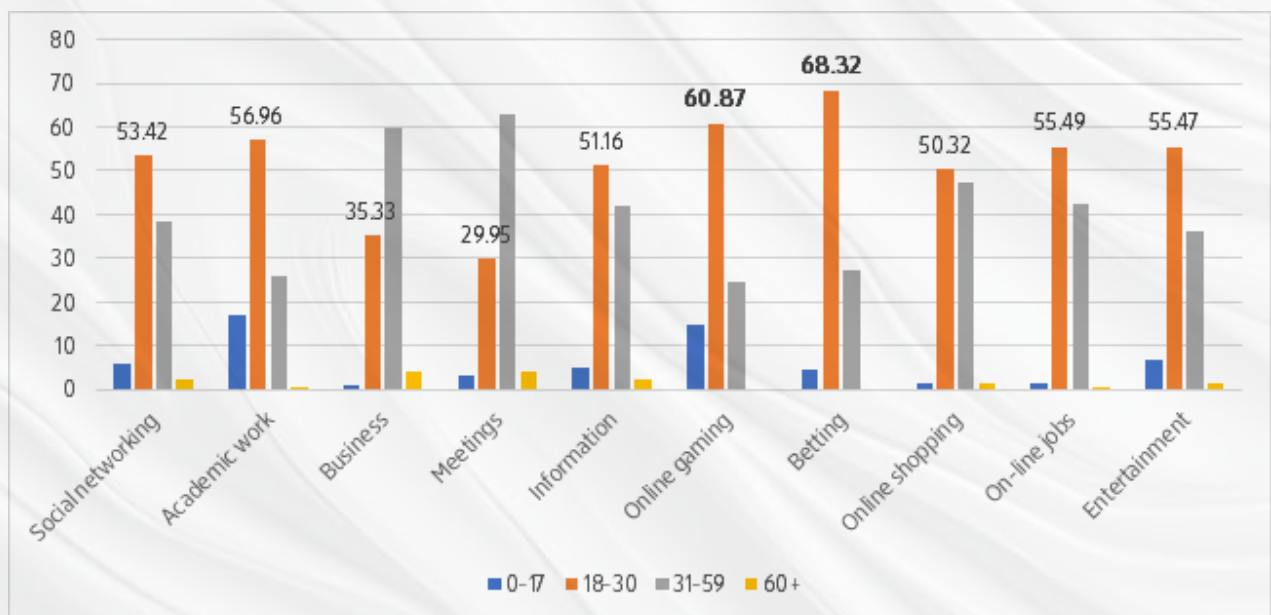
Figure 26: Avenues through which the Internet is used



Source: National Labour Force Survey 2021/22

Whereas most internet users access the internet for social networking (96.9%), more than two-thirds of the youth (68.3%) use the internet for betting and online gaming (60.9%), respectively (Figure 27 below). More than half of the youth (57%) use the Internet to pursue their academic aspirations, ultimately boosting employability. Other youths access the internet in search of online jobs (55.5%), and an equal number of youth (55.5%) use the Internet for entertainment. Fewer youth (only 35%) use the Internet for business. This could be because of the limited access to the internet, Smartphones, and limited uptake and appreciation of e-commerce and online enterprises.

Figure 27: Purpose for which Ugandans used the Internet

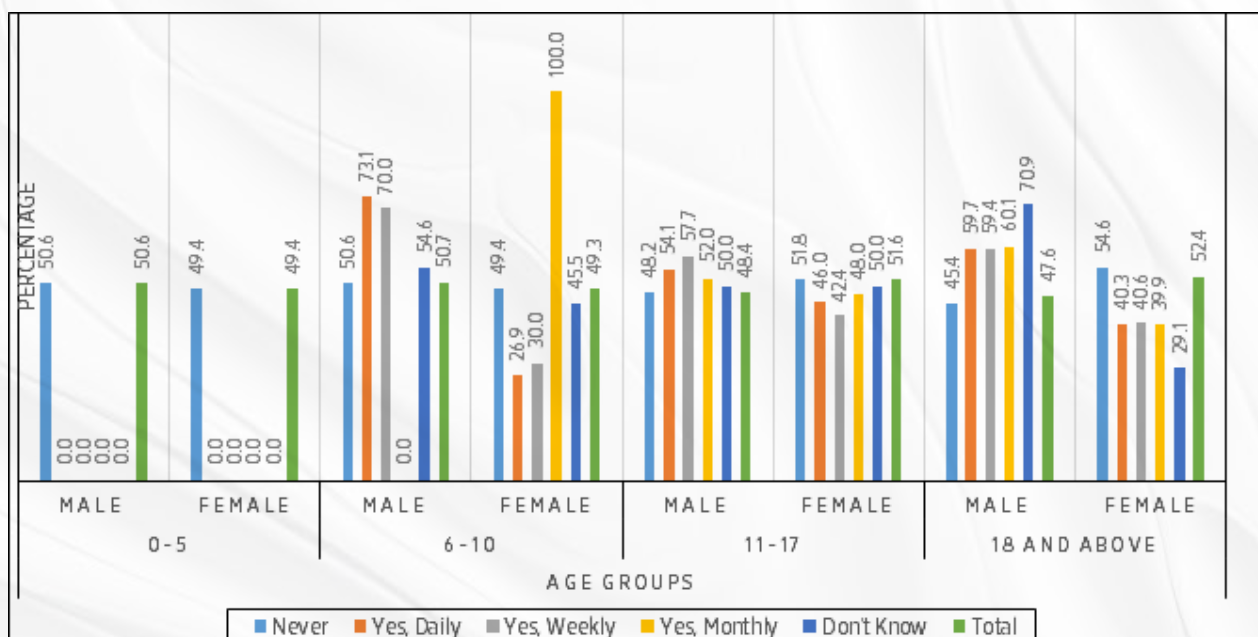


Source: National Labour Force Survey 2021/22



In addition to what the Internet is used for, during the execution of the National Labor Force Survey, respondents were asked how often they use the Internet. As indicated in Figure 28 below, most youths use the internet more regularly and frequently compared to children below 18 years. Less than one-quarter of youth aged 18 – 30 never used the internet, compared to close to half (47.6%) of those aged below 18 years. Still, more than half of the youth accessed and utilized the internet daily compared to only 7% among children below 18 years. This is because of limited smartphone access and the policy restrictions to most internet sites, such as Instagram, Twitter, YouTube, Facebook, etc., for children under 18 years.

Figure 28: Frequency of Internet use by age group



Source: 2021 National Labour Force Survey

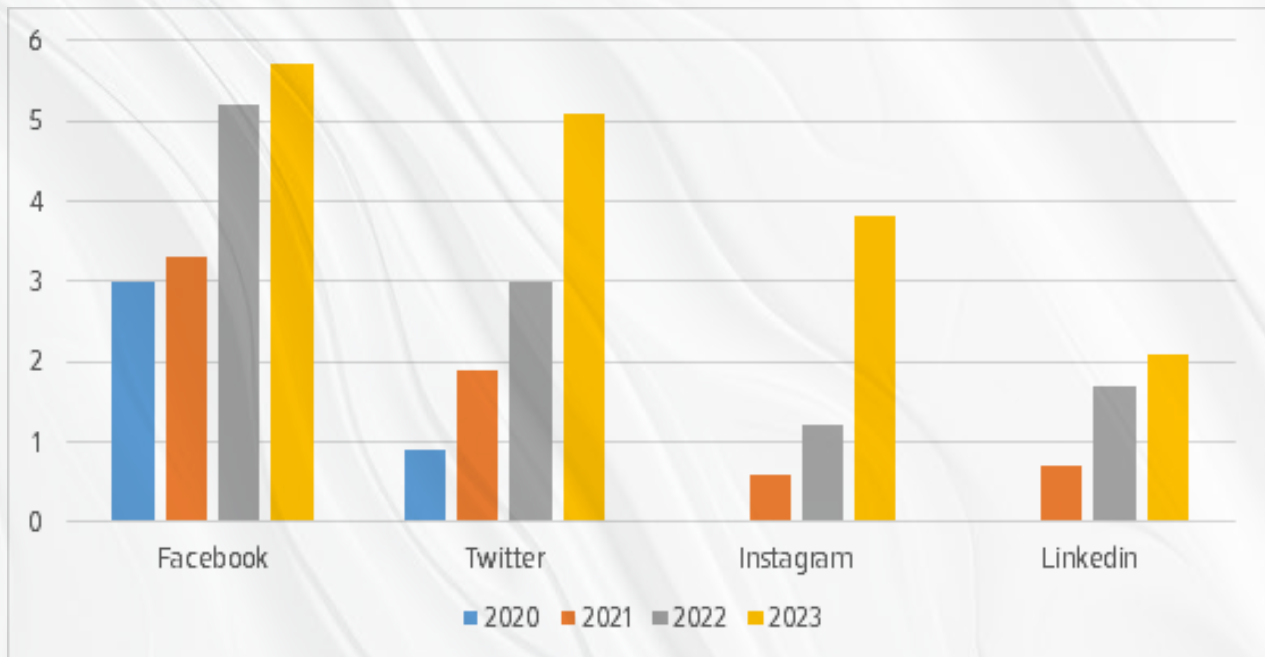
Virtual meetings and learning platforms

Global virtual business meetings and training programs such as Skype, Zoom, Google Meet, and Microsoft Teams that offer features to engage with teams and collaborate from a distance have contributed to youth identifying online job opportunities and changed mindsets towards the opportunities in the job market. Institutions of higher learning have continued to narrow the gap between online courses and the long-established face-to-face course style. Due to the expansion of such classes and the increasing number of online apps, youths enrolling in such programs have had to use digital technology and learn skills to use different software as they explore participation in the job market.

Online Business Marketing Enterprises (E-commerce)

Online business enterprises have created employment opportunities by promoting export-oriented, labor-intensive industries and education. Youth constitute the bulk of online sellers and buyers. Uganda’s Digital DataRePortal (Figure 29 below) indicates a growing trend in using social media platforms to enhance enterprises through online marketing (e-commerce) and shopping apps. Still, it remains largely unsophisticated, mainly among the middle class. The most used advertising business platforms are Facebook, Twitter, Instagram, and LinkedIn. There are also pockets of the youth that started using WhatsApp and TikTok for business enterprises. Age restrictions on all platforms and under-reporting to evade online tax obligations are common challenges.

Figure 29: Trends in Uganda's Social Media Statistics



Source: Uganda Digital DataReportal

One of the most common platforms Ugandans have embraced is Jumia, with over 800,000 monthly users (Linkedin, 2023), the largest pan-African e-commerce platform designed to innovate ways and methods for reaching rural and remote users. Jumia has the most expansive sales program, with an enormous force of independent sales agents to expand Jumia's reach. The agents are usually youth who must have a smartphone, internet access, and a valid email address and must have undergone basic training to register an account with Jumia. The sales agents get a commission from every transaction, contributing to productive livelihoods. More people have overcome the trust challenges because Jumia has gained significant popularity across Africa.

Mobile money users

The widespread use of "mobile money" and the rapid growth of mobile phone usage at 63.8% facilitates online marketing. While there are only 19 million bank accounts in Uganda and fewer bankers using Debit and Credit cards, there are about 26 million active mobile money accounts. The mobile money business is mainly driven by young people who have internet access and know the high demand for convenient and affordable products and services.

Digitization of agriculture

According to the NLFS 2021, 33% of youth are employed in agriculture, forestry, and fishing. More males (34.6%) than females (29.7%) are employed in the sector. The government launched the agriculture digitalization program to encourage youth into farming to boost their income and improve the country's economy (FarmersReviewAfrica, 2023). The program helps farmers understand the problems they face through the value chain, enabling them to develop technology-enabled solutions driven by market demand and tailored to the needs of young growers. The program provides digital platforms that bring multiple service providers, ranging from input suppliers, insurance companies, and financial services providers, together to serve young farmers and allow service providers to more easily reach last-mile customers in rural regions that have been neglected for a long time, while also providing the end user with lower production costs, including operational expenses.



Factors facilitating digital economy among youth in Uganda

There is an enormous potential for the digital economy to create more jobs in Uganda amidst the struggle to increase the internet penetration rate, reduce costs, and enhance access to smartphones. This section explores some of the facilitating and constraining factors of the digital economy.

ICT eloquence and skills

ICT eloquence refers to the level of proficiency and understanding of concepts of ICT. There are variations in eloquence by gender, residence, and parental encouragement, particularly among those in school, despite policy and curricula reforms and expansion of ICT Infrastructure. Confidence levels in the use of computers vary by gender, with males rating higher than females. Additionally, females use computers predominantly for communication, while males use them much more for entertainment. To promote and accelerate access to education (including for IDPs, refugees, and stateless persons) using ICTs, the government supplied computers to government secondary schools. It installed Digital Science Software (DSS) and Virtual Laboratories Software (VLS) on the computers in the schools (GHS, 2023). The Digital laboratory Software enables learners to attend practical lessons, follow science lessons, and do self-assessments without going to the physical laboratory. There are gender differences in how parents support their children to use technology (Álvarez, Torres, Rodríguez, Padilla, & Rodrigo, 2013). Parents exert more regulatory parameters on girls than boys, and as such, the use of the Internet and television by African students is minimized more among daughters than sons.

Transitioning from school to work in the digital era

Cyber School Technology Solutions (CSTS), an education-service Company, in partnership with the Ministry of Education & Sports (MoES) and Uganda Communications Commission (UCC), developed Digital Science & Virtual Lab (DSVL). This software has been active in secondary schools across the country since 2006. The DSVL software contains the Ugandan O-level science curriculum digitized, with 2D and 3D animations, captivating images, sound effects, and clear, simplified explanations of concepts to make the problematic science concepts easier to understand, learn, and remember. It is easy to use and comprehend yet uses no internet but installation of the curriculum on a laptop or desktop. Gayaza High School was the pioneer school for DSVL, and the school has received many international awards for championing the transition of school-based information into the workspace.

Exposure to a wider virtual network

Networking is key to finding and maintaining jobs, conferences, and scholarship opportunities. Digital technology makes networking all the more accessible and more expansive. As such, the success of online platforms requires digital literacy on both sides: Youth need to be comfortable communicating and sharing their skills online, and employers need to know how to use social media and other digital technology platforms to share information and advertise positions directly to the youth.

Conclusion

The slow but expanding access and use of digital technology among youth will likely address the youth unemployment problem in Uganda. Numerous information and communication technology (ICT)-based innovations, including the Internet, social media, artificial intelligence, and cloud computing, are altering the labor market and improving the position of youth in the digital labor market in different development sectors of NDP III.

This study demonstrates that digital transformation has created job opportunities across all industries, contributing to lower unemployment. The burgeoning digital economy has also expanded how digital technology can be used for communication and aids in helping youth get above the conventional limitations

of the labor market. As a result, traditional ideas about employment and the workplace are being challenged, and young people can now enter the labor market at any time or location. Digitalization is, therefore, a potential strategy to address youth unemployment and create wealth if Uganda can overcome the longstanding obstacles, including infrastructure bottlenecks, the cost of the internet, and inclusive education to foster digital skills and capacities.

Policy recommendations

1. Uganda must leverage digital technologies to promote entrepreneurship. Interventions across the entire digital ecosystem to boost youth employment are needed to prepare youth for the current and future world of work if the government overcomes barriers and bottlenecks to digital transformation.
2. The government should strengthen the education system to equip the workforce with adequate digital skills that match the labor market.
3. Mindset is a big challenge at all levels of education. It is, therefore, essential to not only invest in software and hardware but also in changing the mindset of youth in properly utilizing digital technology to earn a living rather than use technology as a form of betting or entertainment. There is also an urgent need to introduce advanced digital skills in universities and TVETs to nurture more software developers.





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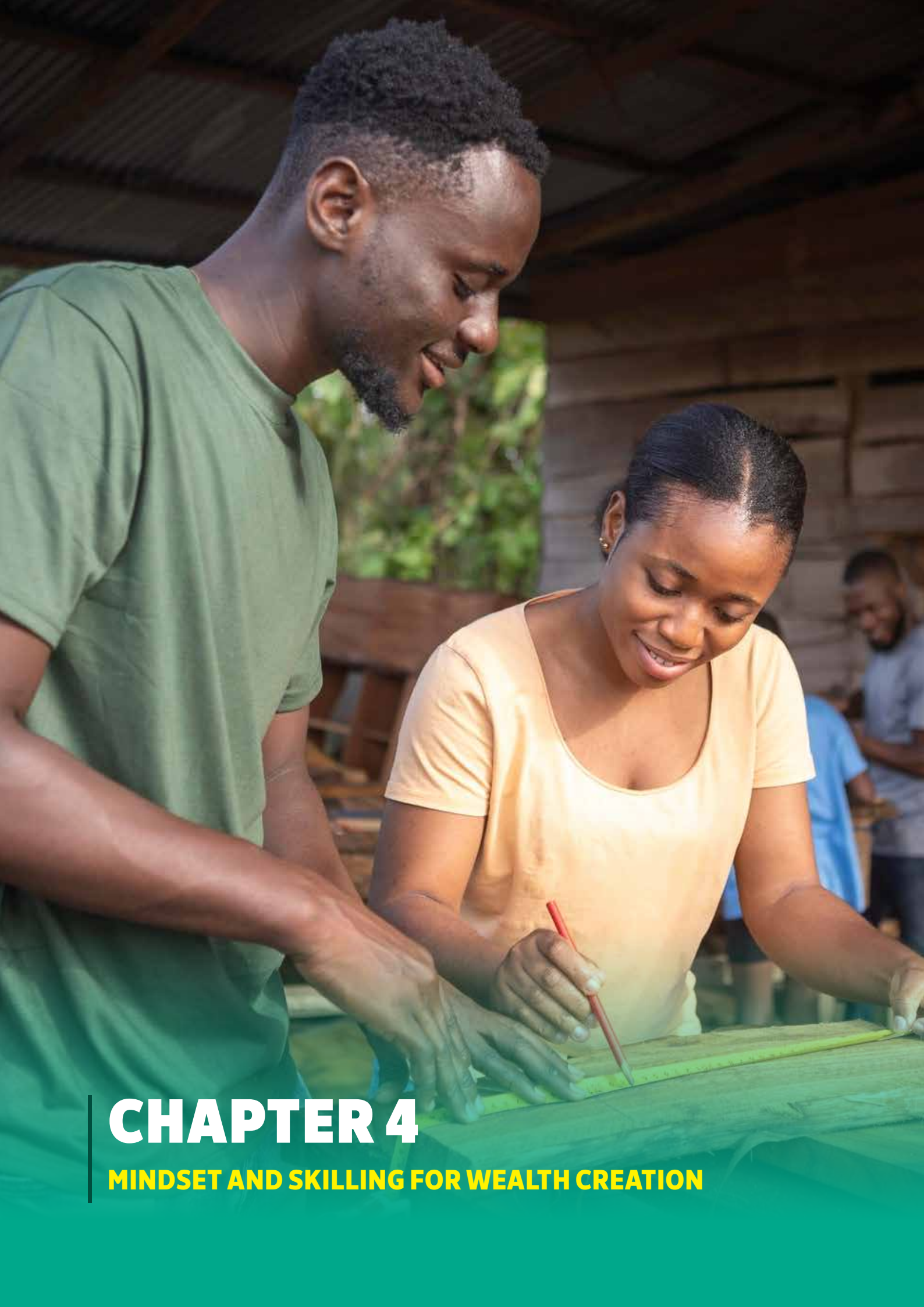
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CHAPTER 4

MINDSET AND SKILLING FOR WEALTH CREATION

4.1 MINDSET AMONG YOUTH TO PROPEL SKILLS DEVELOPMENT FOR WEALTH CREATION IN UGANDA

Ahumuza JohnMary Vianney¹¹

Introduction

Young people offer a robust labor force basis that supports economic growth. For any country to make the most of its youth, it needs to invest in changing the youth's perspectives. Any change in one's thoughts and perceptions that affect reality is called mindset change (Merrick, 2020 & Lim, 2020). The skill set is about capabilities, whereas mentality is about deeply entrenched beliefs. This suggests that even if one has a robust skill set and a negative mind outlook, they may still struggle to succeed because someone with a fixed mindset views intelligence, abilities, and talents as inherently stable and unchangeable over time (McLaughlin, 2022). On the other hand, the ability of young people to move independently within the labor market and realize their potential through long-term employment is referred to as youth employability (Tagulwa, 2023 & Gbadamosi, 2021).

Globally, it has been established that supporting national Technical Vocational Education and Training (TVET) is one method used to promote youth employability for wealth creation. This is because this approach is ideal for driving economies into technical advancement, industrialization, and economic expansion (Osidiye, 2019). Regarding vocational education, on-the-job training, and employability, Switzerland is currently a global leader, and its Vocational Education Training model contrasts with other vocational education and training systems. The choice between the general (or academic) and the vocational educational tracks is a significant and far-reaching decision that many adolescents in Switzerland must make after obligatory school, substantially impacting their future working lives (Jüttler, 2021 & Becker, 2018). The fact that Swiss apprentices are paid while undergoing their vocational training sets them apart from other countries. Furthermore, another notable example is Japan, where improving young employability through TVET skill development has caused a mentality shift, decreased underemployment and unemployment, and shifted the Japanese economy toward wealth generation. Japan's manufacturing system established a networked connection with high schools, enabling them to give their most talented pupils preference in vocational education so they could work at different levels of manufacturing industries (Kitada, 2019).

In recent years, the German Dual System has received much attention, and several nations, particularly in Southern Europe, have been attempting to implement concepts of structured apprenticeships leading to initial vocational certificates. According to Mukhtasar (2022), this strategy was tied to the unique configuration of two learning environments, a commercial enterprise, and a vocational school, working together in a symbiotic way. As a result, the country now has the lowest unemployment rate in Europe. In Germany, more than one-third of all secondary school graduates enroll in a vocational training program, with one-third choosing a single-track, school-based VET and the other two-thirds choosing the dual-track option. Apprentices spend time in a vocational school (Berufsschule) for two to four years, learning the theory necessary for their chosen profession (Straub, 2020).

Uganda is an illustration of a nation having the world's youngest population, with over 78 percent of its population below 30 (MoFPED, 2012). The country has about eight million youth between 15 and 30 (Uganda, 2020). In addition, 64% of the unemployed Ugandans are youths below 30 (Wamanji, 2022). Similarly, the graduate unemployment rate is also high. According to the 2019 NCHE tracer survey conducted for the class of 2014 graduates from seven universities and seven tertiary institutions, 2,439 (60.4%) of the graduates were actively seeking employment, 356 (8.8%) were not currently employed but had previously held a job, 940

¹¹ University of Ghana, Legon; Email: jvahuza@st.ug.edu.gh/jahuza@gmail.com. Tel. +233208889644 or +256779364080



(23.3%), were self-employed, 248 (6.1%) graduates had never held a job, and 53 (1.3%) did not respond to this question (NCHE, 2019). It was also discovered that 2,263 (56%) of the graduates found employment in less than a year, 1,206 (30%) in the following one to two years, 198 (5%) in the next three (3) to four (4) years, 24 (1%), in the following five years, and 346 (8%) did not disclose their employment status (NCHE, 2019). Motivated by this worry, the nation started the Uganda Skills Development Project (USDP), which emphasized developing employable skills and competencies relevant to the labor market rather than academic credentials, as was the case in the past. Following Uganda's National Development Plan (NDP II) and Vision 2040, the USDP specifically targeted enabling initiatives to address skills requirements in three important priority sectors of the economy: agriculture, construction, and manufacturing (Okumu, 2018). Based on this, several adjustments to Uganda's elementary and secondary education curricula have been made to improve students' skill development. The Lower Secondary School Curriculum was reviewed by the Ministry of Education and Sports in 2020, while the Early Childhood Development Policy was approved by the Ugandan government in 2007. The nation also invested in the Business, Technical, and Vocational Education and Training (BTJET) sector, which had the greatest potential to supply Uganda with skilled workers and boost its production, thus skilling Ugandans (Moses, 2023).

Youth Employment and Social Economic Transformation.

In Uganda, youth unemployment is a hurdle to social economic transformation for wealth creation. As stated in Sustainable Development Goal 8 for 2030, raising household income was the goal of NDP III (2020/2021-2024/2025) to improve everyone's quality of life and achieve full productive employment for all, according to Vision 2040. On the other hand, the Uganda National Household Survey (2021) estimated that 9.3 million people were under twenty-one. A study of youth activity status showed that over half of these young people (47%) were neither employed nor enrolled in educational programs (Wamajji, 2022). This youthful population is predicted to triple in the next 25 years if the right measures are not implemented (Nakirijja, 2020). In addition, the youth employment transition rate was poor, at 40% (Uganda National Household Survey, 2021).

Although the country's youth population presents a fantastic employment opportunity, there is still a mismatch between their skill set and the demands of the labor market, which restricts their ability to find work. This mismatch has been reinforced by initiatives to increase employability through skill development and a shift in mindset for wealth creation. A study by Wamajji (2021) indicated that the current data from the Uganda Bureau of Statistics (2021) suggested that the unemployment rate of the youth in Uganda was 13%, which is higher than the national rate standing at 10%. What was worrying, though, was a finding that only half of the youth in employment had acquired education levels matching those required for their main job (UBOS, 2021). This meant that despite job creation efforts, the threat of extended youth unemployment remained one of the biggest challenges the government of Uganda is grappling with. Against this context, the study discusses mindset change among the youth to propel skill development for wealth creation in Uganda.

The main objective of the study was to examine mindset change among youth to propel skills development for wealth creation in Uganda. The study was guided by the following specific objectives: Discuss the role of government in skilling programs for youths' employability in Uganda, determine the extent to which the integration of vocational education has contributed to mindset change among youth to propel skills development for wealth creation and establish the obstacles that have been preventing youth training programs for mindset change to drive skills development for wealth creation.

The study was guided by desk review research methodology, which involved a review of secondary data literature. The desk research approach was the best choice since it entailed gathering and evaluating data from secondary sources that were readily available, including academic journals, documents, reports, and other online or offline resources that were relevant to the research (Guerin, 2018). It further provided the researcher with additional or verified knowledge about the subject and allowed them to see the problem or

issue under study from a wider angle. Online research spaces used included Google Scholar and different Government ministries' website publications. Reports were sourced from the Uganda Bureau of Statistics (UBOS), National Council for Higher Education, Ministries, Departments, and Agencies (MDAs) to demonstrate the issues' relevance, give context for the study, and support the argument for the policy. The documents were categorized under several sub-themes to conduct a systematic analysis to find any gaps that needed to be filled by this study. The categorized data was then analyzed and interpreted by the researcher following the study's objectives. The review findings were collaborated to identify the remaining gaps, areas of agreement (similarities), and areas of departure (differences), allowing the researcher to review the research problem and determine the validity of the scanned data. This provided the researcher with an entry point to contribute to the study.

Research Findings

This section presents the research findings of the study.

The role of government in skilling programs for youths' employability in Uganda

The role of government in skilling programs for youths' employability is key to wealth creation. Accordingly, it has been established that apprenticeship skilling programs are vital for the mentality shift to prepare young people to participate in wealth creation (Musa, 2023). In light of this, the International Labour Organization supports a multifaceted and well-rounded strategy to combat youth skilling that promotes pro-employment growth and the creation of decent jobs through labor laws, economic policies, youth entrepreneurship, education and training, and the protection of young people's rights at work (Van der Linden, 2019). It was observed, however, that training institutions in Uganda have not fully included elements of mindset change in their curricula so that after graduation, graduates do not resort to searching for employment, but after acquiring these skills, they can create jobs for themselves. It was further noted that whereas vocational training institutions provided the best avenues for gaining practical skills, they have not been well distributed nationwide due to a shortage of funding. Besides, society still views them as destinations for academic failure, regardless of the current government scholarships to attract talented youth for skilling programs (Sigu, 2017). In addition, because offered courses are seen as purely masculine, girls have not been drawn to them.

Additionally, it was found out that, although Uganda promulgated the Business Technical Vocational Education and Training (BTVET) Act of 2008, it is still faced with mandate overlaps with other institutions and a lack of well-defined BTVET Institution formation procedures and inadequate funding (Maswanku, 2022). The study established that not enough jobs are available on the market to take on many graduate students. An instance in point is 2023, when the Public Service Commission posted job openings for 200 positions, drawing from a pool of 34820 graduates, of which 21800 were selected for consideration (Daily Monitor, 2023). Similarly, many Ugandan graduates struggle to obtain employment due to lacking skills that meet employer demands in the scarce job market. This is consistent with a remark made by Mwebi (2020), who opined that some university graduates fail to get jobs after studies because there are not enough jobs available for them, but rather because they are underprepared and do not have the necessary skills to meet market expectations.

Additionally, while Uganda is focusing on re-skilling the youth to prepare them for the demands of the labor market in the fourth industrial revolution, access to internet services is still limited and expensive. The majority of young people who use the internet do it for social networking rather than for educational goals. This is represented in Table 22 below from a comparative study done between 2016–2017 and 2018–2019.

Table 22: A comparative table of different forms of internet usage in percentage among Ugandan youth (2016-2017 and 2018-2019)

Internet usage activities	Period	
	2016-2017	2018-2019
	(%)	(%)
Social networking	47	53
Academic Work	14	18
Business	7	9
Internet-based Telephoning	23	13

Secondary data source: Adopted and customized for this study from *Skilling Uganda's Youth for the Fourth Industrial Revolution, Policy brief number 18, May 2023.*

According to the above table, social networking accounted for 47% of all internet activity between 2016 and 2017 and 53% between 2018 and 2019. However, over the two study periods, only 14% and 18% of the time was spent on academic work, yet it is a foundation channel skilling program. Much must be done to ensure that internet usage in youth skilling programs is utilized reasonably and goes beyond social networking (UBOS, 2021). In addition, the youth require mindset development programs to understand how to use the Internet for activities other than social networking, such as academic study, research, and e-businesses (Himki, 2022). The only most significant finding was that whereas the government identified Information and Communications Technologies (ICT) to be vital, it continues to be one of the least funded sectors. The current figures showed that the ICT industry was only allocated 0.3% of the national budget in 2021, although accounting for about 10% of Uganda's GDP, which restricted the extent to which the plan would have been executed (Collaboration on International ICT Policy for East and Southern Africa, 2022). Besides, the cost of internet in Uganda is also the highest in the region, standing at \$2.67 compared to Kenya's \$2.41, Tanzania's \$2.18, and Rwanda's \$ 2.18 (Uganda Communications Commission, 2022).

The study established that most of the youth in Uganda have a mindset preference for white-collar jobs rather than vocational subjects, yet the latter provided a wider avenue for full employment. This was complemented by the inability of the government to implement the minimum wage bill of 2019, which seemed to discourage the youth from valuing their current national employment status. In addition, the study findings revealed that female youth who became pregnant were often at a disadvantage in attending skilling programs because of existing negative cultural perceptions of the public that mothers should never mix with students in the same classroom lest they teach them similar bad manners of sexual immorality. Yet the COVID-19 lockdown left behind higher cases of unwanted 32.4 % teenage pregnancies (Mambo,2020). These continued to miss out on youth skilling programs innocently. It was further established that, indeed, the government had put across many skill-building programs to aid the youth in gaining employable skills relevant to contemporary society, as discussed in this study.

Also, another key finding was that the current data from the National Council for Higher Education (2019) report indicates a near-margin balance of female to male graduates in both public and private universities. The findings are presented in table 23 below:

Table 23: Enrolment by Gender across Institutional Categories

Institutional Category	Male		Female	
	Number	(%)	Number	(%)
Universities	106900	55.6	85426	44.4
ODAs	4682	44.8	5762	55.2
Agriculture	1656	64.3	921	35.7
Health	5914	52.8	5286	47.2
Technical Colleges	4030	65.8	2097	34.2
National Teachers Colleges	4096	58.9	2858	41.1
Theology	1312	79.6	336	20.4
Business and Commerce	14179	48.5	15072	51.5
Law Development	830	62.5	497	37.5
Media And Communication	1018	61.5	637	38.5
Social Development and Management	4195	45.3	5064	54.7
Hotel And Tourism	407	40.2	605	59.8
Meteorology	64	66.7	42	33.3
Survey and Land Management	373	70.1	159	29.9
Aviation	104	86.7	16	13.3
Co-operatives	180	50.8	174	49.2
Petroleum	68	82.9	12	17.1
Art And Design	182	64.5	100	35.5
Total	150190	54.6	125064	45.4

Secondary data source: Adopted and modified from the State of Higher Education and Training in Uganda 2018/19: A Report on Higher Education Delivery and Institutions by NCHE

The table above shows the number of male versus female students by institution category. The table shows that some subsectors of HEIs had a significant number of female students, almost equal to their male counterparts. For example, Universities had female students accounting for 44.4% compared to their male counterparts at 55.6%. This aside, in some universities such as Uganda Christian University Mukono, ever since 2015, the ratio of females has persistently exceeded that of males on graduation day, with the current gender-based ratio figures for the first half of the 24th Graduation ceremony held in 2023 in which the University awarded degrees to 1002 students, of whom 444 (44%) were men and 562 (56%) were women (Uganda Christian University, 2023). Interestingly, this was not the same trend with vocational institutions where the number of females was fewer than that of their male counterparts.



Integration of vocational education, mindset change among youth, and skills development for wealth creation

Determining the extent to which the integration of vocational education contributes to mindset change among youth to propel skills development for wealth creation is vital in a country's strategic plans. Adding vocational training to a country like Uganda, where more than 80% of the population works in agriculture, would significantly help the nation lower its unemployment rate (Agriculture, 2022). Second, a skilled population would provide labor for small-scale cottage industries that would, in turn, offer backward linkages to agricultural products for manufacturing and value addition. This would, in turn, lift the economy of Uganda towards middle-income status. In addition, the East African population offers opportunities for skilled labor spaces to house qualified youth from the region and a ready market for produced goods (Bongomin, 2020).

Furthermore, it was shown that the human capital approach ignored early school dropouts and offered nothing in the way of counseling to help them develop life skills. The results showed that early school leavers have been marginalized from formal vocational education due to government policies driven by the human capital approach, pushing these young people to rely on non-formal vocational education (Okumu, 2018). A more human development approach would have meant promoting junior secondary vocational education in the BTVET policy. These results suggest that the human development approach should replace the human capital approach in the theoretical framework, which might usher in a new and better era of vocational studies. According to additional research, the curriculum for vocational education is connected to the national development policy of shifting from an agricultural to a modern society. Despite employing over 80% of the workforce in Uganda and being the most popular industry, vocational education does not support agriculture. Even though young people do not support it, Sub-Saharan Africa still depends heavily on agriculture for income generation (Jayne, 2017). Uganda's agriculture industry was attempted to be linked with vocational studies by the Ministry of Education and Sports, but a standard curriculum was not created until 2021 (Jjuuko, 2021).

Obstacles to Positive mindset and skills development for wealth creation

The study established that the failure of the general populace, particularly the youth, to have a positive mindset toward initiatives like vocational education was one of the main barriers (Okumu, 2019). Although it appears that young people favor white-collar employment, there are few prospects for both the private and public sectors to hire many graduates. This was complemented by the challenge of limited funding for establishing and sustaining vocational infrastructures across the country (Yiga, 2022). This continued undermining accessibility to skilling services, which would have closed the gap of skill mismatch in the job markets. Furthermore, the available skilling programs seem to be limited, and the specific majority still reflect colonial curricula, yet the strategic direction of the global education system is based on meeting the needs of the 4th Industrial Revolution. The study also established an overlap between vocational institutions' mandates and the line Ministry of Education and Sports. The study also found that inadequate funding was among the key obstacles hindering vocational schools from meeting their intended objectives.

Conclusion

Based on the findings, the government must support collaboration between training institutions and corporations during curriculum reviews to reduce a mismatch between what is being trained for and the available employment markets. Since the internet was reportedly one of the leading forces behind the fourth industrial revolution, lower internet costs would be crucial in providing youngsters with training spaces for employability. By expanding funding for vocational institutions, the nation can create even more opportunities for young people to find jobs. This would produce graduates who can start businesses and support companies in innovations to existing academic training institutions. Uganda could further initiate more spaces for continuous training of instructors to keep them updated with current required skills in the job market. As a result, they could impart these talents to the graduates and match them to the demands of the labor market. If

this is done, the current disconnect and mismatch between the employability skills obtained by young people and the demands of the job market can be effectively reduced.

Policy recommendations

1. Through the Ministry of Education and Sports, the government should task youth skilling institutions to involve employers and industries during curriculum evaluations and development to reduce the possibility of a mismatch between youth skills and the job market demands.
2. The government, through MoFPED, should increase funding for vocational studies as it pronounced itself through promulgating the Business Technical Vocational Education and Training (BTVET) Act of 2008.
3. The Ministry of Education and Sport should support continuous training of trainers in the field to get skilled instructors with the necessary competency-based education and Training (CBET) trainer abilities.
4. Through the Ministry of Information Communication Technology and National Guidance, the government, assisted by the Uganda Communications Commission (UCC), should ensure that internet connectivity is subsidized to provide more opportunities for skills acquisition for self-employability.

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CHAPTER 5

INVESTING IN AGRICULTURE FOR WEALTH CREATION

5.1 MINDSET AND AGRICULTURE DEVELOPMENT: TOWARDS SOCIO-ECONOMIC TRANSFORMATION IN UGANDA

Grace Bunanukye Bwengye¹²

Introduction

Agriculture has been the backbone of Uganda's economy for a long time now, the primary employer and main revenue earner. According to the Uganda National Household Survey 2019/2020 (UNHS), the highest percentage of the working population (68.1%) is within the sector. According to the Agriculture Annual Survey 2020 (AAS), about 7.18 million are engaged in agricultural activities, including crop production and livestock keeping (AAS 2020, UBOS).

The prevailing trend within this sector reveals that a substantial portion of the population remains entrenched in subsistence agriculture. This practice does not significantly contribute to the country's economic prosperity. While there has been a gradual shift towards commercial agriculture over time, the pace of this transition remains relatively sluggish. Notably, most of those who have embraced commercial farming focus on cash crops, including coffee, cotton, and cocoa, with coffee emerging as the primary export commodity.

Agriculture is crucial to Uganda's economy (Dethier, J. J., & Effenberger, A., 2012). Based on the Uganda National Household Survey (UNHS) from 2019/20, the largest proportion of the working population, 68.1 percent, is employed in the agricultural sector. The agricultural sector holds the third-highest significance in the economy, contributing approximately 24.1 percent to the Gross Domestic Product (GDP) in the 2021/22 period at current prices.

According to a report by the World Bank in 2016 (Agriculture Drives Uganda's Success in Reducing Poverty), Uganda had registered poverty reduction among households in agriculture, accounting for 79 percent of national poverty reduction.

The third National Development Plan (NDP III) emphasizes the agricultural sector's pivotal role in inclusive and equitable economic growth, employment generation, foreign exchange earnings, and improved nutrition.

According to Gollin, D., Parente, S., & Rogerson, R. (2002), agriculture is the primary driver of industrialization. Improvements in agricultural productivity also hasten industrialization, having a significant effect on a country's relative income.

Agriculture for socio-economic Change.

The Third National Development Plan III (NDP III) 2019/20-2024/25 identifies agriculture a key component of Agro-industrialisation whose goal is to increase the commercialization and competitiveness of agricultural production and agro-processing to cause the desired socio-economic change (NPA, 2020). NDP III also details the Community Mobilization and Mindset Change Program, which aims to empower families, communities, and citizens to embrace national values and actively participate in sustainable development.

Several interventions and activities have been put up by these programmes to transform the Agriculture sector and the populace mindset respectively. Despite these interventions, Agriculture's contribution to Gross Domestic Product (GDP) continues to drop standing 23.8% compared to services standing at 41.9% and industry at 27.1% (UBOS, 2021). The controversy is that Agriculture employs the largest segment (68.1%) of the

¹² National Planner Agriculture and Program Leader for Agro-industrialisation Program at the National Planning Authority (NPA) and PhD student in Human Nutrition (Makerere University Kampala).



working population (UNHS, 2020). Despite 35% of the exports being agricultural in nature, over 90% of these are not processed or value added. This leads to significant reduction in export revenue from agricultural exports mainly due to lack of value addition.

Mindset change is of national importance to Uganda as enshrined in the third National Development Plan. The negative mindset is a key driver for the low agricultural production and productivity especially in the areas of value addition and agronomic practices. Evidence is given by Maini, Elisa, M. Rosa, and Y. Vecchio, 2021 who demonstrate that education has a positive impact on agricultural production. Several other empirical studies have also been carried out to this effect to substantiate the hypothesis of a positive relationship between the two variables (education and agricultural production). Education is proven to cause a mindset change on negative mindsets in Agricultural households. Therefore, this study seeks to assess the effect of mindsets on Agricultural Production.

The purpose of this study was to assess the effect of mindset on Agriculture development in Uganda that would be achieved through highlighting the relationship between Agriculture and the Ugandan population, conducting an analysis of the relationship between mindset and different nodes of the Agricultural Value chain, and recommend appropriate policy actions to address the gaps identified in the study.

This study is based on the literature review of existing and relevant materials. The literature was narrowed to mindset and agricultural development in Uganda and globally. Relevant literature was searched related to the focus areas through reading relevant articles that were evaluated for suitability. Patterns and themes were developed through emergence of consistent sub themes within the area of study. Some of the literature reviewed included articles from journals, government of Uganda documents such as National Development Plan, Vision 2040, National Household survey reports, Annual Agricultural Survey reports, National development reports, National Annual Performance Reports, National budgets, MAAIF performance reports, NAADS reports, and UBOS reports among others.

Findings

The findings and discussion are presented by objective as follows;

Relationship between Agriculture and the Ugandan Population

The young population threatens agricultural productivity because of the limited access to land as a productive asset for agrarian production (UBOS 2020). Land is the most important factor of production because it provides a platform for production and the establishment of the necessary infrastructure, such as stores, milk coolers, and offices.

There is a high dependency ratio within the Agricultural households. Uganda's dependency ratio for Agricultural Households is 93 dependents per 100 working-age individuals. Highest Karamoja rate at 130, while Teso recorded the lowest, with 85 dependents per 100 working-age individuals. (UBOS, 2020).

The population involved in agriculture is less educated. Most household heads engaged in agriculture (55.8 percent) had completed only primary education, while 29.0 percent had achieved a secondary education or higher. Additionally, 15.2 percent of agricultural household heads had no formal education. The potential to reduce poverty within the population is higher in Agriculture compared to other sectors. For example, Uganda registered Poverty reduction among households in agriculture, accounting for 79 percent of national poverty reduction (WB 2016).

The agricultural sector holds the third-highest economic significance, contributing approximately 24.1 percent to the Gross Domestic Product (GDP) in 2021/22. Despite employing most of the population, agriculture significantly contributes to Uganda's population.

Agriculture plays a key role in inclusive growth for the country. The Regional Development Programme and Agro-industrialization Programme of NDPIII prioritized key commodities to provide for a regional balance through affirmative action catering for poverty-stricken areas of Bunyoro, Bukedi and Acholi among others (NPA,2020).

Agriculture is playing a big role in Human Capital Development by providing nutritious and diverse diets to the population (NPA, 2020).

The population enjoys the export revenue that is obtained from Agriculture. Thirty five percent (35%) exports are agricultural in nature with coffee fetching second highest foreign exchange to the country.

The relationship between mindset and the Agricultural Value chain

Production stage of the value chain

Negative mindsets affect Agricultural production by limiting the use of fertilizers. For example, Limited fertilizer use and adoption. Fertilizer use is low in Uganda because of a mindset issue. Yamano gives this evidence. T. etal 2011 who found out that fertilizer use is low because farmers have a perception that Ugandan soils are fertile. To confirm this, Adong et al 2020, found out that in Uganda there is low fertilizer use because farmers have a perception that fertilizers on the market are counterfeit thus preventing them from making purchases.

With a changed mindset, farmers have become more aware of the importance of producing high-quality agricultural products. They understand the impact of quality on market acceptance, price premiums, and competitiveness. By focusing on quality improvement, farmers can access better markets and command higher prices for their produce. According to Freeman, K., & Qin, H. (2020), the more it is easier for a farmer to access information, the more they are willing to increase inputs on the farm. For instance, the adoption of Good Agricultural Practices (GAP) by coffee farmers in Uganda has resulted in improved coffee quality, leading to increased demand in international markets (International Trade Centre, 2020).

A positive mindset leads to the use of high-quality agricultural inputs, which plays a fundamental role in increasing agricultural output. The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) put in a tremendous effort in supplying some of the inputs to farming households for instance in FY2020/21, over 2,012,961 households were supported with critical farm inputs. Therefore, Mindset Change would lead to increased yield due to use of productivity enhancing inputs (International Trade Centre, 2020; MAAIF, 2021).

Dependency syndrome, as a mindset issue among value chain actors, limits investments in the value chains. Actors along the value chain who wait on government to give them subsidies may not invest at critical stages to maximize profit but instead wait on government support that may delay to come or not come at all. NDPIII identifies a dependence syndrome as one of the drivers for a weak sense of responsibility, ownership and accountability of development programmes among the general populace (NPA,2020).

A positive mindset change in agriculture can lead to increased productivity due to the adoption of productivity-enhancing technologies. Farmers who adopt modern techniques, such as improved seed varieties, proper irrigation, and mechanization, can achieve higher yields. This, in turn, leads to increased production and supply of agricultural products. For example, the adoption of improved farming practices and technologies by Ugandan farmers has led to a significant increase in maize production, contributing to food security and export opportunities (Mugisa & Nalumansi, 2020). This is also shown in table 2.

We can double Agricultural production while using technology. Technology use in harvesting, eliminating enemies to crops and animals, and also soil conservation are important in enhancing productivity and sustainability in agriculture (King. A, 2017).



A negative mindset among the youth towards agriculture has affected agricultural production. Uganda's population is mainly comprised of youth 24% (aged 18–30). Most believe Agriculture is a dirty job and requires a lot of patience. This has led to a small rate of Agricultural production growth, though steadily increasing, as indicated in tables 2 and 3. This is majorly due to the negative mindset of youths but also due to low start-up capital, high cost of machinery, and infiltration of the market with poor quality input, among other reasons.

Processing and Value Addition part of the agricultural Value Chain

A positive mindset change fosters the development of agro-processing industries. Farmers can capture a larger share of the value chain by adding value to raw agricultural products, such as processing fruits into jams or vegetables into canned products, increase incomes, and create employment opportunities. Using NUCAFE value addition, a positive mindset has increased the profitability of coffee in Uganda. According to Rasane, P., Jha, A., Sabikhi, L., Kumar, A., & Unnikrishnan, V. S. (2015), value-added products have even higher health benefits. For instance, establishing maize milling plants in Uganda has enabled farmers to process their maize into flour, adding value and generating higher returns (Kakande, 2020).

In addition, a positive mindset looks at value addition in improving wastes produced from processing agricultural products, such as enhancing citrus fruit wastes, according to Sharma, K., Mahato, N., Cho, M. H., & Lee, Y. R., 2017).

Infrastructural Chain

A mindset change in the infrastructure chain is crucial for driving economic growth in Uganda. By prioritizing infrastructure development through effective policies and planning, attracting private investments, improving project implementation and management, investing in capacity building, and prioritizing maintenance, stakeholders can create a conducive environment for infrastructure development (Fungo, E., Krygsman, S., & Nel, H., 2017). With a positive mindset and a focus on infrastructure, Uganda can accelerate economic growth, enhance connectivity, and improve its citizens' overall quality of life (Fungo, E., Krygsman, S., & Nel, H., 2017).

A changed mindset emphasizes the importance of regular maintenance and upkeep of infrastructure assets. This includes allocating sufficient resources and implementing appropriate maintenance strategies to preserve the functionality and longevity of infrastructure (Ogunleye, O., Ajibola, A., Enilolobo, O., & Shogunle, O., 2018). By prioritizing maintenance, stakeholders can ensure the sustainability of infrastructure investments, avoid costly repairs, and promote economic growth in the long term. The Uganda National Roads Authority (UNRA) has implemented routine maintenance programs for road infrastructure, contributing to improved road conditions and enhanced connectivity. This ultimately increases access to farms and hence increases agriculture productivity in the country, increasing economic growth (Trubilin A. et al., 2017).

Distribution and Marketing part of the Agricultural value chain

The distribution chain is critical in the agricultural sector, connecting farmers with consumers and markets. A positive mindset change in the distribution chain can improve Uganda's efficiency, market access, and economic growth. A positive mindset change in the distribution chain encourages stakeholders to prioritize quality and standardization. This involves recognizing the importance of meeting market requirements and consumer demands for high-quality agricultural products. Farmers can access premium markets, command higher prices, and stimulate economic growth by adhering to quality standards and ensuring consistent product quality. For example, the Uganda Coffee Development Authority (UCDA) promotes quality control measures and certification processes for coffee exports, enabling Ugandan coffee to compete in international markets.

A positive mindset change in the distribution chain emphasizes the need for efficient logistics and transportation systems (Ahumada, O., & Villalobos, J. R., 2011). This includes improving infrastructure, ensuring

timely delivery, and reducing post-harvest losses. By minimizing transportation costs and delays, farmers can access distant markets, expand their customer base, and contribute to economic growth. For example, the Uganda National Roads Authority (UNRA) has invested in road infrastructure development, improving connectivity and market accessibility for farmers nationwide.

A mindset change encourages the adoption of technology and innovation in the distribution chain. This includes leveraging digital platforms, e-commerce, and mobile applications to streamline order processing, inventory management, and market linkages. By embracing technology, farmers can reach a broader customer base, reduce transaction costs, and enhance their competitive advantage.

A positive mindset change in the distribution chain of agriculture is crucial for Uganda's economic growth. It minimizes losses (Ahumada, O., & Villalobos, J. R., 2011). By prioritizing quality and standardization, adopting a demand-driven approach, improving logistics and transportation, fostering collaboration and partnerships, and embracing technology and innovation, stakeholders can enhance market access and efficiency and facilitate economic growth.

A changed mindset encourages farmers to explore new markets and diversify their products through social media (Byomire, G., Namisango, F., & Kafuko, M. M., 2016, May). Farmers can access lucrative markets domestically and internationally by identifying and responding to market demands. This increases income and contributes to economic growth at the national level. One example is the growing demand for organic and niche products in global markets. Farmers who have embraced organic farming practices and diversified into specialty crops, such as organic fruits or fair-trade coffee, have seen increased market opportunities and higher profitability (MAAIF, 2018).

Financing as an enabler of the agricultural value chain

A positive mindset encourages farmers to embrace entrepreneurship and innovation. This can lead to the creation of new business models, the introduction of novel technologies, and the development of innovative products and services. Such initiatives contribute to job creation, income generation, and economic growth.

The rise of agricultural start-ups in Uganda, such as Farming Solutions and Hello Tractor, showcases farmers' entrepreneurial spirit and innovative mindset, resulting in increased productivity and efficiency (African Development Bank, 2020).

In addition, a changed mindset calls for the fulfillment of the AU 2003 Maputo Declaration on Agriculture and Food Security, which requires the Government to invest a given percentage of at least 10% in its agricultural sector (NEPAD). This has not been fulfilled by the Ugandan Government, which has allocated only 3% of its budget to the agricultural industry.

Policy and regulation as enablers of the value chain

A positive mindset change among policymakers regarding agriculture can lead to the formulation and implementation of policies prioritizing agricultural development. This includes policies that promote investment, provide incentives, and create an enabling environment for farmers and agribusinesses. For example, the Ugandan government's focus on agricultural transformation, as outlined in the National Development Plan III and the Agriculture Sector Strategic Plan, demonstrates their recognition of the sector's potential for economic growth (Government of Uganda, 2020).

A changed mindset fosters the promotion of public-private partnerships (PPPs) in agriculture. These partnerships unite government entities, private sector actors, and farmers to collaborate on initiatives that drive agricultural development and economic growth. PPPs can leverage resources, expertise, and technology to enhance productivity, value addition, and market access. For instance, the partnership between the Ugandan



government and the private sector in the Operation Wealth Creation program has facilitated the provision of agricultural inputs, training, and market linkages to farmers, leading to increased productivity and income generation (Ministry of Defense, 2020).

A positive mindset change promotes the implementation of effective monitoring and evaluation mechanisms in the agricultural sector. This enables policymakers to track the impact of policies and regulations, make evidence-based decisions, and identify areas for improvement. By ensuring accountability and transparency, monitoring and evaluation contribute to the overall effectiveness of agricultural interventions.

Uganda's Agricultural Management Information System (AMIS) monitors and evaluates agricultural programs, facilitating data-driven decision-making and policy formulation (Ministry of Agriculture, Animal, Industry and Fisheries, 2020).

A mindset change in agriculture, along the policy and regulatory chain, is crucial for driving economic growth in Uganda. By prioritizing agricultural development, implementing farmer-centric policies, fostering public-private partnerships, and enhancing monitoring and evaluation mechanisms, a conducive environment is created for farmers and agribusinesses to thrive. With the right mindset and supportive policies, Uganda can harness the full potential of its agricultural sector and achieve sustained economic growth.

Conclusion

Most of the persistent bottlenecks in Agriculture are due to negative mindsets. With the right attitude and supportive policies, Uganda can harness the full potential of its agricultural sector and achieve sustained economic growth.

A mindset change in agriculture is crucial for Uganda's economic growth, as it can lead to increased productivity, quality improvement, market access, value addition, and entrepreneurship. This can be achieved through rightful education that produces well-developed human capital. This human capital can embrace modern practices, adopt innovative approaches, and seek market-driven solutions. Well-educated farmers can transform the agricultural sector and contribute to the nation's prosperity.

Policy Recommendations

1. The Government should fully implement all the pillars of the Parish Development Model, especially pillars one and three, combined with other pillars.
2. The mindset and community mobilization Programme of NDP III should focus on actors along the agricultural value chains, considering their different needs and circumstances.
3. Re-focusing on agro-inputs subsidy to smallholder farmers as the PDM alone may not fully address this gap created.
4. The need to reduce the farmer-extension ratio by recruiting more extension officers to increase the education of farmers and work on their mindsets

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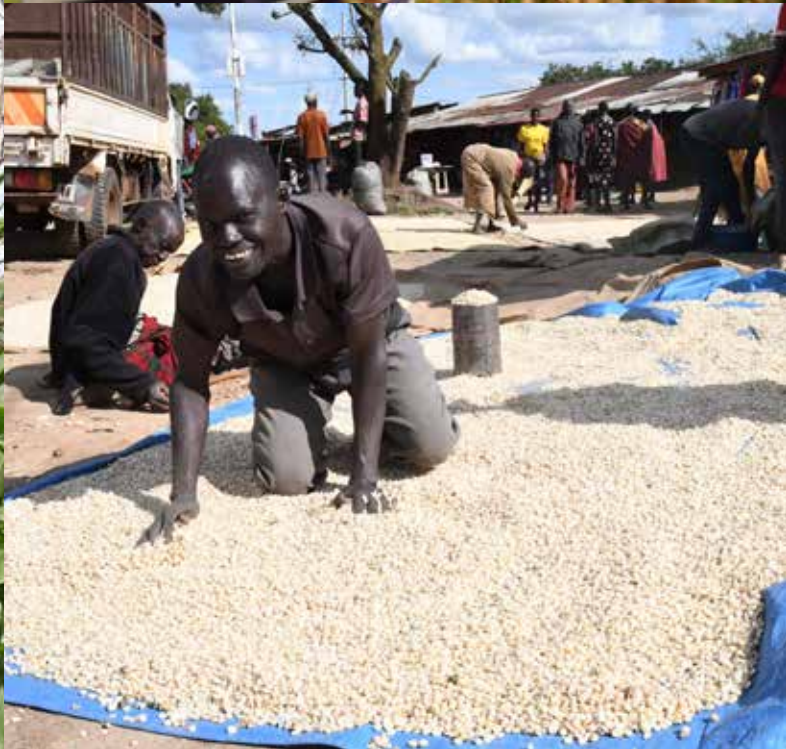
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5.2 PARTICIPATION OF YOUTH IN AGRICULTURE: OPPORTUNITIES AND CHALLENGE

Killian Arineitwe¹³

Saviour Jurugo¹⁴

Introduction

Globally, the United Nations (UN) defines youth as people between the ages of 14–24 years, while in Africa, the African Union (AU) perceives a youth as a person between the age of 15–35 years. The Constitution of the Republic of Uganda defines youth as 18–30 years old.

Agriculture continues to be the mainstay of Uganda's economic growth, and it is one of four crucial sectors mentioned in the Uganda Vision 2040 that will significantly contribute to wealth building and job creation. The sector also contributes 24.1% of the national GDP and continues to directly or indirectly employ over 70% of Uganda's population. In absolute terms, agriculture's GDP increased from UGX 35,360 billion in FY 2020/21 to UGX 39,152 billion in FY 2021/22. The agricultural sector rose by 4.4% in the fiscal year 2021/22 compared to 4.3% in 2020/21 (MAAIF, 2023).

Agricultural participation involves diverse activities like farming, livestock rearing, agribusiness, and fishing, aiming to produce food and agricultural products. It also encompasses markets, trading, research, and policymaking, focusing on sustainability, food security, and economic growth. Youth engagement includes agriculture, agribusiness, research, innovation, marketing, and advocacy. Youth involvement is crucial for rural development, promoting innovation, productivity, entrepreneurship, employment, and overall agricultural sector growth.

The Agro-Industrialisation Program (AGI) in the NDP III presents Uganda with a significant opportunity to enhance household incomes and improve living standards, considering agriculture's vital role in the country's economy. With its positive trade balance in agro-industrial products, Uganda can promote inclusive growth by adding value to agricultural raw materials, facilitating export expansion of high-value products, and reducing import dependence. The Program addresses key issues like post-harvest losses, disaster management, price stability, and income generation. By transforming agro-value chains and fostering linkages between agriculture and agro-industries, Uganda can sustainably supply domestic industries, encourage transformative manufacturing, and create employment opportunities for its citizens (NPA, 2022).

Ana Cardenas et al. (2020) state, "Agriculture continues to be the primary source of income in Uganda, accounting for a quarter of the GDP, but only half of young people find quality jobs in the agricultural sector." Uganda has a highly young population, with 75% of the population under the age of 30. In absolute terms, the young population is expected to expand from 7.5 million in 2012/13 to 13.7 million in 2030, reflecting a growth rate of 3.3%, more significant than the general population's 3.0% (UBOS, 2016). This demonstrates the critical role that youth might potentially play in transforming Uganda into an inclusive society with enhanced quality of life and resilience.

With a population boom on the horizon, Uganda's 46 million population is expected to double to 104 million by 2060. This rapid growth will significantly increase population density, surpassing India's current density (455) by 2055 and reaching levels similar to South Korea's (529) by 2060. The youth population will rise from 21 million to 29 million, making up nearly 70% of the total population by 2060, up from the current 52% (Cara Myers et al., 2021).

¹³ Research Assistant, National Population Council Email: arineitwekillian5@gmail.com Tel: 0704740611

¹⁴ Research Assistant, National Population Council, Email: jurugosaviour2000@gmail.com Tel: 0751653637

The inadequate involvement of youth in Uganda's agricultural sector presents a pressing challenge that hinders the nation's economic progress and poverty alleviation efforts. Despite the agricultural sector's substantial contribution of 24.1% to the country's GDP and its role as the primary employer for over 70% of the population, the active engagement of young individuals in this sector remains notably low (MAAIF, 2023).

Many young people face barriers to participation in agriculture, including inadequate access to land, credit, and markets and a lack of voice in the decision-making processes that affect their futures. The lack of youth participation in agriculture curtails the sector's expansion and hampers broader goals of poverty reduction and sustainable economic development.

Role of Youth in Agriculture.

Despite favorable conditions, Uganda still contends with a youth unemployment rate of 10.8% (UBOS, 2020), signifying a missed opportunity to harness the energy and creativity of its young demographic to revitalize the agricultural sector and propel the nation's overall progress. 30% of the youths who are institutionally qualified in Uganda are unable to find jobs, and the situation is even worse for semiskilled and unskilled youths. 87% of working Ugandans between the ages of 14 and 64 are in subsistence, while 43% work in agriculture. Men outnumber women in the labor force by 58% to 39% (UBOS, 2020). Compounding the problem, nearly half of the youths are Not in Education, Employment, or Training (NEETs), and UGX42,500 per month is the extra earnings lost because of a youth NEET in a household (NPA, 2022).

Youth in Uganda form the highest population in the country, presently sitting with 78% of the population under 30 years old with a median age of 16 years. In addition, it has one of the highest fertility rates in the world at 5.2 children per mother (UDHS, 2022). The combination of youthfulness and high fertility means growth in the working-age population is rapid. Around 700,000 young people reach working age every year in Uganda. This is expected to rise to an average of one million in the decade from 2030 to 2040, and it is already creating a mismatch between labor demand and supply. While Uganda's youth are renowned for being highly enterprising, fewer than 4% of Ugandans are employers (World Bank 2020).

63% of the youth are in agriculture and mainly in rural areas. Over 92% of the youth in employment are working poor, and youth are also overrepresented among the extremely poor. Three out of four working youth are in vulnerable employment, either own-account workers or contributing (unpaid) family workers, predominantly in the agricultural sector. Young women in rural areas are more likely to be contributing to family labor and have less chance than young men of obtaining paid work (12.0% compared to 21.4% of young men) (MAAIF, 2017)

Mastering the value chain is thus pivotal as young entrepreneurs can initiate their journey from primary production, employing modern and sustainable farming methods, and progress to processing and value addition, creating high-quality agricultural products. Efficient distribution, facilitated by digital platforms and innovative logistics, ensures products reach markets effectively. Understanding market demands, coupled with adept marketing strategies, enhances market access. Additionally, youth can diversify into agribusiness services, financial solutions, research endeavors, and educational initiatives.

The main objective was to examine the youth engagement within Uganda's agricultural sector, studying opportunities and challenges. In detail, the study aimed to identify the existing opportunities for youth engagement in Agriculture, the challenges constraining their participation, and proposed innovative policy options to foster increased youth participation in agriculture.

Opportunities for youth participation in agriculture

Youth livelihood program (YLP)

The YLP is a GoU initiative targeting the unemployed and poor youth in the country. It was launched in FY 2013/14



with the main objective of empowering the youth to harness their social economic potential and increase self-employment opportunities and income levels. YLP provides interest-free revolving funds to unemployed and poor youth (aged 18-30 years) including but not limited to; school drop-outs, youth living in slums, youth with no formal education, single parents, youth with disabilities, and those living with HIV/AIDS among others.

These must be formed into youth interest groups of a minimum of 5 members, of which at least 30% shall be female. The youth interest groups are provided revolving funds of up to Ushs12.5M to establish IGAs of their choice. The funds are disbursed directly to the beneficiary groups that successfully go through the beneficiary selection criteria at the Sub-County/Division and District/City/Municipal Authority levels. Since the inception of the Programme, YLP has disbursed Ushs162.972 billion to finance a total of 20,522 youth projects. This is benefiting 245,870 youth (46% of whom are female). The majority of the projects financed under YLP are in the agricultural sector (32%). This is followed by Trade (29%), Services (23%), and Industry (6%) among others (MoGLSD, 2021).

Agricultural Credit Facility (ACF)

The facility was created in 2009 by the GoU in partnership with commercial banks, the Uganda Development Bank, credit institutions, and Micro-Deposit Institutions to provide affordable credit to small and large enterprises engaged in agriculture, at an interest of **12% per annum**. Over Shs800 billion in credit is at the disposal of interested small-scale and large-scale farmers across agricultural value chains. The main objective of ACF is to promote the commercialization of agriculture by providing short, medium, and long-term loans at more favorable terms as opposed to commercial banks, to all interested farmers across the agricultural sector (B.O.U, 2023).

For young entrepreneurs and farmers, ACF presents a valuable opportunity. By accessing these funds, young individuals can kick-start their agricultural ventures or expand existing ones. The availability of short, medium, and long-term loans at favorable terms enables them to invest in modern farming techniques, acquire equipment, and enhance productivity. These funds can support training programs, enabling youth to develop essential skills and knowledge in agricultural practices and agribusiness management. Similarly, micro, small, and medium enterprises with loan amounts not exceeding UGX 100 million constituted 80% of the total number of funded projects under the ACF as of June 30, 2023. This re-affirms the critical role that the ACF plays in transitioning peasant farming to commercial farming while fostering financial inclusion in Uganda's agriculture sector.

Furthermore, ACF's support can encourage youth to explore diverse areas within the agricultural value chain, including processing, value addition, agribusiness services, and research initiatives. This financial assistance empowers the youth, enabling them to transform their innovative ideas into sustainable agricultural enterprises, fostering economic development and self-reliance.

Business process outsourcing (BPO)

BPO emerges as a crucial opportunity for young entrepreneurs in agriculture by offering invaluable support in various non-core tasks. Tasks such as administrative duties, digital marketing, customer support, and market research, which can be time-consuming and demanding, are efficiently managed by specialized service providers through BPO.

By outsourcing these functions, young individuals in agriculture can redirect their focus and energy toward enhancing their farming practices, exploring innovative solutions, and expanding their agricultural businesses. This strategic approach not only enhances operational efficiency but also provides cost-effective solutions, allowing young farmers to allocate their resources wisely. By relieving them of administrative burdens, BPO empowers young farmers to invest their time and efforts into agricultural innovation and growth. Consequently,

this opportunity fosters economic development and entrepreneurship among the youth, creating a pathway for sustainable success in the agricultural sector (NITA–U, 2022).

National farmers' leadership center training and capacity building philosophy

The NFLC plays a crucial role in empowering the youth in agriculture by instilling valuable leadership qualities and a positive mindset. By raising capable farmer leaders, the center helps young individuals in agriculture develop their knowledge, technological skills, and attitudes necessary for holistic social improvement.

Encouraging the youth to adopt the pioneering spirit of ownership, sacrifice, and responsibility, the Center equips them to leave behind negative habits and embrace new philosophies and lifestyles. This transformative approach enables young farmers to not only improve themselves but also uplift their families, communities, and eventually their nation. By cultivating leadership qualities and empowering them to be agents of change, the Center enables the youth to inspire others in their communities, planting the seeds of progress and leadership into the hearts of fellow youth, thereby fostering sustainable growth and development in the agricultural sector and beyond.

The Parish Development Model (PDM)

PDM is the last mile strategy for service delivery by the GoU to improve the incomes and welfare of all Ugandans at the household level by transforming 39% (about 3.5 million people) of Ugandan households that are stuck in the subsistence economy into the money economy.

Key in PDM is the implementation of Action Plans tailored to include the interests of marginalized groups. Specifically, 30% of the parish revolving fund is allocated to women, **another 30% to youths**, 10% to PWDs, 10% to the elderly, and the remaining 20% to men and others not falling into the special categories. This deliberate allocation of resources supports the financial inclusion of vulnerable demographics and acts as a significant incentive for more young people to engage actively in the agricultural value chain. By providing targeted funding opportunities, PDM creates a promising avenue for youth involvement in agriculture, promoting economic growth and sustainable development within the sector. (MoLG, 2021)

Leveraging technology and digitalization in agriculture

With the increasing penetration of mobile phones and internet connectivity in many parts of Uganda, agriculture is an untapped market. It offers young people exciting new ways of working on or for farms, away from the traditional back-breaking manual labor of ploughing, seeding, and harvesting. Second, the professionalization of agriculture, thanks to rising levels of digitalization, means more young people can find work – from software design to value chain development – in rural areas and not have to migrate to towns and cities to compete for jobs. And lastly, with the help of new technologies, agriculture can also become more productive and lucrative, offering a sustainable and profitable career option for more people. (Tony THOMPSON, 2020).

The youth can also explore the Internet of Things, Big Data, and precision farming alongside adopting e-currencies and blockchain technology. The youth can also harness the power of digital technologies to pilot, accelerate, and scale innovative ideas with high potential for impact in food and agriculture, transforming digital solutions and services into global public goods.

The Ayute Africa Challenge

The AYuTe Africa Challenge 2023 in Uganda stands as a remarkable opportunity for youth in agriculture. This initiative represents Uganda's most ambitious agricultural and innovative tech idea, focusing on addressing the challenges faced by smallholder farmers in the country. By enhancing food security, improving production, increasing income, building resilience, and providing better access to finance, this challenge aims to revolutionize farming and food production in Uganda.



Its unique approach, combining cash grants and mentorship to support young agritech innovators across Africa, sets this opportunity apart. Specifically targeting innovators between 18 and 35, the challenge provides a platform for startups and businesses operating for up to three years. Participants are encouraged to showcase genuinely innovative products or services with the potential for growth and a viable market. Moreover, the challenge emphasizes the importance of addressing specific needs among smallholder farmers and ensuring the affordability of the proposed solutions.

The prize pool, including a substantial cash award of UGX 35,000,000 for the overall winner, UGX 25,000,000 for the 1st runner-up, and UGX 10,000,000 for the 2nd runner-up, is a powerful incentive for young entrepreneurs in agriculture. By recognizing and supporting their innovative ideas, the AYuTe Africa Challenge 2023 significantly boosts youth engagement in agriculture, fostering creativity, entrepreneurship, and sustainable solutions within the farming community (ILRI, 2022).

Entebbe Dairy Training School

The Dairy Development Authority (DDA) has taken a proactive step by providing Entebbe Dairy Training School with dairy processing equipment and establishing a Dairy Incubation Center to nurture dairy technology-based start-ups and auxiliary businesses. This initiative fosters job creation, strengthens the skilled labor force, and benefits the youth significantly. By offering specialized training in dairy management, the Incubation Center equips young individuals with valuable skills, empowering them to engage in the dairy industry. This not only enhances their economic well-being but also contributes to the overall wealth and health of the country, showcasing the positive impact of such programs on the youth and the nation's prosperity. (DDA, 2023)

Bukalasa Agricultural College

Bukalasa Agricultural College is an agricultural training institution with a strong reputation for training front-line agricultural extension workers, as well as a home to many household names of academicians, administrators, researchers, and impeccable leaders. Recently, international students have been attracted to the college to pursue various academic programs, thus widening the institution's scope in coverage. In partnership with STRYDE, the college is implementing the AGRICULTURE FOR WEALTH AND HEALTH project that aims to train students/youth on entrepreneurship skills (converting the professional skills imparted into money-making skills) to become more of job creation rather than job seeking. Training has taken place at the college for three years now, and students/youth are seriously benefiting from the program (Bukalasa Agricultural College, 2023)

Lead firm structure for youth employment by PSFU

The collaboration between Private Sector Foundation Uganda (PSFU) and Mastercard Foundation through the Young Africa Works strategy presents a significant opportunity for youth in agriculture. The Lead Firm Structure for Youth Employment, designed and implemented by PSFU, aims to bolster job markets by enhancing the capacity of value chain actors, including those in agriculture¹⁵.

By focusing on key agricultural value chains such as Coffee, Cocoa, Horticulture, Poultry, Cereals, Livestock, Fisheries, and Apiculture, the initiative creates pathways for young individuals to participate actively. Through targeted interventions, youth can benefit from enhanced skills training, expanded market access, and diversified financing mechanisms. This strategic approach empowers young entrepreneurs to manage and expand their agricultural enterprises and fosters innovation and economic growth within the agriculture sector, offering promising prospects for youth engagement and success in agriculture.

15 (<https://www.psfuganda.org/projects/enhancing-lead-firm-structure-for-youth-employment-in-uganda.html>).

Naro Youth Empowerment Action Plan and Incubation Hub

The NARO has designed a youth empowerment action plan from the primary level of education to the university level to ensure they have a love and passion for agriculture. NARO has also designed the **Annual Youth Writing Competition** in agriculture and sets agriculture questions for primary schools, secondary schools, and university institutions. The goal here is to build a love for agriculture further and encourage youth to engage in agriculture with passion, and the youth need to position themselves to benefit from this.

NARO has set up an incubation hub in Mukono ZARDI, where they are incubating ideas from the youth and incubating products with the youth to create industries. The guiding principle at the hub is one idea, one industry, one technology. The hub has youth as incubators, and the aim is to have an incubator move out as an industry contact point. Arising out of the incubator efforts, some youths have set up industries in peanuts, avocado seeds, cassava, and sweet potato flowers. (NARO, 2023). NARO is also investing in agro-mechanization, reducing drudgery. Because of the technologies developed by NARO, like the maize, groundnut, and rice thresher, the time taken to thresh a ton of maize and rice is a lot shorter, and thus the youth should position themselves to benefit from this.

The NARO Competitive Grants Scheme

The research Competitive Grant Scheme (CGS) established by NARO provides a valuable opportunity for youth engagement in agriculture. This initiative welcomes a range of stakeholders, including universities, CBOs, private researchers, and innovators, creating a platform for collaboration and knowledge exchange. By mobilizing scientific expertise from public and private sectors, the CGS allows young individuals to actively participate in high-priority projects aligned with national agricultural development strategies.

This involvement enhances the quality of research and increases overall research funding, providing financial support for young researchers and entrepreneurs. The scheme also promotes research partnerships, fostering an environment where youth can contribute innovative ideas and solutions to address challenges in agriculture. Through this inclusive approach, the CGS serves as a gateway for youth to establish themselves in the agricultural sector, encouraging active involvement and fostering a culture of innovation and growth.

The first Competitive Grant activity was under the Client-Oriented Agricultural Research and Development (COARD) project funded by DIFD in Eastern Uganda in 2004. The European Union supported some further projects under cohorts I and II between 2006 to 2012 and while the World Bank funded some. These CGS projects are implemented following the Competitive Grants Scheme Guidelines and procedures (NARO, 2023).

Leveraging Uganda Coffee Development Authority (UCDA)

UCDA stands out as a significant opportunity for young farmers within the agricultural sector. Their proactive initiatives, such as the distribution of millions of coffee seedlings and banana suckers intercropped with coffee, have directly empowered thousands of young farmers nationwide.

Through targeted training sessions and farm visits, UCDA ensures that over 400 youth farmers are equipped with essential skills and knowledge annually. This approach strengthens the coffee industry and provides a promising opportunity for the youth to engage in sustainable agriculture actively. By emphasizing climate change mitigation and food security, UCDA is nurturing a new generation of environmentally conscious and skilled farmers in Uganda, creating a pathway for youth to thrive in the agricultural sector (UCDA, 2021).



Youth Inspiring Youth in Agriculture Initiative (YIYA)

The collaboration between FAO and MAAIF through the YIYA represents a significant opportunity for young people in agriculture. Launched as part of the National Strategy for Youth Employment in Agriculture (NSYEA), YIYA is a nationwide competition to promote youth employment in agriculture. By recognizing and supporting young agripreneurs who serve as role models to their peers, the initiative provides cash rewards, technical training, opportunities for national and international exhibitions, and participation in policy dialogues related to youth employment in agriculture.

The success of the initiative's first round led to its expansion into a national youth agripreneurs mentorship program. In 2021, over 270 youth champions were selected and recognized from over 1 400 applications, and 35 national youth champions received valuable assets, animals, and inputs. This initiative provides tangible support to young agripreneurs and offers them visibility and ongoing opportunities, encouraging more youth to actively engage and thrive in the agriculture sector across the country (FAO, 2022).

Youth Empowerment Program (YEP)

The Agricultural and Food Security Research and Development (AFIRD) initiative has identified the crucial need to involve young people in agriculture, the backbone of Uganda's economy with a strategic objective of influencing the mindsets of the youths in Uganda towards Agriculture as a viable livelihood option. In response, they established the YEP in 2006, aimed at instilling ecological farming skills in young individuals in and out of schools and prisons. By teaching these skills, YEP empowers youth to appreciate local resources and engage in profitable farming practices, laying the foundation for a better future.

Through various projects supported by organizations like Seeds for Africa, Gorta-Ireland, Tudor Trust-UK, Bread for The World, Austrian Development Cooperation, and HORIZONT3000, YEP has provided opportunities for young people to gain expertise in sustainable agriculture. These initiatives include A nutrition project (fruit tree planting and breakfast clubs) among five schools and one prison from 2006 to 2011 in Wakiso and Mukono Districts, The Youths Scholarship project where four youths attained a certificate in Sustainable agriculture from Baraka Agricultural College in Kenya, integrated land use design (ILUD) and permaculture projects for 15 schools from 2014 to 2020, environmentally friendly production initiatives for eight schools and three prisons from 2020 to 2023 in Mpigi and Wakiso Districts, and sustainable agriculture projects in 5 schools, five mother groups, and five youth groups.

YEP's strategic approach not only equips underprivileged youth, including those in schools, prisons, and refugee camps, with essential ecological farming skills but also promotes positive lifestyles and healthier choices. By fostering strong partnerships with various stakeholders and government agencies, YEP creates a supportive environment for youth engagement in agriculture, turning challenges into opportunities for a sustainable agricultural future in Uganda.

Youth4business innovation and entrepreneurship facility

The Youth for Business Facility (Y4BF), an integrated support program designed to promote impact-based entrepreneurship, presents a significant opportunity for youth engagement in agriculture. Launched by His Excellency Yoweri Kaguta Museveni on International Youth Day in August 2020, Y4BF fosters innovation and leverages inventive business solutions in addressing the pressing challenge of youth unemployment.

Y4BF focuses on selected economic sectors, including agriculture/agribusiness, recognizing the vast potential within this sector to create jobs, enhance livelihoods, and improve people's quality of life. By channeling support and resources into agriculture and agribusiness, the program provides a platform for young entrepreneurs to explore innovative solutions, develop sustainable farming practices, and contribute to the growth of the agricultural industry. Through Y4BF, youth in agriculture access affordable finance, products, and services,

facilitating their entry and active participation in the agricultural sector. This initiative not only empowers young individuals but also strengthens the agricultural landscape, offering a promising opportunity for youth to thrive and succeed in agriculture-related ventures (UNDP, 2022).

Learning Entrepreneurship and Agriculture Practically (LEAP)

The agri-food sector remains a fundamental part of Uganda's economy, providing significant employment opportunities for the youth, with 66% actively involved in agriculture. With changing demands in agricultural value chains, there's a growing need for technical skills such as modern farming techniques, post-harvest handling, entrepreneurship, and digital skills tailored for agriculture. Agricultural education and training, mainly those sensitive to gender disparities, are essential in motivating and preparing young individuals for careers in this sector.

However, conventional teaching methods in secondary education often fail to inspire students to pursue agriculture due to their lack of practical relevance and engagement. Recent education reforms are working to address these challenges, focusing on enhancing the professional development system for teachers and school leaders to provide more relevant and engaging learning experiences.

The LEAP program emerges as a valuable opportunity for youth in agriculture by aiming to improve the quality of agriculture and entrepreneurship teaching in Uganda's lower secondary (O-level) and secondary technical and TVET schools. This initiative focuses on integrating innovative education solutions into the professional development system for instructors and teachers, fostering a more conducive learning environment. By doing so, the LEAP program equips young individuals with practical skills, offering them a promising pathway to succeed in the evolving agri-food sector (VVOB Annual Report, 2021)

Youth Agri-Skilling for Decent Employment (YADE) Project (2021 – 2024)

The YADE project is specifically designed to tackle the high youth unemployment rate in Wadelai Sub-County, Pakwach District. The project focuses on empowering motivated young individuals by providing them with training and valuable skills, opening doors to profitable agricultural employment opportunities across various segments such as animal traction, fish cage farming, horticulture, and agroforestry.

YADE aims to create a sustainable impact by analyzing and targeting specific markets. Launched on April 1st, 2021, the project has made significant strides, establishing 24 Youth Investment Groups (YIGs) and equipping 60 youths with expertise in animal traction technology. Additionally, 330 young individuals across 11 horticulture groups have received essential agro-inputs to kick-start their agricultural ventures. Notably, all YIGs have undergone Village Savings and Loan Association (VSLA) methodology training and have been provided with VSLA kits. This comprehensive approach provides essential skills and nurtures entrepreneurship, making YADE a promising opportunity for youth in the Pakwach district to actively engage and thrive in the agricultural sector (AFARD STRATEGY 2020-2025).

Challenges and key constraints

Despite the youth potential, they still face varying problems that constrain their participation in Agriculture, as articulated below.

Insufficient financing is a significant obstacle for young individuals looking to engage/engaging in agriculture. Without adequate funds, they face difficulties in acquiring necessary resources like land, seeds, and modern farming equipment. Limited capital restricts their ability to invest in sustainable farming practices and hinders productivity. Additionally, challenges in accessing credit due to the lack of collateral and credit history further limit their opportunities to expand their agricultural enterprises and respond to market demands. In essence,



the lack of financial resources poses a real challenge for youth aspiring to participate in agriculture, limiting their potential for growth and innovation in the sector.

The mindset issue poses a barrier to youth engagement in agriculture, with many perceiving it as old-fashioned, physically demanding, and financially unrewarding, often due to outdated beliefs and a lack of awareness about modern farming. Moreover, the sector's association with low income, intensive labor, and an unfavorable working environment deters Ugandan youth, pushing them to seek better economic opportunities in urban areas (AU, 2020, Anderson & Scott, 2016). The prevailing notion that agricultural work lacks prestige and social recognition further discourages youth involvement. The poor promotion of agriculture in schools as a tertiary study unit is another key component that adds to the insufficient interest (Udemezue JC, 2019). Additionally, the challenging land tenure system, where only around 50% of Ugandans have access to land, and significantly fewer women own land, creates a structural bottleneck, limiting effective youth participation in the agricultural sector (UBOS, 2015).

Limited market access despite increased skilling efforts is a significant deterrent to youth participation in agriculture. Despite acquiring relevant skills and knowledge, young farmers often face challenges in reaching potential buyers. Factors such as lack of market information, inadequate infrastructure, and inefficient supply chains make it difficult for them to sell their products at fair prices. Additionally, limited access to modern technology and online platforms further restricts their market reach. This mismatch between enhanced skills and restricted market opportunities hampers the ability of young farmers to fully engage in agricultural activities, discouraging their active participation and sustainability in the sector.

Policy recommendations

Avail non-collateral borrowing opportunities tailored specifically for young farmers. Financial institutions could develop loan programs that assess young farmers based on their skills, business plans, and potential rather than requiring traditional collateral. Additionally, the government could play a key role by providing clear and easily accessible information about existing funding sources, grants, and subsidies available to support youth in agriculture. Simplifying bureaucratic processes and making it easier to apply for these funds would enhance the accessibility for young farmers.

To help young people overcome negative perceptions about farming, policymakers could run awareness campaigns and integrate basic agricultural education into school curricula. Providing practical training is a key step. Access to mentorship programs, and addressing gender disparities in land ownership can also encourage youth, especially women, to engage in agriculture.

To improve market access for skilled young farmers, policymakers could focus on practical solutions. This might include establishing agricultural cooperatives and strengthening extension services to provide market information and support. Investing in rural infrastructure like roads and storage facilities can enhance connectivity. Encouraging the use of digital platforms could also make a difference. These modest steps can help skilled youth in agriculture reach broader markets, promoting their active participation in the sector.

Conclusion

Despite agriculture's pivotal role in the national economy, a significant gap exists in youth participation. Nonetheless, government initiatives like the Youth Livelihood Programme and Agricultural Credit Facility, coupled with recommendations focusing on reshaping the agricultural image and enhancing information accessibility, offer a glimmer of hope. By actively tackling these challenges and capitalizing on available opportunities, Uganda stands poised to unleash the potential of its young population. This proactive approach promises inclusive growth and ensures sustainable development, steering the nation toward a prosperous agricultural future.

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5.3 PARTICIPATION OF PERSONS WITH DISABILITIES IN THE AGRICULTURAL VALUE CHAIN IN UGANDA

Amolo Ritah¹⁶

Introduction

Persons with disabilities (PWDs), as defined by the UN Convention on the Rights of PWDs, include those persons who have long-term physical, mental, intellectual, or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others. According to WHO, 16% of the world's population experiences significant disability, and this is estimated at around 1.3 billion people. PWDs face unfair conditions such as stigma, discrimination, poverty, and exclusion from education and employment (WHO, 2023). According to the Uganda Population and Housing Census 2014, the prevalence of disability among the population aged five years and above was 14% (UBOS, 2016). According to the 2017 Uganda Functional Difficulties Survey, 16.5% of persons aged 18 years and above had a disability (UBOS, 2018).

According to the Food and Agricultural Organization (FAO), a 'value chain' in agriculture identifies the actors and activities that bring a basic agricultural product from production to final consumption, where value is added to the product at each stage. Each phase promotes investment, growth, and competitiveness of the different actors. External entities such as banks and agricultural research organizations support the value chain process. A value chain can be a vertical linking or a network between various independent business organizations and can involve growing, buying, selling, processing, packaging, storage, transport, and distribution. Across the value chain, individuals contribute in different ways, from production to consumption.

Persons with disabilities (PWDs) are likely to be excluded from the different agricultural value-addition processes due to the challenges that come with disability. The 2018 Uganda Annual Agricultural Survey indicates that most households surveyed (81.2%) were mainly engaged in agriculture (UBOS, 2020). Twelve percent of the working population was involved in market-oriented agriculture, forestry, and fishing sector, according to the 2021 National Labour Force Survey (UBOS, 2021). A multi-dimensional approach that addresses barriers at production, processing, packaging, and marketing is required to effectively respond to the hindrances of participation of PWDs in the agricultural value chain. This will contribute significantly to the economic empowerment of PWDs, reduce poverty levels, and hence achieve socio-economic transformation. Rensburg (2016) notes that agriculture provides an excellent platform for individuals with disabilities to participate and improve their livelihoods. Adopting inclusive, clear, focused, and sustained policies to empower the working population is key for harnessing the Demographic Dividend as it will increase Gross Domestic Product (GDP) and raise household incomes. The Demographic Dividend roadmap highlights investment in agricultural value addition as one of the important strategies to improve competitiveness in the regional and international markets (NPC, 2018).

Consequently, this will contribute to achieving Uganda's Vision 2040 of transforming the population from peasantry to modernity, the African Union Agenda 2063 (aspiration 5), and the EAC Vision 2050. As envisaged in NDP III, Agro-Industrialisation (AGI) offers an excellent opportunity for Uganda to embark on its long-term aspiration of transitioning into a modern industrial economy. This program presents an avenue for promoting inclusive and equitable growth. It provides an opportunity to add value to agricultural raw materials to encourage the expansion of the export of high-value products (NPA, 2020). This study is in line with the 2030 Agenda for Sustainable Development, precisely goal 8 (promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all; goal 9 (build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; goal 16 (promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels).

16 National Programme Officer, National Population Council; Email: ritaha40@yahoo.com; Tel: 0775940370

Article 35 of the 1995 Constitution of the Republic of Uganda as amended states “that Persons with disabilities have a right to respect and human dignity, and the State and Society shall take appropriate measures to ensure that they realize their full mental and physical potential.” The agricultural sector in Uganda remains a major contributor to the national economy, and it is not only a source of food for the country’s estimated population of over 46.2 million people but also the major contributor of raw materials for the agro-based industrial sector. This accounts for up to 23.7 percent of GDP and 31 percent of the country’s export earnings (USPP, 2017). Policymakers should consider the benefits of increased productivity and the social inclusion of PWDs.

Persons with Disabilities and Agricultural Chain

Given the high unemployment levels in Uganda, small and medium-sized enterprises in agriculture can provide opportunities for quality employment for men and women, thereby increasing household incomes. These enterprises can also be channels to transfer costs and risks to the weakest nodes, such as PWDs. There is, therefore, a need for deliberate efforts to ensure the obstacles that hamper the participation of PWDs are eliminated.

According to the 2021 National Labour Force Survey, only 30.5 percent of PWDs employed in agriculture, forestry, and fishing sectors have their work places modified to account for the challenges they face, while only 33 percent of the employed PWDs reported that their work place had been modified to fully or partially account for the difficulty they face (UBOS, 2021). Relatedly, the 2017 Functional Difficulties Survey revealed that discrimination of adults with disability stands at 41% (UBOS, 2018).

Adults with disability face stigma and discrimination, increasing their vulnerability to various societal challenges. There is limited participation of PWDs in the agricultural value chain due to lack of skills and negative attitude towards PWDs, which leads to their non-employment. In addition, the physical infrastructures and technology used in the different value chain processes are not disability-friendly, hence creating barriers for PWDs. Some of the challenges facing the PWDs include but are not limited to the negative attitude of people to the plight of PWDs and discrimination, inadequate assistive devices, inadequate credit facilities, high cost of inputs, inadequate credit facilities, inadequate information, distance to rural market and insufficient access to land.

There is inadequate evidence regarding the inclusion of PWDs in the agricultural value chain processes. Yet, designing inclusive agricultural programs, policies, and services is important to reduce unemployment, increase household incomes, alleviate poverty, and contribute to socioeconomic transformation. Enhancing agricultural productivity requires that farmers have skills and hands-on training for market-oriented production. The capacity-building programs should not leave behind PWDs. It is important to note that addressing the challenges of PWDs will enable them to thrive in situations of isolation since their perspectives and lived experiences of disability contribute to creativity, new approaches, and innovative solutions to challenges.

Generating information on the participation of PWDs in the agricultural value chain will enable the formulation of policies that address the needs of PWDs about agrarian processes. It is therefore important to understand the aspect of participation of PWDs in the agricultural value chain since this will be an avenue for creating employment opportunities for PWDs.

The overall objective of the study was to examine the determinants of participation of PWDs in the agricultural value chain to enable the designing of policies and programs that enhance their employability. The study specifically established the extent of participation of PWDs in the agricultural value chain to improve their involvement in wealth creation programs, as well as factors hindering their effective participation in the agricultural value chain, hence suggesting recommendations for overcoming the obstacles.



The study was undertaken using a literature review. The literature search used keywords such as participation, agricultural value chain, and persons with disabilities. Articles focusing on the participation of persons in the agricultural value chain were included in the review. The literature search was conducted using scientific databases such as Google Scholar and Elsevier. Only articles directly related to the study topic and objectives were included in the study. The review also included government publications such as Uganda Bureau of Statistics survey reports. The findings were logically synthesized in this article thematically. The majority of the publications were online. Articles whose findings did not relate to the study's objectives were eliminated.

Presentation and discussion of the findings

Level of participation of persons with disabilities in the agricultural value chain

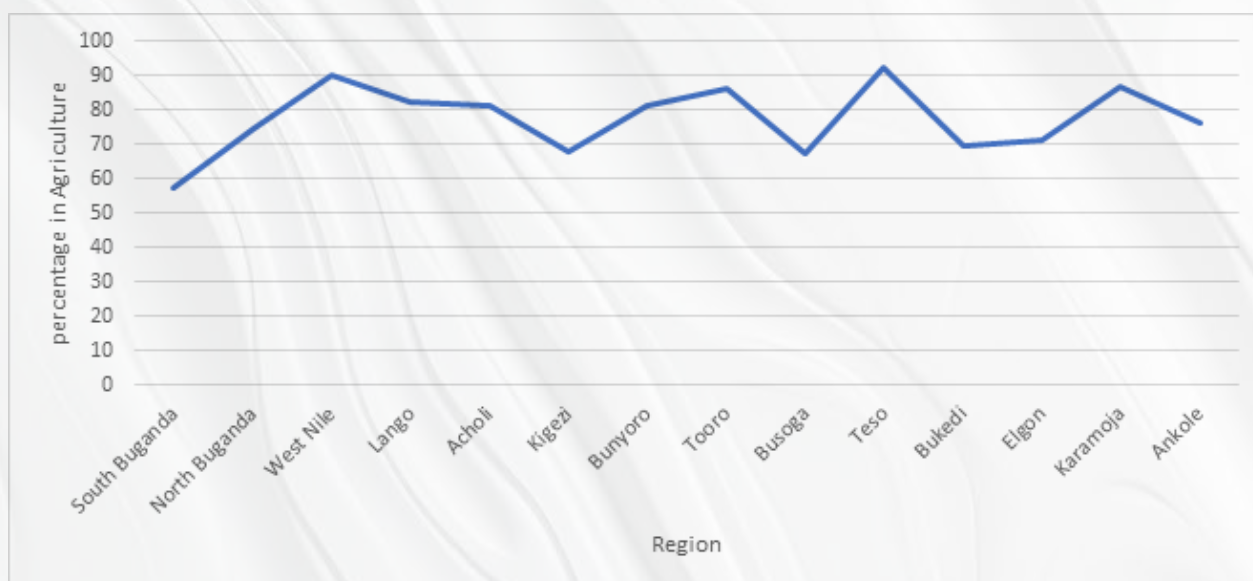
The literature reviewed indicates that the level of participation of PWDs in the agricultural value chain is low. The level of participation of PWDs in the agricultural value chain can be influenced by various determinants, as discussed below.

Conducive Policy Environment

Uganda is a signatory to several key pieces of international legislation advocating for the rights of PWDs, including the Convention on Vocational Rehabilitation and Employment of Disabled Persons (1983), the Convention on the Elimination of All Forms of Discrimination against Women, the Convention on the Rights of a Child (1990), and the UNCRPD (2008). The 1995 Constitution of Uganda, as amended, Article 21 prohibits discrimination against PWDs. The laws emphasize that employment is a right for all persons. However, PWDs face numerous challenges due to the disconnect between the law and how it is implemented. Despite the various legislative instruments, gaps still exist in the implementation. For instance, according to the Equal Opportunities Report of 2016, access to social justice is critical for promoting equal opportunities; however, discrimination, marginalization, and violation of rights among marginalized groups remain persistent (EOC, 2016). The implementation gaps in the policies are mainly due to negative cultural attitudes towards disability, poor funding, inadequate training in inclusive education, and limited access to accessible information and assistive mobile devices. Poor implementation of the policies and guidelines has jeopardized the various interventions meant to enhance the productive participation of PWDs in the different sectors of the economy.

This is because of a lack of clear policies governing the hiring of this category of workers due to the negative attitudes and prejudices some employers and people have towards the idea of employing PWDs (Rensburg, 2016; Wozniak, 2020; MoGLSD, 2020). Though employment can enable PWDs to participate fully in society and achieve their full potential, PWDs endure unemployment more than people without impairments. According to the International Labour Organization, ensuring a disability perspective in all aspects of policy and labor legislation, effective implementation and enforcement of existing disability laws and policies, and providing for equal employment opportunities and training are among the factors that contribute to the reduction of poverty and the social and economic inclusion of PWDs in Uganda (ILO, 2009). Productive and decent work enables PWDs to realize their aspirations, improve their living conditions, and participate more actively in society.

Figure 30: A line graph showing the percentage of the population in agriculture for the different regions in Uganda



Source: UBOS 2020 (AAS 2020)

According to the Persons with Disabilities Act 2019, “an owner or a person in charge of a building to which the public is allowed access shall, subject to the requirements of the laws on building standards and other relevant laws, provide appropriate access for persons with disabilities to the building.” The government has established mechanisms to improve and enhance access to services through policies, plans, and programs, such as the National Policy on Persons with Disabilities (PWDs) 2022. Unfortunately, PWDs continue to experience physical barriers, inadequate information, rehabilitation, and unfriendly services. This is due to the fact that many buildings do not have facilities such as ramps and lifts. The existing lifts do not have talking devices to enable people who are blind to access information.

In most cases, PWDs cannot access information provided by both electronic and print media. The World Bank (2016) notes that persons with disabilities have been deeply disenfranchised due to infrastructural barriers. Several public and private buildings cause barriers to physically challenged people who need services but cannot access higher floors.

The UN report on the progress towards the SDGs notes that structural injustices, inequalities, and emerging human rights challenges are hampering the realization of peaceful and inclusive societies. Hence, it is recommended that to meet SDG 16 by 2030, action is needed to restore trust and strengthen institutions’ capacity to secure justice for all and facilitate transitions to drive sustainable development (UN, 2023).

Constraints that face any sector or commodity are multifaceted, and addressing them requires a whole set of interlinked actions along the commodity value chain (MoFPED, 2008).

Misconceptions about persons with disabilities and agriculture

Studies revealed a low level of participation of PWDs in the agricultural value chain due to the public’s misperception of agricultural production and lack of awareness of the capabilities of PWDs (Idowu, 2016; Arsh, 2019). Challenges to the employment of PWDs in the agricultural sector include a lack of understanding of PWDs by those involved in agriculture, the burden of creating a comfortable working environment for PWDs, and the undeveloped system of intermediary support (Guirong, 2023, OECD 2021).



In a study on the Economic Empowerment of Persons with Disabilities in Zanzibar through microfinance and vocational training institutions, Tala (2015) notes that poverty among PWDs is associated with deep-rooted attitudes of families and communities (Tala, 2015). According to Okoth (2022), the improvement of the involvement of PWDs in socioeconomic development activities consists of understanding cultural dogma and attributes associated with PWDs that is required in the twenty-first century, particularly concerning human rights and the attainment of sustainable development goals (Okoth, 2022). Findings also highlight how disabling barriers, such as stigma, and institutional and environmental barriers often reinforce one another, such as discrimination limiting access to social and adaptive resources for individuals with disabilities, particularly those with mental illness (Naomi, 2019).

Higher unemployment and poverty levels

A situational analysis by the Ministry of Gender, Labour, and Social Development of PWDs in Uganda highlights that it is potentially more challenging for households with PWDs to engage in consistent and reliable income-generating activities, and these households may be more prone to falling into poverty (MoGLSD, 2020). Research indicates that PWDs have fewer employment opportunities, particularly as the economy is dominated by subsistence farming (Wozniak, 2020). Studies have shown that persons with functional difficulties have a higher share of adults in multidimensional poverty at 57%, 49%, and 44% for persons with at least a lot of difficulty, some difficulty, and no difficulty, respectively (Mitra, 2022; Rensburg, 2016). Given the high poverty levels among PWDs, it is difficult for PWDs to productively engage in the various processes along the value chain, such as processing and marketing. Employment is important for PWDs because it could improve their economic condition and self-confidence. However, the employment rates of PWDs are lower than those of non-disabled in many countries (Luo, 2017).

Sango (2022) indicates that PWDs experience several economic and sociocultural challenges because of their impairments (Sango, 2022). On average, persons with functional difficulties experience multiple deprivations at higher rates than persons without. This perception reflects the belief that individuals with disabilities cannot engage in meaningful work for their livelihoods.

Factors hindering participation of persons with disabilities in the agricultural value chain

As indicated by the literature reviewed, several factors hinder the effective participation of PWDs in the agricultural value chain. These are discussed below.

Inadequate skills

Studies suggest that there are fears that the employment of PWDs, such as employers may be concerned that employees with disabilities have lower work productivity, higher rates of accident and work injuries implying higher compensations, lack of adequate skills to do work, higher rates of absence and additional costs, persons with disabilities can not do heavy work, greater supervision compared to persons without disabilities, lack of access to practical training work experience and education, lack of soft skills, such as communication, ability to interact effectively with the employers and also finally customers and clients would not be particularly comfortable dealing with disabled people (Tarawneh, 2016; Soetan, 2019; Wiegatz, 2007). Inclusion and accessibility in the agricultural value chain are a matter of social justice and a way to harness the potential of a diverse workforce and ensure food security. Rensburg (2016) notes that most agricultural service providers do not consider the specific needs of disabled farmers in their extension service delivery due to the stereotypes depicting agriculture as unsuitable for PWDs. Creating an environment where individuals with disabilities can develop their skills and participate in agriculture benefits both the individuals and the agricultural sector.

Baggett (2021) and Gomda (2018) note that due to a lack of accommodating facilities for their unique circumstances, attempts by PWDs to join capacity-building programs to acquire knowledge, skills, and

competencies for agricultural production often lead to dropouts. Furthermore, most program personnel are not adequately prepared psychologically, emotionally, and technically to assist young farmers with disabilities adapt to the program environment (Baggett, 2021; Gomda, 2018).

Tarawneh (2016) notes that employing PWDs requires improving the work environment to match their capabilities, and the job matching process requires good quality information about job seekers with disabilities to determine experience, skills, interests, education, and general capacity. The process also requires good quality information about jobs, including the specific tasks to be performed, the required standards, the conditions under which the work is performed, and the organizational setting in which the work takes place (Tarawneh, 2016). Idowu (2016) found a positive and significant relationship between the Physically Challenged Persons' level of involvement in the agricultural value chain and their level of education, their informational sources, the training they have attended, and how they view agricultural output (Idowu, 2016).

According to Soetan (2019), the dominant perceived positive factors that favored agricultural participation of PWDs were training received in agricultural activities, access to family labor, having spare time for farming, access to hired labor, other agricultural inputs, and adequate water for farming activities. Persons with disabilities are capable of participating in agricultural activities. Still, in order to enhance their participation, they need access to agricultural training, assistive technologies, agricultural inputs, agricultural land, and agricultural credit or loans (Soetan, 2019).

Inadequate data on disability

Cappa (2015) notes that the conceptualization of disability and operational definitions that guide data collection influence reported prevalence rates. Disability data can help organizations of persons with disabilities (OPDs), civil society, governments, and businesses better understand and prioritize interventions essential for supporting persons with disabilities and ensuring their inclusion when it is of high quality, accessible, and used effectively. Planning and decision-making require accurate information and statistics about people with disabilities. There is limited data in Uganda on disability (Wozniak, 2020). Effective policies, programs, and services help people with disabilities to participate in society and the economy and reap its benefits, notably in the workplace.

The literature review highlights opportunities and challenges for the participation of PWDs along the value chain (Nyariki, 2023; UNDP, 2012; Krueger, 2012). These are summarized in the table below.



Table 24: Summary of Opportunities and Challenges for PWDs Participation in Agricultural Value Chain

Value chain stage	Challenges	Opportunities
Farming and Horticulture	<ul style="list-style-type: none"> • Perception of capability by PWDs and family members • Limited access to agricultural fields, machinery, and equipment due to physical barriers, such as lack of ramps, uneven terrain, or narrow pathways • Difficulty in moving around the farm or reaching crops and equipment, which can hinder productivity and increase the risk of accidents • Limited access to credit and financial services, which can be crucial for investing in agricultural inputs and technologies 	<ul style="list-style-type: none"> • Presence of support networks • Responsibilities at the household level • Adapted tools and technologies can make farming accessible to PWDs. For example, raised bed gardening, vertical farming, and container gardening can reduce physical strain. • Specialized equipment like tractors with modified controls or assistive devices can assist PWDs in farming. • Some crops may be better suited to PWDs due to reduced physical demands, such as certain fruit trees or low-maintenance crops. • PWDs can start their agricultural businesses, such as organic farming, aquaculture, or hydroponics.
Processing	<ul style="list-style-type: none"> • Limited access to modified tools • Limited access to finance • Unsuitable infrastructure • Little awareness of disability-inclusive employment 	<ul style="list-style-type: none"> • Due to technological transformation, specialized equipment like food processors and packaging machines can be used to accommodate their needs. • PWDs can process food, such as making jams, pickles, or other value-added products. • They can tap into various funding and support programs for entrepreneurs, including those designed for PWDs.
Packaging	<ul style="list-style-type: none"> • Visibility of information on products • Quality of second-hand information • Limited opportunities for training and skill development that are tailored to the needs of persons with disabilities in agriculture 	<ul style="list-style-type: none"> • Availability of assistive devices • Embrace vocational education
Marketing	<ul style="list-style-type: none"> • Accessibility of extension meetings • Social stigma 	<ul style="list-style-type: none"> • PWDs can participate in the marketing, sales, and distribution of agricultural products. • They can run farm shops, online marketplaces or participate in farmer's markets, selling their products or acting as intermediaries for other farmers.

Value chain stage	Challenges	Opportunities
Transport and distribution	<ul style="list-style-type: none"> Lack of wheelchair ramps or elevators at transportation hubs like bus stations, train stations, and airports. Inadequate curb cuts and sidewalks make accessing public transportation difficult for people with mobility impairments. Inconsistent schedules for accessible transportation options make it difficult to plan trips. 	<ul style="list-style-type: none"> Modify or adapt agricultural vehicles, such as tractors and carts, to accommodate PWDs by adding ramps, lifts, or hand controls. Ensure that vehicles are wheelchair-accessible and have appropriate seating and restraints. Invest in infrastructure improvements, such as accessible roads, pathways, and ramps, to facilitate mobility for PWDs in agricultural areas. Provide mobility aids such as wheelchairs, crutches, or walking aids to PWDs who need them.

Recommendations

1. There is a need for the Ministry of Gender, Labour and Social Development, together with organizations for persons with disabilities, to sensitize actors in the agricultural value chain about the plight of persons with disabilities as well as mobilize and sensitize the persons with disabilities about the opportunities available in the different agrarian value chain processes.
2. The Ministry of Gender, Labour, and Social Development, in collaboration with civil society organizations, should design interventions to address mindset change issues among PWDs to enable them to embrace vocational education. This will enhance their skills, allowing them to participate in the agricultural value chain processes effectively.
3. The Uganda Bureau of Statistics, in conjunction with organizations for persons with disabilities, should develop key indicators that will guide the collection and compilation of comprehensive and aggregate data on disability.
4. To increase the level of participation of persons with disabilities in the agricultural value chain, the Ministry of Finance, Planning and Economic Development should provide incentives to medium and small-scale industries that offer assistive devices to persons with disabilities to facilitate their employment and well-being at the workplace. This will reduce the negative attitude towards persons with disabilities, enhancing their employability.

Conclusion

The findings of the study indicate that the participation of persons with disabilities in the agricultural value chain is low. The factors that influence the participation of persons with disabilities in the agricultural value chain include knowledge about the available opportunities, the attitude of both employers and persons with disabilities, and a supportive environment. Numerous challenges still hamper their participation, yet the 2030 Agenda on Sustainable Development emphasizes the “leave no one behind” principle, and attainment of the Demographic Dividend requires a productive workforce, including persons with disabilities.

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CHAPTER 6

POLICY FRAMEWORKS FOR MINDSET CHANGE

6.1 POLICY AND LEGISLATIVE REFORMS: HARNESSING THE ROLE OF COMMUNITY MOBILIZATION AND MINDSET CHANGE PROGRAM FOR WEALTH CREATION

Olupot David¹⁷

Introduction

One key emerging issue from the Third National Development Plan Mid-Term Review Report was inadequate enhancement systems for evidence-based policymaking. The results show the existing policy, legal, and regulatory framework do not allow full implementation of the Program Approach; for example, the Public Finance Management Act and the Local Government Act still refer to sectoral approaches to planning and budgeting. When projected to the current policy framework, this trend has remained sector-based with no transitional policy and legal framework to Programme-Based Policies that align well with the 20 NDP III programs.

The Policy and Legislative Framework for Community Mobilization and Mindset Change Programme (CMMP).

The legal, policy, and institutional frameworks are essential in the delivery and uptake of Government programs. These frameworks constitute various interwoven components needed to implement programs and activities under the Community Mobilization and Mind-set Program. Over time, policy-specific documents have been developed to complement the broad policy objectives articulated in the Third National Development Plan (NDP III) to guide program-specific policy priorities. The overarching policy framework that guides the Community Mobilization and Mindset Change Programme is the National Community Development Policy (2015) and the Community Mobilization and Empowerment Strategy. These articulate the role of Community mobilization and mindset change programming across government.

The existing Policy lacuna under Sector Based Policy Approach

The Community Mobilization and Mindset-Change Program demands a well-facilitated and coordinated functional governance structure to guide effective policy formulation and implementation. However, a policy lacuna exists today as the government shifted from sector-based planning to a program-based approach. Yet, the Policy and Legislative framework remained anchored on sector-based planning, leading to 'piecemeal' delivery of services to the citizens.

While transitions of Programs and Budget processes have taken the lead in program shifts from sector to Program-based planning, the policy function has remained with a sector outlook, making it challenging to track and document the impact of policies on vulnerable populations with a program-based approach and legislative outlook.

Traditionally, the policy formulation process has been run on the sector-based approach demanding individual institutions design, formulate, and Implement policies that affect the population. Even with the rigorous Regulatory Impact Assessment (RIA) processes, efforts to involve vulnerable people, i.e., women, children, youth, and PWDs, have not been forthcoming. With the introduction of the Programme Based Approach, the Community Mobilization and Mindset-Change Programme demands a policy shift to align to the newer Programme Based policy, demands emanating from the affected populations articulating their policy needs under the different NDP III program. MDAs aligned with programs must take a stand and engage communities and especially vulnerable populations in the new policy arena, seeking a merger and harmonization of the old and new policies to have a program outlook.

¹⁷ Monitoring and Evaluation Officer, Ministry of Gender, Labour, and Social Development, Policy and Planning Division



The above policy lacuna demands a mindset shift to overhaul the existing policymaking structure and processes to Community-driven processes. A reform in the local and national governance policy structures is much needed to recall the current policy, and the legislative needs to have a program-based outlook to ensure the policies are responsive to the citizen's needs. Once taken on board, this reform will demand shared policy outputs and outcomes for effectively delivering services to the citizens.

The lead policy agencies, such as the Office of the President and National Planning Authority, driving the national development policy agenda need to provide policy guidance promoting Program Based Policy Approaches. This will require the design of new policy instruments and a review of existing ones to drive the 20 Programs in a new policy direction. A mindset change shift must occur to collectively pool the current policies in one basket, merge, review, and redefine the new policy direction to have program-based relevant policies. There is a need to redefine new roles and responsibilities for the actors to have collective actions toward effective policies that meet the citizens' needs.

For the Community Mobilization and Mindset-Change program to effectively deliver to citizens' demands, the Government should involve the citizens in designing, formulating, implementing, communicating, and evaluating its programs and projects to significantly impact the citizens' lives.

The engagement of the citizens by all the 20 programs in their Policy Implementation from the community level to Local Governments and National level using the program approach will guarantee integration of vital issues such as climate change, Family Planning, nutrition, gender, HIV/AIDS, equity and human rights in a broad spectrum of development agendas.

The program approach presents an opportunity to see how the aligned Community Mobilization and Mindset change membership should shape policy-making through the strategic use of policy instruments that can directly influence the content and effects of policy action and management tools that can affect policy outcomes.

Policy formulation should no longer be sector demanded but driven by investment in whole some government Program Based sound policy formulation and design, first with agreed membership, cross-defined policy needs and challenges with a program outlook will be crucial to have citizens demanded and relevant policies correctly identified, defined and framed. This will reduce piecemeal policies and approaches that have not benefited the population for a long time.

Policy Shift from a Sector-Based to a Program-Based Level

Once the 20 NDP III program positively takes up the Community Mobilization and Mindset-Change policy shift initiatives from sector-based to program leads, the process will be achieved through a multi-sectoral stakeholder and citizen engagement to confirm that the policy issues have been identified correctly, aligned from the sector base to Program Based approach giving way to Program Based Policy Driven Outcomes and outputs. For example, the current Land Policy should reflect the aspirations and needs of the Agro-industrialisation Program, and the program's membership must contribute to the reforms. The policy should have a Program Based Outlook fit for purpose. The policymakers should determine adequate courses of action with the new policy shift and newer policy spaces created. The Program Based Approach policy formulation stage should be a process by which the government translates long, medium, and short-term policy goals into concrete courses of action. The shift from the sector-based approach demands a change in policy formulation and design management tools. Throughout the policy process stages, policymakers use tools to pursue desired outcomes. Moreover, those tools should serve as direct channels for policy implementation.

For an effective policy shift from the sector-based policy-making process to a program-based policy and legislative outlook, we need to reform the following management processes to improve the quality of policy formulation and design:

- 1) A Mindset-Change Shift Policy Coordination framework, must be designed to define new game rules in the policy-making arena at Community, Local Government, and National levels with a Program Based policy outfit. There is a need to revisit the policy and legislative governance structures and redefine new roles and responsibilities for an effective program-based policy-making process that includes the citizens and vulnerable populations.
- 2) There is a need to revisit and review existing policy-making and legislative tools to ensure the content and issues are aligned to promote the formulation of Program-based policies for quality and inclusive policy rigors that are pro-community-led policy involvement with a program-based outlook.
- 3) The recommended Policy and Legislative shift from sector-based planning to program-based planning demands that the Strategic Plans from sectors shift too and take on a whole Program-based Approach; we should have 20 Program Based Strategic Plans with the agreed Program Based Policies. This will reduce the duplicity of efforts and harmonization of strategic policy and legislative priorities in the Program plans.
- 4) Investment in Program Based Policy Skills development for the newer policy program-based order with a combination of the best practices of the sector-making processes must be adopted, more contemporary capacity policy needs must be defined, and innovative policy and legislative-making approaches must be adopted for providing Evidence-based policy Decision making that is flexible, unbiased, built up, exposed and innovative to allow government has meaningful, participatory and inclusive policy-making process of all stakeholders.
- 5) Government to address the sector or silo mentality in policy making process will demand a collaborative policy framework that draws policy issues from the 20 NDP III programs with the use of digital innovative migration skills used in all areas and at all levels of the administration to cut silos through cross Programme Working Groups enabling collaboration and joint approaches to use policy formulation, implementation and Policy Reviews enhancing government policy coordination framework and access to policy information for effective service delivery to the citizens.
- 6) One of the areas the Community Mobilization and Mind-set Change program needs to address is the establishment of clear and solid policy and legislative data management information systems that can support provide policy evidence and provide strategic use of data for improved design, delivery, and monitoring of the impact of public policies and services. It's hoped that policy data sharing protocols among the 20 programs are addressed through a clearly defined policy data governance framework, and this should be recognized as a key underlying layer of the policy-making process.
- 7) Once harmonized program-based policy and legislative data reporting sharing tools are designed, they shall enable the purposeful application of data to identify and frame the policy challenges and inform decisions on the course of action. For effective good data governance and policy delivery, there is a need to have well-designed program-based policy data rules of the game regarding data stewardship, data ethics, program-based policy guidelines, standards, and common data sharing infrastructures that respond to the specific needs of the membership and other state and non-state actors involved in the policy-making process.



A snapshot of the existing sector-based policy case study and legislative framework for the Community Mobilization and Mindset Change program.

The current sector-based policy formulation system assumes that each Ministry, Department, and Agency has specific policies resident in their dockets, and this requires profiling of the minimalist and piecemeal thematic and sector-based policies to report on progress. No efforts have been made to policy stock take or ascertain which policies directly link to the Community Mobilization and Mindset Change program.

Additionally, there is a demand for a policy-tracking tool to assess each policy's impact on the citizens. Hence, reform is needed to promote a Mindset Change shift from a sector-based approach to a program-based policy-making process.

One of the challenges mentioned above is that the sector approach presumes that all the policies and legislations must be documented resident in all the institutions and need to fast track the performance progress for those that require review and the need to define newer policies.

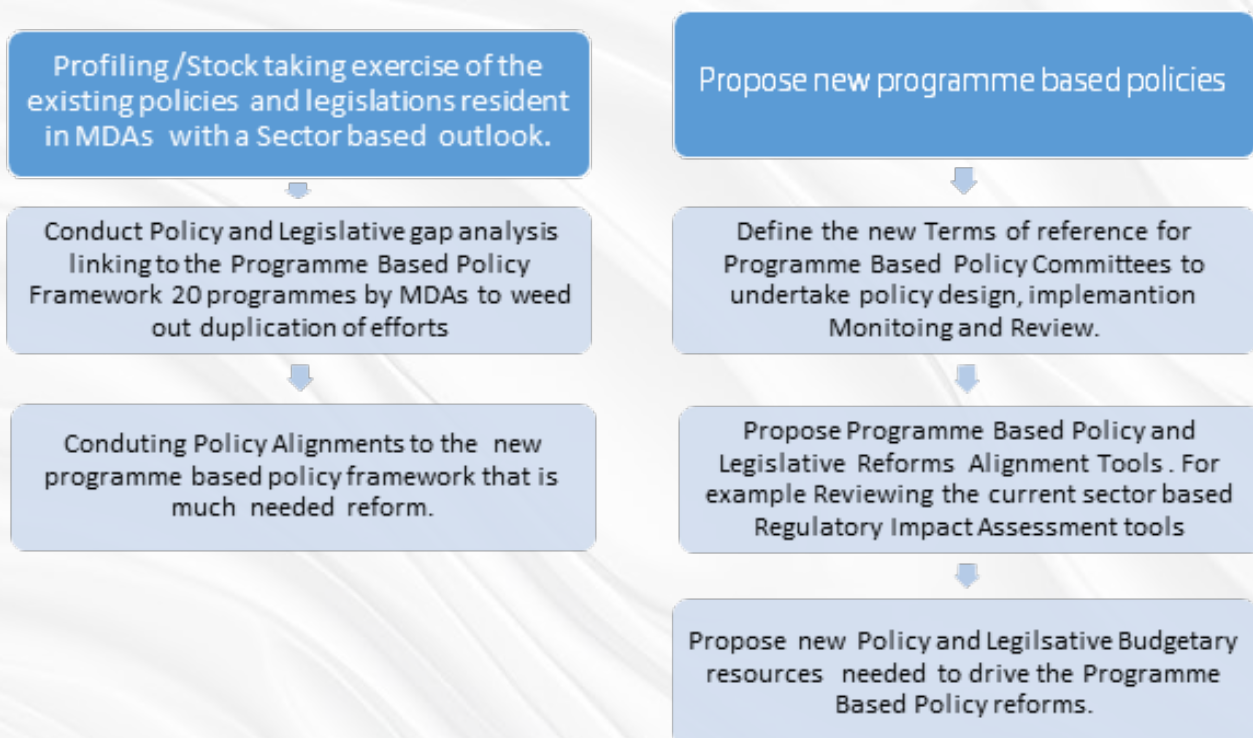
The programs need to invest time and resources to document these sector-based piecemeal policies to have a holistic picture of where these policies are and an assessment of the impact they have on communities.

Hence, the Community Mobilization and Mindset Change program has a critical role in driving policy shifts across all the programs, demanding a mindset change from sector-based policies to policies and legislation with a program-based outlook to impact the citizen's needs and aspirations effectively.

All state and non-state stakeholders implementing the community-led development programs must support pushing for policy reforms across the 20 programs. This will be crucial to change the policy shift to address the existing and fragmented sector-based policies and embrace holistic program-based policies designed to meet citizens' needs.

The proposal for the new policy framework should involve the following

Figure 31: Proposal for the new policy framework



The above-proposed policy reforms (Figure 31) will demand a new policy and legislative structure that supports the reform, skills, and budget overhaul to deliver citizens' needs effectively.

Conclusion

In conclusion, to effectively deliver on the policy and legislative impacts to the vulnerable populations, shifting from a sector policy-making process environment to program-based policymaking is a long-awaited "whole-of-government" approach reform. This will benefit from reducing the duplicity of policy efforts and resources spent on piecemeal policy-making processes, shared policy results, and more straightforward policy implementation and monitoring processes.

The proposed program-based policy reforms will need legal and regulatory reforms for policy-making tools, at most emphasizing the importance of consultation, coordination, communication, and cooperation.

The Program Working Groups of the 20 NDP III programs must work together to have a progressive policy growth mindset and agree on a standard policy reform roadmap to profile existing policies and agree on the criteria for merger and newer policy needs for effective delivery of services to the population.

Policy Recommendations

- 1) There is a need to design and implement reforms in the policy and legislative arena that shift from a sector-based approach to a program-based effective policy-making process considering complex, multidimensional Community Mobilization and Mindset development challenges.
- 2) Engage in defining the community mobilization and Mindset Change issues in the different 20 programs of NDP III to harness citizens' participation in decision-making and policy-making as well as for legislative and judicial branches seeking to popularize the approaches to governance as a means to strengthen capacity to serve citizens, CSOs and business sector to benefit from the government programs.
- 3) There is a need to design and implement community mobilization and mindset reforms that can lead to improvements in, and the sustainability of, prosperity for the country and the well-being of its citizens;

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6.2 PARTICIPATION OF PERSONS WITH DISABILITY IN DEVELOPMENT PROGRAMMES: A CASE OF KALIRO AND MAYUGE DISTRICTS IN EASTERN UGANDA

Nakijoba Rosemary (PhD)¹⁸

Introduction

Development programs are commonly welcomed as a collective strategy for uplifting living standards in poor rural and urban African communities and worldwide. Participation in such programs is an aspect of community engagement and an essential decision-making process to facilitate fair, equitable, and sustainable outcomes. Through its third National Development Plan (NDP III) 2020/21-2024/25, Uganda points to Community Mobilization and Mindset change as one of the 20 programs to empower families, communities, and citizens to participate in sustainable development. It also highlights the widening income inequality between the regions. Persons with disability are one of the most vulnerable and marginalized amid the fact that poverty and disability are closely linked. The NDP III is set to significantly reduce poverty and inequality while leaving no one behind, as PWDs have the same rights as their non-disabled counterparts (UNCRPD, 2006).

The Uganda Functional Difficulties Survey (2017), domesticating the United Nations Convention on the Rights of PWDs, defines persons with disabilities as those who have long-term physical, mental, intellectual, or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. This definition is equally accepted by the National Policy on Persons with Disabilities in Uganda (2022), the Disability Act (2020), the National Council for Disability (Amendment) Act (2013) and the World Report on Disability (2011). Studies indicate that the number of Persons with Disability is growing as a result of factors such as population increase, armed conflict, aging, and medical advances that preserve and prolong life, with approximately 80% of them living in developing countries (World Report on Disability, 2011) and 2% in Uganda can neither see nor concentrate (Uganda National Survey Report 2019/2020). The disability prevalence is higher among those living in rural areas than in urban areas (National Housing and Population Census Report, 2016). The situation of PWDs is often compounded by social prejudices and some cultural beliefs and attitudes that degrade them. Consequently, they are often left out of development (Adeola, 2015). Uganda National Survey Report 2019/2020 affirms that the disability community represents a large population below the poverty line who require support to improve their livelihood.

Uganda has an enabling legal and policy environment that advances the rights of PWDs, including the Constitution of the Republic of Uganda (1995) as amended, which prescribes affirmative action. Article 21 prohibits discrimination against PWDs. Thus, their inclusion in all livelihood programs is mandatory. The Persons with Disabilities Act (2020) emphasizes measures to promote productivity, while the National Policy on Disability aims to promote equal opportunities for PWDs. The Equal Opportunities Act 2006 is mandated to eliminate discrimination and inequalities, emphasizing affirmative action favoring marginalized groups. Section 4.3.2 of the Uganda Vision 2040 recognizes the plight of PWDs. Furthermore, in the Parish Development Model Handbook, all stakeholders are mandated to serve Ugandans without discrimination (Simplified Handbook on PDM, 2022; Alsop and Norton, 2004; Sen, 1997).

Similarly, the NDP III aims at enhancing inclusiveness and well-being for all persons, including PWDs. Also, Uganda has in place the National Disability Inclusive Planning guidelines for the implementation of development programs. The policy framework is evident that disability is an area of focus in Uganda despite some gaps.

¹⁸ Muteesa I Royal University, Faculty of Social Sciences, Arts and Humanities, Kampala, Uganda, Email: nakijoba@mru.ac.ug, Tel: +256 772698138

Persons with disabilities in development programs

Mayuge district has a disability population of 35,870, while Kaliro district has 29,218 disabled persons (NPHC, 2014). Although the policy environment on disability in Uganda is favorable by providing for a human rights-based approach to development, some obstacles, barriers, and forms of discrimination hinder the participation of persons with disability in development programs. While the lack of information is one gap, the cultural and social barriers also contribute to the marginalization of PWDs, perceived as inefficient and ineffective in undertaking and fulfilling their roles whenever there is an attempt to be involved in development programs. In addition, the available literature on participation is general to the entire population. Yet, the present study is conducted on persons with disability from unique study areas to analyze their effective involvement in development programs. No analysis of this nature has been conducted in the Mayuge and Kaliro districts. Thus, there is a lack of data on how persons with disability in the two districts have participated in government-initiated development programs. It should be noted that the NDP III highlights some challenges, including lack of proper coordination as a factor hindering participation in the development programs. Moreover, local authorities must coordinate, supervise, and mobilize resources for PWDs to participate in appropriate interventions (Uganda National Policy on Disability, 2022).

The study explored whether persons with disabilities have access to government development programs, the challenges experienced by existing policy gaps, and possible solutions to address the gaps. This would aid in removing the barriers to their participation and ensure inclusiveness. Specifically, the study sought to establish whether persons with disabilities have access to government development programs and the challenges experienced by PWDs in accessing government development programs, as well as identifying the policy gaps in the implementation of development programs that are stumbling blocks to benefiting persons with disability.

The study was qualitative and used purposive sampling techniques. It explored whether persons with disability in the Mayuge and Kaliro districts have access to government development programs. Specifically, the study examined the factors curtailing the participation of persons with disability in government-led development programs across six sub-counties in Mayuge (Bukasira, Mpungwe, Bukabooli) and Kaliro (Namwiwa, Bumanya and Gadumire) districts of Eastern Uganda. The study points to existing challenges, policy gaps, and possible solutions. Interviews were conducted with 131 individuals with disabilities (hearing impairment $n = 28$, visual impairment $n = 24$, physical disability $n = 72$) and Albinism $n = 07$ in the Bukasira, Mpungwe, Bukabooli, Namwiwa, Bumanya and Gadumire in Mayuge and Kaliro districts respectively (Table 25). Data was collected using in-depth individual interviews and focus group discussions. In total, 12 Focus Group Interviews were conducted with 4-6 people across all six Sub-counties.

Table 25: Breakdown by category of study participants

S/N	Category of participants	Sample size	Female	Male
1	Hearing impairment /deaf	28	15	13
2	Visually impaired/blind	24	09	15
3	Physical impairment	72	38	34
4	Albino	07	03	04
	Total	131	65	66

Qualitative studies employ the saturation principle, and this was reached at 131 purposively selected participants. On average, 21 participants from each sub-county participated in the study. Pseudonyms were used, and consent forms were filled out to observe confidentiality. Permission was obtained from the participants to record the interviews.

Ethical considerations

During the interviews, the researcher worked closely with helpers of persons with disabilities. This gave the participants confidence through the entire process of data collection. Caretakers were instrumental in translating and interpreting the information using sign language. These received consent from participants, especially those with hearing impairment. Caretakers were informed and often notified to do the interpretation using direct translation and interpretation without alternating the meaning. Participants freely asked for a break between the sessions and refresh as a reasonable accommodation, even if less than a quarter did so during the process. All information was interpreted by the participants by their respective caretakers. Discussions were entirely recorded verbatim in Luganda/ Lusoga and transcribed into English. Building rapport and creating a conducive atmosphere made participants comfortable. An analytical understanding of the background underpinning the participants' responses to questions was done through probing further during the interviews.

Findings and Discussions

This section presents the results of data collected from the field per the research objectives, design and methodology set out in the earlier sub-sections. The study's primary purpose was to explore whether women with disability have access to government development programs, the challenges they experience, and existing policy gaps with specific reference to Kaliro and Mayuge districts. In this section, the results are analyzed thematically. The presentation is organized according to the study's objectives and thematic patterns from the field data.

Participation in development Programs by PWDs

The study realized that several PWDs, especially those with physical impairment, have mobilized themselves and benefitted from the Community Driven Development (CDD) program and Operation Wealth Creation in Kaliro. In contrast, participants of Mayuge have benefitted more from Emyooga and the Special Grant Programme for Persons with Disabilities (SGPWD). Participants also testify about having built social capital and being able to demand and articulate their interests and needs effectively. In addition, having PWDs as facilitators under the CDD program was an appreciated gesture of self-representation and enhanced local ownership by people with disabilities. The benefits highlighted by PWDs with visual, hearing, and physical impairments include receiving income-generating activities through micro-credit loans, small enterprise development, vocational training, nutrition, assistive devices, education, infrastructure, and health, among others.

Startup capital

All categories of study participants are happy having received start-up funds of five million shillings awarded in groups of five and were able to set up some Income Generating Activity (IGA) of their choice. For instance, in the Mayuge district in the first quarter of the financial year 2020/2021, thirteen PWD groups benefitted from the National Special Grant, each receiving a sum of UGX 5,000,000 (Five million shillings) to improve their well-being. These have bought and sold agricultural produce, goat rearing, selling second-hand clothes, and buying tents and chairs for hire, among others (Mayuge District Annual Report, 2021). In Kaliro, participants demonstrated having established small businesses such as selling charcoal, crop produce, art and craft, poultry, and piggery as their projects. Charcoal vending was the most widespread enterprise among the study participants in Kaliro, which they sell in everyday markets and from home.

A female physically impaired participant voiced:

"I applied for the special grant, and I got 500,000. This is what I used to open up my small charcoal selling business which I do from home. Even when the capital looked small, it is our family source of survival up to the present day".



From the above narration of a participant from Kaliro, the IGAs have helped bolster PWDs' incomes from self-employment. Training PWDs on identifying business opportunities, dealing with customers, and financial management could help to increase chances of success and survive the stigma associated with business failure.

Special Recognition in Own Community

Several study participants also shared how their presence in the community is being recognized, especially since they fulfill the grant award criteria of having existed for at least one year, enabling them to establish and manage their income-generating activities. This finding strongly resonates with what the Ministry of Gender, Labour, and Social Development affirms when it emphasizes this criterion (MoGLSD, 2018). Participants are often approached in case of any issue that requires their presence.

Challenges and gaps relating to PWD's participation in government programs

Lack of awareness of existing programs

The findings reveal that the deaf and visually impaired participants are unaware of some of the programs except the Special Grant and Emyooga. Other study participants attribute this to the location of administrative points of the programs that are managed far away from their villages and were not aware of extension workers that could support them. The participant with visual impairment lamented:

"I have heard about the special grant, but no one has come to me and invited me to any meeting to talk about it. I heard about it 14 months ago when we had gone to the sub-county to collect medicine at the health center last year, 8 miles from here, and it another 14 months, I have never gone back".

This finding was most common among physically and visually impaired participants in all three sub-counties of the Mayuge district.

Parish Development Model

At the time of this study, there was scanty information regarding the Parish Development Model in Mayuge and Kaliro, how it is intended to work, and its structures. Women with disability alleged that they hear about the current PDM from their male counterparts, who also seem to have piecemeal information from the radio. This implies a lack of feedback from the leaders of the disability fraternity to the people they lead. This generates a sense of mistrust. Reynolds and Cohen (2016) share similar sentimentalities when they affirm that the lack of similar voices in the programs reduces decision-making, curtailing the intended goals and objectives. These findings were more common in five sub-counties: Gadumire, Bumanya, and Namwiwa in Kaliro district and Bukabooli and Mpungwe in Mayuge district across all study participants. The findings underpin the commitment by the government through various policies, such as the Persons with Disabilities Act that advocates for non-discrimination, marginalization, and social exclusion, which hinder effective participation of PWDs in public life and compromise their well-being (Persons with Disability Act, 2020).

Lack of translated versions of program materials

The findings also revealed that persons with visual impairment had not seen any Braille version of the Handbook. It is also unclear whether any translation has been done to benefit visually impaired persons and their leaders. Although the abridged version of the PDM acts as the Information, Education, and Communication (IEC) material that unpacks information for easy reading and understanding by stakeholders at all levels, it does not directly benefit persons with visual impairment (Simplified Handbook on PDM, 2022: Alsop and Norton, 2004; Sen, 1997). Similarly, there are very limited sign language interpreters to communicate,

especially to those with hearing impairment who do not have permanent companions. This finding was common in all six target sub-counties: Bukabooli, Bukasira, and Mpungwe in Mayuge District and Namwiwa, Bumanya, and Gadumire in Kaliro District. This finding, therefore, rhymes with other authors' claims that lack of a voice may drive communally reinforced stigma and discrimination (UBOS, 2020: Sen, 1997). The findings also seem to suggest that PWDs are deprived of a voice to challenge the powerlessness, inequalities, injustices, vulnerability, marginalization, and social exclusion, thus making it difficult for them to overcome the poverty they encounter in their daily lives.

Stringent program requirements

The findings reveal fear of the stringent requirements for participating in government-led programs. For instance, access to and ownership of land is a prerequisite for anyone to benefit from the revolving PDM fund. Moreover, living with impairment makes victims very vulnerable to circumstances of access to land and are faced with land disputes. PWDs, especially women, are forced off their lawful possessions and cannot physically fight off land grabbers. Most deaf-dumb and visually impaired study participants in both districts did not own land. Because many come from low-income families with limited land amid land wrangles, life becomes complicated with such program requirements.

Internalized stigma and low self-esteem

Albino persons do not have the confidence to indicate that they have a disability without fear of discrimination. Physically disabled PWDs and the deaf category indicate how they are perceived as not well-organized and effective in undertaking and fulfilling their roles whenever there is an attempt to involve them in development programs. These factors, among others, account for limited PWD involvement in Emyooga, the CDD, and the Special Grant Program in both study districts. Similarly, the Albino persons who mostly keep indoors due to unfavorable weather conditions and fear for their lives due to traditional beliefs and myths have missed out on an opportunity to participate in government development programs as there have been few attempts to locate them.

A lady with Albinism voiced:

"Some of us fear interacting so much with people because we feel our lives are sometimes at risk. Traditionally, it is believed that some of our body parts may be wanted for witchcraft. So, we need to keep ourselves from danger".

A male Albino Participant had this to say:

"The sunshine does not treat me well⁹. I use a very expensive lotion that I sometimes fail to afford. For me I keep in doors unless a family member here gets to tell me information. It is not easy to have information. Sometimes I get to know a bit late".

This finding suggests that Albino persons miss out on development programs due to health implications and lack of information as they keep in-house. The fear attached to this practice deprives Albino persons of the right to freedom and keeps them psychologically unstable. Thus, the holistic aspect of well-being is lost.

Lack of knowledge of business plans

The study participants also have no idea what business plans would be more viable and the requirement of repaying the money. This finding was common in all the six study sub-counties, especially among physically impaired persons.



A thirty-eight-year visually impaired man narrated:

“For me I know that I cannot use credit and pay back! Sometimes the interest rates are too high for poor people like me to access the money and to pay it back within the required period of time”.

Additionally, in both study districts, the findings divulge that female participants were excluded from the Women’s Empowerment programs and advised to wait for other opportunities without any genuine explanation. This finding is similar to that of the World Report on Disability, which shows that women living with disabilities have less participation in economic activities than their non-disabled counterparts (World Disability Report, 2011). This finding was more common among persons with visual impairment in Bukasira, and Mpungwe sub-counties. Similarly, there are perceptions among Persons with Disability that the special grant and the anti-poverty programs will soon close with the introduction of the current PDM.

Poor Timing

In both target districts and all sub-counties, all categories of study participants expressed how programs are designed with good intentions. Still, the timing is always poor, especially for activities that require rain. A deaf and physically disabled lady voiced:

“The intention for the PDM is good but for people like us who have not yet benefitted, the season of February-March has passed and even now, we are into the second rainy season of September-November and it is going to go like that. By now, we should have already opened the gardens, got agricultural seeds and seedlings plus other input. By chance, if money comes now, it is a bit late. It will have lost value and purpose if the planting season passes”.

The above findings reveal a planning and management gap that requires the attention of the planners and implementers.

Policy Implications

This research shows that PWDs are not entirely given consideration when planning and implementing development programs. This partly explains the gaps in implementation even when we realize the benefits from those who have participated. Information is not forthcoming concerning the Parish Development Model. Despite the existence of IEC materials, visually impaired persons neither have the Braille version of the PDM nor the Braille guidelines for the Special Grant, among other factors.

Conclusion

The study demonstrates the many challenges hindering PWDS participation in government-initiated development programs. The challenges and gaps are discussed extensively in this article, given the lived experiences of PWDs. It is vital to break the socio-cultural barriers and employ more empowerment approaches. We are in this together, and the struggle continues!

Policy Recommendations

Based on the findings and policy implications, the following recommendations can be made with the aim of enhancing the participation of persons with disabilities in development programs.

- i. The Ministry of Finance, Planning, and Economic Development should allocate financial resources for translating the simplified version of the PDM handbook into Braille and the Special Grant Guidelines. This will benefit persons with visual impairment. And enough copies should be available to the different Sub-counties.
- ii. The MoGLSD and MoFPED should provide social, technical, and financial support, work with leaders of the disability fraternity to conduct inclusive community entry meetings, and provide timely information on the PDM Program to enable adherence to guidelines and smooth implementation.
- iii. Ministry of Gender, Labour and Social Development should organize and conduct a Trainer of Trainers with the disability fraternity on how to train persons with disability to identify business opportunities, deal with customers, and manage financial resources/bookkeeping to increase chances of success.
- iv. Ministry of Gender, Labour and Social Development should conduct an annual disability access audit of the Special Grant Program and the Parish Development Model for all government social and economic development programs. This will inform the design and specifications to improve access for persons with disabilities. It can be done at every program's start, mid-way, and end as part of the general monitoring and evaluation plan.





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6.3 INCLUSIVE EDUCATION AND MINDSET: LESSONS FROM THE KOREAN MINDSET MODE

Mpande John²⁰

Introduction

Uganda aspires to become an upper-middle-income country by 2040 by increasing household incomes and improving the quality of life of its citizens. This aspiration is anticipated to be realized by implementing the Third National Development Plan (NDP III). One of the 20 programs driving the NDP III is the Community Mobilization and Mindset Change Programme (CMMC), which promotes effective participation of the citizens in the development process.

This study builds on the Korean mindset development model to establish the role mindset change and inclusive education can play in effective citizen participation in national and economic development in Uganda.

Inclusive education in Uganda

The Government of Uganda recognizes education as a fundamental human right and its role in the national development agenda by producing a skilled workforce. GoU has invested in ensuring access to education by all learners in Uganda through universal education and affirmative action to promote girl child education. With the implementation of these initiatives, it is expected that the literacy, employment, and quality of civil service would be high. However, the National Labour Force Survey 2021 reveals a rather gloom situation: a low literacy rate (35% of Ugandans have attained some level of primary education), a high unemployment rate of 47% of the labor force, and an underutilization rate of 42% with a high dependency rate (83% of those aged 14-64 years as dependent). This has created a disempowered society that is not adequately able to actively contribute to and participate in the development process of Uganda. The Third National Development Plan (p 172) acknowledges that service delivery in Uganda is greatly affected by an inadequate sense of duty and responsibility by the civil service and the success of GoU investments is highly dependent on a supportive citizenry; however, a negative and self-defeating mindset only delays the returns on investments and progression to inclusive social transformation.

If this negative mindset and inadequate citizen participation in the development process are not addressed, citizen unemployment and exclusion will breed discontentment and insecurity, delaying inclusive social transformation into a middle-income economy. Continuing this trend without interventions will erode all GoU's efforts towards development and inclusive social transformation.

The study's general objective was to establish the role of inclusive education in creating an appropriate mindset for national development. Specifically, the study aimed to demonstrate the role of the Korean model in promoting mindset change through inclusive education in Korea, discuss the applicability of the Korean model to Uganda, and recommend policy options for inclusive education and mindset change.

Inclusive Education

Inclusive education in Uganda is synonymous with special needs education. It is defined as the systematic process of addressing barriers learners face at risk of exclusion, repeating years, and dropping out of school due to difficulties, disabilities, and socioeconomic difficulties (Okech 2019).

The study will broaden the scope of inclusive education beyond special needs education/ special education needs to include all processes of addressing and responding to the diversity of needs of all children, youth, and adults through increasing participation in learning. It involves changes and modifications in content, approaches, structures, and strategies, with a shared vision that covers all children of the appropriate age range and a conviction that the regular system's responsibility is to educate all children.

²⁰ Principal Research Officer, Ministry of Education and Sports, Email: jbmpande@gmail.com Tel: +256 772964233

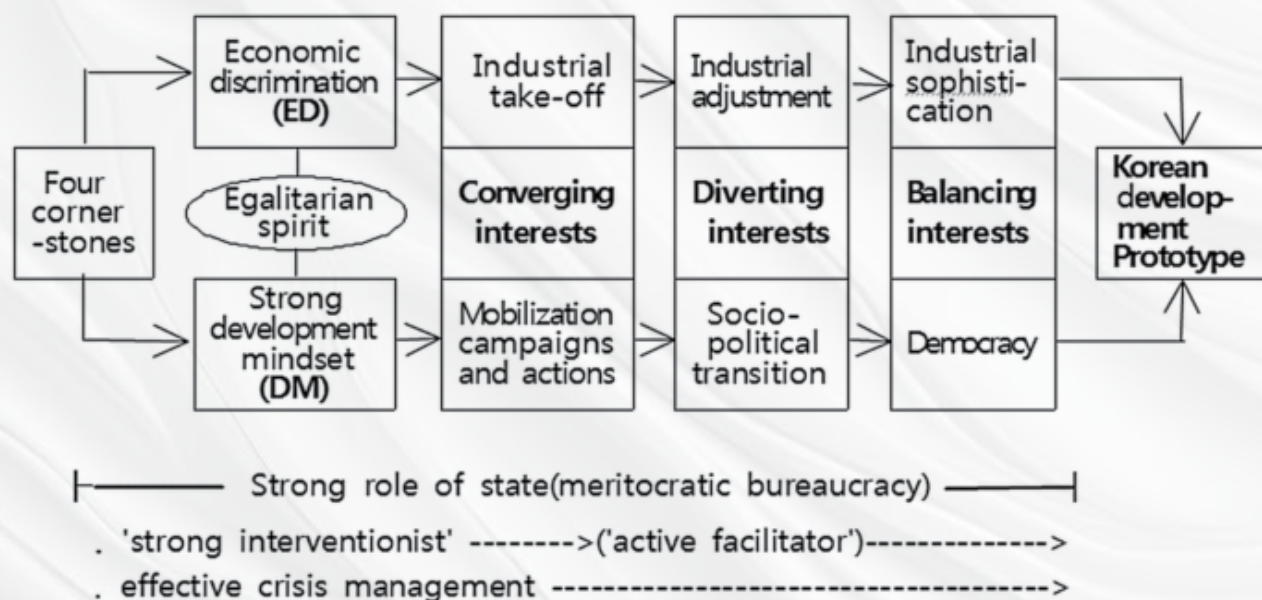
The role of the Korean model in promoting mindset change through inclusive education.

The Korean mindset change emerged as a development paradigm when the status of Korea rose to become a member of the OECD Development Assistance Committee (DAC) in 2011. Jong-Dae (2022) asserts that it was the guiding principle for the social-economic transformation in Korea during the 1970s rural agricultural transformation experience known as the new village model (Saemaul Undong). The operationalization of the mindset change in Korea was the Canaan Farmers Schools, which were learning centers in Korea specialized in instilling the mindset change in rural communities through agricultural programs. The Second World War, followed by the Korean War, birthed the focus on rural development. The Canaan farmer's schools emerged to galvanize social transformation by fusing leadership and agricultural training for economic development (Park, 2019).

The successful adoption of the development mindset in Korea hinged on the inclusive education system. The concept of inclusive education contributes to changing the mindsets of learners to a growth mindset, which is the belief that intelligence is not a fixed characteristic but can be increased by encouraging learners to include consistent effort by working hard to excel. Learners or students are thus exposed to environments that develop a growth mindset through mainly teaching (Buja & Kim 2022). The education philosophy further emphasizes that well-educated people are the cornerstone of a prosperous and powerful country. The absence of a well-educated citizenry is critical for successfully implementing the desired mindset. The Korean economic development miracle demonstrates that the influence of an all-inclusive education contributes to a mindset change for development (Buja & Kim, 2022).

Park (2019) deconstructs the Korean mindset transformation model from which parallels in pursuit of the mindset change are drawn for application in Uganda. The model below, as shown in Figure 32, illustrates the psycho-social contexts that progressively influenced the mindset of the Korean people culturally and economically.

Figure 32: Korean Mindset Transformation Model



The mindset model is a four-phase socio-economic transformation starting from an egalitarian spirit on the left side and culminating in balancing interests on the right side. Based on the four phases, also known as cornerstones, Korea's economic and socio-political realm recognized a developmental process with similar characteristics in each stage. The Japanese colonial rule in Korea established a socio-economic class structure to implement colonial rule easily. However, the Korean War devastated this class society and put everyone



on the same footing (equalized) to start from scratch. This is the egalitarian phase in which the society was forced to realize that they were all equal following the war, which destroyed the class structures and the socio-economic discrimination that established colonial rule.

The egalitarian phase in the Korean mindset model strengthened the need for change and defined the required mindset to deliver social transformation. The egalitarian phase was characterized by an emulation-based competition in which a neighbor's success and wealth accumulation inspired others to pursue and achieve the same. This resulted in a can-do attitude in Korean society that was controlled with high regard for maintaining a family's name and saving face in pursuing success. This shame culture built a hard-working, selfless society.

The egalitarian phase birthed the converging of interest phase/industrial take-off stage period during which the interests of the leader, state, and people were aligned. Society mobilization was effective for the defined national interests, which promoted rapid economic growth. The success of Korea in this take-off phase was due to four essential elements: a solid and stable leadership with a clear vision, well-organized economic development plans, a competent bureaucracy to carry out these plans, and the financial resources necessary to execute them. The consolidation of national interests hinged on a professional civil service. Thus, Korea promoted education for all that established an objectively competitive entry exam and performance management for civil service. This created an efficient bureaucracy that could develop and effectively implement 5-year development plans.

The successful converging period ushered in development and enriched society, and in becoming wealthy, the society and government needs started diverting. This phase of diverging interests was an exploratory phase in which new ideas and experiences from other cultures (western world), such as capitalism, were sought and experimented with. This transformation of society led the citizens to seek alternative and diverging interests different from those of the government. This phase of economic stability witnessed an increase in self-gratifying demands of society instead of the unified national demands, which led to demand for distributional justice, workers' rights, and democracy. Labor unions, opposition political parties, intellectuals, and social activists wanted their voices to be heard and increasingly confronted the government and the establishment. During this phase, Korea witnessed a reversal of her previous successes arising from complacency in supervision and the growth of moral hazard in the corporations, culminating in the financial bailout from IMF in 2007. The 1997 Asian financial crisis and the 2008 global financial crisis were stern reminders to Korea that a sound regulatory role of government is very much in order and that economic globalization poses grave, immediate, and extensive risks to economies if they lack the necessary discipline and governance.

The diverging phase exposed Korea to the consequences of wanton adoption of self-seeking interests. The leadership in Korea redefined the mindset, and with support from the society, a balancing act was sought in which continued mobilization of the community was incorporated with industrial sophistication. Society in Korea realized the need to develop and implement one national identity that is in effect today. This meant reflecting on changes in government policy that contribute to causing mindset change promptly and effectively managing any form of crisis.

How did the Korean model promote mindset change through inclusive education?

Mindset change is a process realized through exposure to alternative perspectives and approaches to life. In the Korean mindset experience, the Saemaul Undong (SMU) was established to teach both rural and urban farmers the appropriate techniques and approaches in agriculture for inclusive and sustainable development. The SMU demonstrated that through an inclusive education approach (addressing the unique circumstances of the various vulnerable societies), mindset change could be realized because of indiscriminate exposure to development technologies for all citizens.

The inclusion of the rural society in the agricultural education process by the SMU contributed to the adoption of advancing technology in production. This progression and adoption of improved technologies in agriculture (brought about by infusing indigenous technology into the mainstream agricultural syllabus) birthed and embraced the concept of industrialization and improved quantity and quality of produce and skills improvement. This transition in agricultural technology improved Korean society's labor productivity and social-political and economic development.

The Korean transformation was premised on establishing training facilities called the Saemaul Undong (SMU) model. These SMU schools provided indiscriminate training to all farmers in Korea. The absence of discrimination and exclusion from lifelong learning and training opportunities for farmers in the SMU schools provided a platform for cross-pollinating ideas and knowledge sharing. The adoption of new technologies involved learning about different cultures, values, and practices, which learning built acceptance and flexibility in learners' mindsets.

The inclusive education approach used by the SMU schools contributed to equitable social transformation through the development of an acceptance mindset. The mobilization of the rural poor to participate in the economy through various projects of the SMU was established in the sectors of education, public service, and factories in the spirit of "by the people, for the people, and of the people (So, 2019). This inclusive education contributed to equitable social transformation through communal development initiatives that contributed to the participation of all societies in the development agenda and responsibility mindset.

The establishment of centers of learning like the SMU provided opportunities to share knowledge, learn from the experts, and help transfer knowledge to all farmers, which led to outcomes of the inclusive participation of rural farmers, which contributed to the diversification of the value chains of production, improved value additions, promoted cooperation and reduced inequalities which unified the mindset for economic growth. Inclusive education is thus known to provide the foundation through which all discrimination is eliminated, and society is empowered through awareness to effectively engage in the desired mindset for economic growth (So 2019).

The pursuit of a unified mindset for a singular national development agenda requires an attitude characterized by diligence, self-help, and cooperation. These characteristics are molded in an education system that promotes inclusive participation and provides learning experiences for all persons with special needs. The cumulative integration of all learners in the education system will build community cooperation and transform society from a self-abandonment mindset into a 'we-can-do-anything' spirit (So 2019; Baek et al. 2012).

Application of the Korean Mindset Change Model in Uganda

The Korean model discussed above elaborates that mindset change is a reflection of a relationship between society and the government, and this relationship goes through various stages, starting with the egalitarian spirit that ends with the balancing of interests. The above discussion shows us how the unified and clear national identity/mindset evolved as society evolved. We can learn that for economic development, there is a need for a defined mindset and intentional policy initiatives to realize this mindset.

Uganda is a heterogeneous society of diverse communities, and diversity can be addressed by establishing an inclusive education that promotes inclusive participation in the development process. In pursuit of equality, the Government of Uganda initiated affirmative action interventions, livelihood interventions, patriotism, and, more recently, the Parish Development Model (PDM). These interventions consider the various contexts of Ugandan society and seek to uplift them to a level of unified mobilization toward social transformation.



The government launched the patriotism program in Uganda as a strategic intervention to teach norms and values to spread the spirit of patriotism across the country among Ugandan citizens. This can be perceived as an attempt to create an egalitarian spirit to form a foundation for the mindset evolution.

The patriotism program that has seen patriotism clubs formed in schools and centers of learning is a strategic intervention that can potentially produce the required civil service for the future if it is integrated into the education system of Uganda.

The success of mindset change in Uganda will depend on how much the patriotism program and similar government interventions can create societal equality and set the ground for the subsequent phase of converging interests. The heterogeneity of Uganda society influenced by globalization (external influencing factors) is a critical concern in any attempts to define converging interests and factor in interventions to address the diverging interests of Uganda's various social, political, and religious stakeholders.

We can note that Uganda, unlike Korea, is a heterogeneous society with a middle-income status of development. This calls for adopting a multi-faceted approach to implement the four stages concurrently. Uganda is currently building an egalitarian spirit. However, this also requires scoping the national interests that will converge citizens' and states' interests in the short run.

The adoption of the Competence Based Curriculum (CBC) in lower secondary schools in Uganda promotes the inclusive education agenda, given it is learner-centered with a practical/project approach to learning. The CBC will further inclusive education in learning institutions. In furtherance to the above, Uganda has implemented several inclusive education interventions such as universal education, a student loan scheme, and Alternative Basic Education for Karamoja (ABEK), demonstrating the Government of Uganda's efforts to promote inclusive education for all.

Findings

A part of economic growth is rural-urban migration. This migration progressively crowds out of the rural sector in preference for the urban sector. This preference for the urban economy leads to a slowdown in rural labor productivity due to inadequate education facilities, subjecting rural labor to subsistence farming practices. An inclusive education that seeks to address the education and skilling requirements of both the rural and urban labor eventually improves the productivity of the rural labor into the required skill set for demographic transition and eventual improvement of productivity in the agriculture sector. An improvement in labor productivity resulted in increased rural labor participation in the national development agenda through the agricultural sector, where they supply cheap skilled labor, supply required food crops for the urban society (including industries), and the earnings from agriculture contribute to the national treasury (Douglass 2014). This demonstrates how inclusive education promotes access to education that translates to improved labor productivity, which feeds into increased economic growth and development. The participation of marginalized rural labour as well as their inclusion in the development discourse and subsequently national ownership.

Partridge (2018) demonstrates that an education system develops citizenry academically and optimizes social and emotional development, critical ingredients for economic growth. Inclusive education fosters empathy and understanding among learners. When learners with different abilities or needs participate in the same learning environment, it allows for meaningful interactions and promotes a sense of compassion and understanding. Students learn to appreciate and respect one another's unique strengths and challenges, enabling a more inclusive mindset. This collection of learners from different backgrounds and abilities demystifies stereotypes, broadens perspectives, and promotes acceptance of difference. Students may question and reconsider their biases and beliefs by interacting with peers with additional views or skills and sharing experiences.

Florian (2017) highlights the inspiring role inclusive education confers in learners who have participated in an all-inclusive education system. Due to a participatory and cooperative environment, learners mature and emerge

with trust and respect. In inclusive classrooms, students often engage in collaborative learning activities where they work together to achieve common goals. They carry out activities through interactive group discussions and chat sessions with each other and with the teacher. This collaborative environment encourages students to value teamwork, appreciate diverse contributions, and understand the importance of cooperation. Such experiences can lead to a shift in the mindset from individualism to collectivism.

Shaeffer (2019) elaborates that education is critical for the growth of social justice, and inclusive education promotes principles of social justice and equality. By creating inclusive learning environments, students learn about the importance of fairness, equal opportunities, and respect for human rights. They are exposed to the challenges each group is affected by. For example, the issues faced by people with disabilities, like accessing a building and other places of convenience, and those faced by minority groups like ethnic minorities can form discussions among students. The discussions on social justice issues can challenge existing mindsets, inspire activism, and promote a more equitable society.

Inclusive education encourages critical thinking and perspective-taking skills. Students are exposed to various ideas and viewpoints by engaging with diverse perspectives. This challenges them to question their assumptions, critically analyze information, appreciate what is there in terms of the positives and negatives, and develop a more nuanced understanding of complex issues. These cognitive processes contribute to mindset change by promoting open-mindedness and flexibility in thinking (Mugambi 2017). By incorporating these elements into education, inclusive practices can contribute to the required mindset change in Uganda by fostering greater openness, understanding, collaboration, and empathy among students, ultimately leading to a shift in mindset transformation.

Policy options and recommendations for inclusive education and mindset change

In the preceding section, the role of inclusive education and its effect on mindset change has been appreciated by involving all stakeholders by ensuring participation, empowerment, and contribution of all for social, economic, and political transformation. However, this can be strengthened with the implementation of policies in all sectors of education, the public and private ones. Thus, enhancing policies, especially the inclusive education agenda in Uganda, through various feasible options, as suggested, is a priority.

The Ministry of Education and Sports should provide an operational definition for inclusive education. A contextualized definition of inclusion is necessary to scope inclusive education in Uganda. Phasha, Mahlo, and Dei (2017) emphasize the need to develop an Africanised context for inclusive education within the Ubuntu spirit. The culture of inclusive education will require a move away from individual learners and individualism to communities of learners with social responsibilities. This demand-driven culture will instill a sense of shared belonging that encourages learners to see themselves not only as individual learners but also as critical contributors to the learning experience of fellow learners. The diversity of African culture requires contextualized conceptualizations to identify learners and their unique needs regarding gender, language, hardship location, (dis)ability, and tribal and religious affiliations, as supported by Pather and Slee (2019).

Uganda's Education Act 2008 calls for parents and community support in educating children who work with education institutions to emulate what is learned at school, even at home. This awareness campaign should amplify the responsibility of parents in ensuring their children actively participate in the education system of Uganda. It is important to develop and operationalize community mobilization, awareness campaigns, and mindset change strategies by the Ministry of Gender Labour and Social Development within the current NDP III. This will seek to reverse negative attitudes, if any, towards any vulnerable persons.

The integration of timely collection, reporting, and use of data on vulnerability for evidence-based policy management and programming is critical. The Office of the Prime Minister, Ministry of Education and Sports, Ministry of Gender Labour and Social Development, and National Planning Authority should develop



research and evidence systems that empower the national and subnational levels in special needs planning, measurement, and reporting on specific matters in all sectors, education inclusive (Ejuu 2016).

The Ministry of Education and Sports is consulting on developing an Inclusive Education Policy for Uganda. An Inclusive Education Policy would define the roles, responsibilities, and subsequent standards and guidelines for inclusive education. In the short run, establishing and operationalizing the Inclusive Education Policy by the Ministry of Education and Sports is required. This will guarantee the provision of mainstream schools for inclusive education in Uganda.

The Ministry of Education and Sports should integrate inclusive education into the Teacher Policy. The fulcrum of inclusive education is the teachers who handle learners, and integrating inclusive education into the recently approved Teacher Policy will sustain inclusive education.

The recently adopted Competence-Based Curriculum (CBC) in Uganda provides learners with special needs an opportunity for improved participation in the education system. The curriculum is flexible and adopts a context-specific approach to learning that allows teachers and learners to adopt a more learner-centered approach. An assessment of the barriers to implementing the CBC by the Ministry of Education and Sports is required to provide evidence to learn and improve the adoption of the curriculum.

Conclusion

Pursuing economic development into an inclusive middle-income society will rely on integrating an appropriate mindset to improve development policies. The required mindset depends on a responsive education system that all citizenry can access and produces a productive potential of individuals that can be incorporated as learning goes on in educational institutions. If there is low or no educational attainment and learning, learners with special needs are less likely to achieve their full productivity potential, and those without special needs are unable to have a positive mindset shift. Once inclusive education is realized, it is easy to reduce or even eliminate the likely outcome of experiencing poverty, lack of access to health services, lack of employment opportunities, and higher risks of social exclusion. This study, therefore, concludes that the role of inclusive education positively contributes to a positive mindset change with the support of policies embraced by the education, public, and private sectors.

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APPENDICES

Appendix 1: Gender distribution of the population by selected characteristics

Variable	Population size	Male (%)	Female (%)	(P-Value)
Education completed				
< Secondary education	15,638,090	47.7	52.3	8600 (<0.001)
Secondary+	1,901,860	59.0	41.0	
Place of residence				
Rural	12,718,240	49.3	50.7	320.1304 (<0.001)
Urban	4,821,710	47.8	52.2	
Region				
Central 1, Central 2, and Kampala	5,144,550	48.8	51.2	
East Central, and Eastern	4,347,210	48.9	51.1	94.1569 (<0.001)
North, Karamoja, and West-Nile	3,506,910	48.4	51.6	
Western and Southwest	4,541,280	49.5	50.6	
Marital status				
Single/never married	5,463,070	58.4	41.6	71000 (<0.001)
Married/in union	10,508,730	48.0	52.0	
Separated/divorced/spouse	1,001,990	28.2	71.8	
Widowed	566,160	10.4	89.6	
Religion				
No religion	42,200	62.6	37.4	440.5341 (<0.001)
Muslim	2,309,250	49.9	50.1	
Christian	14,973,150	48.7	51.3	
Other	215,350	50.2	49.8	
Labour force participation				
Not in labour force	3,101,050	40.1	59.9	12000 (<0.001)
Participating	14,438,900	50.8	49.2	
Main source of livelihood				
Subsistence farming	12,003,550	48.9	51.1	
Commercial farming	297,820	51.8	48.2	996.9919 (<0.001)
Employment income	2,624,820	50.1	49.9	
Business enterprise	1,333,010	46.1	53.9	
Cottage industry	38,710	47.4	52.6	
Property income	95,310	47.7	52.3	
Family support/remittance	345,060	45.5	54.6	

Humanitarian aid	65,690	43.1	56.9	
Other	698,230	50.5	49.5	
Sale of assets	37,750	49.5	50.5	
Remittances				
Never received remittances	14,513,900	49.0	51.0	62.3122 (<0.001)
Receives remittances	3,026,050	48.3	51.8	
Disability status				
Disabled	2,633,600	43.0	57.0	4300 (<0.001)
Not disabled	14,906,350	49.9	50.1	
Relationship to household head				
Head	6,570,340	78.2	21.8	630000 (<0.001)
Spouse/partner	4,329,040	1.0	99.0	
Child	4,239,040	53.4	46.6	
Other relative	1966650	44.9	55.1	
Non-relative	434,880	57.3	42.7	

Appendix 2, Table 2, Detailed decomposition of education completion

Variable	Due to difference in characteristics (E)				Due to difference in coefficients (C)			
	Coef.	STE	P-value	%	Coef.	STE	P-value	%
Age	-1.039	0.021	<0.001	2.4	-7.275	0.939	<0.001	16.7
Place of residence								
Rural	1.000				1.000			
Urban	0.697	0.009	<0.001	-1.6	0.506	0.189	0.009	-1.2
Region								
Central 1, Central 2, and Kampala	1.000				1.000			
East Central, and Eastern	-0.002	<0.001	<0.001	0.0	-3.579	0.221	<0.001	8.2
North, Karamoja, and West-Nile	-0.121	0.004	<0.001	0.3	-5.258	0.217	<0.001	12.1
Western and Southwest	0.112	0.004	<0.001	-0.3	-1.487	0.214	<0.001	3.4
Marital status								
Never married	1.000				1.000			
Married	-0.324	0.020	<0.001	0.7	-1.147	0.602	0.057	2.6
Separated/divorced/spouse absent	-3.740	0.072	<0.001	8.6	-0.112	0.061	0.065	0.3
Widowed	-5.274	0.102	<0.001	12.1	-0.198	0.023	<0.001	0.5
Religion								
No religion	1.000				1.000			
Muslim	0.093	0.036	0.009	-0.2	-0.161	0.855	0.813	0.4
Christian	0.045	0.049	0.360	-0.1	-3.974	0.474	0.446	9.1
Other	-0.001	0.005	0.756	0.0	-0.075	0.398	0.361	0.2

Main source of livelihood								
Subsistence farming	1.000				1.000			
Commercial farming	-0.099	0.004	<0.001	0.2	0.117	0.038	0.002	-0.3
Employment income	-0.853	0.008	<0.001	2.0	1.451	0.122	<0.001	-3.3
Business enterprise	0.674	0.009	<0.001	-1.6	0.609	0.070	<0.001	-1.4
Cottage industry	0.006	0.001	<0.001	0.0	0.015	0.012	0.208	0.0
Property income	0.021	0.001	<0.001	-0.1	0.051	0.015	0.001	-0.1
Family support/remittances	0.206	0.004	<0.001	-0.5	-0.026	0.030	0.384	0.1
Humanitarian aid	0.054	0.003	<0.001	-0.1	-0.004	0.014	0.780	0.0
Other	-0.121	0.003	<0.001	0.3	0.490	0.058	<0.001	-1.1
Sale of assets	-0.002	<0.001	<0.001	0.0	0.039	0.014	0.004	-0.1
Remittances								
Never received remittances	1.000				1.000			
Receives remittances	0.095	0.003	<0.001	-0.2	0.653	0.124	<0.001	-1.5
Disability status								
Disabled	1.000				1.000			
Not disabled	-1.473	0.037	<0.001	3.4	7.495	0.883	<0.001	-17.2
Relationship to head of household								
Head	1.000				1.000			
Spouse/partner	-15.924	0.535	<0.001	36.5	-0.057	0.014	<0.001	0.1
Child	-0.535	0.051	<0.001	1.2	-2.017	0.311	<0.001	4.6
Other relative	-0.280	0.022	<0.001	0.6	-1.229	0.120	<0.001	2.8
Non-relative	0.627	0.018	<0.001	-1.4	-0.919	0.058	<0.001	2.1
Number of own family members in household								
Constant					4.722	6.762	0.485	-10.8

Appendix 3, Table B1, In-Depth Model Lifetable Estimates for Males and Females, Uganda 1991

Age	Male				Female			
	nqx	lx	ndx	e _x	nqx	lx	ndx	e _x
0-1	0.19917	100000	12409	41.3	0.10597	100000	10597	46.1
1-4	0.11570	87591	7508	46.1	0.07256	89403	6487	50.6
5-9	0.04935	80083	2627	46.3	0.02536	82916	2102	50.4
10-14	0.03934	77457	1325	42.8	0.01328	80814	1073	46.7
15-19	0.05985	76132	1722	38.5	0.01964	79741	1566	42.3
20-24	0.10764	74409	2834	34.4	0.04418	78174	3454	38.1
25-29	0.16008	71575	5175	30.6	0.08121	74720	6068	34.7
30-34	0.19772	66400	6282	27.8	0.09639	68652	6617	32.5
35-39	0.22642	60118	6846	25.5	0.09099	62035	5644	30.7
40-44	0.25022	53271	6766	23.4	0.08144	56390	4592	28.6
45-49	0.26028	46506	6564	21.4	0.08462	51798	4383	25.9
50-54	0.25396	39942	5541	19.6	0.08023	47415	3804	23.0
55-59	0.28770	34401	4603	17.3	0.09493	43611	4140	19.8

60-64	0.35397	29798	5294	14.6	0.11936	39471	4711	16.7
65-69	0.43540	24504	5253	12.2	0.16217	34760	5637	13.6
70-74	0.52670	19251	5416	9.9	0.23438	29123	6826	10.7
75-79	0.61013	13835	4724	7.7	0.27570	22297	6147	8.2
80-84	0.40801	9111	3717	5.5	0.41598	16150	6718	5.4
85+	1.00000	5394	5394	2.5	1.00000	9432	9432	2.5

Source: Author's computational based on the 1991 childhood mortality (Male: IMR=131.4, U5MR=215.6; Female: IMR=111.8, U5MR=193.7)

Appendix 4, Table B2. Lifetable estimates for Males and Females reported by the Uganda 1991 Census.

Age	Male				Female			
	nqx	lx	ndx	e _x	nqx	lx	ndx	e _x
0-1	0.13138	100000	13138	45.7	0.11175	100000	11175	50.5
1-4	0.09691	86862	8418	51.6	0.09231	88825	8199	55.8
5-9	0.04016	78444	3150	52.9	0.03442	80626	2775	57.3
10-14	0.02134	75294	1607	50.0	0.01929	77850	1501	54.3
15-19	0.02538	73687	1871	46.1	0.02130	76349	1626	50.3
20-24	0.03609	71817	2592	42.2	0.02531	74723	1891	46.4
25-29	0.03788	69225	2622	38.7	0.02628	72832	1914	42.5
30-34	0.03971	66603	2645	35.1	0.03014	70918	2137	38.6
35-39	0.04481	63958	2866	31.5	0.03453	68781	2375	34.7
40-44	0.05369	61092	3280	27.8	0.03981	66406	2644	30.9
45-49	0.06466	57812	3738	24.3	0.04455	63762	2841	27.0
50-54	0.08306	54074	4492	20.8	0.05751	60922	3504	23.2
55-59	0.10720	49583	5315	17.4	0.07679	57418	4409	19.4
60-64	0.14940	44267	6614	14.2	0.11294	53009	5987	15.8
65-69	0.21266	37654	8008	11.3	0.17115	47022	8048	12.5
70-74	0.31021	29646	9197	8.6	0.25850	38974	10075	9.6
75-79	0.43651	20450	8926	6.4	0.37456	28900	10824	7.1
80+	1.00000	11523	11523	4.4	1.00000	18075	18075	4.9

Source: Extracted from the 1991 population and housing report

Appendix 5, Table B3: Expected productive years of life lost (PYLL) among Males and Females for the Population affected with AIDS

Age group	Males			PYLL	Females	
	$n d_x$	$n a_x$ (mean age at death)	$60 - n a_x$		$n d_x$	PYLL
0-1	12409	0.5	59.5	738315	12409	738336
1-4	7508	3.0	57.0	427950	7508	427956
5-9	2627	7.5	52.5	137910	2627	137918
10-14	1325	12.5	47.5	62936	1325	62938
15-19	1722	17.5	42.5	73193	1722	73185
20-24	2834	22.5	37.5	106286	2834	106275
25-29	5175	27.5	32.5	168190	5175	168188
30-34	6282	32.5	27.5	172765	6282	172755
35-39	6846	37.5	22.5	154040	6846	154035
40-44	6766	42.5	17.5	118398	6766	118405
45-49	6564	47.5	12.5	82052	6564	82050
50-54	5541	52.5	7.5	41554	5541	41558
55-59	34401	57.5	2.5	86003	4603	11508
Sum of PYLL				2369592		2295104
Population Figure:	7899531					8208368
PYLL rate per 1000				300.0		279.6

Appendix 6: Distribution of the respondents by selected socioeconomic characteristics

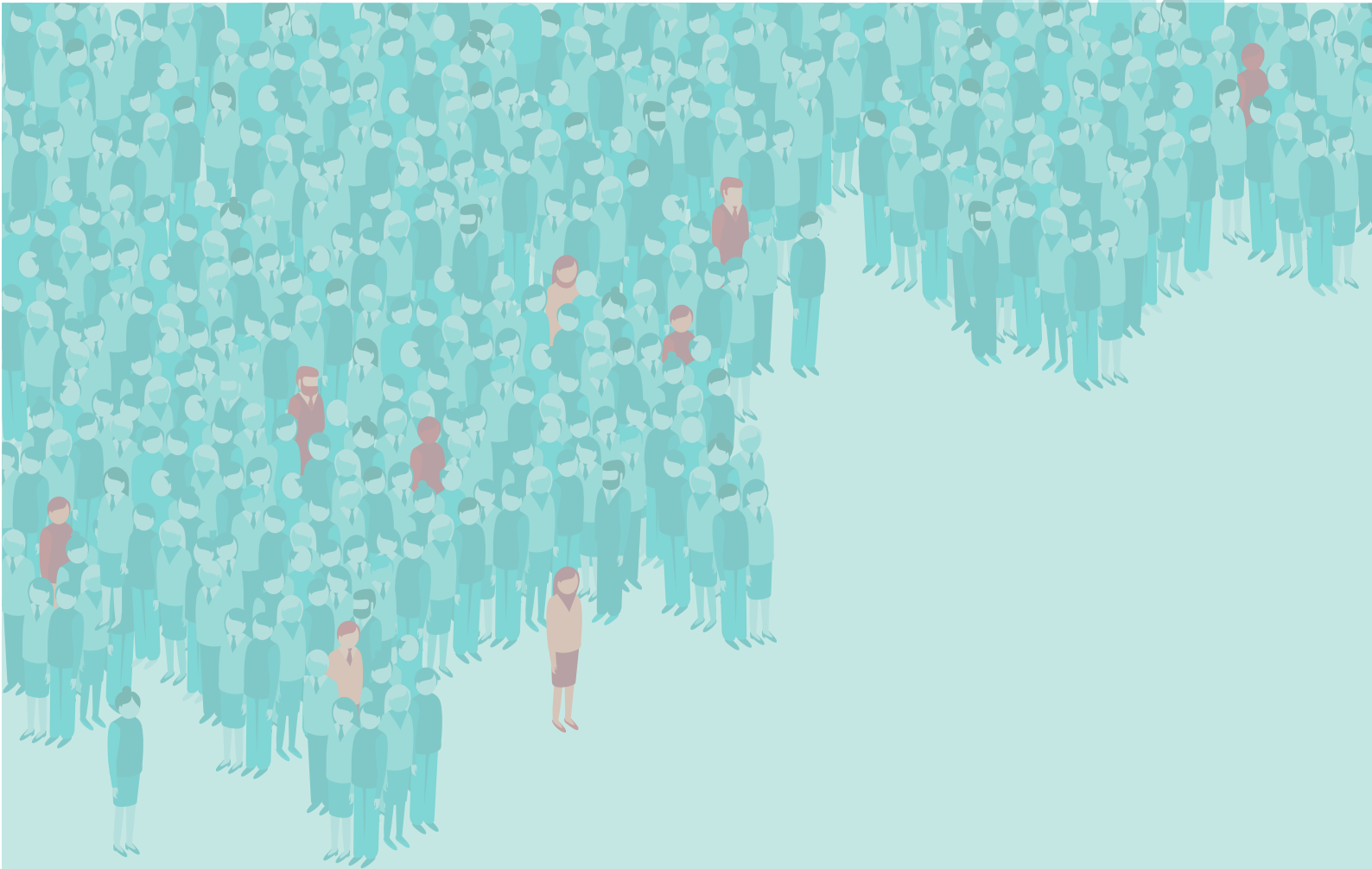
Variable	Frequency (n)	Percent (%)
Education level		
None	113	19.1
Primary	285	48.1
Secondary+	195	32.8
Occupation		
Farming	51	8.6
Business	301	50.8
Dependent	189	31.9
Casual worker	31	5.2
Other	21	3.6
Religion		
Pentecostal	82	13.8
Catholic	194	32.7
Anglican	176	29.6
Muslim	142	23.9
Division of residence		

Kawempe	206	34.8
Rubaga	188	31.7
Nakawa	199	33.5
Marital status		
Married	203	34.2
Never married	22	3.7
Widowed	261	43.9
Separated/Divorced	108	18.2

Appendix 7: Differentials in the involvement in SACCOs among older persons

Variable	Membership of a SACCO		Chi-square (P-value)
	Not a member (%)	Member (%)	
Age			
60-69 years	85.3	14.7	6.1401 (0.1104)
70-79 years	90.3	9.7	
80+ years	94.4	5.6	
Sex			
Male	86.5	13.5	0.2493 (0.6655)
Female	88.0	12.0	
Highest level of Education attained			
None	92.9	7.1	9.6351 (0.0275)
Primary	89.4	10.6	
Secondary+	81.9	18.1	
Occupation			
Farming	77.7	22.4	18.3939 (0.0175)
Business	84.7	15.3	
Dependent	94.9	5.1	
Casual worker	93.2	6.8	
Other	79.5	20.5	
Religion			
Pentecostal	92.6	7.4	3.1785 (0.4590)
Catholic	85.8	14.2	
Anglican	86.1	14.0	
Muslim	89.1	11.0	
Division of residence			
Kawempe	89.6	10.4	1.1541 (0.6005)
Rubaga	86.8	13.3	
Nakawa	86.3	13.7	
Marital status			
Married	85.2	14.8	2.6366 (0.5104)
Never married	88.6	11.4	
Widowed	90.0	10.1	

Separated/Divorced	86.1	13.9	
Living arrangement			
Lives alone	94.6	5.4	3.5074 (0.1285)
Does not live alone	86.7	13.3	
Rent status			
Renting	84.4	15.6	1.9651 (0.2345)
Not renting	88.7	11.3	
Type of house			
Detached	85.4	14.6	4.2984 (0.2139)
Semi-detached	93.1	6.9	
Tenement/Muzigo	87.8	12.3	
Household's main source of information			
Radio	86.6	13.4	1.6260 (0.7300)
Word of mouth	92.0	8.0	
Telephone	87.5	12.5	
Television	87.0	13.0	
Control of household assets			
Self	84.7	15.3	12.3660 (0.0264)
Spouse	89.5	10.5	
Children	96.6	3.4	
Responsibility of purchase of own food			
Self	85.6	14.5	4.9663 (0.0648)
Others	92.1	7.9	
Relationship with head of household			
Head	86.8	13.2	1.8459 (0.6317)
Spouse	90.5	9.5	
Children	88.6	11.4	
Relatives	95.7	4.3	
Number of children ever born			
None	92.6	7.4	1.0947 (0.6099)
1-3 children	90.6	9.4	
4+ children	87.0	13.0	



Statistics House, Plot 9, Colville Street | P.O.Box 2666 Kampala, Uganda | Tel: 0414-705400
@ npcsec@npcsec.go.ug 🌐 www.npcsec.go.ug ✕ @NPC_Uganda 📺 NPC UGANDA