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How Do Investments in Human Capital Development Affect SDG Outcomes in Malawi?

A Human Capital Push Scenario

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As the world races towards 2025, the midpoint of the last decade of SDG action, the need for swift identification of actionable strategies becomes an imperative for policymakers. With a focus on Malawi, a country grappling with uneven SDG progress, this policy brief highlights the pivotal role of human capital development (HCD) in areas such as health, education, skill building and infrastructure development in the attainment of the SDGs. Based on a set of simulations, the brief underscores the transformative impact of an integrated HCD approach, whereby policy design, planning and programme implementation converge to unlock the potential of human capital as a driver of sustainable development. This analysis builds on the 'Human Capital Push Scenario' employed by using the International Futures (IFs) model.

Human development, as defined by the United Nations Development Programme (UNDP), goes beyond measuring economic growth and income. It considers various dimensions of well-being, including health, education, enlarging people's freedoms and standard of living.² Human capital development is a critical component of human development. It is characterized as investments made in education, health, on-the-job training and

migration that enhance an individual's productivity in both the labour market and non-market activities.³ Various elements contribute to human capital development, such as the time spent on education by students, investments in education by governments, educational and health care reforms, on-the-job training, vocational learning and formal and part-time education.⁴

Human Capital Development in Malawi: Context and Challenges

Malawi faces significant challenges in reducing poverty and inequality, which is evidenced by a Gini index of 38.5. Despite experiencing stable governance and achieving progress in health, education and water and sanitation, the country's GDP per capita remains low (US\$645, in 2022),⁵ and persistent structural challenges, exacerbated by external factors like adverse weather shocks, the effects of the Russia-Ukraine war and weak macroeconomic conditions, limit its growth and economic diversification.⁶

Human capital and the Multidimensional Poverty Index (MPI) are interconnected concepts that reflect various dimensions of well-being and development, with the Malawi MPI being intrinsically linked to elements of human capital across four dimensions/indicators: education, work, environment and health and population. This comprehensive framework not only highlights the interconnections among these dimensions but also illustrates the multifaceted deprivations faced by different population groups, potentially impeding Malawi's progress towards the SDGs. Within this context, literacy and education are reported to be the most significant contributors to the Malawi MPI, accounting for 14.7 percent. Other critical factors include access to electricity (11.5 percent), asset ownership (10.8 percent), job diversity (10.2 percent) and child labour (10.0 percent), which highlight the complex relationship between economic opportunities, living conditions and human capital formation. Conversely, nutrition and unemployment, reflecting health and economic participation, contribute minimally to the MPI, at 3.4 and 1.4 percent, respectively. This further delineates the multifaceted contributors to multidimensional

poverty and indicates the importance of addressing education and economic conditions in enhancing human capital and advancing development goals.

The Government of Malawi launched a new long-term development blueprint, Malawi Vision (MW2063) to transform Malawi into an inclusive, wealthy and self-reliant industrialized upper middle-income country by 2063.⁷ The MW2063 draws inspiration from Africa's blueprint and master plan for transforming the continent into a global powerhouse the African Union (AU) Agenda 2063. It sets forth a comprehensive vision for Malawi's future development, encompassing social, economic and environmental dimensions among others. Through its first ten-years, the Malawi Implementation Plan (MIP-1) that runs from 2021 to 2030, the MW2063 aims at raising the country's income to lower-middle status level by 2030 and meeting most of the SDGs.

However, recent global events and weather-related disasters have impacted Malawi's development pathway, leading to soaring fiscal deficits, high public debt⁸ and the slowing down of economic activities. These challenges have further highlighted the need for strategic planning and aligning interventions with the MW2063 goals.

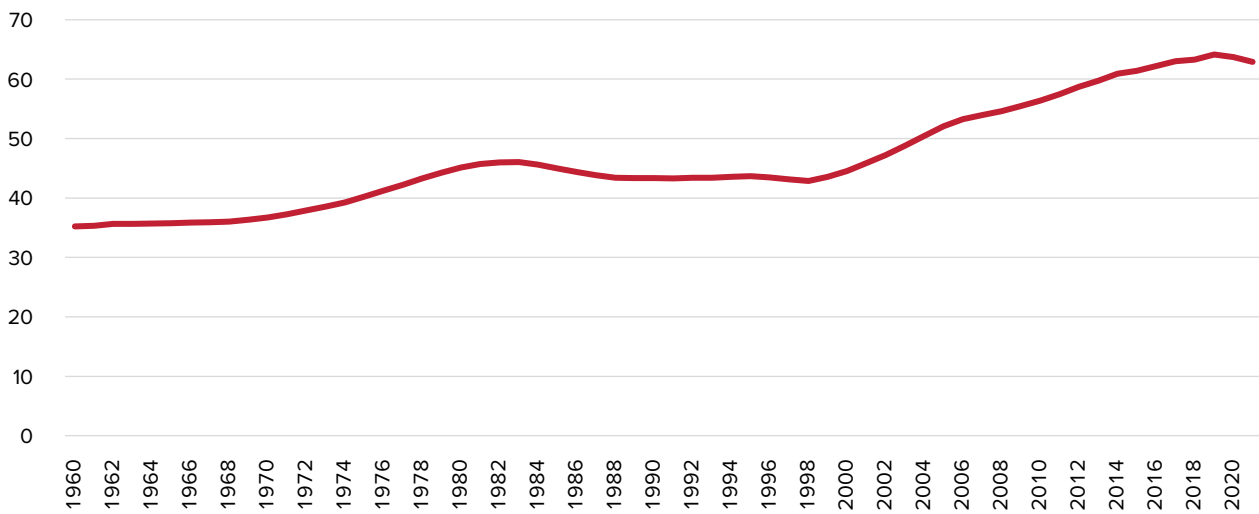
By simultaneously investing in areas such as health, education, skill building and infrastructure development, Malawi can unlock the power of its people and drive inclusive growth, poverty reduction and reduced inequality and chart a resilient and forward-thinking path towards realizing the targets outlined in MW2063 and the SDGs.

Health

Health plays an integral role in fostering human capital development and is a vital component of sustainable national progress. However, recent observations challenge the alignment between health and development goals in Malawi. The country faces a high prevalence of various illnesses, such as tuberculosis, malaria and HIV/AIDS among others.⁹ In severely affected countries, the impact of HIV/AIDS on individuals, national

health systems and the overall health sector is significant. This disease directly affects the health of those infected, gradually weakening their immune system and resulting in a decline in productivity. Additionally, a considerable portion of deaths in Malawi can be attributed to communicable diseases.¹⁰ Consequently, the impact is deeply felt across all sectors of the economy.¹¹

Figure 1: Malawi Life Expectancy



Source: World bank data

The budget analysis reveals an inadequate allocation of 8.3 percent to the health sector, a stark contrast to the 15 percent benchmark set by the Abuja Declaration, which mandates governments to allocate 15 percent of their total national budget to the health sector.¹²

Weak human capital development efforts in Malawi, as in many other African countries, highlight the disconnection between aggregate growth, health and educational indicators. Despite improvements in health-related indicators, such as child and adult survival, numerous issues still require attention and hinder progress toward SDG 3 on good health and well-being. For example, in Malawi, life expectancy

is significantly lower at 63 years compared to the global average of 72.3 years.¹³

Another pressing concern is the shortage of health care professionals in Malawi. Based on the World Health Organization's (WHO) recommended global standard of medical doctors and nurses per 1,000 people, there is a substantial shortage of health care professionals in the country. The current densities are 0.019 physicians and 0.283 nursing and midwifery personnel per 1,000 people.¹⁴ This shortage further exacerbates the challenges faced by the health care system and hampers efforts to improve health outcomes.

Education and Skills Training

Education is essential for African nations to alleviate poverty and inequality and for meaningful contribution to the economy. Within this context, Malawi faces challenges regarding its educational landscape. The gross enrollment rate for tertiary education in Malawi is considerably lower than the global average. This can be attributed to the limited number of tertiary institutions within the country as well as economic constraints limiting access to post-secondary education. The government expenditure on education is concerning, with a declining trend of budget allocation to the educational sector over the past three fiscal years.

The share of the budget allocated to education has reached a historical low of 16.3 percent in 2022/23, falling short of the African Union's Dakar Commitment on Education for All, which mandates a minimum allocation of 20 percent.¹⁵ The table below outlines the concerning transition from primary, secondary and tertiary institutions. The mean years in education, one of the key indicators of human capital in a country, are relatively low in Malawi.¹⁶ This disparity underscores the need to prioritize and invest in human capital development, particularly in the health care and educational sectors, to bridge the gap and accelerate progress.

Table 1: Progress through Educational Funnel (2018-2019) Data

Country	Primary			Secondary education		Tertiary education	
	Enrol (net)	Completion	Transition to secondary	Enrol (net)	Completion	Enrol (gross)	Graduation
Malawi	97.4%	52%	38%	17%	22%	1.6%	1.01%

Source: Forecast in IFs, version 7.84; African futures & Innovation – Malawi's long-term development outlook

Education extends beyond formal institutions and encompasses the acquisition of practical skills that empower individuals to contribute meaningfully to their communities and economies. In Malawi, the Technical, Entrepreneurial, and Vocational Education and Training (TEVET) system plays a crucial role in human resource development by offering sustainable skills training. This effort is spearheaded by the TEVET Authority, established

in 1999 through an act of Parliament.¹⁷ In Malawi, the informal sector represents a vast array of economic undertakings spanning commerce, agriculture, construction, transportation and services. This sector serves as a critical employment hub, engaging over 80 percent of the workforce across both rural and urban landscapes. In response to this dynamic, the TEVET Authority aims to meet the need by deploying informal training programmes.¹⁸

Infrastructure

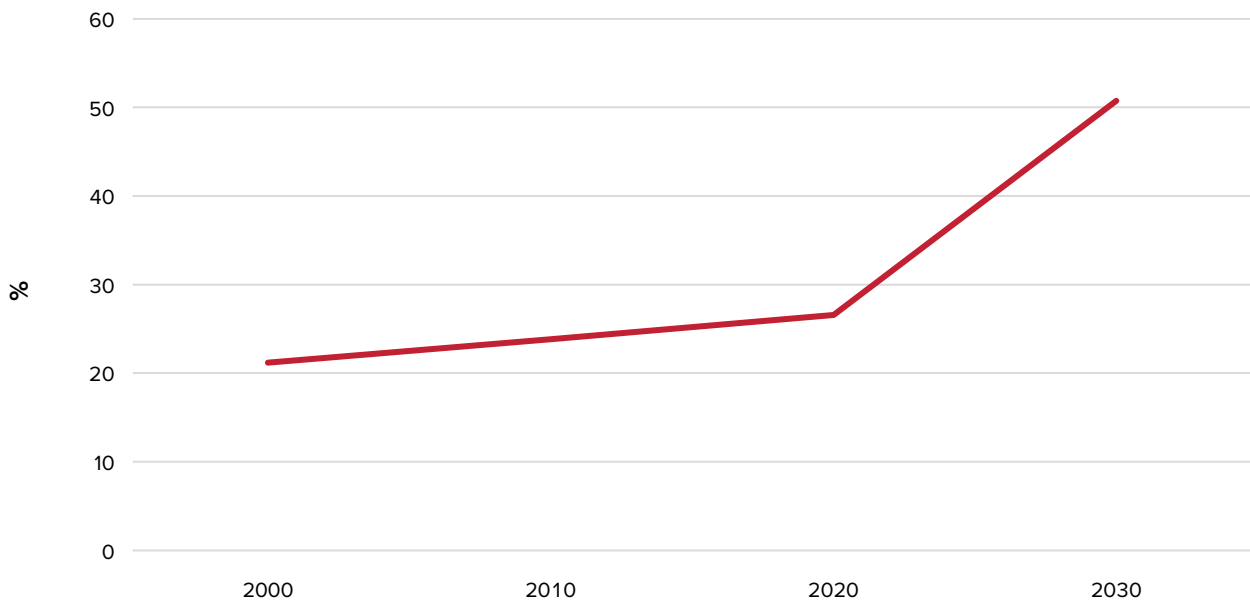
Extensive research has highlighted the significance of infrastructure in improving health and educational outcomes, and this is widely recognized.¹⁹ Infrastructure creates an enabling environment for productive citizenry and thriving businesses.

In terms of investment, Malawi's significant investments in the health sector, which accounted for 4.8 percent of its GDP in 2017, surpassed the regional and low-income African countries' averages, indicating a strong commitment to health care improvement.²⁰ Further emphasizing the government's prioritization of health, the sector received 9.3 percent of the national budget in the 2020/21 fiscal year, making it the third-largest allocation following education (18 percent) and agriculture (16 percent), not including debt

servicing.²¹ This allocation, while significant, still does not meet the full financial needs of the sector or reach international benchmarks, pointing to a gap between current funding levels and the resources required to address ongoing health challenges comprehensively.

As of 2022, 57 percent of the global population, which equates to 4.6 billion individuals, had access to safely managed sanitation services. Despite this progress, over 1.5 billion people worldwide lack access to basic sanitation facilities.²² Access to improved water and sanitation is key to preventing diseases and enhancing well-being, leading to healthier communities and socio-economic growth. The current projection indicates that Malawi's access to sanitation will improve.

Figure 2: Access to Improved Sanitation

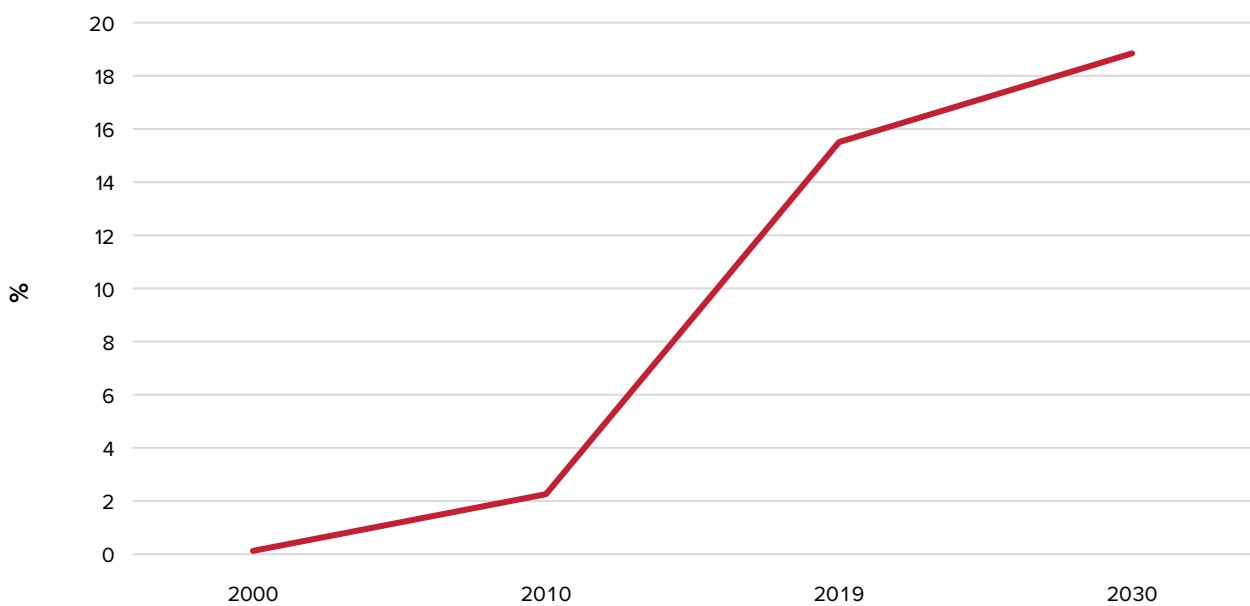


Source: Forecast in IFs, version 7.84; historical data from NSO Malawi & WHO/UNICEF JMP global database

The pivotal role of digital transformation as a catalyst for achieving SDGs cannot be overstated. However, its impact is contingent upon inclusive and strategic implementation. Malawi faces

several challenges in fully leveraging its digital infrastructure, including the high price of internet-connected devices, limited access to electricity and a widespread deficiency in digital literacy.²³

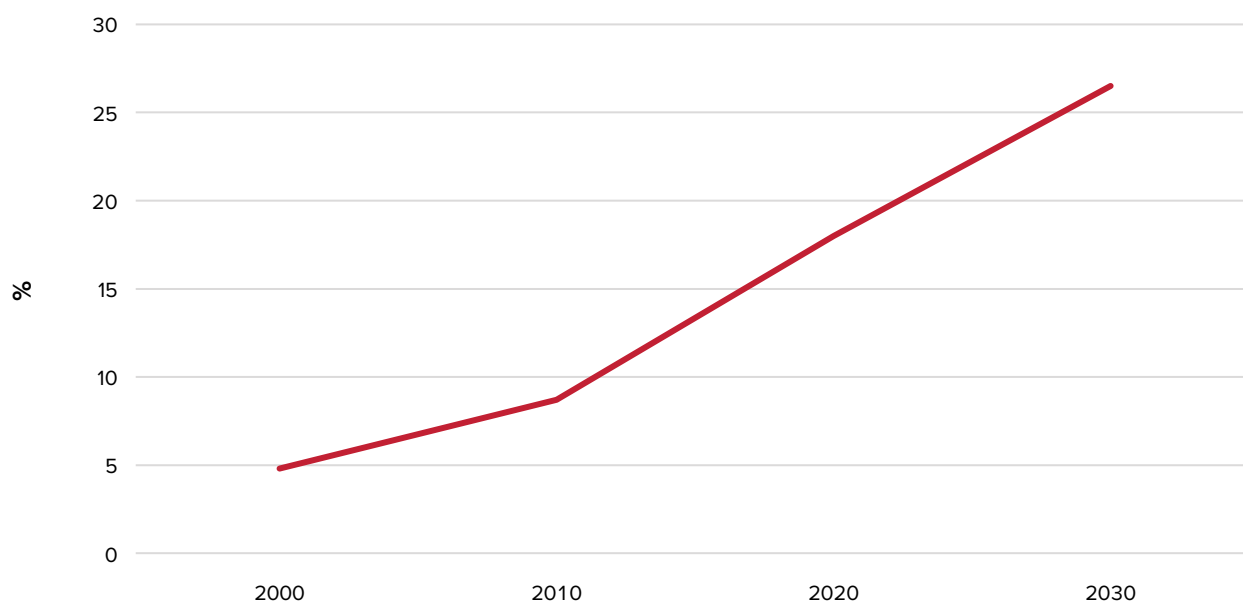
Figure 3: Internet penetration in Malawi



Source: Forecast in IFs, version 7.84; historical data from NSO Malawi & the International Telecommunications Union (ITU)

Improving the ICT infrastructure and access to ICT services in Malawi is expected to broaden and reinforce economic expansion, boost government

earnings and result in the creation of more jobs and innovation.

Figure 4: National Electricity Access

Source: Forecast in IFs, version 7.84; historical data from Ministry of Energy, Malawi & World Bank

Given its current trajectory, Malawi's national electricity access is expected to show progress, reaching 26.5 percent of the population by 2030.²⁴ However, this level of access will still fall significantly short of the government's ambitious target of 50 percent by the same year. This discrepancy has profound implications for various sectors critical to human capital development, such as education, health care and technology.

The above data highlights the urgency for effective policies and interventions to enhance human capital development in Malawi. By addressing the gaps in health care provision and educational access, Malawi can improve the well-being and productivity of its population, leading to sustainable economic growth and reduced inequalities.

The Need for an Integrated Approach

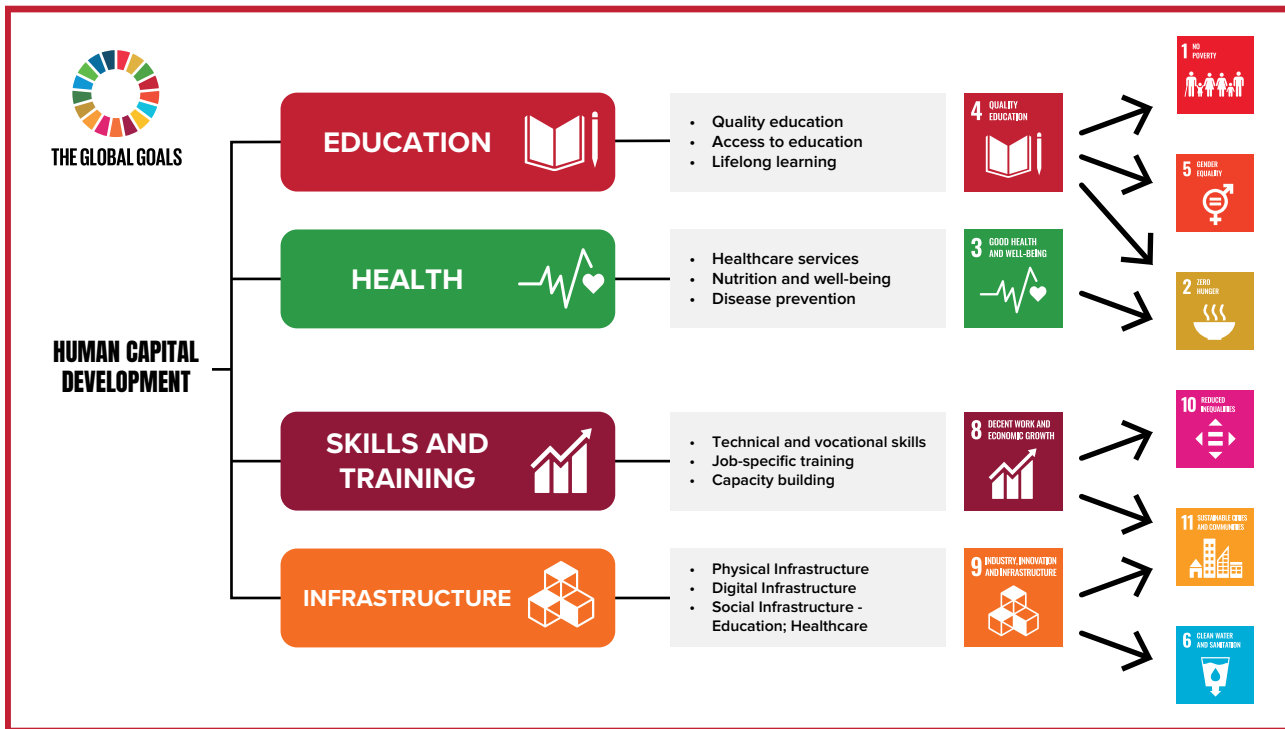
Investing in human capital development has far-reaching effects on various aspects of sustainable development. It not only contributes to the achievement of SDG 4 (Quality Education) but also influences progress in SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth) and SDG 10 (Reduced Inequalities), among others.

For instance, by incorporating skills training into educational initiatives, Malawi can make substantial strides towards achieving multiple SDGs. In particular, SDG 4 (Quality Education) is advanced by equipping individuals with skills that enhance their capacity to learn and adapt throughout their lives. Skills training is also linked with SDG 8 (Decent Work and Economic Growth), SDG 1 (No Poverty) and

SDG 10 (Reduced Inequalities). A skilled workforce is essential for fostering productive employment and fostering economic resilience. By providing marginalized and disadvantaged populations with skills that grant access to better employment opportunities, skills training can actively diminish inequalities and promote inclusivity within the workforce.

It is crucial to adopt an integrated approach that prioritizes investments in human capital development. This approach serves as a catalyst in addressing more than one quarter of the SDGs. Figure 5 illustrates the interconnectedness between different thematic areas and highlights the significance of human capital development in driving progress across multiple SDGs.

Figure 5: Human Capital Development Impact on SDGs



Source: Authors' own elaboration

How Do Investments in HCD Affect SDG Outcomes in Malawi? A Human Capital Push Scenario

The report, *Malawi's Pathways to Middle Income Status: A Scenario Analysis*, analysed a 'human capital push scenario' for Malawi based on the International Futures Model (IFs).²⁵ This approach allowed for a comprehensive understanding of how various policy interventions could potentially impact Malawi's journey towards achieving middle-income status and meeting its development goals.²⁶

In this brief, we concentrate on the 'Human Capital Push Scenario', focusing on its key elements within the Malawian context. We explore critical human capital initiatives, including education, health, skill development and infrastructure enhancements. This approach aims to provide a clearer understanding of how these interventions can be integrated into Malawi's national development strategy, aligning with the Malawi Vision - MW2063 and the SDGs.

Table 2: Summary of the Human Capital Push scenario interventions

Focus areas	Current Path	Interventions	Corresponding SDG & Target	SDG Impact	Synergies	Trade-offs
Health and nutrition		Reduce AIDS-related deaths by 41% relative to the current path in the next eight years. Guinea-Bissau has reduced AIDS-related deaths by similar margins in recent years. <ul style="list-style-type: none"> This could be done through the roll-out of lifesaving antiretrovirals (ARVs) and aggressive information campaigns about the disease. 	SDG 3.3 by 2030: end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.	Reduce deaths and improve health outcomes. Increase life expectancy of the affected population, hence a productive population.	Strong link to SDG 1 (No Poverty) and SDG 4 (Quality Education), as healthier populations are better able to engage in education and economic activities.	May require significant investments that could divert resources from other critical areas, such as infrastructure development (SDG 9).
	275	Reduce the maternal mortality by 57% relative to the current path bringing down the death rate by more than 100 deaths per 100,000 live births by 2030 compared to the current path. (Rwanda achieved similar reduction levels between 2003 and 2010, reducing the maternal mortality ratio by 57%). <ul style="list-style-type: none"> Ensuring that all women and girls have access to quality and timely health services, particularly antenatal and postnatal care, could ensure that this is achieved. 	SDG 3.1 by 2030L reduce the global maternal mortality ratio to less than 70 per 100,000 live births.			
	40	Reduce child mortality by 42% in next eight years, similar to reductions already achieved between 2009 and 2016. <ul style="list-style-type: none"> Continuing the aggressive roll-out of antenatal and delivery care, distribution of insecticide-treated nets, field vaccination programmes and making community-based educational programmes freely available will support the reduction of infant mortality rates. 	SDG 3.2 by 2030: end preventable deaths of newborns and children under age 5.			
Clean water, sanitation and hygiene	51%	Increase access to improved sanitation to 67.5% by 2030 (on par with Gambia) – a 17% increase above the current path. This implies that an additional four million people will gain access to improved sanitation above the current path forecast of 12.3 million people.	SDG 6.1. by 2030: achieve universal and equitable access to safe and affordable drinking water for all.	Improve public health by reducing the prevalence of waterborne diseases, which is crucial for enhancing the quality of life and increasing life expectancy. Better health outcomes directly contribute to higher productivity and reduced health care costs.	Interlinked to SDG 3 (Good Health and Well-being) by preventing diseases. Clean water access is also critical for achieving gender equality (SDG 5) by reducing the burden on women and girls who are often responsible for water collection.	Infrastructure development for water and sanitation may impact natural habitats (SDG 15), necessitating sustainable planning and implementation.
	93.5%	Increase access to improved sources of water. The access rate is 97% by 2030 and 100% by 2049 (Current path in 2030 = 93.5%). Providing water access to an additional 900,000 people above the current path forecast, ensuring 23.5 million people have access to improved sources of water by 2030.				
Education and skill development	86%	Increase the primary educational survival rate to 91% by 2030, which is comparable to Syria in 2003 and to 100% by 2044. This is above the forecast of 75.2% on the current path in 2030.	SDG 4.1 by 2030: ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.	Increase literacy rates, educational attainment and vocational skills.	Enhances employability, supporting SDG 8 (Decent Work and Economic Growth). Quality education fosters innovation and creativity, contributing to SDG 9 (Industry, Innovation and Infrastructure).	Expanded educational facilities and programmes require resources that might be scarce, potentially creating competition with other sectors such as health care.
	63.4	Increase the lower secondary enrolment rate to 75% by 2030 (on par with Democratic Republic of Congo) – an additional 11.6% above the current path forecast of 63.4%.				
	38.4%	Increase the lower secondary completion rate to 53% by 2030 (on par with Sierra Leone) and to 100% by 2060 (Current path in 2030 = 38.4%).				
	76.4%	Increase the transition rate from lower secondary to upper secondary to 96% by 2030, on par with levels achieved in Mozambique. This is a substantial increase above the forecast of 76.4% in the current path. Achieve a 100% transition rate by 2040.				

	26.2%	<p>Increase the upper secondary education graduation rate to 34% by 2030, on par with Liberia. This is a 7.8% increase from the forecast of 26.2% in the current path in 2030.</p> <p>Increase enrolment rate in vocational training to 20% by 2030. Mozambique managed a 45% increase between 2009 and 2016.</p> <p>Improve the quality of education by 10% for both primary and secondary levels over the next eight years.</p> <p>(Chad achieved improved test score rates of 13% in primary education between 1995 and 2005; Burundi achieved a 10% increase in secondary test scores between 2015 and 2019.)</p> <p>Increase the gross tertiary enrolment rate to 16% by 2030 (almost double the current path levels) and to 90.6% by 2063. Togo managed a 30% increase in male intake and a 59% increase in female intake over the period 2014 to 2018.</p> <p>Increase tertiary graduation rate to 6.8% by 2030 and to 40% by 2063 (Current path in 2030 = 4.7%).</p> <p>(Ethiopia managed to double tertiary graduation rates between 2003 and 2010).</p>				
Science, technology and innovation		<p>Increase the share of science and engineering students in tertiary graduates by 29% over the next eight years to reach 21.4% by 2030 and 25% by 2063. (Algeria increased their levels by 39.7% between 2009 and 2016).</p>	SDG 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.	Boost innovation and technological capabilities.	Directly contributes to SDG 9 (Industry, Innovation and Infrastructure) and supports SDG 8 (Decent Work and Economic Growth) by creating high-skilled jobs.	Rapid technological advancement can exacerbate inequality (SDG 10) if not all segments of the population have equal access to education and digital resources.
Gender	0.9	<p>Women's empowerment. The score for Malawi on the UNDP Gender Empowerment Index is 0.96 by 2030 and 0.99 by 2063 (Current path in 2030 = 0.9).</p>	SDG 5.1: end all forms of discrimination against women and girls everywhere.	Enhance gender equality and women's empowerment.	Empowering women has wide-ranging impacts, including promoting economic growth (SDG 8) and improving health and educational outcomes for families (SDG 3 and 4).	Efforts to empower women might face cultural resistance, requiring sensitive approaches that respect local contexts while striving for gender equality.
Managing population growth	69.2%	<p>Increase modern contraceptive use. It reaches 99.8% by 2030 and 100% by 2063 (Current path in 2030 = 69.2%). The fertility rate is 2.3 births per woman by 2030 (Current path in 2030 = 3.4).</p>	SDG 5.6: ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the ICPD and the Beijing Platform for Action and the outcome documents of their review conferences.	Improve access to reproductive health services and reduce fertility rates.	Supports SDG 3 (Good Health and Well-being) and has a positive effect on SDG 1 (No Poverty) and SDG 4 (Quality Education) by allowing families to invest more resources per child.	Expanding access to reproductive health services may face opposition from cultural or religious groups, highlighting the need for community engagement and education.

Source: Malawi's pathways to middle income status: A scenario analysis, ISS 2023 & author's analysis

Upscaling investments in human capital development (health and nutrition; clean water, sanitation, and hygiene; education and skill development; science, technology and innovation; gender and interventions to manage population growth) could contribute toward the achievement of SDG 3 (Good Health and wellbeing), SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 6 (Clean Water and Sanitation). Positive outcomes in these SDGs (3,4,5 and 6) would lead to positive outcome in other SDG's e.g., an investment in education is more likely to contribute towards enhancing skills and employability hence contributing towards SDG 8 (Decent Work and Economic Growth).

These investments/interventions could accelerate achievement of the SDGs by 2030, for example a substantial investment in sanitation could lead to an increase in access to improved sanitation by

67.5 percent by 2030 compared to the 51 percent on the current path. On the other hand, investments in education, particularly in secondary education could increase the transition rate from lower secondary to upper secondary to 96 percent by 2030 compared to the 76.4 percent by 2030 in the current path.

In a world where a lot of governments are grappling with limited fiscal space, it is important to adapt an integrated approach toward the implementation of SDGs by focusing on investments that could lead to the achievement of multiple SDG's.

However, the tradeoffs amongst the SDGs must be considered. It is therefore imperative to maximize the synergies and to minimize the trade-offs by focusing on the SDGs targets with a lower percentage of trade-offs.

Conclusions and Policy Recommendations

The analysis of human capital development in Malawi underscores its critical role in achieving the SDGs. To propel Malawi's development agenda forward and offer insights for policymakers and development practitioners globally, the following recommendations are made:

- **Strengthen Health Care Systems:** Increase budget allocation to the health sector and investments in health care infrastructure, equipment and facilities to improve access to quality health care. This will lead to enhanced health care delivery, reduced mortality rates, improved overall health outcomes and increased resilience to health crises, contributing to a healthier and more productive population.
- **Enhance Education Access and Quality:** The Government should increase funding allocations to education to at least 20 percent of the national budget in line with the Dakar framework for action. This investment will lead to increased enrolment rates, improved educational infrastructure, enhanced learning outcomes and the development of a skilled workforce, thus fostering sustainable economic growth and reducing educational inequalities.

- **Foster Infrastructure Development:** Prioritize investment in critical infrastructure sectors, such as health, energy and telecommunications to facilitate economic growth and improve access to basic services.
- **Funding for Human Capital Development:** Ensure diversifying the sources of financing by tapping into different sustainable financing mechanisms, such as blended finance vehicles for small and medium-sized enterprise (SME) development, pension fund capitalization, diaspora financing, exploring social impact and green bonds, just to mention a few. The Government should also ensure an enabling environment for private sector investment and leverage on private sector financing through different financial mechanisms such as public-private partnerships (PPP).

Implementing these recommendations can significantly contribute to human capital development, setting a robust foundation for achieving the SDGs in Malawi and offering actionable insights for other countries focusing on similar developmental goals.

Endnotes

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