



Making Africa's Population An Asset

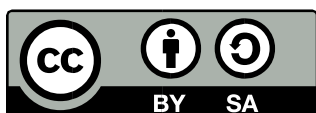
2020



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Preface

At its inaugural meeting of November 27, 2018, the Board of the Africa Progress Group (APG) resolved that its work, at least in the early years, will be structured around five major pillars of Africa's progress. These pillars were creatively proposed as "5 Ps" by the Chairman of the Group- His Excellence Olusegun Obasanjo as **Politics** (sound, people-centered governance); **Population** (managed for optimal benefit and fulfilment); **Prosperity** (lifting people out of poverty; facilitating self- and social-empowerment and positive social transformation); **Protection** (all-round security for all); and **Partnership** (within Africa and between and the rest of the world).

For its inaugural annual report, APG decided to focus on population, one of the five pillars. The goal is to stimulate conversations and actions that will lead to creative solutions capable of addressing the cascade of challenges facing the continent induced by its burgeoning population. The emerging maxim became "*Making Africa's Population An Asset*" rather than a burden.

The human species, like others in the living world, has reproducibility as a natural endowment. Down through the ages, the cycle of birth and death ensures that the human population thrives; the quest now being to ensure that the balance in the global ecosystem is not disequibrated as a consequence of improper management of such populations. As one size does not fit all, population management should be illustrated and reflected in cultural pluralism (religious and other socio-cultural leanings) and should translate to productive and healthy lives for the citizenry. The agenda canvassed in the report is a commitment to making the population, big or small, in all African countries, an asset through providing every member of the community, such essentials as quality education, affordable housing, food and nutrition security, health security, security of lives and property as well as meet other human development targets in the Sustainable Development Goals (SDGs) and the African Union Agenda 2063.

The report debuts an index- Population as Asset Responsiveness Index (PARI). This is a measure of how well African countries are responsive to their growing populations. The findings laid bare the long road most African countries must travel to make their populations less of a burden and more of an asset. It is my hope that Heads of State and Governments in Africa will reflect on their standing on this index and take steps to apply the recommendations for improving their ranking on PARI. APG anticipates publishing the index annually to track the progress of African countries in the composite index and its component elements. I look forward to annual improvements so that Africa can keep making progress in all facets of development.

Attention will turn in the 2021 APG report to another of the 5 "P"s- Politics. In this context, focus will be on governance. A comparative analysis of different governance paths and models in the contemporary globalised world will be a key highlight, examined within the lens of suitability for the African context.

I wish to thank all those experts who contributed to drafting and reviewing the report and all members of APG for endorsing it. Special appreciation goes to Afreximbank and The Brenthurst Foundation for financially supporting different phases of the production process.

Best wishes for 2021, a year which promises continued progress for Africa.

Olusegun Obasanjo
Chairman

Executive Summary

The frightening picture of being a potential burden can be seen from recent and projected data. Population estimates predict that by 2050, of about 2.2 billion that will be added to the global population, more than half of will be in Africa, mostly contributed by the large populations of Nigeria, Kenya, South Africa, Ethiopia, Uganda, Tanzania, Egypt, and the Democratic Republic of Congo. Out of the projected 1.3 billion people that would be added by Africa, Nigeria, currently the 7th largest populated country globally and which is projected to rise to the 3rd position by 2050, is expected to be a major contributor and one of the six nations globally to have more than 300 million people. As the continent's population is expected to grow to about 2.5 billion by 2050, it is estimated that nearly half (14) of the 30 most populous countries of the world by the end of the 21st century will come from Africa including Nigeria (3rd); Tanzania (5th); Democratic Republic of Congo (8th); Uganda (11th); Kenya (12th); Ethiopia (14th) and Zambia (16th). Others are Niger (17th); Malawi (18th); Sudan (19th); Egypt (21st); Burkina Faso (25th); Madagascar (26th) and Mali (29th).

Clearly, the continent has high population momentum as population growth is in excess of two percent every year. The continent is the second largest and second most populous continent of the world. Fertility rates are higher than in any other region of the world. About 41 percent of Africa's 1.13 billion population are children below age 15 years and only about 4 percent are persons older than age 65. Nine of the 10 countries in the world with the highest proportion of population aged less than 15 years in 2020 are in Africa. A major concern about African rapid population growth is that jobs, national infrastructures, social services, housing, health care facilities are not growing at an equally comparable rate.

This report, which is three parts, presents details of current demographics of Africa and projected future trends. It brings to sharp relief, the potential of the demographics being a burden if not harnessed to yield “demographic dividends”. The second part of the report is the assessment of African countries on their level of responsiveness to making their population an asset.

The need to establish an index for measuring responsiveness and comparing the readiness of African countries to make population an asset was the basis for the Group to initiate a unique measure of the level of national responsiveness in catering for the growing population. How will the fast-growing population be educated? How will their food and nutrition security, and health security needs be assured? How will they be housed? How will their welfare and social security be catered for? These are some of the key questions to which answers should be urgently sought to avert the growing population being a burden. The task at hand, to make population an asset, is to stay on the positive side of measures of socio-economic development. “Responsiveness” in the context of this report is taken to mean ability to respond quickly or react appropriately and positively to developmental issues impacting population growth.

Population As Asset Responsiveness Index (PARI) was developed to provide a single measure to capture key dimensions of human development that are strong predictors of population as asset. Only predictors with current data sourced from validated and published UN, AU and other global and regional agencies were selected for computing the index. This was to avoid contentions with APG data since such data are not primarily generated by APG but are secondary data from validated sources. There were variables found to be predictors of population as asset which could have been inserted into the PARI computation other than those selected for the analysis. Absence of data for such variables from validated sources inhibited their inclusion in the analysis. The final computation of PARI utilised validated data on five key dimensions. These were education, health, food security, social security and welfare, and infrastructure. In subsequent years, other variables with data for all countries will be considered in the analysis. Although UNDP utilises geometric mean of equality-weighted variables (dimension), the possibility of differentially weighting the metrics, will be explored in future analysis.

The findings on PARI show the relative ranking of the 54 countries in Africa on their level of responsiveness to making their populations an asset. It is clear that all countries are far from attaining complete responsiveness on all the dimensions. The expectation is that PARI will be a stimulus for each country to introspect on its performance and take urgent action towards remediation. PARI is anticipated to be an annual assessment and improvements made by each country will be tracked and reported, to celebrate and encourage progress, or urge action if progress is not discernible.

The third part of the report is a menu of strategic options which African countries can explore in making their populations an asset. There are 109 strategic options proposed for education, health, food security, housing, peacebuilding, social infrastructure, environmental management, poverty reduction and science and technology. With Covid-19 depression of most economies in Africa, how can the implementation of these options be funded? The last section in Part 3 offers recommendations on funding options.



Key Messages

1. APG sees Africa's fast-growing population more of an asset than a burden. It is convinced that African governments should align with this orientation, seen to be consistent with regional Agenda 2063 and the SDGs. A strategic direction to which attention of African governments should turn is investment of efforts to making the growing population less of a burden but increasingly, an asset.
2. Since fewer than a fifth of African countries performed well on all measures of the 2020 Population as Asset Responsiveness Index (PARI), urgent steps must be taken by each African country to bridge the gaps observed in this report to avoid the depressing effect of excessive population on development.
3. Youth unemployment rate in Africa is one of the highest in the world. African countries must urgently commit to lowering this rate through a combination of efforts including functional education, entrepreneurial training, provision of job opportunities and the enabling environment for investment and growth of small and medium-scale enterprises.
4. The sensitive matter of population control in Africa should be approached in a socio-culturally contextual manner while recognising that uncontrolled population without appropriate safety nets for making the growing population live healthy and productive lives is inimical to national development. African governments should apply global best practices as it suits their socio-cultural sensitivities. The important message conveyed by APG is to ensure that the growing population is served the best regime of such enablers as education, health, food and nutrition security, housing, employment and security of lives and property to make the population an asset rather than a burden.
5. The attention paid to education by a country is, in large part, a reflection of its responsiveness to making its growing population an asset. Education is seen as the antidote to poverty and ignorance and the direct and indirect key to unlocking human and material resources of a nation. It can be likened to the hub around which other components of development revolve, like spokes on a wheel. An African country with

a huge educated population (with low illiteracy rate) has a higher chance of making its population an asset for development than one that is populated with persons with high proportion of illiterates.

6. Productive investment in the health of the citizenry is a major pathway to responsive population management. A nation of healthy people is a denotation that such people will have physical and mental capabilities to contribute to the growth and development of their communities. The clichés that a nation with unhealthy citizens is a dead nation and that health is wealth hold true in this context. Without good health, the ability to work productively is diminished and the opportunities for earning are dimmed. If African countries provide health security for the citizenry, manifold benefits accrue. Healthy populations live longer and are more productive, hence contributing to economic development. Weak health systems not only cost lives but pose some of the greatest risks to the economy.
7. An African country that is food secure even with the ever-dynamic climatic conditions, incessant growth of the population, increase in the prices of foods and other environmental factors has a higher chance of making its population an asset for development. Food security is a strong economic variable as the cost of hunger and malnutrition is reflected in low productivity, illnesses, deaths, low cognitive development and learning achievement.
8. Universal access to reliable, affordable, low-carbon electricity is a major key to Africa’s socio-economic transformation.
9. Making houses affordable is a good measure of population responsiveness to which African countries should strive.
10. Africa is desperately short of the organizational capital that firms have (regardless of their sector), which is to organize groups of works to reap economies of scale and specialisation. Public policies need to encourage more firms – whether by bringing foreign ones in (the evidence is that that they encourage domestic firms rather than displace them); or by providing the venture capital to scale up domestic SMEs. Africa’s own venture capital businesses, and the world’s DFIs -such as IFC – are all needed.
11. Youth is an advantage for ‘adopting and adapting’, but a disadvantage where experience is valuable. This implies that Africa’s workforce is particularly well-suited for new activities, and particularly badly suited for jobs which need a lot of experience. In other words, it is ideal for rapid structural change – the expansion of some sectors and the contraction of traditional sectors.
12. Africa is urbanizing fast. Potentially this helps. As cities become larger, the productivity of the people in them tends to go up – doubling city-size increases per capita productivity by around 5%. In contrast, the rural activities of agriculture and resource extraction are land-dependent, and extra people tend to reduce per capita productivity. To prevent Africa’s future cities from becoming low-productivity mega-slums it is vital to put the basic infrastructure for the settlement of migrants in place ahead of their arrival. If informal settlements spread, the cost of retrofitting the infrastructure is triple that of putting it in prior to settlement. The key things that need to be provided are (1) a road grid, (2) demarcated plots with clearly assigned rights to ownership and sale (3) basic services under the roads – electricity, water and sanitation. People can build their own structures, and connect to these services.
13. In spite of the depression in the economy of African countries induced by the Covid-19 pandemic, funding of efforts to make population an asset can be achieved through curbing corruption, reducing financial wastage and adopting diverse ways enumerated in this report.



Chapter 1

Africa: Unfolding Demography

Introduction

The total population of the world hit the 6 billion mark on October 12, 1999, 7 billion on October 31, 2011 and reached 7.773 billion in October 2020. Global population is estimated to increase to 9.7 billion in 2050 and reach 11 billion by 2100 (United Nations, 2019; PRB, 2020). While it took 200,000 years of human history to reach 1 billion, it took only 200 years to reach 7.7 billion. This population is distributed unevenly into six continents with Africa accounting for roughly 17% of the total. As such, Africa that is home to 54 recognised sovereign countries, is the second largest and second most populous continent on earth with an estimated population in 2020 of 1.338 billion people (PRB, 2020). The very rapid population growth that occurred in Africa in the last century began initially slowly at less than 0.1% per annum before 1900, rose to 1.2% between 1900 and 1950, 2.8% by 1970 and by 1990, 3.2%. Since the beginning of this century, rapid population growth continued and peaked at 4.8% (United Nations Economic Commission for Africa, 2016) but projections indicate expected

Eastern and Western Africa have the largest population sizes. Northern and Western Africa have the largest share of urban population. Western and Eastern Africa have the highest fertility rates while Southern Africa has the lowest fertility rate among the regions.

slower growth rates of 2.54% (2020) and 2.15% by 2035, brought about by the cumulative effects of declining fertility and mortality in many of the countries.

Population sizes globally and in Africa are largely determined by fertility, migration and mortality indices. However, the fertility rates and the population growth rates (derived from the interrelationships between birth, deaths and migration) remain strong indicators of the trend in population size. The trend in global and African population characteristics from 1970 to 2020 shown in Tables 1.1 and Table 2 illustrates the regional population characteristics of Africa in 2020. While the fertility rate of the world in 2020 stood at 2.47% and growth rate at 1.05% , that of Africa is higher than the global figures with a fertility rate of 4.44% and growth rate of 2.54%. As can be seen in Table 2, Eastern and Western Africa have the largest population sizes, while Northern and Western Africa have the largest share of urban population. In addition, Western and Middle Africa have the highest fertility rates while Southern Africa has the lowest fertility rate among the regions.

Table 1.1: Trend in population characteristics of the World and Africa (1970-2020)

Year (July 1)	World				Africa			
	Population (World)	Yearly % Change	Fertility Rate	Urban Pop %	Population (Africa)	Yearly % Change	Fertility Rate	Urban Pop %
2020	7,794,798,739	1.05%	2.47	56.20%	1,340,598,147	2.54%	4.44	43.80%
2019	7,713,468,100	1.08%	2.51	55.70%	1,308,064,195	2.52%	4.67	41.40%
2018	7,631,091,040	1.10%	2.51	55.30%	1,275,920,972	2.55%	4.67	42.90%
2017	7,547,858,925	1.12%	2.51	54.90%	1,244,222,267	2.57%	4.67	40.50%
2016	7,464,022,049	1.14%	2.51	54.40%	1,213,040,521	2.59%	4.67	42.00%
2015	7,379,797,139	1.19%	2.52	54.00%	1,182,438,784	2.61%	4.73	41.60%
2010	6,956,823,603	1.24%	2.58	51.70%	1,039,304,033	2.55%	4.90	39.30%
2005	6,541,907,027	1.26%	2.65	49.20%	916,154,288	2.47%	5.08	37.20%
2000	6,143,493,823	1.35%	2.78	46.70%	810,984,226	2.49%	5.35	35.30%
1995	5,744,212,979	1.52%	3.01	44.80%	717,270,078	2.62%	5.72	33.70%
1990	5,327,231,061	1.81%	3.44	43.00%	630,349,639	2.82%	6.19	31.70%
1985	4,870,921,740	1.79%	3.59	41.20%	548,626,148	2.86%	6.60	29.30%
1980	4,458,003,514	1.79%	3.86	39.30%	476,386,273	2.81%	6.64	27.00%
1975	4,079,480,606	1.97%	4.47	37.70%	414,674,688	2.67%	6.70	24.90%
1970	3,700,437,046	2.07%	4.93	36.60%	363,447,518	2.57%	6.71	22.70%

(Source: Worldometer,2020) (www.worldometers.info).

Table 1.2: Population estimates by Sub-regions in Africa (2020)

Region	Population (2019)	Yearly Change	Density (P/Km ²)	Fertility Rate	Median Age	Urban Pop %
1. Eastern Africa	445,405,606	2.65 %	67	4.43	19	27.00 %
2. Western Africa	401,861,254	2.66 %	66	5.18	18	47.30 %
3. Northern Africa	246,232,518	1.84 %	32	3.25	26	50.30 %
4. Middle Africa	179,595,134	3.03 %	28	5.53	17	42.20%
5. Southern Africa	67,503,635	1.31 %	25	2.50	27	60.00 %

Source : <http://www.worldometers.info/world-population/population-by-africa-subregion/>

Future growth of Africa's Population

Population estimates predict that by 2050, of about 2.2 billion that will be added to the global population, more than half of this will be in Africa, mostly contributed by its large populations of Nigeria, Kenya, South Africa, Ethiopia, Uganda, Tanzania, Egypt, and the Democratic Republic of Congo. Out of the projected 1.3 billion people that would be added by Africa, Nigeria, currently the 7th largest populated country globally and which is projected to rise to the 3rd position by 2050, is expected to be a major contributor and one of the six nations globally to have more than 300 million people. As the continent's population is expected to grow to about 2.5 billion by 2050 (Table 1.3), it is estimated that nearly half (14) of the 30 most populous countries of the world by the end of the 21st century will come from Africa including Nigeria (3rd); Tanzania (5th); Democratic Republic of Congo (8th); Uganda (11th); Kenya (12th); Ethiopia (14th) and Zambia (16th). Others are Niger (17th); Malawi (18th); Sudan (19th); Egypt (21st); Burkina Faso (25th); Madagascar (26th) and Mali (29th) (PRB, 2018).

Table 1.3: Population forecast of the World and Africa (2020-2050)

World					Africa			
Year	Population (World)	Yearly	Fertility	Urban	Population (Africa)	Yearly %	Fertility	Urban
(July 1)		Change	Rate	Pop %		Change	Rate	Pop %
2020	7,794,798,739	1.05%	2.47	56.20%	1,340,598,147	2.54%	4.44	43.80%
2025	8,184,437,460	0.98%	2.54	58.30%	1,508,935,218	2.39%	4.48	46.30%
2030	8,548,487,400	0.87%	2.62	60.40%	1,688,321,099	2.27%	4.53	48.80%
2035	8,887,524,213	0.78%	2.70	62.50%	1,878,193,685	2.15%	4.57	51.40%
2040	9,198,847,240	0.69%	2.77	64.60%	2,076,749,529	2.03%	4.61	54.20%
2045	9,481,803,274	0.61%	2.85	66.60%	2,281,452,464	1.90%	4.65	57.00%
2050	9,735,033,990	0.53%	2.95	68.60%	2,489,275,458	1.76%	4.69	59.80%

(Source: Worldometer, 2020), (www.worldometers.info)

Africa's youthful population

The number of young adults and children aged 0-24 years has more than quintupled from 138 million in 1950 to 716 million in 2015 and according Ann Bakilna (2015), *"Of the world's top 10 countries with the youngest populations, 8 are in Sub-Saharan Africa. By 2050, the region will be home to all of them"*. In addition, Bill Gates noted that at the end of this century, more than half the number of children living in the world would be in sub-Saharan Africa (SSA). While the population aged under five years in the rest of the world would decline from 560 million in 2020 to 257 million in 2100, the corresponding process would see population in SSA countries increasing from 173 million to 293 million (Gates, 2019). Furthermore, this youthful population is projected to increase further by 2100 (Gates, 2019).

The highest proportions of persons younger than 15 years are in Middle Africa (46%) and Western and Eastern Africa (44% each). The least proportions are in Southern Africa (30%) and Northern Africa (32%). Nine of the 10 countries with the highest proportion of population aged less than 15 years world over in 2010 are in Africa. The proportions in these 10 countries range from 44 percent in Tanzania to about 50

percent in Niger. About 42 percent of Nigeria's population in 2006 consisted of persons below age 15 (NPC, 2010). This implies that the African working age population is large and has the potential of growing at a fast rate. The preponderance of persons younger than age 15 in Africa's population is a function of the prevailing fertility rates, which are generally high and most especially among the countries of sub-Saharan Africa. Within the regions and the continent generally, certain countries stand out in their contributions to the overall youthful population situation. Nigeria, Egypt, Kenya, Uganda, the Sudan, South Africa, Ethiopia, the Democratic Republic of the Congo, and the United Republic of Tanzania contributed about 61% of the population that increased in Africa in the period 1980-2015. Of this, in 1980, 45% of the population was made up of children between 0-14 years old while those in 15-24 years was 19% of the total population. The percentage of those in 0-14 years dropped to 41% in 2015 but increased in number from 213.5 million in 1980 to 473.7 million in 2015 (United Nations Economic Commission for Africa, 2016). From 1950 to date, the pattern of the African population structure in which 3 out of 5 people are under 25 years of age has not changed, because of persistently high population growth (United Nations, 2018; PRB, 2020).

The Growing Youth Population in Africa

The Human Development Index (HDI) summarises the average achievement of countries in key dimensions of human development, which are long and healthy life, being knowledgeable, and having a decent standard of living. The index suggests that the quality of life of a population and the capabilities can be used to determine the level of development of such a population, in contrast to the economic theories of development. Using this index, countries can be compared on different population indices and the outcome of these comparisons used to initiate policies aimed at improving the overall quality of life of any region- in this context, African countries. Unfortunately, the rapid population growth in most African countries and its associated implications and multiplier effects, coupled with inappropriate population policies to bridge the population-resource nexus gap has relegated most African countries to the bottom of the ladder of the Global Human Development Index. Thus, the 2019 HDI update shows values for 189 countries and territories out of which 59 are in the very high human development group, 53 in the high, 39 in the medium and only 38 in the low development groups. The top five African countries in the global HDI with their various indices are shown in Table 1.4.

Table 1.4: Top 5 highest ranking African countries on the UNDP 2019 Human Development Index

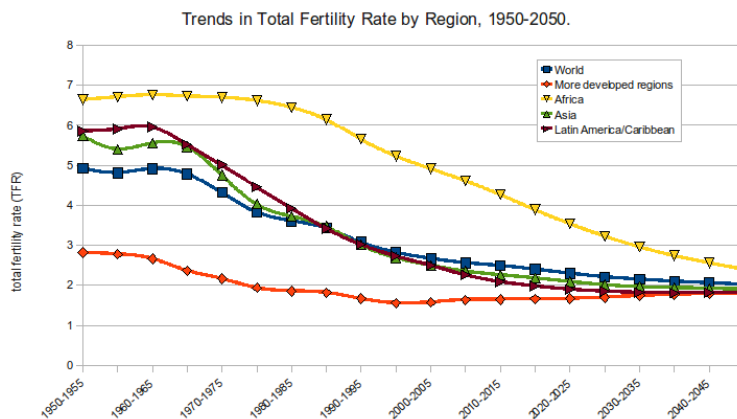
Indicators	Seychelles	Mauritius	Algeria	Tunisia	Botswana
Human Development Index (HDI) value	0.801	0.796	0.759	0.739	0.728
Life expectancy at birth	76.0	74.9	76.7	76.5	69.3
Expected years of schooling	15.5	15.0	14.7	15.1	12.7
Mean Years of schooling	9.7	9.4	8	7.2	9.3
Gross national income (GNI) per capita	\$ 25,077	\$ 22,724	\$13,639	\$10,677	\$ 15,951
HDI Position/rank in Africa	1	2	3	4	5
Global HDI position/ rank	62	66	82	91	94

Source: <http://hdr.undp.org/en/content/2019-human-development-index-ranking>

Seychelles which ranked first on the African continent ranked 62nd globally. The other four top African countries in the global HDI also ranked 66th, 82nd, 91st, and 94th. This is an indication that not only does

Africa have a rapid growing and young population, the quality of the population is relatively poor on the global scene. The top five countries in the global HDI with their indices in parenthesis are Norway (0.954), Switzerland (0.946), Ireland (0.942), Germany (0.939) and Hong Kong, China (SAR) (0.939). Conversely, the bottom five countries in the global HDI with their indices in parenthesis remain African countries of Burundi (0.423), South Sudan (0.413), Chad (0.401), the Central African Republic (0.381) and Niger (0.377).

As shown earlier, Africa is a continent of youthful population and these people urgently need food, education, healthcare, housing, infrastructure and jobs. Africa’s population issues centre on high birth and death rates, increasing population size, high density, rapid urbanization and increasing dependency burden. Deepening poverty, unemployment of youths, inadequate housing, low access to quality education, insecurity, poor sanitation, environmental degradation, inadequate transportation system, political instability and falling living standards are some of the very serious social problems being currently confronted in Africa (Jiang, 2015;United Nations, 2014). Unfortunately, jobs, national infrastructures, social services, housing, and health care facilities are not also growing at an equally comparable rate or at a faster rate compared to the national population growth rates. Rapid population growth is generally seen as being capable of shifting spending away from physical-capital investments and towards expenditures on social services like health, housing, education and food among others. As such, conditions and opportunities for decent livelihoods should be created for youths to reduce unemployment, underemployment and irregular employment. Unfortunately, this directly affects the ability of a country to make economic progress and invest more on industrialization, which should provide employment opportunities for the youth (African Union, 2017).



With the prevailing population structure and socioeconomic development, Africa’s population seems to constitute a liability. Africa has the youngest population among the regions of the world with a median age of 19.7 in 2012, in contrast to the median age of 30.4 for the world (UNECA, 2012). The Population Reference Bureau's 2020 World Population Data Sheet shows that about 41 percent of Africa's 1.338 billion population are children below age of 15 years and that only about 3 percent are persons older than 65 years (PRB, 2020).

A high youth dependency ratio indicates that greater investment has to be made for health, schooling, and services for children and young adults, thereby placing heavy demand on the national economy. In this regard, resources that should be available for capital development projects, infrastructure, industrialization and other modernising efforts are otherwise focused on child and healthcare facilities and services, education, feeding, clothing, housing and other critical and essential needs of children and youths. Unfortunately, the economy of many African countries is unable to cope with the social,

infrastructural and environmental demands of the ever-growing populations. Thus, there is evidence of decay in the critical areas such as education, healthcare services, employment, transportation, energy and power, and information and communication technology, required for the attainment of accelerated economic growth.

Youth unemployment rates in many African countries including those of university graduates are very high. For example, in Senegal, each year, about 100,000 university graduates enter Senegal's labour market alone, competing for less than 30,000 formally registered vacancies (Ibrahima, 2014). The International Labour Organization reports that the global youth unemployment rate in most countries, especially the developing, is close to crisis peak. ILO argued that unemployment rate reached 12 percent in sub-Saharan Africa in 2013, and that 60 percent of the unemployed are the youth (age 15-24) (ILO, 2013). It is ironic that even many of those employed are underemployed or are engaged in irregular employment. This is because many young workers often receive wages that are below average or they are engaged in work for which they are over-qualified.

High population growth rate is also responsible for some of the challenges the continent is facing with regard to over-cultivation and overgrazing, both accelerating environmental degradation. The lean and thin capital is widened instead of being deepened as the scarce resources are thinly distributed over the huge growing population. Much of the depleted resources are committed into social overheads at the expense of investments in the real productive sectors that will stimulate economic growth. Consequently, many Africans live in poverty, and subject many of their citizens to lack of access to improved health services, hunger and starvation, as well as mental and physical inconveniences. In this context, a World Bank report showed that Nigeria and four other countries are home to nearly 760 million of the world's poor (World Bank 2014). Poverty increases the risks of homelessness, illiteracy, diseases and drug abuse. The negative effects of these factors have the capacity to undermine the human capital development.

Many African communities desire large families, in part as a result of the institution of polygyny and polygamy and in part because children are perceived to enhance family status and the prestige of their lineage. Over the years, the perception of many Africans (especially men) as regards family size has hardly changed. In some societies, large family is still seen as a sign of prosperity. With the economy hard hit by Covid-19, it is speculated that a shift in the desire for large families in favour of smaller size, is in the horizon.

In many African countries, the presence of at least a male child is regarded as necessary, since having a son is a sign of social completeness and economic investment. It is not that daughters are not important; sons are traditionally expected to maintain the family tree and make financial contribution towards the support of their parents.

In many African countries, the presence of at least a male child is regarded as necessary, since having a son is a sign of social completeness and economic investment. It is not that daughters are not important; sons are traditionally expected to maintain the family tree and make a financial contribution towards the support of their parents. Male children are regarded as the pillar of the family and object of perpetuation of family lineage. Ironically, modernization and globalization have not yet weakened this deeply rooted traditional trait in many African countries. However, the shifting economics and lifestyles of middle-class may help turn the tide.

Many African countries are still faced with an increasing rate of child and early marriage in spite of the law banning the practice. In Niger Republic, early marriage is allowed and

the median age of marriage among women is 15.52 and the median age at first birth is 17.9. Also, as reported in the Nigeria Demographic and Health Survey (2013) among Nigerian women between ages 20 and 24, 43% are reported to have been married before the age of 18 and almost 20 per cent are reported to have been married before the age of 15 (NPC & ICF Macro, 2014). By age 18, 27.41% of adolescents are in union in Nigeria, 24.13% in Burkina Faso, and nearly 60% in Niger (Winfred and Somefun, 2019).

Another factor that is responsible for the kind of population growth being experienced in Africa is the reduction in mortality rate, especially among infants whose contribution to mortality is enormous. Many countries, in recent decades, witnessed improvement in public health services as a result of health intervention programmes, better hygiene, improved nutrition and knowledge of causes of diseases. This development led to reduction in mortality rates and an increase in expectation of life at birth.

Gender power dynamic is another important factor contributing to the high fertility regime of many African countries. In many of these countries, women's fertility preferences and behaviour are strongly influenced by their husband's reproductive motivation. This influence is a function of both men's dominance and women's financial dependency on their husbands, most especially in the rural area. In many African traditions, especially in patriarchal societies, power and authority to make decisions and to control valued resources are often invested in males. As indicated in the UNFPA State of World Population (2019), gender inequality limits the ability of women to freely make fundamental decisions. A personal opinion of males within their familial context becomes the overriding factor in decisions pertaining to reproductive health. Though there are indications that male attitudes towards a range of taboos are changing, a woman still needs to get her husband's consent before she can receive any contraceptive services. This indicates that men's attitude and behaviours can either impede or promote sexual and reproductive health and consequently influence fertility. However, to make genuine progress in economic and social development and to achieve population goal, women must increasingly have greater freedom of choice in determining their roles in society.

Population and Sustainable Development

Population has become an important issue of concern in contemporary society. This is so because population, in terms of its size and composition, has far-reaching implications for change, development and the quality of life in society. Population is a major asset, as resource for development (Simon, 1996) and is also the prime beneficiary of development. It constitutes the bulk of the producers of goods and services as well as the major consumers of the goods and services. Thus, the population of a country is a major determinant of the size of the national and international channel for investment.

To many, rapid population growth constitutes a major threat to the continuous availability of different types of resources and may therefore limit the capacity of the country to achieve any tangible development. Whereas many people may not agree that the population-resource relationship may take the form put forward by Malthus, resource scarcity relative to the needs of a growing population may be real. It is this realization of scarcity that underlies the emergence of the concept of sustainable development.

The population of Africa has continued to increase due largely to the decrease in mortality with its concomitant high fertility. This has resulted in the preponderance of young persons in the population which constitutes more than 36 percent of the economically active population of Africa (PRB, 2009). The situation of things in most African countries shows that rapid population growth creates economic and

social issues that threaten to make many of these African countries unmanageable. The high rate of population growth that eats into surpluses available for economic and social development also hinders improvements in social amenities. With rapid population growth, the health, housing conditions, and the quality of education and public services all deteriorate; unemployment, urban drift, and social unrest also increase.

The preponderance of youths in the population and the strong population momentum that has been built into Africa’s population suggest that population will continue to grow in the next 40 – 50 years even if fertility is drastically reduced to replacement level. It is even striking to observe that Africans still have desire for more children (Casterline and Agyei-Mensah, 2017). High fertility kindles a youth explosion that challenges governments to satisfy the ever increasing demand for basic amenities and services like food, housing, education, health services and employment. Under this situation, the continent can reap either a demographic dividend with productive young workers or a catastrophe of massive joblessness, overcrowded schools and hospitals, high crime rate and violent civil strife.

High Africa’s Population Growth: A Liability?

Population growth is a challenge for Africa’s development, because successes in such sectors as education, labour market, economic growth, and health are devoured by the growing number of people. High population growth is characterised by adverse effects that slow down the development. This is a possible reason for the continent’s grim situation of increased unemployment rate and poverty level, reduced living standards, escalating migration levels, pressure on available resources, urban drift, insurgency and inter-tribal wars and recurring bloody communal and religious clashes.

Excessive population growth is also responsible for the problems the continent is facing with over-cultivation and overgrazing which often cause environmental degradation. As stated earlier, youth unemployment presents another burden. Whereas global youth population has increased from 1 billion to 1.3 billion, the rate of youth (15-24) engagement in labour force declined from 568 million to 497 million (International Labour Organisation, 2020). The global rate of youth unemployment was at 13.5 in 2018 and 13.6 in 2019 with a projected increase of 13.7 and 13.8 in 2020 and 2021 respectively (Table 1.5). These rates are lower and decreasing in Africa, from 10.9 in 2018, 10.7 in 2020 to a projected rate of 10.6 in 2021. Africa is facing the challenge of creating nearly twelve million additional jobs to contain unemployment. AfDB (2020), estimates the number of unemployed young people on the continent at nearly 60%. Across countries, the rate of unemployment varies with lowest rates in Niger (0.4%), Togo (1.8%), Tanzania (1.9%), Madagascar (1.8%), Burundi (1.43) while highest rates are found in Namibia (34%), Lesotho (27.25%), Mozambique (25.4%), Eswatini (26.4%) (1.1).

Table 1.5: Unemployment Rate across the World and Africa (2012-2021)

			2012	2018	2019	2020	2021
Youth unemployment rate	World	Total	13.4	13.5	13.6	13.7	13.8
		Total	11.7	10.9	10.8	10.7	10.6
	Africa	Male	11.6	10.6	10.5	10.4	10.4
		Female	11.8	11.3	11.1	11.0	11.0

Source: African Development Bank 2020

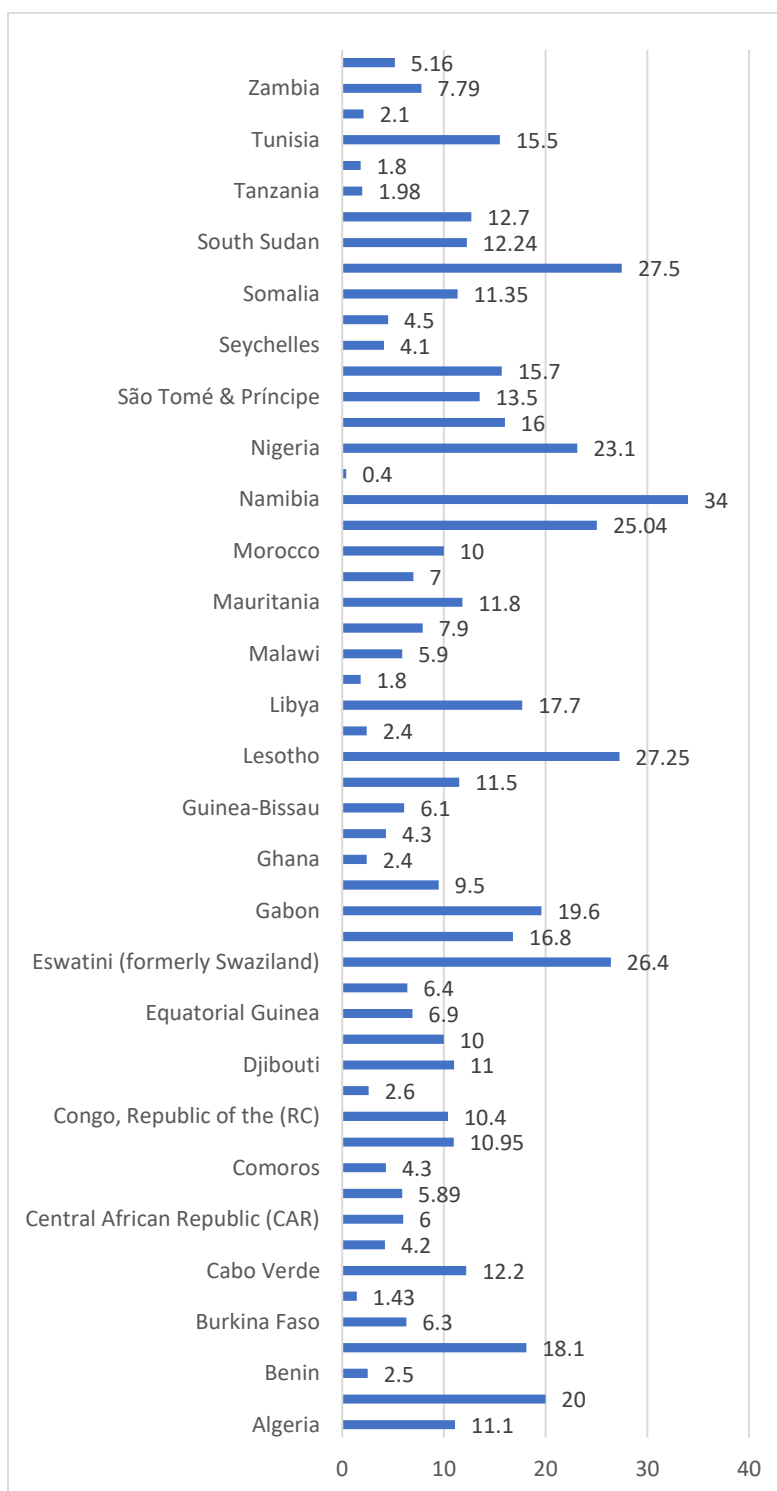


Figure 1.1: Unemployment Trend across Africa

Source: Africa Progress Group, 2020

As observed in August 2020 by the president of the African Development Bank, Akinwunmi Adesina, out of 12 million graduates entering the labour market each year, only 3 million of them get jobs (AEO, 2020). Urban areas have a greater percentage of unemployed youth than rural areas. Noteworthy also, many of the employed population are underemployed- although they are working, they are overqualified and at the same time underpaid for the job they currently possess. According to African Economic Outlook (2020), underemployment rate in Sierra Leone is 31% (in 2014); Democratic Republic of Congo is 86% (in 2012); Guinea, 12.8% (in 2014); Togo, 24.9% (in 2015); Benin 67.2% (in 2019); Cameroon had 76% (in 2014); Nigeria had 16.6% (in 2015) (National Bureau of Statistics, 2015). The majority of those in the labour force are in the informal sector, such as subsistence agriculture and urban self-employment petty services. While salaried workers account for almost half of global employment, it accounts for just 21.4% of employment in Sub-Saharan Africa (ILO, 2013). In a survey of youth in eight countries in the region, 71.7% of working youth were self-employed. Women were more likely to be self-employed than men (61% to women, 74% to men) and less likely to be employees or employers (31.6% for men and 20.6% for women) (ILO, 2014).

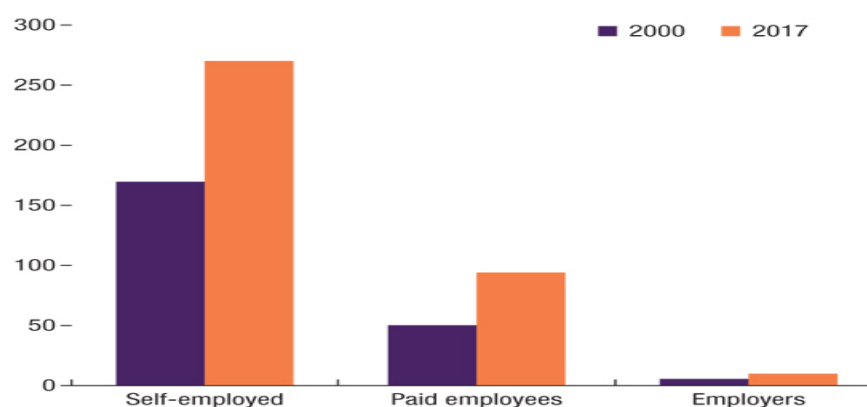


Figure 1.2: Africa Economic Sectors 2000 and 2017

Source: International Labour Organisation

The economic sector is dominated by workers who are self-employed (figure 1.2) thus, self-employed is a defining component of labour markets in Sub-Saharan Africa. Employment in manufacturing has remained low in this region despite the fact that productivity in manufacturing speeds the growth of a nation and brings it to the global frontier (Rodrik, 2015).

Drivers of unemployment

Several drivers of unemployment in Africa have been identified. According to Amadeo, (2020), frictional unemployment is caused when people voluntarily leave the workforce especially unfulfilling jobs because they have saved enough money to quit or they have the luxury to search until they find just the right work. Another cause is when workers relocate to a new region and remain unemployed until they find work in that place. Also, when new workers like students who graduate from school enter the workforce looking for a job that fits their new skills and qualification. When those who at some point in their lives stopped looking for work (either because they stopped working to raise children, get married or care for elderly relatives), re-enter the workforce.

Structural unemployment is caused by advances in technology. This is when computers or robots replace workers. This set of workers need more training to find a new job in their field. Job outsourcing (company

moving its manufacturing or call centres to another location) is also because labour costs are cheaper in countries or locations with a lower cost of living. Cyclical unemployment is caused when companies lose too much profit due to low consumer demand and when sales do not pick up and workers are laid off. Also, when there are fewer jobs than applicants. High unemployment causes consumer demand to drop even more, which is why it is cyclical.

According to a study by ACBF (2017), in four Africa countries (Swaziland, South Africa, Namibia, Botswana), unemployment is caused by:

- *High dropout rates:* A sizeable proportion of the youth drop out of school. These dropouts, most times, possess few professional or technical skills that can make them employable.
- *Lack of practical skills:* In many African countries, the quality of education and preparation for employment is poor. The education system has been more focused on academic performance, theory than practice, rather than the practical skills needed to increase economic productivity. Further, industrial skills are not inculcated in the curriculum so graduates are only suited for white collar jobs. Given that in recent times labour markets in the world have become more inclined to skilled workers, the lack of relevant skills, makes it hard for industry to absorb graduates.
- *Limited job prospects and opportunities:* The largest group of youth in a survey of African countries indicated that the main hindrance to finding a job is lack of what they perceive as “good jobs”. The second largest group believed that jobs are only given to people who have connections in privileged circles. Most of the youth do not have such connections. The unfair practice in the system gets youth frustrated and loose hope in applying for jobs.
- *Lack of capital and high costs of youth business opportunities:* Entrepreneurs encounter difficulties in registering their businesses. They have few business skills; business mentorship, narrow markets and limited startup and running capital.

In Nigeria as in most African countries, the challenge with electricity has made the cost of doing business to be exorbitant. Startup businesses and already established firms depending on generators for their operation incur high cost which increases the cost of operation and hence diminish profit.

Population-Economy Nexus

Population optimists are of the opinion that rapid population growth promotes technological and institutional innovation and allows economies of scale to be captured. The population neutralists, however contend that population growth in isolation from other factors has neither a significant positive nor a significant negative impact on economic growth.

The reduction of fertility and mortality rates will ensure an increase in the working age population due to a resultant decline in dependency ratio. This will cause an increase in output per head and generate savings that will in turn create investment opportunities (Galor, 2005). The growth of the economies of the Asian Tigers by the turn of the 21st century aptly demonstrated this argument.



Chapter Two

Population As Asset Responsiveness Index

A PG sees Africa’s fast-growing population more of an asset than burden. It is convinced that African governments should align with this orientation, seen to be consistent with regional Agenda 2063 and the SDGs. Hence, a strategic direction to which attention of African governments should turn is investment of efforts to achieve responsiveness in the realisation of the goal of making the growing population less of a burden but increasingly, as asset.

“Responsiveness” is taken to mean ability to respond quickly or react appropriately and positively to developmental issues impacting population growth.

The need to establish an index for measuring responsiveness and comparing the readiness of African countries to make population an asset was the basis for the Group to initiate a unique measure of the level of national responsiveness in catering for the growing population. How will the fast-growing population be educated? How will their food and nutrition security, and health security needs be assured? How will they be housed? How will their welfare and social security be catered for? These are some of the key questions to which answers should be urgently sought to avert the growing populations being a burden. The task at hand, to make

population an asset, is to stay on the positive side of measures of socio-economic development.

“Responsiveness” in the context of this report is taken to mean “ability to respond quickly or react appropriately and positively to developmental issues impacting population growth.”

Population As Asset Responsiveness Index (PARI) was developed to provide a single measure to capture key dimensions of human development that are strong predictors of population as asset. Only predictors with current data sourced from validated and published UN, AU and other global and regional agencies were selected for computing the index. This was to avoid contentions with APG data since such data are not primarily generated by APG but are secondary data from validated sources. There were variables found to be predictors of population as asset which could have been inserted into the PARI computation other than those selected for the analysis. Absence of data for such variables from validated sources inhibited their inclusion in the analysis. The final computation of PARI utilised validated data on five key dimensions. These were:

Education- to assess educational opportunities provided the citizenry through formal and non-formal channels. This utilised gross primary enrolment and adult literacy rates as measures (SDG 4).

Health- to assess health security using under-five mortality rates and health expenditure as percentage of GDP as measures (SDG 3).

Food security- to assess opportunities for feeding the citizenry measured by average food production per capita. (SDG 4)

Social Security and Welfare- to assess poverty reduction/alleviation efforts of government as well as efforts at reducing unemployment and providing housing for the citizenry. These were measured through national poverty line, unemployment rates and housing affordability rate (SDGs 1, 8, and 11).

Infrastructure- to assess provision of infrastructure notably power and electricity measured through availability of rural electricity (SDG 7).

Assumptions

The following assumptions undergird the process and product of derivation of PARI.

1. Data sourced by APG from UN, AU and other global and regional bodies are valid and reliable.
2. PARI scores are computed using the same set of indicators and rubric for all countries and hence amenable to inter-country comparisons.

Data Sources

Data were sourced from the following

Report	Year
1. UNFPA State of World Population	2019
2. UNESCO Institute of Statistics-World Education Data	2019
3. UNESCO Global Education Monitoring Report	2019
4. UNESCO Fourth Report on Adult Education	2019
5. UNDP Human Development Report	2019
6. FAO The State of Food Security and Nutrition Report	2019
7. Food Security Information Network (FSIN) Global Report on Food Crisis	2019
8. WHO World Health Statistics	2019

9. World Bank-The Future of Work in Africa Report	2019
10. World Bank State of Social Safety Nets	2018
11. Housing Finance in Africa (by Centre for Affordable Housing in Africa)	2019
12. Housing Affordability Rate	
13. UNDP Multidimensional Poverty Index. People living below poverty income line	2019
14. World Bank-Tracking SDG 7 The Energy Progress Report 2020	2018
15. Rural Electricity Access Rate	
16. World Bank World Development Report	2019
17. UNCTAD Trade and Development Report	2019
18. UN-DESA International Migration Report	2019
19. UNDP State of Social Assistance in Africa Report	2019
20. Mo Ibrahim Africa Governance Index	2018
21. ILO World Social Protection Report	2017

Data acquisition and processing

Only the latest published data available for all countries were used in the analysis. About 90% are 2018 and 2019 data and a few were reported for 2017. Since the values for each of the variables are variegated in terms of units, values of the metrics were first normalised following the UNDP procedure for computing the Human Development Index. The normalised values for each metric were then processed as percentiles, then percentages. This ensured additivity of all the metrics on the same normalised baseline. PARI is calculated as the arithmetic mean of equally-weighted scores of the following:

Education

- Out-of-School Children rate
- Adult Literacy rate
- Gross Primary Enrolment Rate

Health

- Current health expenditure (CHE) per capita in US\$ (from WHO)
- Under-Five Mortality Rate (from WHO)

Food security

- Average Food Production Rate (from FAO)

Recalling that in this report, “responsiveness” is taken to mean ability to respond quickly or react appropriately and positively to developmental issues impacting population growth, it is clear that all African countries have “responsiveness deficit”.

Social Security and Welfare

- National Poverty Line
- Unemployment Rate
- House Affordability Rate

Infrastructure

- Rural Electricity

NB: In subsequent years, other variables with data for all countries will be considered in the analysis. Although UNDP utilises geometric mean of equality-weighted variables (dimension), the possibility of differentially weighting the metrics, will be explored in future analysis.

Findings: 2020 PARI

Tables 2.1 to 2.3 present the results of PARI for 2020. The countries with complete data for computing PARI and their ranks on the index are shown in Table 3.1 with a range of 34.63 (Tanzania) and 78.12 (Eswatini, formerly Swaziland). Lower scores on PARI are indicative of lower level of responsiveness to population growth.



Table 2.1. Population As Asset Responsiveness Index by Country

Country	PARI	2020 Rank
Algeria	62.36	7 th
Angola	45.78	30 th
Benin	43.95	34 th
Botswana	51.20	15 th
Burkina Faso	37.50	44 th
Burundi	49.09	21 st
Cabo Verde	49.67	17 th
Cameroon	47.77	25 th
Central African Republic (CAR)	49.06	22 nd
Chad	39.02	40 th
Comoros	49.39	18 th
Congo, Democratic Republic of the (DRC)	45.63	31 st
Congo, Republic of the (RC)	38.14	43 rd
Cote d'Ivoire	47.90	24 th
Djibouti	39.89	39 th
Egypt	59.61	9 th
Equatorial Guinea	42.45	36 th
Eritrea	36.34	47 th
Eswatini (formerly Swaziland)	78.12	1 st
Ethiopia	36.93	46 th
Gambia	35.90	48 th
Ghana	47.09	28 th
Guinea	40.25	37 th
Kenya	49.19	19 th
Lesotho	70.31	3 rd
Liberia	35.00	49 th
Madagascar	48.31	23 rd
Malawi	49.15	20 th
Mali	39.94	38 th
Mauritania	37.30	45 th
Mauritius	55.18	11 th
Morocco	59.96	8 th
Mozambique	46.90	29 th
Namibia	66.34	5 th
Niger	38.46	42 nd
Nigeria	57.06	10 th
Rwanda	55.09	12 th
São Tomé & Príncipe	63.53	6 th
Senegal	44.01	33 rd
Seychelles	44.44	32 nd
Sierra Leone	54.74	13 th
South Africa	71.20	2 nd
South Sudan	51.12	16 th
Sudan	47.34	26 th
Tanzania	34.63	50 th
Togo	53.63	14 th
Tunisia	66.87	4 th
Uganda	38.81	41 st
Zambia	43.09	35 th
Zimbabwe	47.16	27 th

The top 10 countries on PARI are shown in Table 2.2. The countries in Table 2.2 are norm referenced, that is compared against themselves on the PARI scale. They are not in any way expected to be complacent since deficits, to which attention should be paid, are discernible on all the dimensions.

Table 2.2 top 10 countries on PARI

Rank	Country	PARI
1.	Eswatini (formerly Swaziland)	78.12
2.	South Africa	71.20
3.	Lesotho	70.31
4.	Tunisia	66.87
5.	Namibia	66.34
6.	São Tomé & Príncipe	63.53
7.	Algeria	62.36
8.	Morocco	59.96
9.	Egypt	59.61
10.	Nigeria	57.06

Relative to others, countries in Table 2.3 have more to do to respond to population as asset.

Table 2. 3 Bottom 10 countries on PARI

Rank	Country	PARI
41.	Uganda	38.81
42.	Niger	38.46
43.	Congo, Democratic Republic (DRC)	38.14
44.	Burkina Faso	37.50
45.	Mauritania	37.30
46.	Ethiopia	36.93
47.	Eritrea	36.34
48.	Gambia	35.90
49.	Liberia	35.00
50.	Tanzania	34.63

In the sections that follow, the dimensions of PARI are unbundled to provide insight to the performance of countries on the component variables.

Educating the Citizenry: A Measure of Population Responsiveness

Show me a country with investment in quality education for its peoples and I will point to that country as having leaders that are on track to making population an asset- Olusegun Obasanjo

The attention paid to education by a country is, in large part, a reflection of its responsiveness to making its growing population an asset. Down through the ages, education is seen as the antidote to poverty and ignorance and the direct and indirect key to unlocking human and material resources of a nation. It can be likened to the hub around which other components of development revolve, like spokes on a wheel. An African country with a huge educated population (with low illiteracy rate) has a higher chance of making its population an asset for development than one that is populated with persons with high proportion of illiterates.

The power of education in making population an asset can be seen in the following ways, among others:

- ◆ Reducing poverty, which is shown to be one of the collateral consequences of increased population; the acquisition of skills through education is the starting point for poverty reduction.
- ◆ Promoting health, because knowledge about diseases, nutrition and hygiene is the best preventive medicine – and knowledge is the prerequisite for inventing new cures.
- ◆ Applying new technologies and the advancement of new knowledge, because it provides the training essential for scientists and other professionals.
- ◆ Protecting the environment and ensuring sustainable development, since it gives us knowledge about the web of life and how to conserve it.
- ◆ Advancing gender equality, because educating girls and women is the most important factor for empowerment, accelerating development and improving welfare of children.
- ◆ Extending democracy and good government, because it fosters citizens to know their rights and how to make their voices heard.
- ◆ Improve literacy, numeracy and life skills of the citizenry through which meaningful participation in societal development is largely assured.
- ◆ A major antidote to religious and political conflicts and social unrest which inhibit local and foreign investment.

The Good and Not-so-Good Performers in Education

There are over 20 indicators of educational performance clustered around access, quality, equity, relevance, efficiency, and effectiveness. All clusters are worthy of attention for any country desirous of harnessing the power of education for development in spite of a huge population. Children of school-going age, at least for basic education, need to be in school. Enrolment should place accent on equity, meaning that no child should be disadvantaged on account of gender, race, religious affiliation, ethnicity, socio-economic status and other socially disaggregating variables. The education given to such children should be qualitative and relevant to personal, family, and national needs. The curriculum delivery system should be efficient and effective and school should be learner friendly. These are important targets to which all African countries should subscribe as part of Sustainable Development Goal No. 4.

In this report, African countries are measured on the basis of five indicators: out-of-school children rate, gross primary enrolment and literacy rate. We begin with out-of-school children rate.



Population Responsiveness Index measured by Out-of-School Children Rate

Out-of-school children rate is the number of children of official primary school age who are not enrolled in pre-primary, primary or secondary school, expressed as a percentage of the population of official primary school age (UIS, 2020). As the UNESCO Institute for Statistics (UIS) further explains, it is a “useful measure for comparison across countries with different population sizes. It combines the number of children of official primary age who never attended school or dropped out, and the population of official primary school age that is nationally and internationally considered as the target population. The higher the rate, the greater the need for interventions to target out-of-school children to achieve the goal of universal primary education. When disaggregated by geographical location and gender, this indicator can identify areas or groups needing the greatest efforts.”

The phenomenon of children being out of school has at least two meanings. One is that access is hindered by inadequate provision of educational opportunities. The other is that socio-cultural factors inhibit school attendance. Together these and other factors keep children on the streets or in places other than the school. Such children do not receive the benefits of education provided in the school system and end up as liabilities to society. Their street abode is a nursery for spawning criminal gangs.

African countries with low out-of-school rate are

taken to be those that are responsive to making population an asset on this specific measure. Low rate implies that efforts are made to keep school-age children in school and off the streets. It implies that such countries have installed a mechanism for ensuring children are enrolled in school even with increasing population. On this measure, below 2% is taken to be good performer and above 10% as poor performer.

Table 4.1 shows that the good performers on this measure are Algeria (0.35), Zimbabwe (0.35), Namibia (1.52), Madagascar (1.96), Benin (2.79), Seychelles (5.27), Cabo Verde (6.45), Cameroon (6.53), Egypt (6.94), Mauritius (8.65), and Morocco (9.67). All other countries where data is available are poor performers. This is an unimpressive picture and indicative that most African countries are far from prepared to make their fast-growing populations an asset. To ensure that population does not become a liability through weak attention to out-of-school rate, a number of actions are imperative.

Rank	Country	Out-of-school rate
1.	Algeria	0.35
2.	Zimbabwe	0.35
3.	Namibia	1.52
4.	Madagascar	1.96
5.	Benin	2.79
6.	Seychelles	5.27
7.	Cabo Verde	6.45
8.	Cameroon	6.53
9.	Egypt	6.94
10.	Mauritius	8.65
11.	Morocco	9.67
12.	South Africa	11.53
13.	São Tomé & Príncipe	12.12
14.	Eswatini (formerly Swaziland)	12.67
15.	Ghana	12.94
16.	Lesotho	13.08
17.	Rwanda	14.08
18.	Zambia	14.90
19.	Malawi	15.05
20.	Gambia	18.19
21.	Togo	21.11
22.	Liberia	21.36
23.	Guinea	21.91
24.	Burundi	23.70
25.	Mozambique	24.89
26.	Comoros	24.92
27.	Cote d'Ivoire	29.36
28.	Sierra Leone	29.74
29.	Nigeria	33.77
30.	Ethiopia	33.85
31.	Mauritania	33.85
32.	Burkina Faso	36.27
33.	Senegal	38.28
34.	Sudan	38.30
35.	Tanzania	39.72
36.	Eritrea	44.90
37.	Chad	46.59
38.	Djibouti	48.85
39.	Mali	50.71
40.	Niger	52.04
41.	Equatorial Guinea	55.30
42.	South Sudan	62.36

Improving out-of-school rate to make population an asset

There are several pathways to reduce out-of-school rate. Lessons can be learned from the good performing countries. These include:

1. Giving parents confidence that education has relevance and is socio-culturally sensitive and sending children to school is of value.
2. Making going to school attractive for children through provision of learner-friendly school environment.
3. Encouraging poor parents to send their children to school through fee-free schemes, school feeding programme and lowering indirect costs associated with uniforms, textbooks and informal fees.
4. Building schools closer to marginalised communities is also vital.
5. There is a need for new approaches to provide education to some of Africa's most marginalised children. Such approaches include mobile and satellite schools for vulnerable children and specialised training for teachers of children with disabilities.
6. There is a need to strengthen community input to schools, especially at the primary level.
7. Local languages should be adopted as a medium of communication and instruction, right from the nursery level.

Population Responsive Index measured by Education Literacy Rate

Literacy is traditionally regarded as the ability to read and write. This ability is not necessarily in English but in any language. Beyond its traditional definition, UNESCO defines literacy as a means of identification, understanding, interpretation, creation, and communication in an increasingly digital, text-mediated, information-rich, and fast-changing world. This indicator measures adult and youth literacy rates.

Literacy is crucial to developing a strong sense of well-being and social responsibility. Quality basic education equips school-age children with literacy skills for life and further learning; parents who are literate are more likely to enrol their children in school and keep their children healthy; literate individuals are able to access other education and employment opportunities; and literate societies are better equipped to meet developmental challenges. Undeniably, the emergence of knowledge societies makes literacy even more critical than in the past. Literacy rates represent the most telling indicator of a country's educational status and a country with high literacy rate has a higher chance of making its population an asset for development than one that is populated with illiterates.

The benefits of literacy in making population an asset are enormous. On the individual level, high literacy rates have been linked to improved physical health, the ability to access learning opportunities, social and democratic participation, and obtaining higher income employment. In the society, high literacy levels lay the foundations for social well-being, economic growth and security, gender equality and peace. African countries with low literary levels are taken to be those that are not responsive to making population an asset on this specific measure. On this measure, 90% adult literacy rate and over is taken

to be good performance. A country with such rate is assumed to have good potential to make its population an asset.

Table 4.2. Education Literacy Rates

Country	Literacy Rate
Algeria	97.43
Angola	77.43
Benin	60.95
Botswana	97.85
Burkina Faso	58.29
Burundi	88.22
Cabo Verde	98.11
Cameroon	85.08
Central African Republic (CAR)	38.27
Chad	30.79
Comoros	78.27
Congo, Democratic Republic of the (DRC)	84.99
Congo, Republic of the (RC)	82.05
Cote d'Ivoire	58.42
Djibouti	98.91
Egypt	88.19
Equatorial Guinea	98.26
Eritrea	93.27
Eswatini (formerly Swaziland)	95.47
Ethiopia	72.75
Gabon	89.78
Gambia	67.16
Ghana	92.49
Guinea	45.24
Guinea-Bissau	77.28
Kenya	87.83
Lesotho	85.09
Liberia	55.40
Libya	99.95
Madagascar	81.20
Malawi	72.94
Mali	50.13
Mauritania	63.95
Mauritius	99.04
Morocco	97.73
Mozambique	70.91
Namibia	95.16
Niger	39.79
Nigeria	75.03
Rwanda	86.49
São Tomé & Príncipe	97.78
Senegal	69.48
Seychelles	99.07
Sierra Leone	66.65
Somalia	
South Africa	95.32
South Sudan	47.90
Sudan	73.00
Tanzania	85.76
Togo	84.29

Tunisia	98.06
Uganda	89.40
Zambia	92.09
Zimbabwe	90.43

Source: UNESCO Institute for Statistics (2020)

Table 2.4 shows that there are 28 countries in Africa that are good performers in making their population an asset with reference to adult literacy rates. This is about half the total number of countries in the region. It is important that all African countries strive and continue to make their fast-growing population an asset through investment in improving literacy rates.

Improving adult literacy rates to make population an asset

Lessons can be learned from the good performing countries in improving adult literacy rates. These include:

1. Expanding adult and non-formal education provisions to reach remote locations.
2. Increasing use of technology especially radio, TV and mobile phones to deliver quality education in local languages.
3. Providing incentives to rural populations who are enrolled in adult literacy programmes.
4. Strengthening the capacities of adult education providers and improving their welfare.
5. Ensuring that adult education curricula are relevant to the socio-cultural needs of the people.

Population Responsive Index measured by Gross Enrolment Ratio (Primary)

Gross Enrolment Ratio is commonly used to measure the total capacity of an education system because it includes all students in a given level of education regardless of their age. As a result, values can exceed 100% in countries where children tend to enter school late or repeat grades. According to UNESCO Institute of Statistics, Gross Enrolment Ratio is defined as the number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education.

Gross Enrolment Ratio (Primary) is important since primary school education is centered around establishing basic literacy, numeracy, and life skills. These skills are increasingly necessary for life and are essential to the functioning of developed economies. For this reason, primary education is compulsory and provided by the State in most countries. The lower the rate, the greater the need for interventions to improve Gross Enrolment Ratio to achieve the goal of universal primary education.

Table 2.5: Ranking of Countries by Gross Enrolment Ratio (Primary)

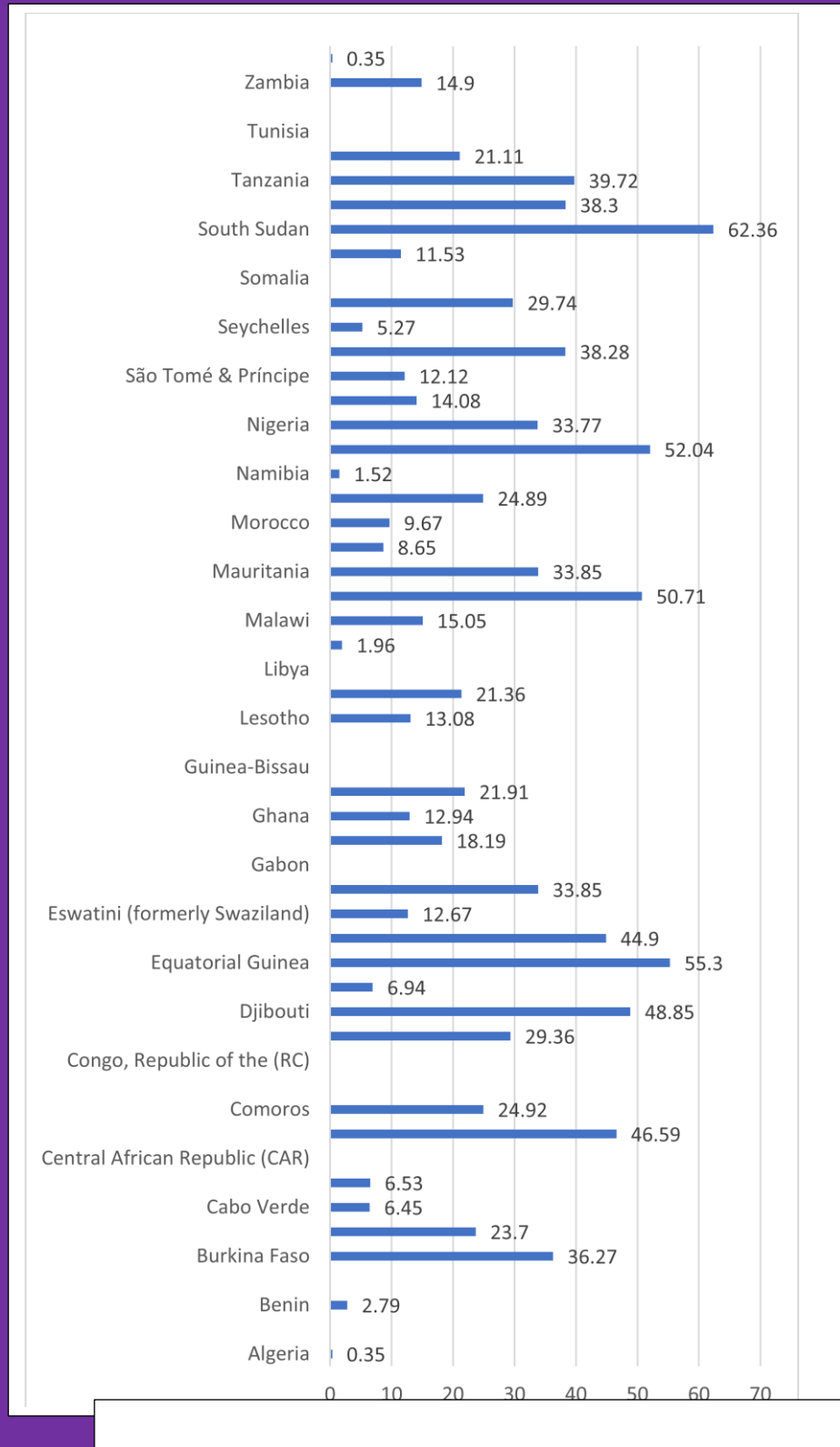
Country	GER
Algeria	109.88
Angola	113.48
Benin	121.96
Botswana	103.24
Burkina Faso	96.09
Burundi	121.42
Cabo Verde	104.03
Cameroon	103.40
Central African Republic (CAR)	102.02
Chad	86.85
Comoros	99.51
Congo, Democratic Republic of the (DRC)	107.98
Congo, Republic of the (RC)	108.00
Cote d'Ivoire	99.80
Djibouti	75.29
Egypt	106.28
Eswatini (formerly Swaziland)	115.16
Ethiopia	100.97
Gambia	98.01
Ghana	104.84
Guinea	91.51
Kenya	103.21
Lesotho	120.90
Liberia	85.11
Madagascar	142.53
Malawi	142.46
Mali	75.60
Mauritania	99.89
Mauritius	101.11
Morocco	113.88
Mozambique	112.60
Namibia	124.25
Niger	74.74
Nigeria	84.73
Rwanda	133.04
São Tomé & Príncipe	106.79
Senegal	80.95
Seychelles	100.38
Sierra Leone	112.75
South Africa	100.86
South Sudan	72.99
Sudan	77.00
Tanzania	94.17
Togo	123.76
Tunisia	115.45
Uganda	102.70
Zambia	98.72
Zimbabwe	110.00

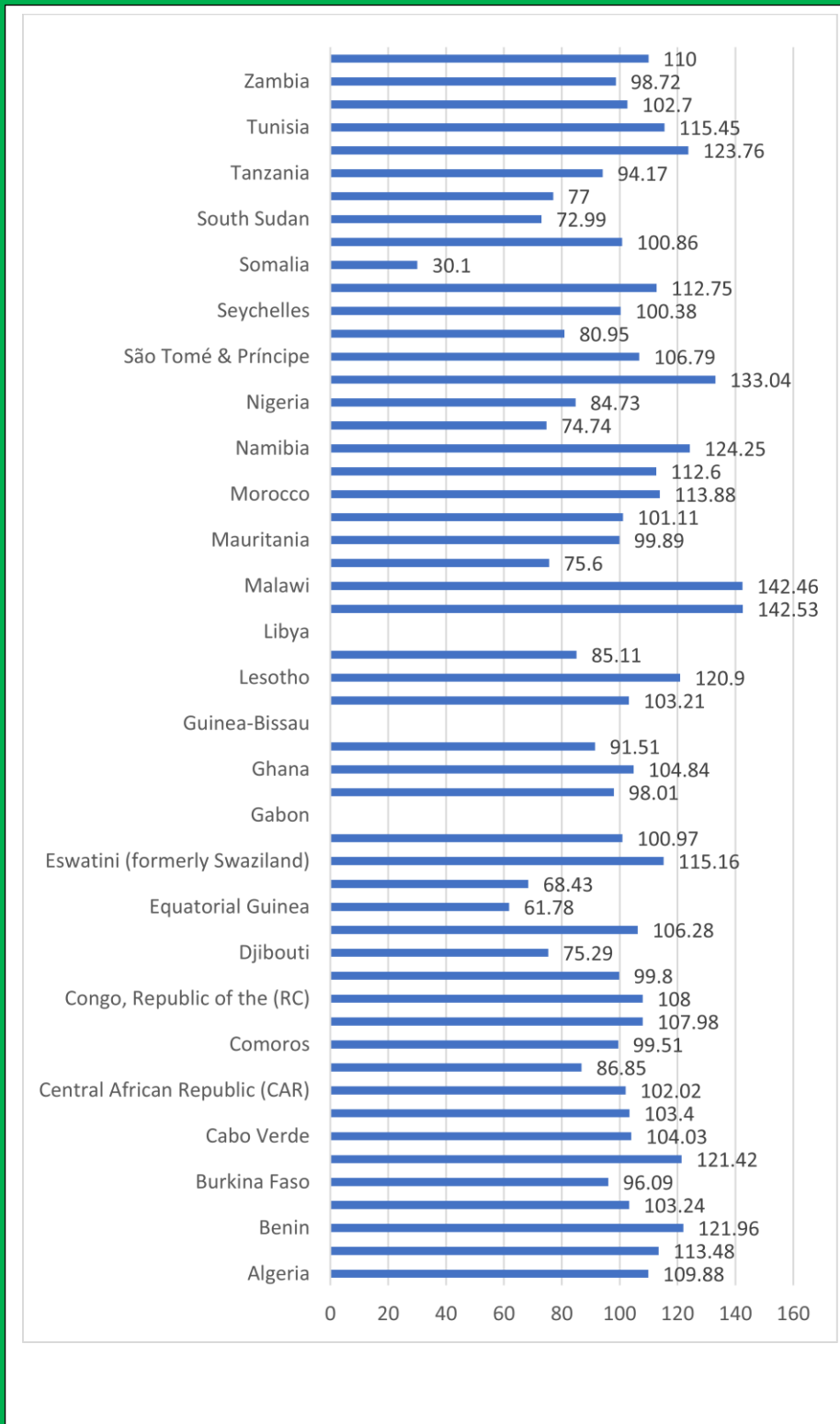
On the measure of GER (Primary), 100% and above is taken to be good performance. Table 4.3 shows that there are 41 countries in this group. These countries are taken to be those that are responsive to making population an asset on this indicator. To ensure that Africa has a high level of Gross Enrolment Rate, more

attention needs to be devoted to not just increasing the enrolment ratio of primary schools, but ensuring that students stay in school and receive quality education as completing primary education helps to lay the foundation for building a skilled and better-educated workforce.

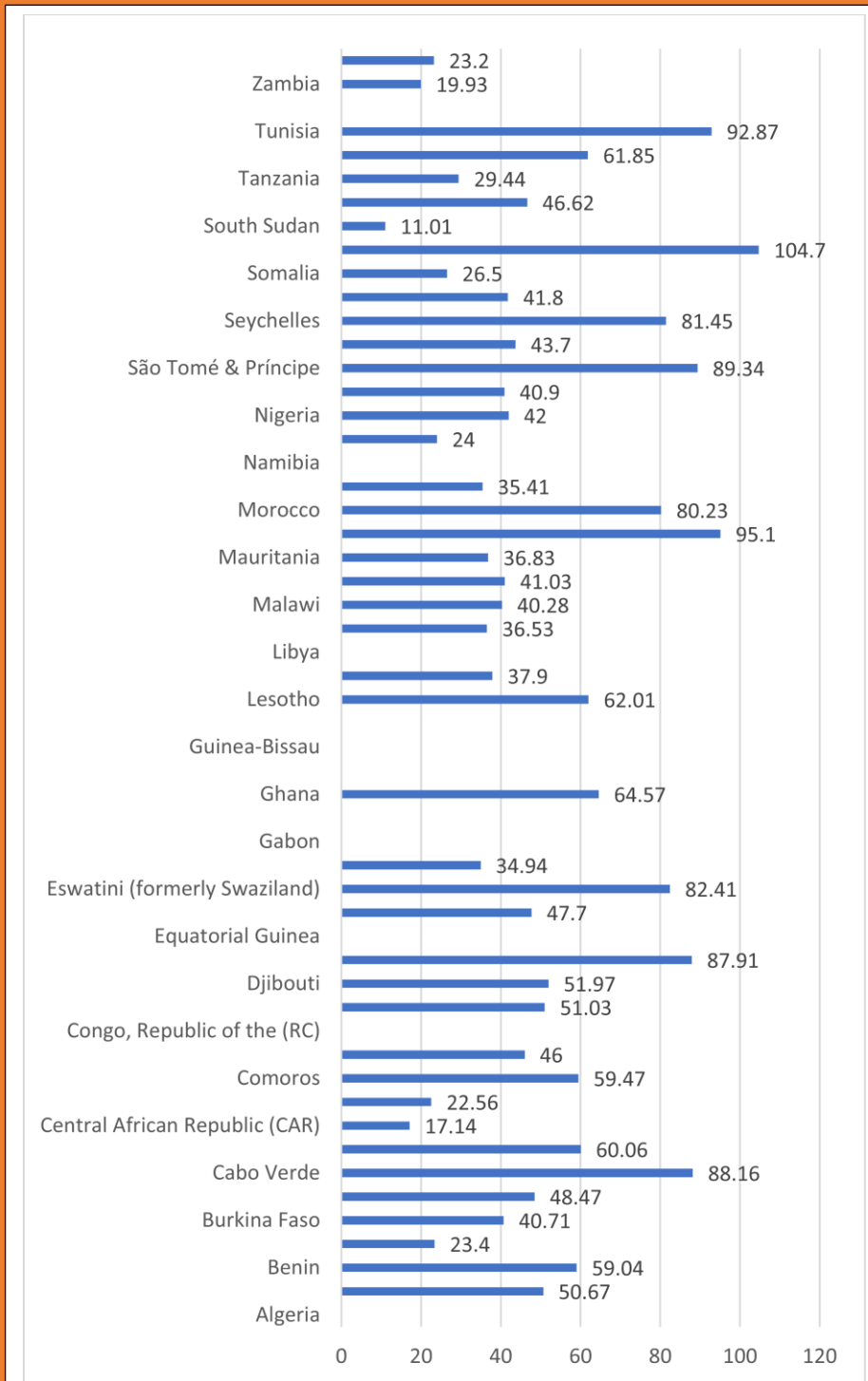
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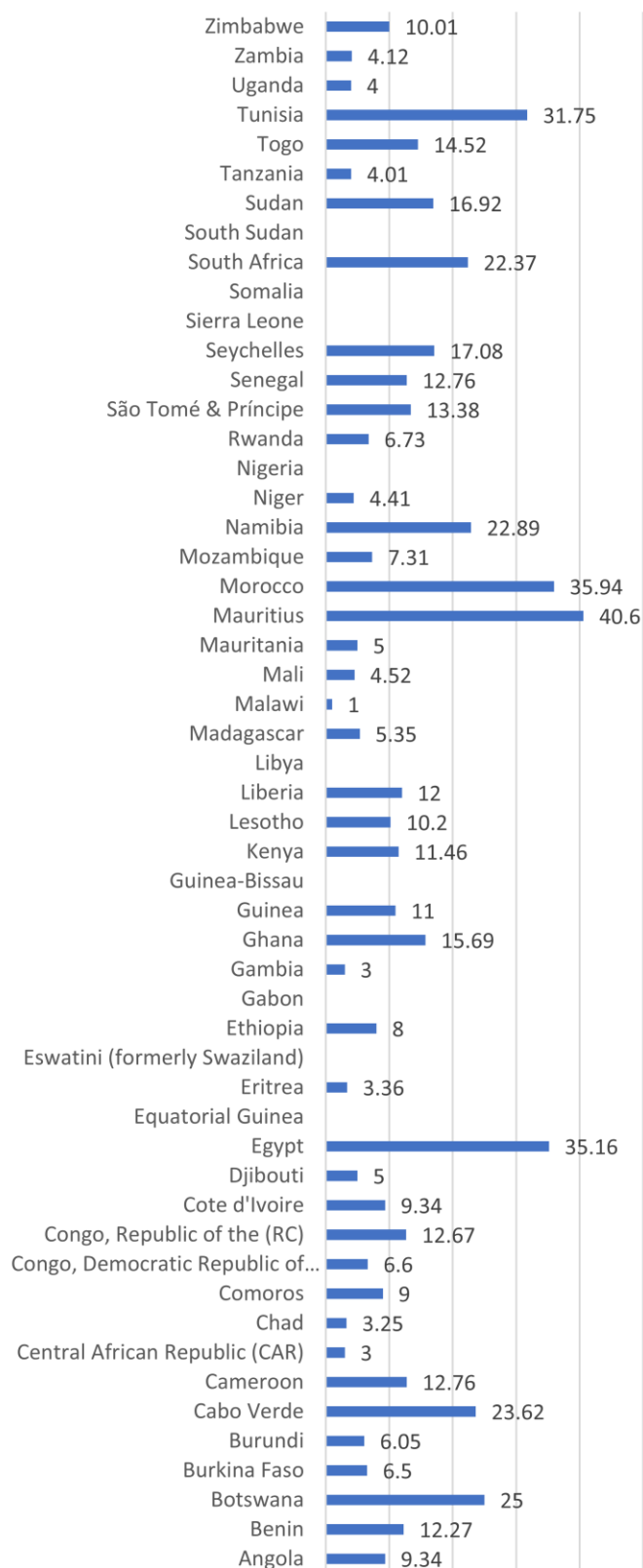




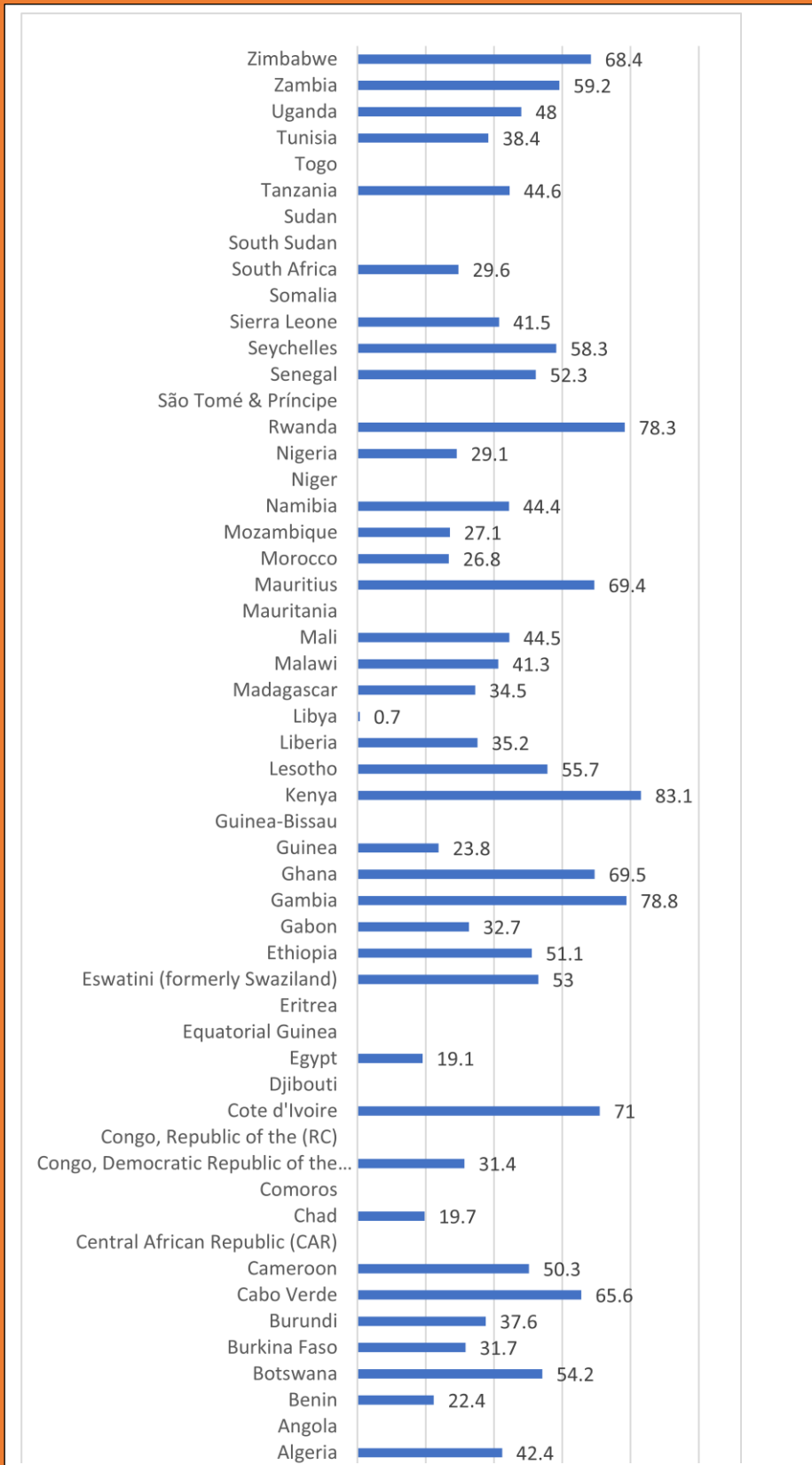
Gross enrolment ratio - primary



Gross Enrolment Ratio (Secondary)



Gross enrolment ratio - tertiary



Alignment of Education with Market Needs

Health Security

A definition of health by WHO (1967; 2020) which has endured is “... a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” Down through the ages, it is affirmed that the health of the population is an important prerequisite for development. A nation of healthy people is a denotation that such people will have physical and mental capabilities to contribute to the growth and development of their communities. The clichés that a nation with unhealthy citizens is a dead nation and that health is wealth hold true in this context. Without good health, the ability to work productively is diminished and the opportunities for earning are dimmed.

When attention is turned to providing health security for the citizenry, manifold benefits accrue. Healthy populations live longer and are more productive, hence contributing to economic development. Weak health systems not only cost lives but pose some of the greatest risks to the economy. The WHO framework describes health systems in terms of six core components or “building blocks”. These are (i) service delivery, (ii) health workforce, (iii) health information systems, (iv) access to essential medicines, (v) financing, and (vi) leadership/governance. The performance of the components rests on a good funding framework.

There are several health indicators commonly used to measure performance of health systems. These include under five-mortality, maternal mortality, life expectancy and current health expenditure (CHE) per capita in US\$. Two of these indicators- under-five mortality and current health expenditure (CHE) per capita in US\$ were the focus for PARI.



Minimising Under-Five Mortality: A Measure of Population Responsiveness

Under-five mortality rate (per 1000 live births) gives a sense of the state of health of a nation. If many of the children die at birth, there is cause for worry of the sustainability of the population and its regeneration. However, with many of the children surviving beyond age 5 and growing to adulthood, the population of the workforce that will contribute to economic growth and development has a high chance of bolstering. Low rate implies that efforts are made to keep the number of deaths of children under-five at the barest minimum. It implies that such countries have installed a mechanism to reduce the number of children who die before they are five years old. In extending this logic, countries which provide enabling environment that lowers under-five mortality can be grouped in the league of those with potential to respond to making population an asset. For those with rising under-five mortality rates, it is feared that such countries are on the wrong trajectory of making their populations an asset.

The Good and Not-so-Good Performers in Under-Five Mortality

Table 2.6 presents the under-five mortality rates of African countries sourced from 2020 WHO and World Bank reports (some countries have 2018 data in these reports). Deriving from the minimum value of 25 for 1,000 live births set for the attainment of SDG 3, just seven African countries met this baseline and can be set to be positioned to make their population an asset. These are Seychelles, Mauritius, Tunisia, Cabo Verde, Egypt, Morocco, and Algeria. Most others, with values higher than 25 for 1,000 live births have underperformed on this measure. Based on this metric, they cannot be said to be on track to making their populations an asset.

Reducing under-five mortality to make population an asset

There are several pathways to reduce under-five mortality rate. Lessons can be learned from good performing countries. These include:

1. Improve maternal health – maternal health is inextricably linked with child mortality. If maternal health is improved, causes of child mortality like infection, preterm and low birth weight, will be eliminated and eventually reducing the risk factors of child mortality.
2. Adequate training of healthcare providers – when healthcare workers get on-the-job training, they can improve their knowledge and therefore their service delivery.
3. Provide more primary health centres and upgrade existing ones – many primary health centres on the continent lack appropriate facilities and infrastructure such as power and access road. This makes access difficult and when they can get there, there are no tools to treat the patients. These centres are closer to the people who need them and should be properly equipped with facilities and made accessible.
4. Technological solutions – technology can be used to improve maternal and child health like SMS reminders for appointments, automated patients' record for easy access and emergency number of primary health centres.
5. Ameliorating the factors that contribute to pneumonia, diarrhoeal diseases, malnutrition, and malaria.

Investment in Healthcare: A Measure of Population Responsiveness

Expenditure on health measures the final consumption of health goods and services by both public and private sources on medical services and goods, public health and prevention programmes and administration, but excludes spending on the capital formation (investments) (OECD, 2015). The indicator used in this report is the Current health expenditure (CHE) per capita in PPP int\$. This indicator calculates the average expenditure on health per person in comparable currency including the purchasing power of national currencies against USD. It contributes to understand the health expenditure relative to the population size facilitating international comparison (WHO, 2020). On this measure, countries attaining current health expenditure (CHE) per capita in US\$ of \$150 and above are taken to be good performers.

Table 2.7 shows that Morocco, Cabo Verde, Sudan, Gabon, Eswatini (formerly Swaziland), Tunisia, Algeria, Equatorial Guinea, Namibia, Botswana, South Africa, Mauritius, and Seychelles are good performers on the measure of current health expenditure (CHE) per capita in US\$.

Table2.6 : Under-five mortality rates

Rank	Country	Under-Five Mortality
1.	Seychelles	15.00
2.	Mauritius	16.00
3.	Tunisia	17.00
4.	Cabo Verde	20.00
5.	Egypt	21.00
6.	Morocco	22.00
7.	Algeria	24.00
8.	São Tomé & Príncipe	31.00
9.	South Africa	34.00
10.	Rwanda	35.00
11.	Botswana	37.00
12.	Namibia	40.00
13.	Kenya	41.00
14.	Eritrea	42.00
15.	Senegal	44.00
16.	Gabon	45.00
17.	Uganda	46.00
18.	Zimbabwe	46.00
19.	Ghana	48.00
20.	Congo, Republic of the (RC)	50.00
21.	Malawi	50.00
22.	Tanzania	53.00
23.	Eswatini (formerly Swaziland)	54.00
24.	Madagascar	54.00
25.	Ethiopia	55.00
26.	Gambia	58.00
27.	Zambia	58.00
28.	Burundi	59.00
29.	Djibouti	59.00
30.	Sudan	61.00
31.	Comoros	68.00
32.	Togo	70.00
33.	Liberia	71.00
34.	Mozambique	73.00
35.	Burkina Faso	76.00
36.	Cameroon	76.00
37.	Mauritania	76.00
38.	Angola	77.00
39.	Cote d'Ivoire	81.00
40.	Lesotho	81.00
41.	Guinea-Bissau	82.00
42.	Niger	84.00
43.	Equatorial Guinea	85.00
44.	Congo, Democratic Republic of the (DRC)	88.00
45.	Benin	93.00
46.	Mali	98.00
47.	South Sudan	99.00
48.	Guinea	101.00
49.	Sierra Leone	105.00
50.	Central African Republic (CAR)	117.00
51.	Chad	119.00
52.	Nigeria	120.00
53.	Somalia	122.00

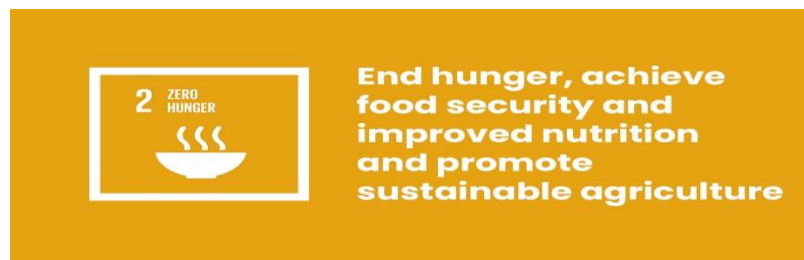
Table 2.7: Current Health Expenditure (CHE) per capita in US\$

Country	Current Health Expenditure (CHE) per capita in US\$
	2017
Algeria	258.5
Angola	114.5
Benin	30.77
Botswana	465.9
Burkina Faso	44.4
Burundi	23.5
Cabo Verde	167.6
Cameroon	67.81
Central African Republic (CAR)	24.15
Chad	29.73
Comoros	58.76
Congo, Democratic Republic of the (DRC)	19.43
Congo, Republic of the (RC)	49.98
Cote d'Ivoire	69.75
Djibouti	70.33
Egypt	105.8
Equatorial Guinea	301.2
Eritrea	32.91
Eswatini (formerly Swaziland)	224.7
Ethiopia	25.26
Gabon	204.5
Gambia	23.27
Ghana	66.75
Guinea	33.72
Guinea-Bissau	52.36
Kenya	76.61
Lesotho	104.6
Liberia	56.6
Madagascar	24.67
Malawi	32.26
Mali	31.38
Mauritania	48.82
Mauritius	599.7
Morocco	161
Mozambique	21.07
Namibia	447.3
Niger	29.26
Nigeria	73.92
Rwanda	49.2
São Tomé & Príncipe	119.7
Senegal	55.01
Seychelles	791.7
Sierra Leone	66.4
South Africa	499.2
South Sudan	22.89

Sudan	193.8
Tanzania	33.92
Togo	38.05
Tunisia	250.6
Uganda	38.91
Zambia	67.65
Zimbabwe	110.1

Food Security and Population as Asset

Food security is looking beyond satisfaction of hunger to ensuring access to safe, nutritious, and sufficient food for all people all year round, and eradicating all forms of malnutrition. As defined by the United Nations' Committee on World Food Security, it means that all people, at all times, have unlimited physical, social and economic access to sufficient, safe, and nourishing food that meets their food preferences and dietary needs for an active and healthy life. An African country that is food secure even with the ever-dynamic climatic conditions, incessant growth of the population, increase in the prices of foods and other environmental factors has a higher chance of making its population an asset for development. Food security is a strong economic variable as the cost of hunger and malnutrition is reflected in low productivity, illnesses, deaths, low cognitive development and learning achievement.



The Good and Not-so-Good Performers in Food Security

Food security indicators are classified along the four dimensions: food availability, food access, food utilisation and food stability. Food availability includes total food production and total food import. Food accessibility comprises both economic and physical accessibility and affordability without compromising any other basic need. Food adequacy indicates that the acquired food must satisfy dietary needs with good nutritional value and it should be safe for consumption. Food utilisation is the proper biological use of food, requiring a diet providing sufficient energy and essential nutrients, potable water, and adequate sanitation. All the indicators are worthy of attention for any country desirous of making its population an asset. In a food secure nation, everyone has access to the regular nutrient requirements and can therefore live a healthy and productive life. In this report, African countries are measured based on three indicators: average food production, level of undernourishment and arable land for irrigation.

Population Responsive Index measured by Average Food Production

The average value of food production indicator expresses the food net production value, as estimated by Food and Agriculture Organisation, in per capita terms. It provides a cross country comparable measure of the relative economic size of the food production sector in the country. Knowing that the demand for food is expected to continue to grow as a result of population growth and rising incomes, there is therefore a need to increase food production as this will contribute to food security and ensure sustainable livelihoods. In measuring average food production, rate above 145 is taken to be good performance. Data in Table 2.8 show that only about a fifth of African countries have average food production rates that can position them as responsive to making their populations an asset.

Table: 2.8 Ranking by Average Food Production

Country	Average food production
Tunisia	250.00
Ghana	188.00
Cote d'Ivoire	176.00
Cameroon	163.00
Mali	163.00
Morocco	163.00
Egypt	157.00
Eswatini (formerly Swaziland)	155.00
Algeria	147.00
South Africa	147.00
Guinea-Bissau	140.00
Benin	137.00
Nigeria	137.00
Central African Republic (CAR)	135.00
Rwanda	133.00
Mauritius	124.00
Tanzania	123.00
Libya	121.00
Niger	119.00
Sierra Leone	118.00
Guinea	115.00
Namibia	110.00
Botswana	109.00
Sudan	104.00
Chad	100.00
Mauritania	100.00
Kenya	97.00
South Sudan	95.00
São Tomé & Príncipe	92.00
Angola	90.00
Gabon	89.00
Madagascar	88.00
Malawi	87.00
Togo	80.00

Somalia	79.00
Burkina Faso	78.00
Uganda	77.00
Ethiopia	75.00
Zambia	75.00
Senegal	71.00
Burundi	69.00
Mozambique	63.00
Comoros	59.00
Congo, Republic of the (RC)	57.00
Djibouti	51.00
Liberia	49.00
Cabo Verde	48.00
Zimbabwe	48.00
Gambia	46.00
Lesotho	45.00
Seychelles	34.00
Congo, Democratic Republic of the (DRC)	33.00
Eritrea	31.00
Equatorial Guinea	23.00

There are several ways to improve food security. Lessons can be learned from the good performing countries. These include:

- Increasing crop production by expanding the arable area and using improved seeds, fertilizer, fungicides, herbicides, and irrigation.
- Implementing an agricultural revolution to increase food production for the ever-increasing population of Africa.
- Increasing investment in research and development as results will be used to provide information, tools, and infrastructure for farmers and food producers to increase efficiency without adversely affecting soil fertility, water, and biodiversity.
- Investing in food production, processing and infrastructure that will connect rural areas with the growing urban centres.
- Engaging young women and men in agriculture and providing incentives to food and agribusiness companies.
- Developing staple food-processing and agro-allied industrial zones enabled with infrastructure, roads, irrigation, water, and electricity.
- Closing the gender gap in agriculture.

Population Responsive Index measured by level of undernourishment

The prevalence of undernourishment expresses the probability that a randomly selected person from the population consumes an amount of calories that is insufficient to cover his/her energy requirement for an active and healthful life. The indicator is computed by comparing a probability distribution of habitual daily dietary energy consumption with a threshold level called the minimum dietary energy requirement. This is the traditional Food and Agriculture Organisation’s hunger indicator. Undernourishment in Africa has continued to rise after many years of decline, threatening the continent’s hunger eradication efforts to meet the 2030 Agenda for Sustainable Development, particularly the Sustainable Development Goal 2.

Undernourishment impairs a person’s ability to be part of a productive workforce and contribute to economic growth and leaves a lifelong legacy of cognitive and physical impairment in children. When people have access to sufficient and nutritious food, they can improve their livelihoods; adequately care for their families; live full and healthy lives and lift themselves out of poverty. In measuring the prevalence of undernourishment, above 20% is taken to be poor performance.

Table 2.9: Ranking of Countries by level of Undernourishment

Country	Level of Undernourishment
Central African Republic (CAR)	59.60
Zimbabwe	51.30
Zambia	46.70
Madagascar	44.40
Uganda	41.00
Congo, Republic of the (RC)	40.30
Chad	37.50
Liberia	37.20
Rwanda	36.80
Tanzania	30.70
Kenya	29.40
Guinea-Bissau	28.00
Mozambique	27.90
Namibia	27.30
Botswana	26.40
Sierra Leone	25.60
Angola	25.00
Eswatini (formerly Swaziland)	20.60
Ethiopia	20.60
Sudan	20.10
Burkina Faso	20.00
Cote d'Ivoire	19.00
Djibouti	18.90
Malawi	17.50
Guinea	16.50
Niger	16.50
Togo	16.10
Nigeria	13.40
Lesotho	13.10
Cabo Verde	12.60
Senegal	11.30
Gabon	10.50
Mauritania	10.40
Gambia	10.20
Benin	10.10
Cameroon	9.90
São Tomé & Príncipe	7.00
Mauritius	6.50
Mali	6.30
South Africa	6.20

Ghana	5.50
Egypt	4.50
Tunisia	4.30
Algeria	3.90
Morocco	3.40

Table 2.9 shows 24 countries are poor performers. This is unimpressive and indicative that about half the number of countries in the region are not prepared to eliminate hunger and food insecurity. Hunger in Africa has continued to rise. To ensure that hunger is reduced, some urgent actions are needed. These include:

- Investing in rural infrastructure, providing storage facilities, improving technical training of farmers, leveraging new technologies, upgrading food processing, and expanding local market access.
- Improving the purchasing power of Africa’s most vulnerable populations through conditional and unconditional cash transfers and direct food transfers.
- Fighting factors such as corruption, armed conflicts, displacement, and extreme poverty that aggravate hunger in Africa.
- Increasing food supply and accessibility to the population.
- Advancing gender and climate-smart agricultural policies.

Population Responsiveness Index measured by Access to Rural Electricity

Electrification has become both priority and necessity to secure the future of the African continent, as set out in the United Nations’ Sustainable Development Goal 7. The Africa Progress Panel (APP) 2017 report, *Light Power Action*, underscored the exclusion of one third of all Africans from the power grid and the urgent need to “enhance and scale up power supply while accommodating renewable energy”. The report points to the dramatic effects of lack of electricity in villages and towns across Africa, including the stifling of business development, schooling, food provision, and hospital services, with considerable health consequences, often fatal. This need led to the conceptualisation of the Local Electricity Access Programme (LEAP) to provide electricity in local communities, with a specific focus on implementation in Southern Africa. LEAP is intended to serve as a flagship programme to put in practice the recommendations of the Africa Progress Panel and the Africa Progress Group, its successor is working actively and advocating for all decision-makers at local and national level to support the initiative.

On this measure, African countries with at least 90% availability of rural access to electricity are taken to be those with potentials for making population an asset as rural electrification promotes food security, better health, education, and enhances household’s income-generating activities. Algeria, Egypt, Mauritius, Morocco, Seychelles, Tunisia, Cabo Verde and South Africa can be classified as belonging to the good performing group (Table 2.10).

Table 2.10 Ranking of Countries by Availability of Rural Electricity

Country	Availability of Rural Electricity
Algeria	100.00
Egypt	100.00
Mauritius	100.00
Morocco	100.00
Seychelles	100.00
Tunisia	100.00
Cabo Verde	97.00
South Africa	90.00
Comoros	77.00
Kenya	72.00
Eswatini (formerly Swaziland)	70.00
Libya	70.00
Ghana	67.00
Gabon	63.00
São Tomé & Príncipe	56.00
Sudan	47.00
Senegal	44.00
Lesotho	38.00
Uganda	38.00
Namibia	36.00
Eritrea	35.00
Gambia	35.00
Cote d'Ivoire	33.00
Ethiopia	33.00
Nigeria	31.00
Botswana	28.00
Mali	25.00
Djibouti	24.00
South Sudan	24.00
Cameroon	23.00
Rwanda	23.00
Togo	22.00
Congo, Republic of the (RC)	20.00
Guinea	20.00
Zimbabwe	20.00
Benin	18.00
Tanzania	17.00
Central African Republic (CAR)	16.00
Somalia	15.00
Niger	12.00
Zambia	11.00
Guinea-Bissau	10.00
Malawi	10.00
Mozambique	8.00
Equatorial Guinea	7.00
Liberia	7.00

Sierra Leone	6.00
Burkina Faso	3.00
Burundi	3.00
Chad	3.00
Mauritania	1.00
Angola	3.8 (2015-2018)
Congo, Democratic Republic of the (DRC)	1.8 (2015-2018)
Madagascar	17.3

Some African success stories include:

1. Morocco has helped to achieve nearly 100% rural electrification, which has radically transformed the lives of Moroccans living in rural areas and helped rural farmers to increase agricultural productivity while solving irrigation problems through constant water supply. Rural electrification has also helped to expand small businesses, assisted women to widen the range of produce they can process such as couscous, barley, and other wheat-based products.
2. Cabo Verde has high wind and solar energy resources. Its energy production relies largely on diesel thermal plants and is highly dependent on (totally imported) fuel. The conventional strategy for increasing access to electricity in isolated rural areas is by centralised microgrids with diesel generators.
3. Algeria's electricity generation capacity comes from natural gas-fired and combined-cycle power plants and it is used to cater for nearly 100% of its rural population.
4. Tunisia's achievement in rural electrification derives from a strong national commitment to integrated rural development, gender equity, and social equality. Investment in rural electrification reflects the government's long-standing integrated rural-development and modernisation strategy, which has sought to raise the living standard of rural Tunisians, promote security in outlying regions, and moderate urban growth. These integrated investments have had a synergistic effect that has greatly benefited rural people's lives.
5. In Seychelles, around 98% of electricity is generated from imported fuel oil and gas oil. The rest comes from renewable energy, mainly, wind and solar power with an installed capacity of 8 MW and 1.627 MW, respectively. Seychelles receives large amounts of sunshine - an average of 6.9 hours of sunshine per day, and an average irradiance of 5.8 kWh/m² /day. The potential for electricity generation from wind energy is present in the islands, with some sites having been identified as having average wind speeds of 6.9-7.5 m/s at 80 meters. The country provides electricity to 100% of its rural population.

Universal access to reliable, affordable, low-carbon electricity is the key to Africa's socio-economic transformation. To increase rural electrification, the following are some of the recommended actions:

- Replacing candles and kerosene lanterns with electricity in rural areas will require African leaders to support the Local Electricity Access Programme (LEAP) of the Africa Progress Group (APG).
- High-level political commitment for sustainable energy access to be integrated into social protection systems is required and this political commitment must also be reflected at sub-national and local levels.
- African leaders must intensify their efforts to put in place the right regulatory environment that provides the energy sector incentives to deliver on its transformative potential and champion the "energy for all" agenda.

- The private sector should be encouraged to enter energy generation, transmission, and distribution markets, deepen connections throughout the value chain, and build the investment partnerships that can drive growth.
- This is a need to improve cross-border power trade, develop new power trading arrangement and invest in regional transmission infrastructure.

Safe and Affordable Housing: A Measure of Population Responsiveness

Housing is one of the three fundamental human rights. It forms an essential part of human settlement with great impact on the health, welfare, productivity and quality of human life. Due to Africa’s booming population, which is expected to surpass 2.5 billion by 2030; providing decent, healthy and safe housing for its low income citizens is a huge challenge which had largely led to homelessness, slum developments and informal settlements. Africa’s cities are growing very rapidly and are becoming homes to thousands of people everyday, owing to the rapid urbanisation, population explosion, migration and influx in major cities. There is an unparalleled demand for affordable homes across Africa.



The Good and Not-so-Good Performers in Housing

There are several indicators for assessing the policies and practices under which housing in a country is— or is not—owned, rented, financed, subsidised, serviced, regulated, planned and built. These indicators can otherwise be referred to as the 5As of housing which include availability, adequacy, accessibility, acceptability and affordability.

Availability of housing refers to the level of housing supply. Adequacy is the assessment of the housing units to meet the accommodation requirement of the users/occupants (present and/or potential) in terms of safety, security and health. Accessibility depicts locational and economic elements of housing. Acceptability is in term of conformity with the inhabitants socio-cultural, environmental or climatic and physiological requirements. Affordability is a measure of the match between cost of housing and the ability of potential occupier to pay. The 5As of housing are intertwined as their interplay determines the efficiency and sustainability of housing delivery in any nation.

Housing Affordability Rate

A central factor in efficiency and sustainability of housing delivery is finance. The housing deficit problem in Africa has been attributed to inadequate funding of housing schemes by public and private enterprises.

The issue of finance affects both the supply and demand ends of housing delivery. Migrants who cannot afford the high rent of housing in urban centres tend to develop make-shift houses in and around the cities where there are vacant and unclaimed parcels of land that are farther away from the core urban centres. This is the trigger for slums and shanties which are not built in accordance with building regulations. If houses are unaffordable, people transit between homelessness and life in shanties and slums. Making houses affordable is clearly a good measure of population responsiveness. Good performance on this measure, defined in this case as minimum of 25%, means that the country has potential to provide affordable housing for its growing population. Fifteen African countries (see Table 2.11) fall within the good performers group.

Table 2.11: Ranking of countries by housing affordability rate

Rank	Country	Housing Affordability Rate
1.	Somalia	.00
2.	Liberia	.01
3.	Ethiopia	.42
4.	Congo, Democratic Republic of the (DRC)	.58
5.	Burundi	.69
6.	Mozambique	1.23
7.	Central African Republic (CAR)	1.45
8.	Madagascar	1.76
9.	Niger	1.78
10.	Malawi	1.91
11.	Burkina Faso	2.01
12.	Tanzania	2.25
13.	Congo, Republic of the (RC)	3.08
14.	Guinea	3.10
15.	Benin	3.15
16.	Mauritania	3.24
17.	Zimbabwe	3.29
18.	Mali	3.48
19.	South Sudan	3.57
20.	Uganda	3.93
21.	Guinea-Bissau	4.19
22.	Rwanda	4.29
23.	Cameroon	4.56
24.	Gambia	6.04
25.	Sierra Leone	6.96
26.	Libya	7.95
27.	Angola	8.12
28.	Sudan	8.33
29.	Zambia	8.50
30.	Comoros	8.83
31.	Ghana	9.40
32.	Eritrea	10.83
33.	Gabon	11.03
34.	Kenya	11.36
35.	Chad	18.86
36.	South Africa	20.40
37.	Cote d'Ivoire	21.50
38.	Cabo Verde	21.56
39.	Botswana	22.11

40.	Togo	25.51
41.	Nigeria	26.95
42.	Eswatini (formerly Swaziland)	36.22
43.	Tunisia	37.31
44.	Lesotho	39.58
45.	São Tomé & Príncipe	40.23
46.	Senegal	40.26
47.	Djibouti	47.89
48.	Morocco	50.53
49.	Seychelles	53.88
50.	Equatorial Guinea	62.52
51.	Mauritius	70.44
52.	Namibia	73.90
53.	Algeria	79.17
54.	Egypt	89.73

Percentage living below poverty line and population responsiveness

More than half of people in extreme poverty are in Africa and based on estimates from the World Data Lab, more than 150 million people living in extreme poverty are in just Nigeria and Democratic Republic of Congo (Donnenfield, 2020). In addition, it is estimated that roughly 60% of the global population living in poverty in 2020 are in sub-Saharan Africa even as about 40% of the population of Africa live below US\$1.90 a day. It is projected that about 80% of the countries that would be unable to eliminate poverty by 2030 will be in Africa as only 11 of Africa's 54 countries are projected to be able to eliminate extreme poverty by 2030. Conversely, it is projected that only 12 other countries in other parts of the world will not be able to eradicate extreme poverty by 2030 (Donnenfield, 2020).

As shown in Table 2.12 while some countries have small (low) proportion of people living below national poverty line, others have more than half (high proportion) of their population living below the national poverty line while others can be classified as about half (moderate proportion) of their population living below the national poverty line. Countries under the low proportion include Algeria (5.5%), Morocco (4.8%), Seychelles (1.1%) and Botswana (16.3%). Countries with moderate proportion of population living below national poverty line include Equatorial Guinea (44%), Chad (46.7%), Liberia (50.9%), and Mozambique (46.1%). Lastly, the countries with high proportion of population living below the national poverty line are Zimbabwe (72.3%), South Sudan (82.3%), Somalia (73%), Eritrea (66%) and Burundi (64.9%).

Poverty headcount rates, which measure the share of the population whose daily expenditures fall below the US\$1.25 (measured in 2005 PPP-adjusted dollars). As in the case of the population living below the poverty line the ranking of African countries in Table 1 showed low, moderate and high levels of PPP \$ A Day.

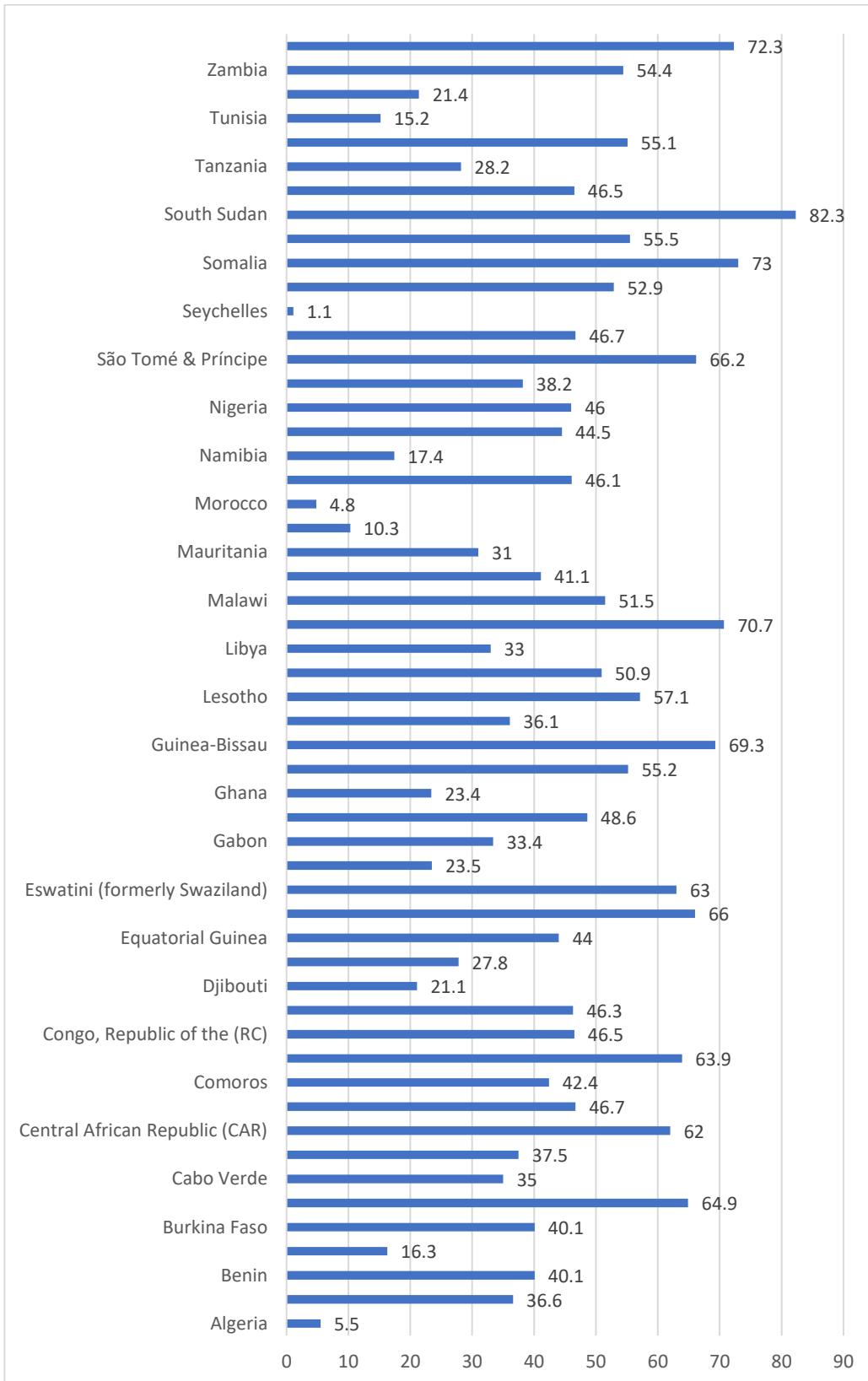


Figure 3: Percentage of population living below poverty line

Table 2.12: Countries by PPP \$ A Day

Country	PPP \$ a day
Algeria	0.50
Angola	30.10
Benin	49.50
Botswana	16.10
Burkina Faso	43.70
Burundi	71.80
Cabo Verde	3.20
Cameroon	23.80
Central African Republic (CAR)	66.30
Chad	38.40
Comoros	17.90
Congo, Democratic Republic of the (DRC)	37.00
Congo, Republic of the (RC)	28.20
Cote d'Ivoire	76.60
Djibouti	17.10
Egypt	1.30
Eswatini (formerly Swaziland)	42.00
Ethiopia	27.30
Gabon	3.40
Gambia	10.10
Ghana	13.30
Guinea	35.30
Guinea-Bissau	67.10
Kenya	36.80
Lesotho	59.70
Liberia	40.90
Libya	7.24
Madagascar	77.60
Malawi	70.30
Mali	49.70
Mauritania	6.00
Mauritius	.20
Morocco	1.00
Mozambique	62.40
Namibia	13.40
Niger	44.50
Nigeria	53.50
Rwanda	55.50
São Tomé & Príncipe	32.30
Senegal	38.00
Seychelles	1.10
Sierra Leone	52.20
Somalia	
South Africa	18.90
South Sudan	42.70
Sudan	14.90
Tanzania	49.20
Togo	.30
Tunisia	41.70
Uganda	49.10

Zambia	57.50
Zimbabwe	21.40

Based on the APG (2020) rankings, countries with high levels of population whose daily expenditures fall below the US\$1.25 of PPP \$ a day include Burundi (71.80%), Madagascar (77.60%), Malawi (70.30%) and Guinea Bissau (67.10%). Conversely, countries with low levels of populations whose daily expenditures fall below the US\$1.25 include Mauritius (0.20%), Morocco (1.00%), Seychelles (1.10%), Togo (0.30%), Algeria (0.50%), Cape Verde (3.20%) and Egypt (1.30%).

Insert photo



Chapter Three

Making Africa's Population an Asset: Strategic Options

Strategic Investment in the Social Sector

Public policies in Africa typically grapple with conflicting interests between the provision of social services, human capital development and productive investments. Typically, in implementing policies, much of the resources are committed to social overheads at the expense of making investments in the real productive sector that will stimulate economic growth. Experiences of some of countries like South Korea, Singapore, Thailand, Japan, China and India have shown that it is possible for African countries to turn their large population into an asset by investing more vigorously in the social sector. These efforts should include impact-measurable investments that target improvements in the quality of human capital.

There is a “demographic dividend” which needs to be exploited. There is need for strategic investment in quality education, health and family planning programmes, massive job creation, increased opportunities for women and girls in decision-making through education among others. Some of the critical sectors where investment should be made for the continent to derive benefit from its huge population to assure progress include but not limited to the sectors highlighted in the subsections below.

Focus on Education

Education is the most important tool in achieving the demographic dividend. Human capital increases with enhanced educational status of the population. However, the picture of education in Africa as shown in Box 3.1 is disturbing.

Box 3.1: Education in Africa

- Africa has the highest rates of educational exclusion in the world. Over one-fifth of children between the ages of 6 and 11 and one-third between the ages of 12 and 14 are out of school
- Almost 60% of children in sub-Saharan Africa between the ages of 15 and 17 are not in school
- Girls are much more likely to stay out of school than boys
- The number of primary-aged children not attending school in Africa accounted for more than half of the global total. UNICEF, 2014
- All across Africa, there are some 10 million children that are school-age, but around 20 million of them will never go to school
- Almost 40 million more of these children in Africa will go to school, but learn so little that they are not likely to get into a better position than the kids who did receive no schooling at all.

Source: Brookings Center for Universal Education (<https://www.brookings.edu/center/center-for-universal-education>)

For Africa to make the best use of its population, the importance of education should be reflected by investments in the education system. Teachers should be better trained and paid, new schools should be built and existing ones improved. Learning can only be successful when sufficient teaching materials are available. Above all, parents should be encouraged to send their children to school for as long as possible. Currently, the school enrolment ratios especially at the secondary and higher levels of education favour the male child in many African nations. The cultural, social and economic barriers that account for the disparity in school enrolment between boys and girls should be addressed. The educational system should be overhauled such that educational institutions will be available to perform their function by equipping graduates with 21st century skills. There is the need to re-orient the educational curriculum towards technical and vocational education that will provide the highly technical enterprises with the appropriate labour force that will make the youth to engage in self-employed jobs.



Figure 3.1: A typical primary school in Nigeria

Job Creation

Youth unemployment rates in many African countries are very high. Many of those employed are underemployed or are engaged in irregular employment (Box 3.2). Youth restiveness, ethnic and sectarian violence that pervade many African countries are believed to have been caused by lack of employment. The phenomenon of unemployment affects about 32 million young people and the situation will worsen due to the strong gap between population growth and employment opportunities. This position was further highlighted by a number of individuals and organizations as shown in Box 3.2.

Box 3.2: Unemployment situation among African youth

- It is common to find young University graduates doing menial jobs' They clean floors in hotels, sell mobile telephone calling cards, some even work in factories as labourers. (Gabriel Benjamin, A jobless University graduate in Nigeria)
- Almost have of the 30 million graduates churned out of the 668 Universities in Africa yearly do not get job. (Kelvin Balogun – President of Coca-Cola, Central, East and West Africa).
- Up to 70% of African workers were 'working poor'. The number of poor working youth has increased by as much as 80% for the past 25 years.(ILO, 2016)
- Youth unemployment is a ticking time bomb that now appears to be perilously close to exploding.(Alexander Chikwanda, Zambia's former finance Minister, 2016).
- The global youth unemployment rate in most countries, especially developing ones, is close to its crisis peak. Unemployment rate has reached 12 percent in sub-Saharan Africa in 2013, and that 60 percent of the unemployed are the youth (age 15-24) (ILO, 2016).

Employment opportunities must therefore be opened up as early as possible to offer young people, especially women, a prospect in life. By doing this, the number of children declines and a demographic bonus can be achieved. Also, there is a need for increase in employment opportunities in both urban and rural areas to make the productive use of people's skills (Box 4). These human capitals with their skills and abilities will make efficient use of the resources as well as bring advancements in technology as is the case with the Asian Tigers.

Box 3.3: Investment in education must lead to job creation

Youth in urban areas are looking for jobs alongside thousands of others from the same schools, while rural youth are flooding into cities looking for work. This is a tragedy. Our policies favour investment in education and training, but this investment has not led to job creation.

Sanoussi Toure, The Minister of Finance of Mali, 2009

Sufficiently large number of jobs should be available when large number of children and adolescents reach working age. The economies of most African countries are dominated by primary sector activities. Productivity and employment can be enhanced by creating more labour-intensive industries in the midst of the many small and medium enterprises in the informal and rural economy. Governments should promote strong industrial policies that will make manufacturing a key engine of growth that will generate

mass employment for the teeming young population. Efforts should be made to initiate a range of measures that will revive the desolate and moribund labour-intensive industries in some African countries. To create a sustainable economic development, it is important to provide favourable conditions for local and foreign investors. Bureaucratic obstacles and other investment impediments like corruption must be removed and supportive services, for example in the infrastructure or finance sector, should be sustained.

Social Security

Among the reasons why parents bear more children is the desire for old age security (Ogunjuyigbe *et al.*, 2008). Unfortunately, in most of the African countries, social security is non-existent. Where it exists, the focus is on those engaged in formal sector with no concrete plan for those in informal sector. It is therefore imperative to establish an efficient social security system that will provide insurance at old age or beyond retirement. For fertility to drop and for people to place emphasis on quality rather than looking for high number of children, minimal social protection should be established for those who are in informal employment and those who are not gainfully employed. If this is not done, having children will continue to serve as a means for old age security.

Women Empowerment/Girl-Child Education

For Africa's population to become an asset, the continent should significantly invest in education of the population, including that of women. Education has the tendency of delaying the age at first marriage. The longer a girl stays in school the less will be the number of children she will bear in her lifetime due to less years of active reproductive experience. Educated women can be gainfully employed outside the homes thereby accelerating economic growth and improving their status and welfare. By respecting, educating and empowering women in their reproductive rights and choices, population growth can be brought in line with the levels that are required to live in an ecologically and economically sustainable way. The demand for women's education, which is on the increase will consequently exert strong influence on the number of children they will bear in the future.

Strategic Options for Addressing Unemployment

Accent on quality, entrepreneurship education

To address the issue of unemployment, especially among the youth in Africa, far-reaching options have been proposed by Olusegun Obasanjo. These include provision of functional education that is slanted towards entrepreneurship and that responds to societal needs and aspirations. He stressed that markets and the industry should be brought into the classroom and the education curriculum to ensure a fit of the product of the school system with labour the demands of the labour market. There is need to re-orient the educational curriculum towards technical and vocational education that will provide the highly technical enterprises with the appropriate labour force or that will make the youth to engage in self-employed jobs.

Africa's economies will fall further behind in global competitiveness with a workforce that is unprepared for the digital age. A growing population strains education infrastructure and resources creating more need for African countries to leverage on technology to boost the quality of education. According to the World Economic Forum, companies in Africa expect certain skills such as technology design and programming, complex problem-solving, critical thinking and analysis, leadership and social influence, reasoning and ideation, emotional intelligence, resilience, stress tolerance, and flexibility to be in increasing demand between 2018 and 2022. Redefining our education system would position Africa for more global visibility including entrepreneurship.

Creation of Favourable Work Environment

To create sustainable economic development and lower unemployment rates, it is important to provide favourable conditions for local and foreign investors. Employment will be restored by investing in infrastructure for power, transportation/roads and addressing challenges of insecurity. The high level of insecurity in Africa has created an unfavourable environment for foreign investors looking to invest capital and create jobs in Africa.

Strategic Options For Housing Africa's Growing Population

All African countries are struggling to respond to the global economic shocks (particularly changing commodity prices) and increasing debt burden. Concurrently, rapid urbanization and its challenges, rapid population growth and the youth budge, frightening huge and rising unemployment and high infrastructural decay are being confronted. Also, the capacity to attract external finance is decreasing, urban infrastructure is overstretched, poverty is deepening, and fears of political instability are high in most countries.

There are several options that should be explored to address the huge housing deficit in Africa. These include:

1. Explore supply-side problems that work to keep construction costs high.
2. Support small and medium-size construction companies to improve delivery capacity.
3. Reform land administration policies to influence tenure security, land costs and create more conducive environment for the housing sector to thrive.
4. Upgrade urban planning schemes to accommodate recent uncontrolled developments.
5. Revisit land acquisition policies and laws, support of finance institutions, regulate finance markets to make acquisition easier for prospective house owners.

Building Technology

Affordable housing delivery can be achieved faster if the housing inputs are provided in large quantities, at reasonable costs and using simple and adaptable technologies. Five of these technologies that are gaining acceptance across the continent are:

1. *Expanded Polystyrene (EPS) Technology*: cost effective, prefabricated house construction technique. Quality and durable housing components made in factory and assembled on site.

2. *Interlocking Stabilized Soil Blocks*: Improved version of local earth blocks, easy to make with compression machines, materials easily available, low on cement use. Training for its use is easy and it is economical.
3. *Klevabrick*: An affordable locally crafted bricks largely used in South Africa, being adapted in other parts of the continent. Its cheap, simple technology that can be learnt and does not require mortar for binding, durable too.
4. *Fibre cement* is from cement strengthened with cellulose fibers, prefabricated and assembled on site. Low construction costs, durable, flexible use.
5. *Light gauge steel construction*: It reduces the pressure on demand for wood so it is considered eco-friendly.

Local Building Materials for Affordable Housing

Affordable housing is hardly attainable in Africa because of the high level of poverty and shortage of and cost of building materials, which may be up to 75% of a low-cost house. Local building materials have been unpopular because of problems associated with their use and durability. Efforts have not been translated into mass production that is marketable and sustainable. Factors that act as barriers to the use of local building materials such as laterite and wood include technical (durability, susceptibility to termite, fungal and fire), economic (risks of possible collapse) and institutional (building regulations, code of practice, standard specifications, financial institution requirements) persist.

The building materials subsector is largely import-dependent in Africa. Rather than contributing to national economic recovery of countries, it has continued to drain the foreign exchange national reserves and earning because sufficient efforts have not been made to expand local production. There are vast deposits of laterite everywhere in the continent, stones, clay, gypsum, pozzolana, iron, bauxite, copper, zinc, asbestos and wood. The prospects of using local materials are good and must be mass produced and promoted.

The desire of an estimated 51 million households across the African continent to own simple and affordable decent housing units may never be met, just as the goals of countries and the continent of attaining the SDG 7 would be unattainable in the present housing situation. The continent currently faces a dire housing crisis that would get worse every year if nothing drastic is done to reduce the shortage. Africa may become the global leader in slum population. The huge challenge is frightening and urgent but it presents opportunities for structural transformation and inclusive growth in the continent. A renewed national housing strategy in each country, culminating into a continental housing strategy is urgently needed to address the demand-supply issues of affordable housing.

African governments must demonstrate strong commitments to improving the housing needs through necessary policies, financial and other inputs, effective regulatory roles, implementation and monitoring of impact on socioeconomic development of each country. Given the huge debt burdens of countries in Africa, support must be sought and obtained from global financial institutions to create the impetus for the supply of affordable housing units and more consumer-friendly housing financial markets.

African countries must have more ambitious housing plans for a sustainable future, given the projections on its population and urbanization in 2050 and beyond. While no African country achieved the MDG Goal 7, efforts must be doubled to ensure that the continent performs much better in the 2030 SDG 11.

In the light of the foregoing, the following recommendations are made.

- Countries must revisit and promote the concept of social housing, embedded in several public-private intervention policies, to provide affordable housing.
- African governments should commit to long-term plans and programmes for developing sustainable local building materials industries and reduce imports.
- Improvement in research and information on local building materials is important, to make them more suitable and acceptable.
- Manufacturing plants for spare parts and tools for building construction should be established across Africa.
- The mortgage finance sector must be strengthened and regulated to serve the goal of affordable housing provision, in order to reduce housing deficit in Africa.

Strategic Options on Poverty Reduction

Promoting entrepreneurship

Entrepreneurship has been highlighted as a potent pathway to poverty reduction. In this context, African governments should provide conducive environments to enable young entrepreneurs to thrive and blossom.

Investment in agriculture

The majority of the population in Africa depends on primary economic activities, and by extension, mainly on agriculture for subsistence. Aggressive investment in agriculture by African governments remains an important strategy for engaging the youthful population, creating employment opportunities, ensuring food security, and as a source of government income, all of which will undoubtedly translate to reduction of poverty levels.

Boosting tourism

Tourism is an important source of revenue especially foreign exchange that can directly or indirectly impact the lowering of poverty. In this context, tourism:

- remains more suitable for socioeconomic growth of poor rural and coastal regions which have few or limited growth options;
- generally employs large number of women and young people, especially the unskilled and less-skilled. Undoubtedly, these categories of people form a high percentage of the very poor in African countries; and
- provides business opportunities for other allied industries as tourists have demands of some of the products of such
-

Strategic Options for Food and Nutrition Security

“With hunger mitigated, poverty is concomitantly surmounted” – Olusegun Obasanjo

The critical drivers of change and transformation in agriculture, in addition to demography are economic development, globalisation, technological change, and its diffusion for empowerment and health implications, that have now assumed greater importance because of the COVID-19 pandemic. More than ever before, the concern for the wellbeing of the population in the agricultural value chain, has now assumed greater dimension with the Covid-19 pandemic that has decimated the global health system in ways that were never contemplated. Most important however, will be technology innovations across the entire agricultural value chains and they would particularly be transformative and laden with impact in modernizing agriculture.

Youths would be attracted into agribusiness and commodity/raw material merchandising, adoption of conservation practices and digital entrepreneurship, changing the dynamics and scale of agribusiness (Laborde, 2020). Digitisation, for example, enables vendors to provide tailor-made products and services in a convenient way, thus improving the value for a commodity. Farming and agribusiness would be less tedious for women, who would more than ever before, be able to take pole positions and excel.

Commercialisation also has implications for the transformation of the middleman in ways that are enthralling. Technologies such as blockchain and artificial intelligence give broader possibilities for connecting the buyer and the seller directly, even more than digital technologies, cutting out the Middleman. The ability of new technologies to connect buyers and sellers and facilitate a seamless transaction flow will create much more efficient and transparent markets, once again transforming/eliminating/replacing the middlemen.

Models and Options for Modernising Agriculture

What are the key elements and guiding principles of a sustainable pathway to grow agriculture in Africa from now till 2050 and beyond to turn the continent’s growing youth population into an asset? The object is not just food security, but in addition, achieve economic and structural transformation. This object is the major thrust of the Comprehensive African Agricultural Development Programme (CAADP) adopted by African Countries in 2010, reinforced and fine-tuned in Maputo in 2014 (AU, 2017). A major goal of CAADP is the feeding of 1.5 billion people by 2030 and 2 billion by 2050: *“the objective of the coming decades is to ensure food security for a population that is increasing and becoming more urbanized, helping to create wealth and jobs, in rural areas in particular, while reducing inequalities and vulnerability and protecting environmental and human capital”*. Among the action pillars of the programme, in addition to taking farming as a business, as a profitable venture, and raising the profile of the farming profession, is the intent to *“promote change and transformation in agriculture according to Africa’s vision in Agenda 2063”*. What was not directly implied then but which is the motivation for our approach is to turn the African growing population from a liability or an object of global opprobrium and derision into an asset of job creation, competitive growth and sustainable development.

A Smallholder Farmer-based Clusters/Cooperatives/Out-growers Business Model

In consonance with the African vision in the CAADP and Agenda 2063 we should contend with and maximally exploit agriculture as the engine of growth of the economy for the next 20 years plus, that is, the short- and medium-term outlook. The smallholder farmers (SHF) with less than 2 ha farms predominate (80%), accounting for 30% of total agricultural output, but 80% of food produce/products. Medium size farms of 2-20 ha account for 50% of total agricultural output, while large farms of over 20 ha balance up the remaining 20% (Adelaja, 2020). Recent analysis has suggested focusing on enhancing the productivity of SHFs, by aggregating them into value chain clusters/cooperatives, as the most feasible pathways for moving forward (WEF, 2020). SHFs are more efficient in resource use on their small farms than the large hectares of the big farms, who must however be equally supported in the short- and medium-term.

Massive Adoption and Use of Digital Technologies

The appropriate business model that we seek to accomplish the tasks should be clothed all over the agricultural value chain and sectors of agriculture with the 4th industrial revolution's digitisation, which the COVID-19 pandemic has reinforced beyond all doubts (Laborde et al, 2020). The future of African agriculture is in Agricultural Startups/small-agribusinesses, Technovation (technology/ innovation), and Digital Entrepreneurship (STDE) led by the youth and 'women farmers,' supported by the organised private sector, government and the knowledge system. A recent UNIDO study has alluded to the potential of startups, technology innovation and digital entrepreneurship in driving the structural transformation of the economies of ECOWAS states for economic growth and job creation under a well-managed triple-helix innovation business model (UNIDO, 2020). The framework is applicable to the strategic aggregation of the power of Africa's smallholder farmers (SHFs) as the way forward for African agriculture.

Africa is leapfrogging access to mobile technology that has enabled several farmers in the continent's remotest places have mobile phones, thereby equipping them to receive targeted agricultural advice through simple text or voice messages, even without access to the Internet. Examples now abound in Africa and globally of how this has transformed and empowered farmers very subtly in several areas of practical farming from e-extension, to receiving market information to sell at optimum prices, access bank accounts, crop health and harvest monitoring, weather forecasting, adapting to climate change micro irrigation to mention a few.

In Odisha, India for example, Precision Agriculture for Development (www.precisionag.org) delivers customised, crop-specific, free agricultural advice to almost 800,000 farmers through their phones. Such extensive advisories, delivered at scale and at low cost, can change farmers' practices for the better. There is also growing evidence to show that farmers who are empowered with digital information will increase their yields, incomes, and resilience against shocks, since they more readily adopt recommended agrochemical inputs (Fibergas et al, 2019). Another example, supported by IFAD uses remote sensors to assist farmers optimize water and fertiliser levels for their crops, while drones are being used to identify plants in poor health so that remedial action can be promptly taken. All these applications can expand farmers' opportunities and reduce their risks.

Digital convergent technology does have the potential to transform the African agricultural sector, but this will require further innovation and strong partnerships between the academia, businesses, farmers, and governments and its implementing/regulatory agencies to ensure that technology remains affordable and accessible. Also, the private sector should be encouraged to advance, adopt, and re-engineer technologies for, and in collaboration with, small-scale farmers. Investing in digital agriculture today offers the promise of a ‘quadruple return.’ Digital extension would accelerate the adoption of proven, cost-effective, scalable strategies for increasing long-term farm production and improving the livelihoods of poor, rural people. And, finally, it can give farmers a voice, enabling governments to direct and measure the impact of agricultural investments. However, as farmers are increasingly equipped with mobile phones, they also need advice that is tailored to their needs, as well as access to agricultural inputs (seeds, fertilisers and supplementary water) and markets for their products. So, massive extension access for farmers is more crucial now than ever before. It is the secret of unlocking access to digital technologies.

The totality of the fourth industrial revolution holds much in stock for the smallholder farmers as a variety of new digital applications are now accelerating interventions that have been shown to improve productivity and growth in the sector. Overall, we are seeing great promise in digital solutions that are addressing three key constraints of smallholders: resilience, scale and market incentives/motivation. An apps/mobile product in East Africa from a PPP between Vodafone, USAID and TechnoServe (a nonprofit – www.technoserve.org), Connected Farmer, for example, helps farmers with agribusiness management of their crops and finances. Olam, an agribusiness giant adopted the apps in Tanzania to entrench “virtual aggregation”, enabling 30,000 farmers across hundreds of kilometers to be organized inside a single mobile phone to register, manage contracts, provide extension services, make payments, extend loans and provide SMS receipts. The new wealth of data gives the farmers a bigger, clearer picture of their overall business, thus helping them to identify patterns, efficiencies, and best practices (WEF, 2020). The testimony of Stanley Maina, head of operations at Kenya Nut, a major processor using the Connected Farmer system is apt “deliveries and other work are still done in person, of course, but mobile supply chain management now makes working together vastly easier for buyers and smallholders. Before, running manually...it would take about two to three weeks to distribute and reconcile cash to the field. Now, we are down to just three hours... It is a tremendous change with our efficiency.”

Digital agriculture entails use of digital technologies by farmers to access useful information, which as earlier indicated, has the potential to radically transform how citizens and communities secure their livelihoods. In several parts of Africa, start-ups and other institutions are leveraging digital technology in transformative ways. In Nigeria as well as Kenya, Hello Tractor is reversing the trend of low mechanization by allowing farmers to hire affordable tractors to work their land, using their mobile phones. Under the World Bank-funded Kenya Climate Smart Agriculture Project, Internet-enabled smart irrigation devices that combine automated soil water sensors and cloud-based data analytics are being explored to boost crop yields while cutting water use. Also, there is a pilot project on the use of big data from remote sensing and GIS-enabled technologies to support the implementation of agro-weather analytics that enable accurate weather monitoring and dissemination of climate information to smallholder farmers. Such data enables the farmers to know how and when to apply inputs for optimal results. Solar refrigerators are helping dairy farmers, also in Kenya, to cool their milk products and reduce spoilage. About 1.2 million farmers in Ghana, Niger as well as Malawi and Ethiopia are learning best farming practices through engaging videos from Digital Green – a low cost and modern way to deliver agricultural extension.

There is more in the horizon on food safety. The much-hyped block chain technology could expand rural finance by making financial transactions more accessible and less expensive and create more transparent and efficient system that allows farmers and others throughout the value chain to manage their supply

chain more efficiently. The technology can be applied directly to the grain trade and expanded into other agricultural commodities. This allows for identification and removal of bad actors and poor processes and ensures ideal conditions from farm to market, and we can pinpoint source quickly in the event of a food safety outbreak. Block chain technology can also be used to open new markets to farmers. The premise here is that if we can create trust and accountability among market players, there is reduced need to evaluate each person individually on their trustworthiness and ability to execute. Throughout Africa, technology-led transformation of agriculture sector is already underway, from farm to fork. As technology improves and becomes more widely available, disruption in agriculture promises to accelerate, and Africa must programme to take full advantage of the emerging transformative technological innovations on a massive scale to leverage its large and growing youth population, if it is to become as asset.

Mainstreaming Climate-Smart Farming Practices/Technologies for Climate Finance

Smart farming entails using smart technologies to improve crop yields using fewer resources. If as earlier noted, food production needs to increase by 60 % towards 2050 for us to feed a growing global population and middle-class, smart farming would be an essential and indispensable tool. The Agricultural Revolution succeeded in turning several Asian countries from being net food importers to net exporters, cultivating disease-resistant wheat and rice crops and using fertilisers and irrigation technology to increase productivity. Africa needs a green revolution more so that climate-change induced drought and challenges of more resistant pests have made productivity increase even more difficult. Smart farming techniques should come to the rescue of increasing proportion of agribusiness. By using automation combined with sensing technology and the Internet of Things to make farms more ‘intelligent’ through measuring real-time soil conditions and matching them with metrological and topological data, productivity can be enhanced. Smart farming could facilitate integration of seed and fertiliser companies with Big Data providers, engendering greater farm consolidation. Smart farming can help secure good farm practices, through better use of resources. Hence, educating and advancing skills for data-driven farming should be promoted and policymakers should explore agriculture systems best suited for smart farming. Different smart-food supply systems capable of utilising solar energy (for hydroponics and land-based aquaculture) could be explored.

The 17 Sustainable Development Goals (SDGs), with their 169 associated and integrated targets, would appear to have defined the essence of agro-environmental technologies in aiding their attainment but Africa is not leveraging its potentials. The World Bank funded Kenyan climate-smart project mentioned earlier indicates the way forward. The charge from Adesina (2018) on this is also instructive and apt; “There is an urgent need to support African agriculture to adapt to climate change. The taps for global climate or green finance may be flowing, but they are only dripping for Africa. Of the \$ 820 billion in climate finance flows for 2015 and 2016, only \$16 billion or 2% reached Africa”. He put it bluntly: “Africa is being short-changed by climate finance but boosting climate resilience requires greater investments in irrigation and more efficient water management, climate smart agriculture and crop and livestock insurance. In addition, priorities should focus on market-based risk transfer institutions to reduce effects of climate change on public finances, social protection, and strategic food reserves.”

Strategic options in quality basic, technical and vocational education

The current situation of technical and vocational education (TVET) requires profound and deep transformations in the conceptualisation, contextualization, regulatory and governance system, funding and organization of TVET to prepare individuals and the societies with skilled workforce for the teeming population to become an asset. Reforming any education system is a complex exercise. For TVET it is even more demanding as it falls between a nation's education system and the labour market. This connection is critical to TVET. Any reform strategy should deal with different stakeholders including government Ministries/agencies, the TVET training institutions, business enterprises, employer associations and unions, who will provide their workplaces as training locations. The quest for quality basic TVET should encompass a number area which are interlinked but together they provide the frame for transformation of the entire TVET system including the non-formal and informal.

Strengthen primary/basic education

A successful TVET system will require quality basic or primary education as a foundation stone. Not all children in SSA are in school. The GER at primary 99% while the NER is 79%. However, the quality of primary education is low. There are also 32 million children out of school in Sub-Saharan Africa (UNESCO, 2020). Member states need to strengthen the quality of primary education through the improvement of literacy, numeracy and ICT skills as well as address the issue of children who are out of school.

TVET Model

Africa faces the challenge of converting the youth bulge into an asset that benefits the entire society. The question is: how can young Africans be assisted to make the transition from school to work? Three major approaches have dominated this transition (Euler & Wieland, 2015). The first is the market based or liberal model where the development of vocational skills is market-driven but not generally standardized. Here, the market is allowed to regulate the supply and demand of the training. The second is the school-based or bureaucratic, state-regulated model where vocational training is regulated and financed by the state, but the types of vocational skills provided are not a function of demand within the labor market. This is the model existing in TVET institutes, polytechnics, technical universities and Further Education institutions. The third is the dual-corporatistic model, which combines the market-based and school-based regulatory patterns. Here, schools and companies each serve as learning centres with the vocational schools providing the theory-based component while the company-based training is responsible for the practical part of a learner's education. In this model, the provision of knowledge and skills by the two groups is closely linked to the acquisition of relevant job experience to ensure that training takes place under conditions similar to those the trainee will encounter in the workplace (Euler & Wieland, 2015).

The dual technical vocational-training system has gained attention because of its success in addressing youth unemployment. It allows businesses to have access to skilled workers with real world training as well as facilitating young people's access to the labour market. This work-based learning system has been adopted by European Union as the central pillar of TVET system across Europe. It has also been extended to cover apprenticeship training. The adoption of this collaborative system in Africa as an alternative pathway will require robust partnerships established between key employers (businesses), trade unions

and TVET institutions. This may be used in certain skill development situation. The school-based supply-driven model and the market-based model can also be used in certain circumstances as parallel systems.

A country's TVET system should be seen as a tool for achieving certain objectives, and in the case of African countries, it is to ensure that the large youth population can acquire employable skills and be employed or self-employed. It is also to ensure that the disadvantaged, poor, and marginalized including girls and women are included in any model; in addition, developing sufficient skilled labour in diverse areas is critical. Each model will be judged by its success in achieving these aims. A major issue is how African countries can "better integrate the world of work and the world of learning" (Morgan, 2020).

Improving public perception of TVET

TVET in many African countries suffer from a prestige deprivation syndrome. Most parents value academic education over TVET or practical skill training and will therefore send their children to academic institutions. Changing such views require persistence; and showing results that can create confidence in the TVET system. To pursue a mindset change and improve the attractiveness of TVET, member states can do the following:

- Carry out TVET sensitization and mind-changing workshops and webinars across all African countries to create a positive mindset about TVET.
- Institute TVET ambassadors in every country using high profile people – former Heads of State and successful entrepreneurs.
- Create incentive packages such as scholarships for TVET students to assist in directing parents and students to shift their focus from academic pursuits to vocational, practical oriented programmes, based on national priorities.
- Organize skills competition at both the national and continental level for students and graduates to showcase their projects.
- Improve permeability and diversity of learning pathways and programmes.
- Make the physical environment in TVET institutes attractive.
- Provide information and guidance to students and parents.
- Present TVET as a first choice and a different way of learning for any job and not a last resort, and that it is and not necessarily about educating for low-quality manual jobs.

Improving curriculum, pedagogy and learning resources

TVET equips individuals with skills and competencies to enable them to perform well in the area of their studies at their workplaces. As an accepted training practice, member countries are encouraged to adopt competency-based curriculum reforms which gives more attention to learners and their ability to master practical tasks, acquire competences and take ownership of their own learning. Of great importance is the fact that the the curricula should emphasize TVET-based practical training as well as practical training in an industry setting, thus combining work and learning together.

A review of the TVET curriculum should be carried out regularly to ensure that programmes which are less relevant and have lower employment rates (in terms of individual countries' context) are either closed or

modified, and new programmes which are highly relevant to local industries and have high employment/self-employment rates are developed with industry involvement. The TVET curriculum should identify which broad and transferable skills (communication, innovation, problem solving, entrepreneurship, collaboration, adaptation, basic technical skills, etc.) learners should develop alongside their specialist skills. It should also provide strategies for implementing any new approach to skills development. The involvement of industry in a dual-mode approach will ensure that the graduates will be work-ready and qualify to be employed in the collaborating employers.

Entrepreneurship should be a compulsory aspect of the curriculum. TVET institutions should incorporate courses in entrepreneurship into their curricula and certification, and support small and medium scale businesses to provide workplace training; TVET institutions are also to encourage the creation of incubator systems, start-ups and co-operative projects with the private sector and communities in order to bring innovations to life.

The use of technology is becoming a key dimension in many workplaces. TVET institutions should use technology in the delivery of trainings to meet the demand for a skilled, ICT-capable labor force needed by advanced manufacturing technologies. This will enable graduates from TVET institutions find jobs, or create their own jobs.

Resources matter a lot but obsolete resources can be a disaster. Having current tools and facilities including ICT to teach the trade will produce graduates who are well equipped to start their employment journey. Lack of modern training resources puts the students at a disadvantage. All TVET institutions should be provided with adequate facilities and equipment to improve delivery. Beyond having the resources, the management and use of these resources is what will bring about efficiency and effectiveness of the training.

Standards, Quality Assurance and Regulations

Member States should establish a system of regulations and standards to guide TVET. This should cover quality assurance, curriculum, industry-education partnerships, standards, and certification in TVET. This should be based on negotiation between all relevant stakeholders: industry, TVET institutions and government representatives. Quality assurance systems should include clear and measurable objectives and standards, regulation of private TVET providers, guidelines for implementation, and feedback mechanisms and evaluation of results. Quality assurance should also include both external and self-assessment through which system performance and outcomes can be continuously evaluated.

TVET institutions should invest in TVET Management Information Systems, and labour market information system and should also invest in a number of studies including monitoring and evaluation (M&E) studies, impact studies and tracer, and make the data available and accessible to the public and also use it to improve policy formulation.

Alignment of multi-sectoral TVET institutions

TVET is multi-sectoral with different ministries operating their own institutions in many African countries. This creates problems in terms of data-gathering, monitoring and evaluation, regulation and certification. All member states should consider aligning and placing all TVET institutions under one Ministry preferably education ministry as exemplified by Ghana. In addition, countries can consider setting up a TVET Service

under the Ministry of Education to oversee and coordinate training and professional development of all TVET institutions. This allows the implementation of policies to improve the training of skilled workforce.

Expansion and renewal of TVET institutions

In many African countries there are far more academic grammar-type secondary school than secondary TVET institutions. This situation places a barrier on access and participation in TVET. Member states need to expand TVET institutions at the secondary, post-secondary and tertiary levels. These institutions should be well resourced with modern teaching facilities and equipment, and well-trained technical teachers/instructors. It should have an institutional framework to engage with companies, trade unions and business associations. The framework should specify that the curricula, standards, qualifications and certifications which should be planned and developed together by the institution and enterprise.

TVET Teacher Development

In many African countries, most TVET teachers have only academic qualifications. There is the need to incentivize the teachers to acquire skill qualifications in specialized institutions such the University of Skills Training and Entrepreneurial Development (USTED) in Ghana in preparation for professionalizing TVET teachers. To keep up with innovations in skill development, TVET teachers will undergo continuous professional development, initiate and carry out research on TVET as part of their professionalization. This should include a period of time (4-8 weeks) of practical training (attachment) in industry for their career progression and promotion. TVET institutions should also recruit industry experts as part-time teachers for practical courses. Policies and frameworks should be developed to ensure qualified and high quality TVET staff, including teachers, instructors, trainers, tutors, managers, administrators, extension agents, guidance staff and others are engaged in TVET institutions. Compliance with national laws concerning the minimum level of qualifications for TVET teachers should be adhered to. Teachers should adopt student-centered pedagogy, facilitated by ICT, thus encouraging students to actively engage in their own learning. These measures should apply to TVET teacher educators who train the teachers.

TVET “Model” institutions

Member countries should embark on the development of “model” TVET schools and tertiary institutions as a national TVET strategy. These will be TVET champions for TVET reform and innovations. They should be provided with financial space and policy to pioneer innovative mechanisms and build their own special brands including links with industry, incentives to instructors to promote relevant programmes, develop specialized and market relevant technician training in critical areas such as transport, energy, agro-processing, manufacturing, and ICT.

Regional Centres of excellence

African countries should support the creation of subregional TVET Centres of Excellence for member states involving selected polytechnics and technical universities to encourage collaboration and specialization. This can be done through international collaboration and financing similar to the one created for East Africa Skills for Transformation and Regional Integration Project (EASTRIP) with World

Bank support through its flagship programme PASET. This is a 5- 6 years project supporting a cluster of regional TVET flagship institutions (16) to develop specialized and market relevant technician training in transport, railway, highway, energy, port management, agro-processing, light manufacturing, and ICT sectors. It will provide TVET faculty and student opportunity for mobility, sharing research on TVET; encourage peer learning, good practices, knowledge exchange, and capacity building on the continent.

Creating equal opportunities for all

TVET has an important role to play in preventing multiple forms of disadvantage and discrimination, and overcoming barriers to entry and progression in the world of work and in further learning. Member states should ensure that TVET provides a more inclusive learning system as a critical dimension for all youth and adult learners to develop their knowledge and skills. Special attention should be made to ensure equal access to TVET for girls and women, and to eliminate the very strong historic gender bias and stereotypes against women which continues to characterise TVET policy and practice. The use of ICT can widen access and participation for all. The use of financial incentives as a shifting mechanism to increase female participation in engineering and ICT trades.

In areas of conflict on the continent, TVET can support the re-integration of ex-combatants into their communities and the socio-economic recovery of affected populations by providing them with appropriate skills to make them productive. Providing workforce skills to all youth through TVET can serve as a means of avoiding conflict, through its contributions to social inclusion, social cohesion and citizenship and eventually peace and security.

Qualification Systems: National and Regional Qualification frameworks

In the 2017 Global Inventory of Regional and National Qualifications Frameworks, published by the European Centre for the Development of Vocational Training, there are only 22 African countries with National qualifications framework and there is only one regional qualification framework, the Southern African Development Community Regional Qualifications Framework (SADC RQF). Member states should establish, review or strengthen their national qualification frameworks, their system for the recognition, validation and accreditation of prior learning; the development of quality assurance of qualifications; the establishment of regulatory mechanisms for flexible learning pathways; and the development of a system of credit transfer and accumulation. Such a credible regulatory system will hold great attraction for the youth.

School-Industry Partnerships

There must be a strong cooperation between TVET institutions at secondary, post-secondary and tertiary levels and enterprises. The institutions should be motivated to develop their own brand and produce employable graduates. Companies should be encouraged through policies to collaborate with TVET institutions through the dual-vocational training system in planning, course development and teaching and guide learners to acquire practical training and industry exposure (apprenticeship). Governments should play a catalyzing and monitoring role to ensure that the partnership meets national needs. Public

policies should be used to facilitate quality apprenticeships as part of the work- and institution-based learning through social dialogue and public-private interactions to support the development of knowledge, skills, competencies and work experiences among the youth. In this collaboration, different forms of work-based learning, including in-service training, attachments, apprenticeships and internships, should be promoted in the TVET institutions and the industry.

An aspect of industry involvement in TVET training is the system of work-based learning. Workplaces are the most common and important locations for learning for adults. Yet training in enterprises across many sectors and in many countries is only rudimentary. Companies should be encouraged to offer work-based learning apprenticeships for their workers based on a curriculum and assessment that results in certification or diploma at the end.

Member state should also consider encouraging negotiations between universities and companies to develop apprenticeships linked to university study but result in a bachelor's degree and an apprenticeship diploma or degree after four years. Graduates will emerge from this dual programme as skilled and ready for work.

TVET in informal economy

TVET in the informal economy is often ignored in most countries even though 80-90% of the population work in this informal economy. It provides the principal route to skills and work for large numbers of workers. Informal TVET sector should therefore be developed, made attractive, its apprenticeship quality improved and promoted to provide skilled jobs for many of the unemployed youth in Africa. The quality of traditional apprenticeships in small, micro and household enterprises in rural and urban areas need to be improved by engaging and training the stakeholders. Member states should recognise and validate non-formal and informal learning and learning pathways through setting up an agency to regulate, standardize, train master craftsmen and women, and the provision of free training for the unemployed and disadvantaged through TVET policies. These policies should include skill development, training of master craft people, curriculum and certification.

To improve the quality of TVET learning in the informal sector, some governments are introducing literacy and numeracy courses, offering skills upgrading for master crafts people, including pedagogical skills, and providing information to potential apprentices about the demand for skills.

Financing TVET

TVET costs money. TVET system in most member states are financially supported mostly by governments with some external development partner support. The state of the TVET system points to the fact that TVET is poorly resourced even though it provides direct entrance to employment. Countries need to develop innovative approaches for diversifying sources of funding for TVET. Member states should consider creative ways of raising funds such as levies on enterprise payrolls, which should be negotiated with employers, and trade unions and the government. Another approach is to organize a TVET Fund Raising Week every year to raise funds for TVET. Member states also may raise funds by considering floating TVET Bonds which can be made attractive by providing tax exemption for holders .

Strategic Options in Higher Education

Several initiatives in higher education provide options for making Africa's population an asset. These include expanding access through open and distance learning delivery systems and strengthening quality assurance in higher education to produce quality graduates to drive the economy. Initiatives that should have urgent continental diffusion to assure quality in higher education include the African Quality Rating Mechanism (AQRM); the revised Arusha Regional Convention on Mutual Recognition of Qualifications; and the Higher Education Harmonization Strategy.

The African Quality Rating Mechanism (AQRM)

AQRM was adopted in 2007 by the Conference of Ministers of Education of the African Union (COMDAF) to establish an African system that will ensure the performance of higher education institutions can be compared against a set of common criteria and to help the institutions carry out self-evaluation exercises to support the development of institutional cultures of quality (AU, 2013)

In 2010, 32 higher education institutions from 11 countries participated in an evaluation based on the AQRM mechanism. A report by the African Union Commission noted some shortcomings in this exercise, including the lack of external validation of the results of the self-assessment and the difficulty in drawing relevant conclusions from the information collected since some institutions did not complete the entire survey (Mohamedbhai, 2012; Shabani, 2013).

Based on the results of this pilot evaluation of the project, the African Union, in collaboration with the Association of African Universities, developed a revised version of the AQRM survey questionnaire and scoring instrument. It is agreed that this new AQRM evaluation tool will enable institutions to ensure continuous quality improvement and to develop relevant strategic plans for quality assurance.

In 2017, fifteen universities from the five African regions were selected to implement the AQRM in their respective institutions. This assessment will enable the institutions to strengthen their internal quality assurance systems and identify areas for improvement. It will also identify weaknesses in the mechanism with a view to refining it (AQRM, 2018; HAQAA, 2019).

The Revised Addis Ababa Convention

The African Regional Convention on Recognition of Qualifications in Higher Education was adopted in December 1981 in Arusha, Tanzania, to promote mutual recognition of academic and professional qualifications among Partner countries. For several reasons, including incompatibility of systems, deterioration of quality in some countries, implementation of this Convention has been ineffective.

In 2002, the Regional Follow-up Committee of this Convention decided to revise it in order to address the various challenges to its implementation and to take into account new developments in higher education. The first stage of this revision was conducted jointly by UNESCO and the Commonwealth of Learning. The second phase, which began in 2007, was led by UNESCO and the African Union Commission. It culminated in the adoption in December 2014 of the revised Arusha Convention known as the Addis Ababa Convention which entered into force on December 15, 2019 following ratification by the required minimum number of countries.

The African Higher Education Harmonisation Strategy

This Strategy was adopted in 2007 by the Conference of Ministers of Education of the African Union (COMEDAF) to achieve five major results areas by 2015, including the following two results which are directly related to accreditation and quality assurance (AU,2007): the creation of minimum standards in targeted qualifications; and the development and maintenance of a continental framework for higher education qualifications.

It is agreed that the achievement of these results will contribute to improving the employability of graduates, promoting youth entrepreneurship, developing a continental quality assurance and accreditation framework and an African Higher Education and Research Area (AHERS). The African Union has decided to achieve these results through (a) the Tuning Africa Project and the Harmonization of Quality Assurance and Accreditation in Higher Education in Africa (HAQAA) in collaboration with the European Union in the framework of the Africa-EU Strategic Partnership, and (b) the African Continental Qualifications Framework in collaboration with the German GIZ and the European Training Foundation (ETF).

The Tuning Africa Project

The Tuning Africa Pilot Project was adopted in 2011 to contribute to the implementation of the African Union's Strategy for Harmonization of Higher Education at the discipline level through the development of training programmes based on learning outcomes. The first phase of this project covered the period from 2011 to 2013. It involved 57 universities representing the five sub-regions of Africa and all major stakeholders in higher education at national, institutional and community levels, professional associations, the private sector, students, future employers and beneficiaries of higher education services.

The project focused on development of training programmes that are based on generic and specific skills required, credit transfer and accumulation systems, teaching and learning methods, and quality assessment and improvement. The project covered the following five areas: agriculture, civil engineering, mechanical engineering, medicine and teacher training. The second phase of the project implemented between 2015 and 2018 expanded the number of fields of study from 5 to 8 by adding two thematic areas: economics and applied geology and a cross-cutting theme: higher education management. The second phase doubled the participation of countries, universities and higher education stakeholders.

The first two phases of the Project have achieved the following results:

- Collaboration between African universities in curriculum design and development enhanced;
- Quality and relevance of higher education strengthened;
- Employability of graduates and youth entrepreneurship skills enhanced;
- International credits mobility programmes implemented.

The third phase of the project was adopted in 2019 by the African Union and the European Union to achieve the following results by 2022:

- Capacities of academia, students and policy makers for the development and acquisition of generic competences strengthened;
- Non-participating universities and other stakeholders trained;
- A network of African Tuning experts is established and provides support for the reform and harmonization processes in Africa;

- African credit transfer system adopted.

Harmonization of Quality Assurance and Accreditation in Higher Education in Africa (HAQAA)

HAQAA is a joint initiative of the African Union and the European Union set up in order to support harmonisation of accreditation and quality assurance mechanisms at institutional, national, regional and continental levels. The first phase of this initiative was carried out between 2016 and 2018 and implemented by a consortium of organisation composed of the University of Barcelona (Lead), the Association of African Universities (AAU), the European University Association (EUA), the European Association for Quality Assurance in Higher Education (ENQA) and the German Academic Exchange Service (DAAD). The first phase of this project focused on the following activities: Development of the African Standards and Guidelines for Quality Assurance (ASG-QA); Promotion of the Pan-African Quality Assurance and Accreditation Framework (PAQAF); Support to internal quality assessment and culture through the African quality rating mechanism.

The SGA-QA were used in December 2018 to conduct a pilot evaluation of four national quality assurance agencies in Senegal, Egypt, Mozambique and Zimbabwe. The main objective of this evaluation was to assess relevance of the tools developed under the HAQAA initiative and to determine the degree of conformity of the activities of national quality assurance agencies evaluated and their benchmarks with the Standards and Guidelines for Quality Assurance in African Higher Education (SGA- QA).

A second phase of this initiative was approved by the AU and the EU to achieve the following objectives during the period from December 2019 to December 2022:

- Advancing quality culture in higher education institutions; including through Online promotion campaign for the AQRM;
- Enhancing capacities of quality assurance agencies to implement the ASG-QA and improve cross-regional coordination;
- Strengthening capacities of the African Union in implementing the Pan-African Quality Assurance and Accreditation Framework (PAQAF). This objective will include organisation of events in conjunction with the Continental Education Strategy for Africa (CESA) higher education cluster and sub-clusters, in five African regions, reinforcing synergies between HAQAA outputs and CESA work plan;
- Feasibility study for the Pan-African Quality Assurance and Accreditation Agency.

Activities of this second phase of the project are implemented by the same Consortium as in the first phase where the University of Barcelona is replaced by OBREAL Global Observatory (Lead).

The African Continental Qualifications Framework

The decision to establish the Continental Qualifications Framework dates back to 2018 when the 30th Ordinary Session of the AU Assembly adopted the *"Protocol to the Treaty Establishing the African Economic Community relating to Free Movement of Persons, Right of Residence and Right of Establishment"*. Article 18 of this Protocol on Mutual Recognition of Qualifications states that *"The State Parties shall establish a continental qualifications framework to encourage and promote the free*

movement of persons". The process of developing the Continental Qualifications Framework (ACQF) was launched by the African Union in July 2019 in collaboration with the European Union, German GIZ and the European Training Foundation (ETF) as a key output of the "Skills for Youth Employability project" launched in June 2019.

The ACQF which will be fully operational by 2023 is expected to contribute to (a) strengthening the skills and qualifications of African populations and support the operationalization of the African continental free trade area (AfCFTA) and support the development and operations of the African higher education and research space (AHERS). The free trade area entered into force on 30 May 2019. Article 10 of the Protocol on Trade Service of the AfCFTA recognizes the importance of harmonization and recognition of qualifications.

The Pan-African Quality Assurance and Accreditation (PAQAF)

Some of the projects presented above are implemented entirely or partially through the PAQAF, which is an overriding framework for a number of commitments related to quality assurance and harmonisation activities in Africa. The African Union adopted PAQAF in 2016 to enhance quality assurance culture in higher education institutions.

PAQAF is made up of the following initiatives:

i). African Standards and Guidelines for Quality Assurance (ASG-QA)

These guidelines were developed between 2017 and 2018 under the HAQAA1 Initiative. In December 2018, they were used to conduct a pilot evaluation of four national quality assurance agencies. The following activities will be implemented under Phase 2: (a) Enhancing capacities of quality assurance agencies to implement the ASG-QA and improve cross-regional coordination; and (b) Facilitate the adoption and use of Part A (Internal quality assurance of higher education institutions) of the ASG-QA by institutions of higher education;

ii). African Continental Qualifications Framework (ACQF)

The first phase of the development of ACQF focuses on a mapping study of qualification frameworks in Africa. It was launched in July 2019 by the African Union in collaboration with the European Union, the German GIZ and the European Training Foundation.

iii). The African Quality Rating Mechanism (AQRM)

This mechanism was adopted by the African Union in 2007 and used by 32 institutions in 2010 as a pilot project. The results of this exercise made it possible to revise the evaluation questionnaire which was used by 15 institutions in 2017 as part of the HAQAA 1 project. The HAQAA 2 project will promote the AQRM through online campaigns, in particular with a view to contributing to the development of a culture of quality in higher education institutions

iv). Addis Convention for Recognition of Qualifications.

This convention was developed by the African Union in collaboration with UNESCO. The convention was adopted by all African countries and signed by 14 countries in December 2014 in Addis Ababa, Ethiopia. It was ratified by the minimum number of countries required and entered into force on 15 December 2019.

v). African Credit Accumulation and Transfer System.

This system is part of the expected results of the Tuning 3 Project approved by the African Union and the European Union to be implemented between 2019 and 2022.

Regional programmes on Quality Assurance and Harmonization

There are several regional initiatives that play a major role in the implementation of the African Union Harmonization Strategy. One of these is the African and Malagasy Council for Higher Education (in its French acronym CAMES) and the Inter University Council for East Africa. Other initiatives in harmonization of higher education programmes and systems include (a) harmonization of health professional education programmes implemented by the West African Health Organization that is a specialized institution of the Economic Community of West African States (Shabani and Okebukola, 2017) and the Southern African Development Community (SADC) regional qualifications Framework.

The African and Malagasy Council for Higher Education (CAMES)

CAMES was established in 1968, with the aim of coordinating higher education policies and programmes in its 19 member countries. These countries are, in alphabetical order: Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Congo, Democratic Republic of Congo, Equatorial Guinea, Côte d'Ivoire, Gabon, Guinea, Guinea Bissau, Madagascar, Mali, Niger, Rwanda, Chad, Senegal, and Togo. Currently, CAMES is implementing three programmes that are contributing to the achievement of expected results of the harmonization strategy of the African Union. These programmes are: mutual recognition of qualifications; implementation of the "Bachelor-Master-Doctorate" (BMD) Reform; and accreditation and quality assurance of institutions and programmes

Mutual Recognition of Qualifications

The implementation of this programme is based on the Convention on mutual recognition of qualifications adopted by CAMES member countries in 1972 in Lomé, Togo. As originally established, the evaluation of applications for recognition of qualifications was conducted every two years by experts from CAMES member states and partner organizations through regional colloquia.

From 2009, these colloquia are held annually. By September 2019, CAMES had already organized 35 colloquia. For the past few years, these colloquia have been organized in conjunction with capacity building workshops on quality assurance.

The "Bachelor-Master-Doctorate" (BMD) reform

CAMES member countries adopted the "Bachelor-Master-Doctorate"(BMD) reform from mid-2000. This reform comes from the implementation of the Bologna Process launched in 1999 to contribute to the development of a European Higher Education Area. This reform focuses on harmonization of (a) higher education systems by organizing training programs in three cycles of bachelor, master and doctorate; (b) training programmes based on students' learning outcomes and (c) quality assurance mechanisms through the establishment of a regional accreditation and quality assurance system that CAMES uses to directly evaluate higher education institutions and programmes in member countries. The main objective

of the BMD reform is to ensure the comparability of training programmes with a view to promoting mutual recognition of qualifications and student mobility.

The accreditation of institutions and programmes in CAMES countries

CAMES has the mandate of conducting directly accreditation and quality assurance of higher education institutions and programmes in member countries. For this purpose, CAMES has developed regional standards that it applies in the same way in all the member countries (CAMES, 2018). However, countries have noted that several public institutions do not use the regional accreditation process implemented by CAMES. Beginning in 2015, some countries have decided to create national quality assurance agencies in order to take up the challenge of accrediting public institutions and address some of their specific needs and objectives. For example, in the case of Senegal, the rationale for establishing a national quality assurance agency was the need to accredit both private and public higher education institutions, to strengthen the culture of evaluation and quality assurance in higher education institutions, and to broaden the scope of accreditation to include research and innovation (Senegal, 2018). Several CAMES member countries are in the process of creating such national agencies. It is agreed that this strategy will help to further enhance graduate employability and youth entrepreneurship and therefore to contribute to transforming the population to an asset.

The Inter University Council for East Africa (IUCEA)

The Inter-University Council for East Africa (IUCEA) was established in 1980 with headquarters in Kampala, Uganda following a Memorandum of Understanding signed by the Vice Chancellors of the Universities of Nairobi in Kenya, Dar es Salaam in Tanzania and Makerere University in Uganda to replace the Inter-University Committee created in 1970 to promote academic cooperation among these universities. This memorandum defined the objectives, functions and institutional structure and governance systems of IUCEA. The Council operated satisfactorily until 1992 when it was unable to mobilize the necessary resources to implement its programmes.

Following this situation, the Ministers of Higher Education of Kenya, Uganda and Tanzania decided to sign in 2002 a protocol replacing the 1980 Memorandum of Understanding with a view to revitalizing IUCEA. In 2009, the East African Legislative Assembly enacted an Act that integrate IUCEA into the East African Community that is currently made up of the following six countries: Burundi, Kenya, Rwanda, Tanzania, Uganda and and South Sudan (Shabani, Okebukola, Oyewole, 2013). The main objectives of IUCEA are: to coordinate inter-university cooperation in East Africa; to facilitate the strategic development of member universities; and to promote internationally comparable higher education standards and systems for sustainable regional development. In August 2020, IUCEA had 133 member institutions including public and private universities, university colleges, and other degree awarding institutions (IUCEA, 2020).

The commitment of the EAC Member States to the harmonization of training systems and programs is clearly stated in the Treaty establishing the EAC, the 2002 IUCEA Protocol and the 2009 IUCEA Law. IUCEA began developing a regional quality assurance system in 2005 through a series of consultations with partners at the community level and beyond. It has developed minimum standards for accreditation and quality assurance that have been used by member countries to develop their own standards or to align them with IUCEA's regional standards. (IUCEA, 2014; 2016).

By August 2020, IUCEA had harmonized programmes in the following eight areas: Business related studies; Computer Science and Information Technologies; Education; Medicine and Dentistry; Engineering;

Mathematics; Sport Education programmes; and Agriculture. Moreover, it has developed the East African Qualifications Framework for Higher Education and a Credit Accumulation and Transfer System. These achievements have enabled Heads of States at their Summit on 20 May 2017 in Dar es Salaam, Tanzania to declare the transformation of the East African Community into a Common Higher Education Area. IUCEA is currently in the process of implementing programs for the operationalization of this space.

Other Ongoing Quality Assurance Projects

Some ongoing projects at regional and continental levels that contribute to the overall objectives of quality assurance in Africa and which should be implemented with vigour in the quest to make Africa's an asset. These include (a) networks of national quality assurance agencies; (b) initiatives that provide online distance learning such as Global University Network for Innovation (GUNI)-Africa online series on quality assurance in higher education; (c) the African Union sub-cluster on Quality assurance of the Continental Education Strategy for Africa (CESA); (d) International Conferences on quality assurance in higher education in Africa and (e) The World Bank Centers of Excellence project.

Among the networks that contribute to the development of quality assurance in Africa, particularly through capacity building of stakeholders, are: the continental African Quality Assurance Network (AfriQAN) ; regional networks including East African Higher Education Quality Assurance Network, Arab Network for Quality Assurance in Higher Education, Southern African Quality Assurance Network and a linguistic network- the Francophone African Network of National Quality Assurance Agencies.

The African Union has established 15 sub-clusters to implement the higher education cluster activities of the CESA Strategy. The Quality Assurance Sub-Cluster is developing a Virtual Institute that will be used to build the capacity needed to ensure effective implementation of the various harmonization and quality assurance initiatives outlined above.

Following a request from African countries, a Consortium of higher education institutions and networks has been organizing since 2006 international conferences and capacity building workshops on various themes of quality assurance. This consortium is composed of UNESCO (until 2014), GUNI-Africa, the Association of African Universities and the AfriQAN Network and the European Union. By September 2019, this Consortium had already organized 11 conferences in all regions of sub-Saharan Africa. Each conference brings together between 150 and 200 participants including several higher education partners

The Africa Centres of Excellence for Development Impact (ACE Impact) is a World Bank Initiative to improve quality and quantity and development impact of postgraduate education at Masters and PhD levels in selected universities in the beneficiary countries through regional specialization and collaboration in the fields of STEM. (World Bank, 2020).

These centres are expected to achieve the following results:

- Produce quality Master's and PhDs in large numbers;
- Contribute to global scholarship through publication by staff and students in reputable international journals;
- Solve Africa's development challenges especially through research and innovation;
- Achieve 100% international accreditation of the programmes of the Centre;
- Enrol regional students with emphasis on females and linguistic diversity;

Several Centres of Excellence have already achieved relevant results in terms of training high-level human resources and producing new research results. One Centre that has recently started its activities, the

Africa Centre of Excellence for Innovative and Transformative STEM Education of the Lagos State University in Nigeria, has just achieved impressive results through Implementation of a character training and e-learning training programmes that are unique in the Africa region. These courses, which were designed for 80 PhD students from Nigeria, Burundi and the Democratic Republic of Congo, mobilized more than 50 Facilitators from Nigeria, Ghana, Sierra Leone, Burundi, the USA and the United Kingdom selected from among the best experts in their disciplines worldwide. The pedagogical approach used by this Centre thus opens good perspectives in the development of quality-blended higher education which will help to widen significantly access to quality higher education in Africa.

Strategic options for enhancing health security

The WHO building block framework provides a useful guide for actions to be taken to promote the health of Africans such that the population becomes an asset

The health workforce

There is the need to rapidly train and produce more health workers across the continent to meet the need of its rapidly growing population. Countries with capacity to train could offer assistance to accept trainees from other countries. This has been done in other sectors like the military. Another option is to second trainers to countries with limited capacity as seen in the legal sector where judges are seconded to help in other nations, There is the need to train more polyvalent and multi-skilled health workers as well as more middle grade cadres who do not require very long periods of training. The training of the top-specialists must continue. It may be worthwhile to require graduating health workers to spend two years rather than the one year as practised in many countries to deepen their skills. There is the need to incorporate the traditional health system, train and certify them. This has the huge potential to unlock traditional /herbal medicines that may be effective and affordable. Beyond training is the need to retain, motivate health workers through the provision of incentives, clear career pathways and other actions that will motivate them to work even in disadvantaged areas. This will solve the problem of attrition and brain drain.

Service delivery

Service delivery can be strengthened in a number of ways related to health worker training, actual service delivery and improved funding. Primary Health Care (PHC) should be the cornerstone of health systems in Africa. It has long been shown to have the potential to bring health as close to where people live and work. Paying attention to components of PHC such as health education, immunization, family planning, provision of essential drugs and treatment of minor health conditions can meet up to 80% of the needs of the people. Another strategy is shift-tasking whereby workers with lower levels of training receive appropriate training and supervision to perform tasks that were beyond their initial competencies. This will enable such workers provide a wider, more specialised and higher quality range of services to the communities they serve. Furthermore, to improve service delivery, health facilities need to be planned, equipped with appropriate technology and made more functional. Health workers must receive proper reorientation on client focus and the need to offer high quality of services. Continuing professional development is necessary to improving service delivery. Inter-sectoral collaboration is a key strategy of PHC and will strengthen service delivery. This calls for cooperation and collaboration with sectors outside

health but whose actions impact on health such as agriculture, information, public works and environment. Activities such as outreaches and monitoring can be held jointly this will reduce costs, promote efficiency and achieve results faster. Improving health literacy is another key strategy. Africans need to become more health aware, understand ways diseases present and simple actions that promote health. This way they will exercise control over the determinants of their health and improve them.

Medicines, vaccines and technology

The availability of medicines, vaccines and technology is critical for effective service delivery. African governments cannot continue to depend on importation and the good will of other nations to keep their people healthy. There is hardly any African nation that is involved in global-scale vaccine development. South Africa is participating in the vaccine trial from Oxford university. Investments are needed for research, training, testing, development and production of essential medicines and vaccines. Some countries can be selected through the African union to produce some medicines. India is self-sufficient in production of medicines for its 1.2 billion people, exporting to many countries. Leading African countries can do the same for the continent. There are bright examples like the Institute Pasteur, Dakar, Senegal, the Kenya Medical Research institute, Kilifi, Kenya and the Redeemer's University, Ede, Osun State, Nigeria that can be strengthened to become regional centres for biotechnology and vaccine development. Funding is needed and long-term loans at concessionary rates can be obtained to ensure self-sufficiency in drugs and vaccine production. Training of human resources in biotechnology, bio-medical engineering, molecular research, genetic engineering will go a long way to achieve this.

Health financing

Health financing is an overarching element in the building block for improving health systems. Governments must show strong and adequate political commitment. The African peer-review mechanism should hold governments accountable and ensure they have a workable plan to meet commitments of funding they have agreed to. The first step is to commit more resources of government or budget to the health sector. The second strategy will be to expand the revenue base by promoting and enforcing compulsory health insurance. A third strategy is to implement taxation on luxury goods, alcohol and cigars. Long-term funding for health infrastructure can be sourced from capital markets within and outside the continent and from multilateral agencies. African countries should include health investment in their investment portfolio and country economic growth plans. The private sector can be more meaningfully engaged through public-private-partnership initiatives and by granting tax exemptions/concession to organisations that meet a defined minimum threshold of support to the health sector. Revolving drug funds can also be used to increase funding. There must be zero tolerance for corruption if funding is to be used maximally and sustained.

Health information

Health information is an output of a strong health system. Training of human resources is essential to generate reliable and accurate data. Investments will be needed to produce open data sources, cloud computing and up-to-date reports. Countries need to harmonise various data sources, data collection, analysis across health, agriculture and the environment. Robust integrated systems of health information

and disease surveillance should be implemented across the African WHO region and the Eastern Mediterranean WHO region which include African countries.

Leadership and governance

Leadership and governance must be of good quality if health security will be achievable on the African continent. Though the overall headship of the health sector is decided politically but the person should be able to depend on and be supported by competent, efficient, and effective technocrats and managers. Leadership of health institutions/ facilities should be decentralised but with strong leadership who are held accountable and who have realistic targets set and feedback mechanisms. One way of achieving accountability is the inclusion of representatives of the people on the governance structure of health facilities. Such community representatives must also give feedback of their stewardship to the people they represent.

Health security is important and remains a major gateway to achieve many of the development goals of the continent and if indeed the population will become an asset. Threats to the health of the people should continuously be monitored, identified and tackled while multi-pronged actions at strengthening the health system should be institutionalised. Peer- review mechanisms are important if the continent is to move together to achieve its health-related goals.

Strategic Options for Peacebuilding

Understanding and analysing conflict in a fast-growing population together with its triggers is the starting point of any conflict resolution approach. Such triggers include poverty, marginalisation, poor governance, corruption and disruption of infrastructures and public services. The African Development Bank (2014) proposed a two-fold approach to address the challenges of violent conflict in a fast-growing African population. The first part is mounting an effective policy response to the disruptive economic, social and environmental conflicts facing Africa. The second is creating resilient states and societies that are able to manage these pressures. This entails building interlocking institutions and partnerships at the community, state and regional levels. Adoption and application of these strategies involved further disaggregation of the complexity of the twin strategies into implementable actions.

Four dimensions on which strategic options for peacebuilding should be based are suggested by UNEP (2016). These are:

- a.) The **socio-economic** dimension: There is some consensus that at the root of many conflicts especially in Africa is the issue of ownership or sharing of natural resources. Natural resources provide for basic human needs in post-conflict societies, including land, food, shelter, and livelihoods. Resources are critical to the development of sustainable livelihoods as well as the successful return and reintegration of refugees and displaced people. Essential services such as water, energy and waste management also rely on natural resources. “High-value” natural resources are often used to kick-start economic development and provide budget revenues. In some cases, restoring degraded, damaged or destroyed natural resources where they are posing a threat to human health, livelihoods or security is also a priority.
- b.) The **governance** dimension: Given the importance of natural resources in livelihoods, essential services and economic development, rebuilding effective governance institutions for natural

resources at the national and local levels, including community-based resource management is an important need. This includes efforts to build legitimate and effective political institutions (and this is pivotal in Africa because many government in power lack legitimacy), meaningful democratic participation (this is lacking in many African countries), the reform of bureaucracy and the public sector, capacity-building for political parties and civil society, jump-starting constitutional and electoral processes, reviving traditional management techniques and enhancing legislative and policy frameworks.

- c.) The **security** dimension: One key peace building priority is to prevent the illegal sale of natural resources from funding arms and armies. This has been the experience of many African countries in times of crisis, where some stakeholders capitalise on the crisis situation to enrich themselves. In addition, during the disarmament, demobilisation and reintegration (DDR) of ex-combatants, unsustainable resource extraction as a substitute or supplementary livelihood is common. Mechanisms are needed for monitoring the extraction and export of “high-value” natural resources, as well as increasing financial transparency.
- d.) The **justice, truth and reconciliation** dimension: The shared management of natural resources can contribute to dialogue, confidence-building and reconciliation between divided communities or ethnic groups. Resource wealth-sharing is an important part of solving historical tensions and power differentials. In some cases, underlying grievances that might have contributed to the conflict such as access to land and other resources need to be resolved as part of reconciliation processes.” (UNEP 2009b)

It is important for African countries to note the caution of the World Bank (2018) that strategic peacebuilding should focus beyond managing violent conflicts to addressing the underlying causes and risks of violent conflicts (Box 3.5).

Box 3.5: Three core principles of prevention

- Prevention must be sustained over the time needed to address structural issues comprehensively, strengthen institutions, and adapt incentives for actors to manage conflict without violence.
- Prevention must be inclusive and build broad partnerships across groups to identify and address grievances that fuel violence.
- Prevention must proactively and directly target patterns of exclusion and institutional weaknesses that increase risk.

Finally, what is being stressed is to address the needs of vulnerable and marginalised groups and the root causes of poverty in the quest for peacebuilding. Corruption often leads to unrest and conflicts. Hence giving priority to fighting corruption can go a long way in ensuring peace in the continent.

Strategic Options on Climate Action

Capacity Development

For Africa to effectively respond to the immense challenges of climate change, there is an urgent need to build and strengthen capacities in the areas of adaptation and mitigation at various levels. This calls for the development and implementation of a capacity-building framework and tools at regional and national

levels. The goal in this strategy is based on the need to promote and strengthen capacity building of member states to deal with climate change (AU, 2014). Such capacity development will assist the facilitation and the development of tools, methods, and technologies in support of adaptation and mitigation, among a few others.

Technology Development and Transfer

The development and transfer of appropriate technology form an integral part of Africa's efforts to *adapt* and *mitigate* climate change impacts on the continent. This strategy acknowledges the establishment of the Climate Technology Centre Network (CTCN) which is a body to facilitate technology development and transfer. Technology development and transfer of key areas include:

- a) Enhancing technology development and transfer, including hard technologies (e.g., drip irrigation, water harvesting, drought-resistant crop varieties, renewable energy technologies, building technologies) and soft technologies (e.g., knowledge, systems, procedures, best practices).
- b) Addressing technology transfer barriers, including rules of trade tariffs, intellectual property rights barriers and technical trade barriers (standards, eco-labelling)
- c) Enhancing and supporting the research and development capacity in African countries to foster the development and local manufacture of cleaner mitigation and adaptation technologies.
- d) Enhancing technology cooperation between African countries and others. African common position on Technology development and transfer includes the need for developed countries to commit to the deployment, diffusion, and transfer of technologies to developing countries, based on principles of accessibility, affordability, appropriateness, and adaptability, as well as to address barriers to technology transfer (AU, 2014).

Finance and Resource Mobilisation

According to the African Union (2014), Africa needs to take direct and urgent responsibility in mobilizing climate finance to implement climate change programs in all sectors of the economy. In this regard, the financing mechanisms should spell out what Africa can do from its resources, even as it has to be given new, additional, and massive complimentary support from external sources (AU, 2014). Furthermore, if Africa is to maximize resource mobilization, there is a need for negotiations to focus on:

- Improving access to financing through rationalizing the ever-growing number of funds;
- Harmonizing the governance of the funds;
- Reducing conditionalities for disbursement;
- Streamlining bureaucratic procedures; and
- Reducing transaction costs. (AU, 2014)

In this regard provision of adequate financing means for climate change adaptation and mitigation. See box 5: Case-study of Eritrea:

Box 3.6: Examples of the Use of Climate Funds to Improve Water Security and Climate Resilient Development - Eritrea

Eritrea is particularly vulnerable to climate change. Current adaptive capacity is low and the country has Africa's highest level of food insecurity, accompanied by high levels of malnutrition. Finance from the Adaptation Fund (approximately US\$6.5 million) has been used to promote increased food security through ecologically sustainable and climate-resilient improvements in agricultural production. This programme is aligned with the priorities set out in Eritrea's National Adaptation Programs of Action (NAPA), as well as with its Interim Poverty Reduction Strategy Paper (PRSP), and increases community climate resilience and adaptive capacity through a range of measures, including:

- increased water availability and erosion control through floodwater harvesting and irrigation technologies;
- enhanced climate-resilient agricultural and livestock productivity;
- improved use of climate risk information and climate monitoring to raise awareness of and enhanced community preparedness for climate change hazards; and
- use of knowledge management systems.

Source: AU-AMCOW, 2012

Communication Framework

The climate change strategy must have a communication and dissemination plan, the goal of which is to link all stakeholders to enable an effective understanding of the key issues, information sharing, and collaboration and attract support and evaluate the impacts of the strategy. The communication framework must consider the role of institutions such as the Climate Change and Desertification Unit (CCDU) to enhance cooperation, collaboration advocacy, education, and awareness about climate change issues (AU, 2014). The AU Climate Change Communication system must help identify priorities and get to know potential partners and collaborators as well as their specific needs. It should also help to identify and develop leveraged, high impact vehicles for disseminating climate change messages to the targets and stakeholders. Further, it should be designed and implemented in such a way that its implementation and evaluation mechanism impacts/effects are well aligned with set goals and actions (AU, 2014).

Actions that need to be undertaken include establishing a robust communication framework consisting of African regional media network of African Climate Change Strategy; and the local media network in each African States for better awareness on the issues of climate change.

Case Studies of Best Practices on Climate Action in Africa

In preparing a climate change strategy for Africa, it is important to recognise that adaptation is an overriding priority for the continent, and that there is an urgent need for the implementation of adaptation measures and actions, including through the provision of substantial new and additional public financial resources, environmentally sound technologies and capacity building in a predictable and prompt manner. This strategy recognizes that Africa can adapt to the impacts of climate change while contributing to mitigation by developing through green economic pathways. Further, Africa's capacity to adapt and mitigate against the growing climate menace among other things, would be contingent upon its ability to strategically acquire relevant renewable technologies on terms that are concessionary,

including harnessing its potential to innovate and significantly evolve domestic technological capabilities. Africa’s priorities in adaptation are meant to achieve sustainable development, alleviate poverty with an emphasis on the most vulnerable groups as well as integrating climate change adaptation measures into national and regional development plans, policies and strategies. To this extent, this paper presents case studies of a few best practices towards climate action across the continent.

Box 3.6: Water Security and the Green Economy for Africa

In the African context, poverty reduction and economic growth form part of the main focus of the Green Economy debate. A large majority of African livelihoods are dependent on natural resources and a number of sectors with green economic potential are particularly important for the poor – such as agriculture, forestry and fisheries. All of these have the quality of a ‘public good’ and are highly dependent on good water management. Investing in greening these sectors is likely to benefit the poor by improving livelihoods and enhancing ecosystem services. There are already ‘success stories’ of initiatives that contribute toward a transformation to a Green Economy in Africa, and both Rwanda and Ethiopia have launched low carbon strategies. However, there still remains much that could be achieved in most countries by focusing on the role better water management could play in ‘greening’ economies. The case for promoting early investments in water management and infrastructure is therefore strong.

Source: AU-AMCOW, 2012.

Box 3.7: Rwanda’s Green Growth and Climate Resilience Strategy promotes private sector investment

The Government of Rwanda has adopted a Green Growth and Climate Resilience Strategy. This includes a programme for promoting green industry and private sector development, which proposes ways of improving the energy efficiency of industry – and ways of promoting green industries – to bring win-win benefits of cost savings and mitigation. One plan is to establish a green Special Economic Zone (SEZ) in Kigali, as a flagship for foreign investment in green technologies. In addition, a Climate Innovation Centre is proposed, which would be hosted within the SEZ. This centre would provide coordination and advisory services to accelerate the deployment of low carbon and adaptive technologies by companies and industries.

The strategy also proposes additional actions for supporting green growth through private sector involvement, including:

- clearer tax and import duty exemption rules for all energy-efficient technology components;
- a government-supported microfinance scheme (i.e. loan guarantees or grant-per-unit-financed) to help households purchase renewable energy;
- more flexible pricing arrangements for biogas digesters;
- a government-supported low-interest credit line or loan guarantees for renewable energy businesses and installations;
- an increase in the price paid for renewable energy by Rwanda’s Energy, Water and Sanitation Authority (EWSA) to approximately US\$0.14 per kilowatt hour;
- an engineering capacity building programme; • government support for recycling and reuse of waste products with economic value, such as plastics and organic waste for fertilizer and fuel, with an eventual transition to mandatory waste management for households and businesses.

Source: AU-AMCOW, 2012.

Box 3.8: Zambia-Integrating Water and Climate Resilience in National Development Planning

In early 2010, Zambia embarked on its Sixth National Development Plan (SNDP) process, leading to the adoption and release of the SNDP in January 2011. The process was coordinated by the Ministry of Finance and National Planning working alongside other line ministries. The process was structured to reflect national government strategies sectorally, and as an integrated picture of the national economic and social trajectory.

Each sector strategy was convened by a sector specialist group, with input from other sectors providing cross-linkages, and input to the specific sector strategy. Thus, sector strategies and action plans are cognisant of, and integrated with, cross-sectoral issues. A consolidated strategy and action plan was convened by the ministry, drawing together each of the sector strategies. This provided a second layer of integration and consolidation.

Climate change and water featured strongly in the SNDP process, and were well represented in the published SNDP. Strategies that built resilience to climate change were evident in many sectors, including environment, energy, transportation, health, water and sanitation, agriculture, livestock and fisheries, mining, tourism, information and communications technology, natural resources, and local government and decentralisation. A Climate Change Facilitation Unit in the Ministry of Environment was mandated to mainstream the cross-sectoral climate issues into the sector strategies and was part of each of the sector processes, rather than linked to a particular sector.

The effort built on earlier processes in which IWRM was integrated in Zambia's 5th National Development plan.

Source: AU-AMCOW, 2012

Box 3.9: Agricultural Adaptation Programme in Northern Ghana

Over the years, local small holder farmers have often relied on local knowledge and skills to enhance productivity, adapt to and mitigate the negative impacts of climate change in rural agricultural systems and livelihoods. Local farmers have, for a long period of time, relied on traditional methods of seed production, preservation and multiplication that have ensured their access to indigenous and highly adaptable varieties of seeds. However, indigenous seed varieties are on the verge of extinction in many rural areas, partly due to the persistent assumptions by policy makers and advocates that indigenous knowledge is retrogressive. The Canadian Feed The Children (CFTC) launched the Climate-Seed Knowledge project in Zoosali community in Northern Ghana, with the main objective to enhance climate resilience using local seed varieties for adaptation. The project envisaged benefits for the local communities including improvements in food security and livelihoods as well as minimizing dependence on external food supplies by the community.

In the first phase of the project, 40 women farmers were selected to cultivate their farms using indigenous seed varieties, traditional knowledge and farming techniques. Through the Regional Advisory Information and Network Systems (RAINS), local staff worked with community elders in Zoosali to identify indigenous seed varieties that were prone to extinction. The project resulted in promising gains for the Zoosali community in many ways:

- The CSK project helped to raise awareness of the impacts of climate change on rural livelihoods and using traditional seed varieties to adapt to these impacts;
- The project helped to build adaptive capacity in the rural community of Zoosali;
- The project also successfully revived a number of indigenous seed varieties that were on the verge of extinction, including bambara beans, cowpea, sanze, bungu, agusi, neri, late millet and sesame;
- and
- Food security of the local community was also enhanced through this project.

Source: Canadian Coalition on Climate Change and Development (C4D), 2013.

Strategic options in science and technology

To ensure that Africa's population is an asset to development, after careful consideration of successful practices in managing populations across the world, African leaders should consider the following:

1. Determine to convert Africa’s population into an asset by bringing it into relationship with other productive forces and making investments in human capital through increased spending on human health, education, industrial, technological, and agricultural training for workers.
2. It is important to pursue the enthronelement and promotion of competent, efficient, and effective governance in each African nation as this is really the lever for development and for turning the continent’s population into an asset.
3. Educational systems on the continent should be thoroughly overhauled and special attention paid to ensure access to education to women and girls, entrepreneurship, and ensuring relevance of education delivered to the needs of the society. African governments must endeavour to invest more in education than is presently the case as shown on the tables on literacy, number of children out of school, etc.
4. It is important to step up public health and environmental awareness programmes in our countries in order to ensure that even with large population, liability of population on health and environmental security will be mitigated. Improved sanitation, public health and environmental awareness among Africa’s population will serve as a means of securing and sustaining its status as an asset.
5. Emphasize participation in agriculture, especially mechanised agriculture to foster food and nutrition security even with large populations.
6. To drive innovation among African youths we must ensure that we:
 - (a) Nurture the talents of our young people: Everyone has it in them to think creatively and bring ideas to the table, but there will always be those individuals who have a natural talent within their field. Based on the way they think, feel, perform tasks and absorb information they will be the ones who can lead innovation in their chosen area if their talent is nurtured.
 - (b) Manage their creativity: When any young person one comes up with an idea and brings it to his/her superior officer or teacher, the process of acknowledgement and reward is crucial to further innovation. If individuals and groups feel their ideas are valued and recognised, they are more likely to bring future ideas to the table. Therefore, having a set process in place for encouraging and managing creativity will help to keep it flowing and drive innovation.
 - (c) Encourage a culture of innovation: Rather than simply acknowledging innovation as and when it occurs on an ad hoc basis, schools and organisations can drive innovation on a constant basis by creating a culture. This means highlighting what significant cultural changes need to be made in a company or research institution to help innovation become a more regular and natural occurrence.

Strategic Options from “Making Africa Work”

People and cities

Five steps for success:

- Cities must be seen as drivers of Africa’s diversified growth and jobs. Urban-centred growth represents a dramatic change from the export off natural resources, which has been central to most African economies.
- Urgent action is the only way to address the pending urban-population explosion.
- Focus on city-level funding and authority as a means to redefine the resources to enable local governments to meet the challenge of quickly expanding populations.
- Promote density of housing and cost-efficient transport solutions to realise the urban dividend.
- Focus on the provision of local security as the door through which much else follows.

Infrastructure

Five steps for success:

- Infrastructure development requires a long-term approach to support projects that may take many years to complete, and to maintain the confidence of investors.
- Clear revenue models for capital infrastructure projects must be developed at the outset.
- The critical role of the private sector in infrastructure development will be influenced by the extent of public-sector monopolies.
- Infrastructure must be carefully linked to policy on trade, connectivity, skills and openness.
- The construction of housing can be supported by giving local authorities greater autonomy, pursuing a policy of increasing density in cities, simplifying the procedures for land title and supporting initiatives for affordable housing.

Agriculture

Five steps for success:

- Eliminate government distortions of agriculture pricing.
- Deal with fears of food shortages through better market forecasting.
- Ensure government policies embrace modern farming practices, including mechanisation, economies of scale and greater yields.
- Ensure security of long-term title for farmers, whether by leasehold or freehold.
- Improving logistics is critical to success in both food production and non-food agriculture exports.

Manufacturing

Five steps for success:

- Attract manufacturing businesses migrating from China, understanding exactly what these businesses require to 'move to Africa'.
- Recruiting manufacturing business will depend on being more competitive than one's worldwide rivals.
- Government should tackle bureaucratic delays and reduce opportunities for corruption, as these are essential elements of setting the business environment for success.
- Use trade policy, preferences and agreements to drive industrial development rather than industrial strategy'.
- Higher-value 'mindfacturing' depend in developing basic manufacturing skills and complementing them with relevant education, research and training institutions.

Services

Five steps for success:

- The service sector needs to be actively nurtured by government, with a focus on providing the required infrastructure and regulatory environment.
- Keep government costs (and overheads) low, and match ambition with pragmatism, and growth will follow, as has been shown in the case of airlines like Ethiopian and Emirates.
- Assist the development of a domestic tourism industry by making access easier than that of competitors. This includes making it easy to acquire visas and reducing the costs and hassle of running hotels, through single-permit processes.
- Establish conditions to encourage foreign banks to assist the rapid acceleration in the development and sophistication of local banking systems.
- Actively support the development of the insurance industry and regional nature by removing protectionism and providing effective regulation.

Mobilising resources, de-risking investment

Five steps for success:

- Foreign aid can help, but investment will come from the private sector; it is therefore critical to adopt a business-friendly mindset.

- Creating stability and certainty in the policy, legal and regulatory spheres is key to a successful investor strategy.
- Aid will not overcome weak governance. Improved state performance and delivery have to be locally generated and owned.
- Chinese engagement should be embraced but care should be taken to ensure value for African people rather than the enrichment of elites.
- Aid must be aligned to national plan and tailored to reducing the costs of doing business.

Source: Mills, G, Obasanjo, O, Herbst, J., and Davis, D (2018) *Making Africa Work: A Handbook*. Lagos: Narrative Landscape Press Limited (NLP)

Strategic funding options

Perhaps more than any other pandemic witnessed on the continent such as Ebola and HIV/AIDS, Africa's growing population has come under threat in the wake of the COVID-19 pandemic. The effects of COVID-19 on Africa, as documented by the African Union Report (2020) include contraction in Gross Domestic Product due largely to the disruptions in supply chains, the sudden and sharp decline in commodity prices and fiscal revenues as well as the enforcement of lockdowns and travel restrictions in many African countries. The potential losses in tax and export revenues owing to the disruption of economic activities will widen fiscal deficits and result in the weakening of local currencies. Exports and imports of African countries are projected to drop by at least 35% from the level reached in 2019 resulting in an estimated loss of USD270 billion (African Union Report, 2020). In the face of all of these, the following are some of the strategic options that could be explored by African countries.

Population Value-Additive Properties

After COVID-19 is substantially contained, African governments can take advantage of the huge population to positively transform the financial environment. So, rather than a liability, the population can become an asset post pandemic through:

- (a) Growth in entrepreneurship:** With enhanced financial intermediation, the huge informal sector in Africa can have access to cheaper funds to implement business ideas resulting in greater job opportunities. On their part, financial institutions are stronger and in a position to innovate and create IT-driven products that have mass appeal and capable of onboarding the greater part of the population in the financial system.
- (b) Increase in domestic savings:** Savings by households provide a stable, low cost and low risk source of financing. Sadly, African savings rates are the lowest for any region globally as noted by the African Development Bank (2012). This narrative can be changed especially if a significant proportion of the youthful population is empowered to earn income.
- (c) Increase in government Revenue:** Africa's huge population, if engaged in meaningful jobs and having sustainable means of livelihood, can be a major source of government revenue through taxation. A wider tax net, made possible by rising population, creates room for a low tax regime as the burden is spread among many taxpayers which minimizes tax evasion and leakages.

- (d) **Functional infrastructure:** The continent’s infrastructural development will benefit immensely from the huge population through effective financial inclusion as savings are mobilised from the citizens by the financial institutions for capital projects involving the government and the private sector.
- (e) **Deeper capital markets:** This is the market where the government and corporate bodies seek medium to long term funds for development and business expansion. In order to perform its function of capital formation effectively, the market requires large number of participants. In view of the population of Africa, capital markets in the continent holds a lot of promise leveraging the power of collective investment schemes such as mutual funds from where the government and companies can derive long term funds.

Provide enabling financial environment

In order to realise the above benefits flowing from population as an asset, African governments and their central banks should be ready to:

i) Embrace Technology and mobile financial services: This entails promoting inexpensive and flexible use of technology, creating favorable conditions for banks to develop new products and areas of financial services as well as keeping the legal framework adaptable which creates a favourable financial environment (IMF, 2012). Regulations should be established in areas such as consumer protection, branchless banking and e-money.

Box 3.10: Kenya’s Experience

Kenya’s success in mobile banking can be attributed to a combination of factors including the use of local community agents which allow rural communities with little faith in formal banking institutions to enjoy personalized banking through agents they are familiar with. Unlike a bank account that requires owners to have access to a physical address and show proof of employment, M-PESA, the mobile phone-based money transfer, payments and micro-financing service operated by Vodafone Group Plc and Safaricom, only requires users to provide proof of national identification or passport and a mobile phone number to get registered (Uwaleke, 2019). The system has also benefited from the quick adaptation of the population to mobile payments, allowing users and firms to pay salaries and bills using mobile money.

ii) Leverage crowdfunding

Crowdfunding refers to the practice of raising funds for a venture from a large number of people through the Internet. In Africa, the necessity for crowdfunding is growing following rising population. Poor access to finance constitutes a major constraint for Small and Medium Enterprises. High borrowing rates discourage SMEs from accessing bank loans which are usually collateral-linked. Such conditions are often too stringent for many start-ups particularly if the payback period for the project to be financed is long. Crowdfunding addresses this challenge by introducing a model that is more inclusive especially in countries with huge population. It provides a cheaper alternative source of financing which obviates the need to provide collateral security.

Box 3.11: Egypt’s Experience

In Egypt, crowdfunding is being used to bridge funding gap of SMEs. To this end, the Technology Innovation and Entrepreneurship Center (TIEC), United Nations Development Programme in Egypt (UNDP Egypt) and the UNDP's Alternative Finance Lab have partnered to invigorate the crowdfunding ecosystem in the country. To drive momentum in the area of advocacy and capacity development for crowdfunding campaigns, training programs and Crowdfunding Academy (CFA) workshops are held targeting supporting entities working closely with startups and providing them the know-how to support their startups with accessing alternative finance. (Crowdfunding-academy, Egypt)

iii) Promote financial inclusion via diversified products and services: Financial inclusion is said to be achieved when citizens of a country have easy access to a range of formal financial services that meet their needs at affordable costs. These services should be broad enough to enable access, choice and usage. Since the ultimate aim of financial inclusion is inclusive growth, financial products should include non-interest financial products both in the money and capital market which cater to a huge proportion of the population that shy away from the conventional financial system on religious grounds. In Nigeria, for example, the Central Bank recently issued guidelines for non-interest financial products and the central government has been issuing Sukuk, a Shariah-compliant Islamic bond, in the capital market for the purpose of financing infrastructure in the country. Development Finance Institutions in Africa such as the African Development Bank and the Africa Export Import Bank can intervene more in this area.

iv) Scale up Social Investment Programmes: These are programmes that target the poor and the vulnerable members of the society including women. Because they are pro-poor, they tend to benefit a majority of the population given the high prevalence of poverty in Africa. To be impactful, they must be transparently implemented by involving religious groups and civil society organizations.

Box 3.11: Nigeria 's Experience

The TraderMoni scheme is one of the Social Investment Programmes of the government designed to alleviate poverty in a country with high rates of unemployment. The scheme, an integral part of the Government Enterprise and Empowerment Programme, is a collateral-free micro credit meant to assist petty traders and artisans across the country grow their businesses. Under the programme, administered by the Bank of Industry, traders who are expected to belong to a market union and possess valid means of identification, register for TraderMoni using their phones and following accreditation, become eligible for a collateral-free loan. In order to achieve higher success rates with respect to financial inclusion and poverty alleviation, it is important to equally make rural communities feel the impact of the scheme (Uwaleke, 2019)

Adopt a balanced approach to financial sector development via strong regulation

The role of savings mobilization in an economy is performed by both the money and capital markets. Unfortunately, most African countries pay little or no attention to developing the capital market and instead rely on banking institutions for the provision of development funds which ideally should come from the capital market. Unlike in Asia, many African countries do not have organized Securities Exchange. Africa's growing population presents an opportunity to develop the capital market via collective investment schemes such as mutual funds.

Box 3.12: South Africa Experience

Thanks to strong and balanced financial sector regulation, the South African financial system is relatively well developed with the country's "big five" banks namely Absa, FNB, Standard Bank, Nedbank and Capitec dominating the retail market. The National Credit Regulator is responsible for regulating the South African credit industry, including the registration of credit providers, credit bureau and debt counsellors with the responsibility of developing an accessible credit market to meet the needs of the economically marginalized population. The non-banking sector, including insurers, fund managers and brokering operations, is overseen by the Financial Services Board (FSB). The Johannesburg Stock Exchange (JSE) is the largest Exchange in Africa by market capitalization, at more than R6 trillion (over \$1trillion) boasting about 400 listed companies (Brand South Africa, 2017). In 2012, it was ranked first in the world by the World Economic Forum with respect to securities regulation.

Promote Microfinance: The informal sector is large in Africa and represents a significant part of the continent's GDP with an avalanche of micro enterprises dotting major towns and cities and even the rural areas. These enterprises require access to finance which underscores the place of microfinance in Africa.

Box 3.13: Nigeria's Experience

In a country like Nigeria with a relatively low rate of formal financial inclusion, economic impact of Micro Finance Banks measured by rural outreach has yet to be felt. This partly explains why the Central Bank of Nigeria in 2019 saw the need to establish a National Microfinance Bank which is a joint effort of the Bankers' Committee –an umbrella body of the CBN and the Chief Executives of banks, the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending and the Nigerian Postal Service leveraging its widespread offices across the country. The rationale for birthing a National Microfinance Bank, in spite of the plethora of Microfinance institutions in the country, is to deepen financial inclusion, provide easy access to credit and other financial services to the SMEs, reduce unemployment rate in the rural areas as well as curb rural-urban migration (Uwaleke, 2019)

Box 3.14: Tanzania's Experience

The case of National Microfinance Bank of Tanzania, established by the government of Tanzania in 1997, is a good example. Existing alongside other micro finance institutions such as the PRIDE, SEDA, Tanzania Postal Bank, FINCA and Tanzania Women's Bank, the National Microfinance Bank Plc has grown to become the country's leading banking institution, both in terms of customer base and branch network with strong presence in more than 95% of Tanzania's districts. Government's interest in the bank has been reduced considerably following the listing of the bank's shares on the Dar es Salaam Stock Exchange which has brought about a diversified ownership structure (Uwaleke, 2019)

vii) Promote financial literacy: It goes without saying that Africa's financial market especially the capital market suffers from the absence of a strong retail investor base. To expand the pool of such investors, financial market literacy must be aggressively pursued including through inculcating programmes in school curricula.

Box 7: Ghana's Experience

In 2015, the government of Ghana through the Ministry of Finance launched a nationwide Financial Literacy and awareness campaign to educate the public and promote savings habits in the country. The campaign was categorized into two projects, namely 'Financial Literacy Trainer of Trainers (ToT)' and 'Financial Literacy Sensitization'. These projects assessed the

demand and supply of financial services in the country, targeting the financial service providers and the public such as the farmer based organizations and small holder farmers.

Lessons from Asia

Asia holds the record as a continent with the highest population in the world. Many countries in Asia have taken advantage of their huge population to positively transform their financial sector through enhanced financial intermediation thereby mobilizing needed funds for economic development.

Recognizing the need to have a financial system that is environment friendly given her huge population, the People’s Bank of China and China’s Development Research Centre of the State Council developed a blueprint for advancing green investment and curbing investment in pollution-intensive industries with emphasis on priority loans to green sectors in banking. In Bangladesh, the Central Bank promotes financial stability by targeting financial inclusion and investment in SMEs, agriculture and renewable energy through measures including concessional refinancing to commercial banks and microfinance institutions at reduced interest rates for loans given to priority areas such as renewable energy.

By any account, the Thailand micro loan scheme, one of the largest microcredit programmes in the world, is a success story and a shining example of how to channel microcredit to petty trades and business ventures. Since the launch of the Thailand ‘Village and Urban Revolving Fund’ designed to improve access to finance, raise incomes and reduce poverty in the rural areas, financial access is said to be on the rise in recent years with 88% of the Thai population having access to formal financial services. Under the Thailand microcredit programme, every village is encouraged to set up a committee consisting of about ten persons that manages the fund and determines the lending criteria, including interest rates, maximum loan size and loan duration usually not more than one year. The key lesson from the Thailand experience is that the microcredit scheme is driven by the communities and not the government (Uwaleke 2019).

Another initiative that recommends itself, with respect to improved financial access, was undertaken by the Securities and Exchange Commission of Pakistan which came up with the idea of establishing the Capital Market Business Hubs (CMBH) in smaller cities in Pakistan. Designed to expand the outreach of capital market institutions, the CMBH is a central location where all capital market related activities can be initiated. The first such hub was established in the city of Abbottabad with participation of 12 institutions comprising asset management companies, brokerage firms, a bank and the Karachi Stock Exchange which opened their branches in the area. The establishment of the CMBH helped in no small measure to increase outreach to smaller cities, enhance awareness and uptake of financial market products and by extension reduce the level of financial exclusion in Pakistan (Uwaleke 2019).

Concluding notes

The continent’s population continues to grow rapidly, leading to higher dependency ratios and high fertility rates in most of the countries. The rapid population growth creates economic and social problems that threaten to make many African countries unmanageable. The high rate of population growth that eats into surpluses available for economic and social development also hinders improvements in social amenities. The region has therefore been experiencing a shift in spending away from physical-capital investments and towards expenditures on social services like health, housing, education and food among others.

In most African countries, annual population growth is in excess of two percent. The continent is the second largest and second most populous continent of the world. Fertility rates are higher than in any other region of the world. A major concern about African rapid population growth is that jobs, national infrastructures, social services, housing, health care facilities are not growing at an equally comparable rate with population growth rate. This is in spite of the availability of huge natural and human resources.

There is a “demographic dividend” which needs to be exploited. However, there is need to make good use of this advantage by implementing good policies and making wise choices. There is need for strategic investment in the social sector such as quality education, health, food security, job creation, increased opportunities for women and girls in decision-making, governance and wage labour. African nations need to initiate demographic change by investing in family planning, child survival and education of girls. There is the need to implement economic and governance policies that will foster job creation, support the expansion of infrastructure, create a secure environment and incentives for foreign direct investment. African population will become an asset when the continent is able to feed its teeming population, provide them shelter, good education, health care, jobs and maintain sustainable environment.

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Appendices

Ranking of Countries by Unemployment Rate

Algeria	11.10
Angola	20.00
Benin	2.50
Botswana	18.10
Burkina Faso	6.30
Burundi	1.43
Cabo Verde	12.20
Cameroon	4.20
Central African Republic (CAR)	6.00
Chad	5.89
Comoros	4.30
Congo, Democratic Republic of the (DRC)	10.95
Congo, Republic of the (RC)	10.40
Cote d'Ivoire	2.60
Djibouti	11.00
Egypt	10.00
Equatorial Guinea	6.90
Eritrea	6.40
Eswatini (formerly Swaziland)	26.40
Ethiopia	16.80
Gabon	19.60
Gambia	9.50
Ghana	2.40
Guinea	4.30
Guinea-Bissau	6.10
Kenya	11.50
Lesotho	27.25
Liberia	2.40
Libya	17.70
Madagascar	1.80
Malawi	5.90
Mali	7.90
Mauritania	11.80
Mauritius	7.00
Morocco	10.00
Mozambique	25.04
Namibia	34.00
Niger	.40
Nigeria	23.10
Rwanda	16.00
São Tomé & Príncipe	13.50
Senegal	15.70
Seychelles	4.10
Sierra Leone	4.50
Somalia	11.35
South Africa	27.50
South Sudan	12.24
Sudan	12.70
Tanzania	1.98
Togo	1.80
Tunisia	15.50

Uganda	2.10
Zambia	7.79
Zimbabwe	5.16

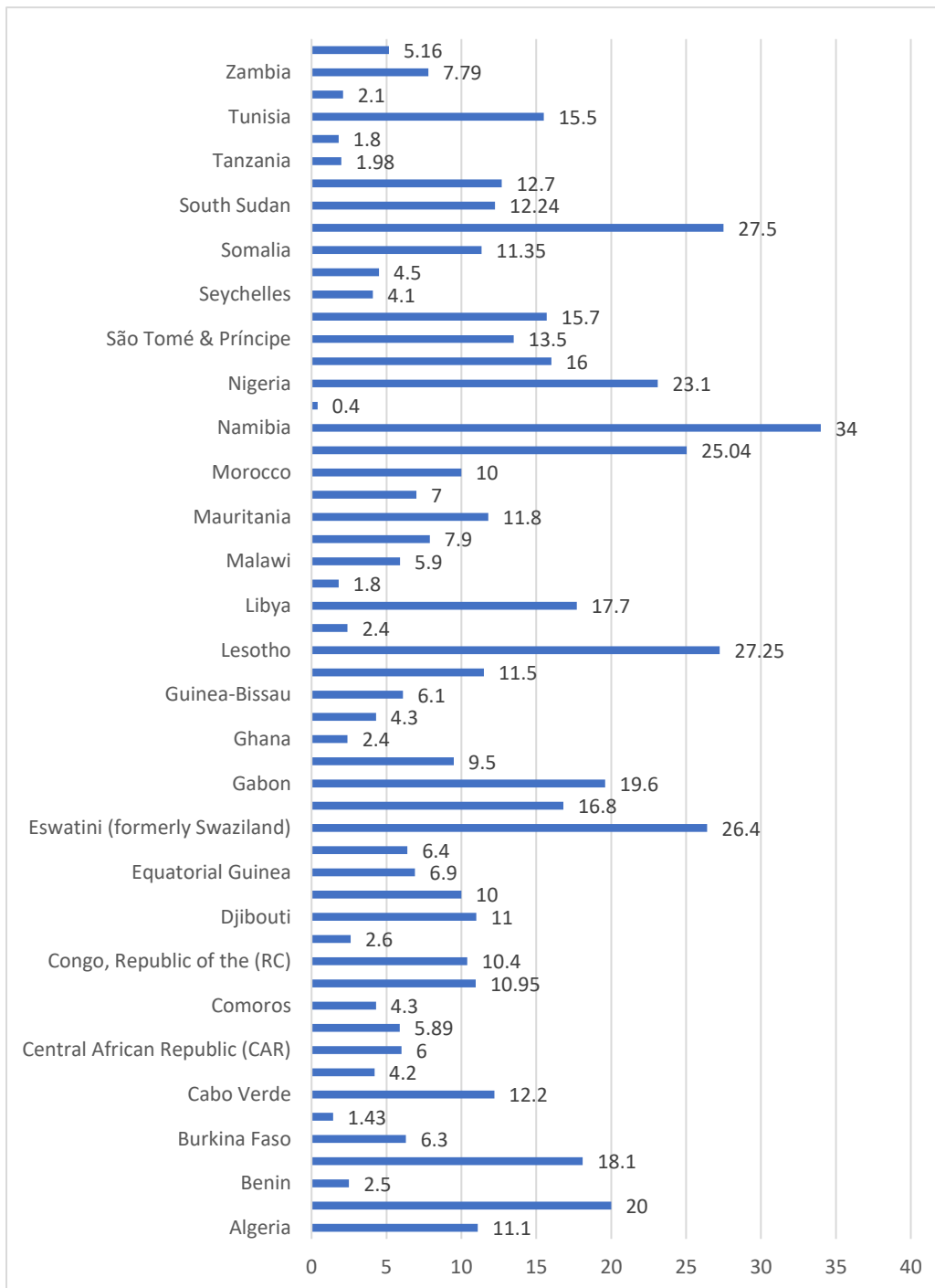
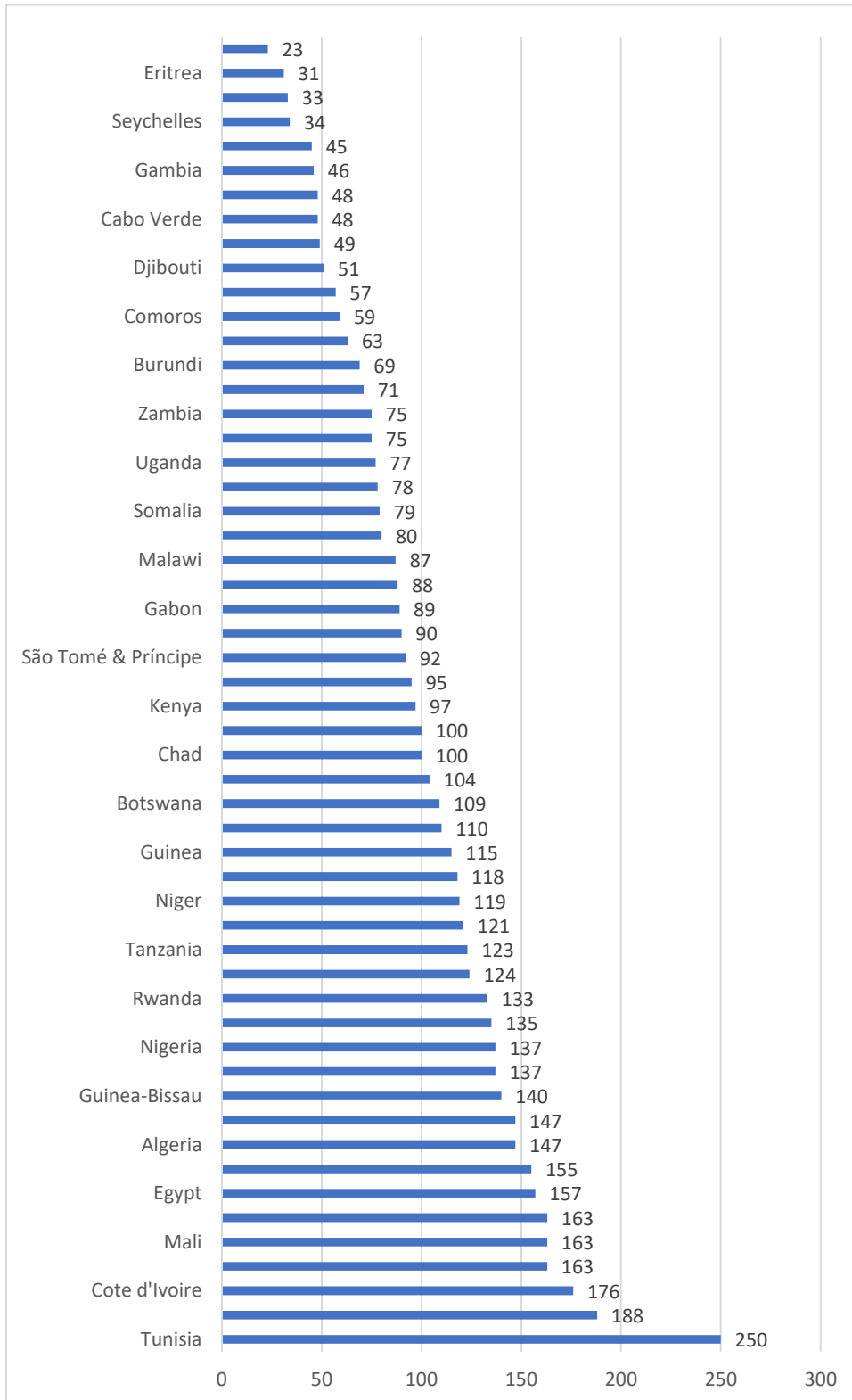


Fig. 1 Unemployment rate

Ranking of Countries by Average Food Production

Algeria	147.00
Angola	90.00
Benin	137.00
Botswana	109.00
Burkina Faso	78.00
Burundi	69.00
Cabo Verde	48.00
Cameroon	163.00
Central African Republic (CAR)	135.00
Chad	100.00
Comoros	59.00
Congo, Democratic Republic of the (DRC)	33.00
Congo, Republic of the (RC)	57.00
Cote d'Ivoire	176.00
Djibouti	51.00
Egypt	157.00
Equatorial Guinea	23.00
Eritrea	31.00
Eswatini (formerly Swaziland)	155.00
Ethiopia	75.00
Gabon	89.00
Gambia	46.00
Ghana	188.00
Guinea	115.00
Guinea-Bissau	140.00
Kenya	97.00
Lesotho	45.00
Liberia	49.00
Libya	121.00
Madagascar	88.00
Malawi	87.00
Mali	163.00
Mauritania	100.00
Mauritius	124.00
Morocco	163.00
Mozambique	63.00
Namibia	110.00
Niger	119.00
Nigeria	137.00
Rwanda	133.00
São Tomé & Príncipe	92.00
Senegal	71.00
Seychelles	34.00
Sierra Leone	118.00
Somalia	79.00
South Africa	147.00
South Sudan	95.00
Sudan	104.00
Tanzania	123.00
Togo	80.00
Tunisia	250.00
Uganda	77.00

Zambia	75.00
Zimbabwe	48.00



Ranking of Countries by level of Undernourishment

Algeria	3.90
Angola	25.00
Benin	10.10
Botswana	26.40
Burkina Faso	20.00
Cabo Verde	12.60
Cameroon	9.90
Central African Republic (CAR)	59.60
Chad	37.50
Congo, Republic of the (RC)	40.30
Cote d'Ivoire	19.00
Djibouti	18.90
Egypt	4.50
Eswatini (formerly Swaziland)	20.60
Ethiopia	20.60
Gabon	10.50
Gambia	10.20
Ghana	5.50
Guinea	16.50
Guinea-Bissau	28.00
Kenya	29.40
Lesotho	13.10
Liberia	37.20
Madagascar	44.40
Malawi	17.50
Mali	6.30
Mauritania	10.40
Mauritius	6.50
Morocco	3.40
Mozambique	27.90
Namibia	27.30
Niger	16.50
Nigeria	13.40
Rwanda	36.80
São Tomé & Príncipe	7.00
Senegal	11.30
Sierra Leone	25.60
South Africa	6.20
Sudan	20.10
Tanzania	30.70
Togo	16.10
Tunisia	4.30
Uganda	41.00
Zambia	46.70
Zimbabwe	51.30

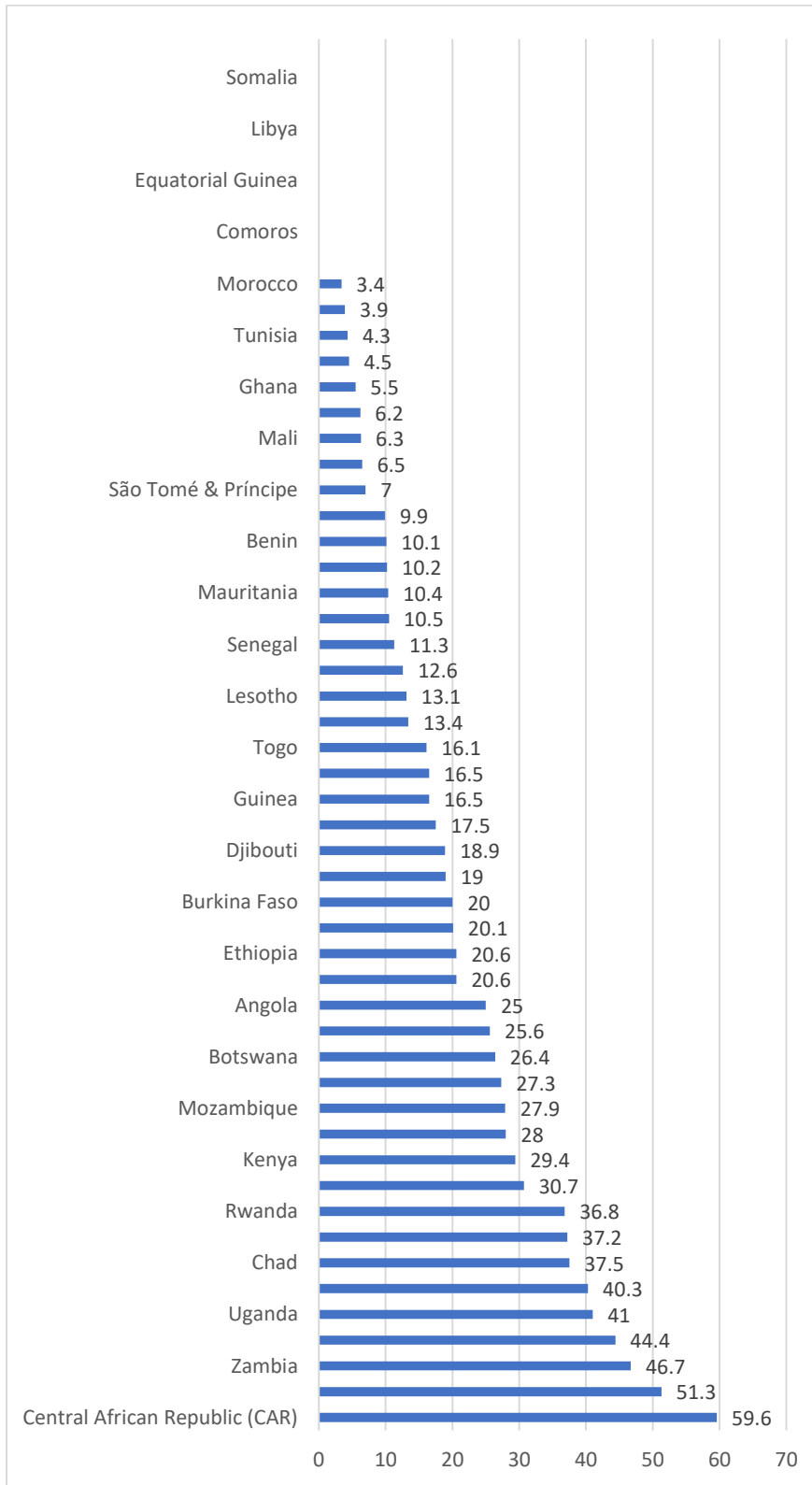


Fig. 3 Undernourishment

Ranking of Countries by Health Expenditure

Sierra Leone	13.42
South Sudan	9.76
Malawi	9.65
Lesotho	8.76
Namibia	8.55
Liberia	8.16
South Africa	8.11
Niger	7.74
Burundi	7.52
Comoros	7.38
Guinea-Bissau	7.24
Tunisia	7.23
Eswatini (formerly Swaziland)	6.93
Burkina Faso	6.92
Zimbabwe	6.64
Rwanda	6.57
Algeria	6.37
Sudan	6.34
São Tomé & Príncipe	6.23
Togo	6.20
Uganda	6.19
Botswana	6.13
Libya	6.05
Central African Republic (CAR)	5.82
Mauritius	5.72
Madagascar	5.50
Egypt	5.29
Morocco	5.25
Cabo Verde	5.17
Seychelles	5.01
Mozambique	4.94
Kenya	4.80
Cameroon	4.67
Chad	4.49
Zambia	4.47
Cote d'Ivoire	4.45
Mauritania	4.40
Senegal	4.13
Guinea	4.12
Congo, Democratic Republic of the (DRC)	3.98
Mali	3.79
Nigeria	3.76
Benin	3.72
Tanzania	3.65
Ethiopia	3.50
Djibouti	3.32
Gambia	3.28
Ghana	3.26
Equatorial Guinea	3.11
Somalia	3.10
Congo, Republic of the (RC)	2.93
Eritrea	2.87

Angola	2.79
Gabon	2.78

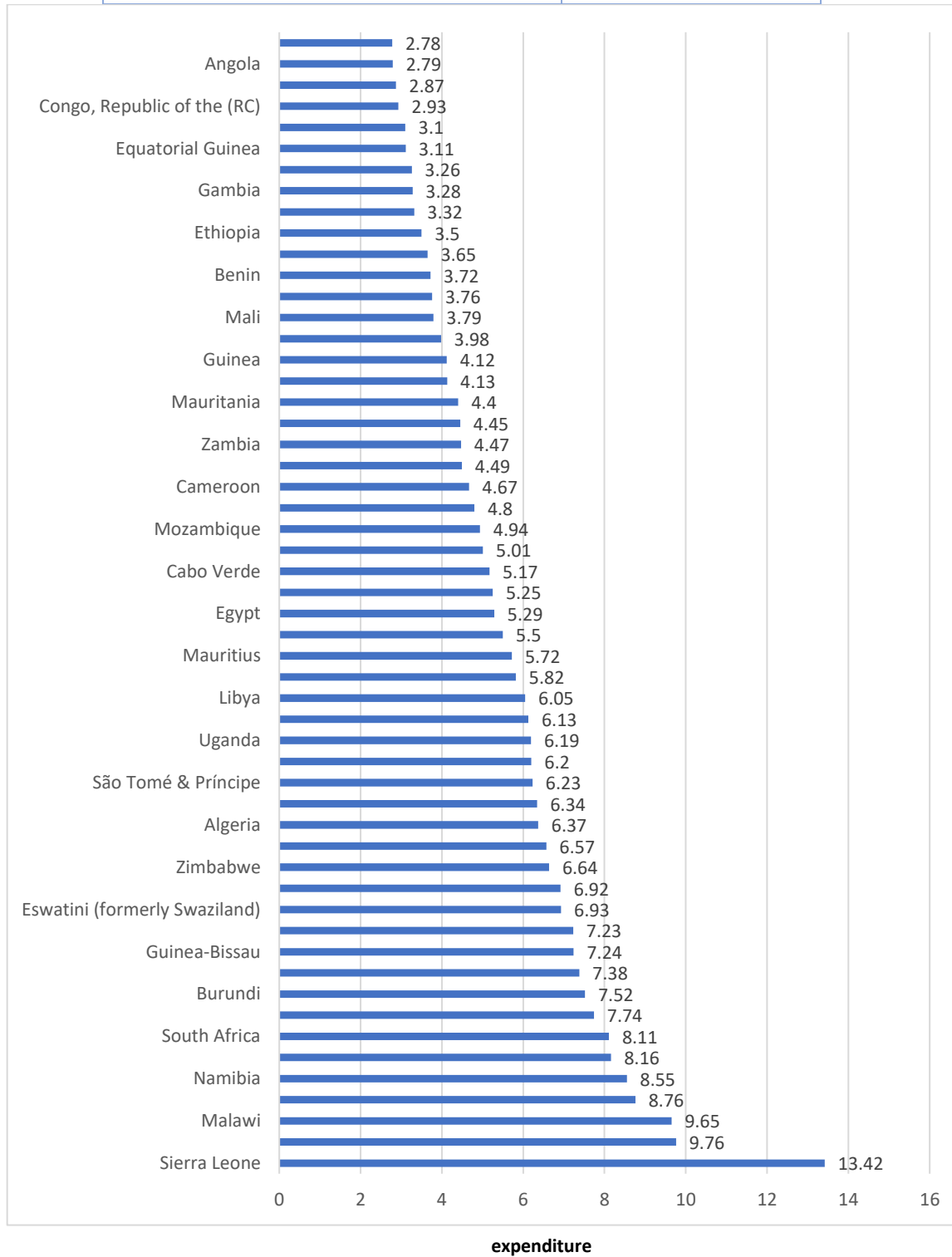


Fig. 4 Health

Ranking of Countries by Under-Five Mortality

Somalia	122.00
Nigeria	120.00
Chad	119.00
Central African Republic (CAR)	117.00
Sierra Leone	105.00
Guinea	101.00
South Sudan	99.00
Mali	98.00
Benin	93.00
Congo, Democratic Republic of the (DRC)	88.00
Equatorial Guinea	85.00
Niger	84.00
Guinea-Bissau	82.00
Cote d'Ivoire	81.00
Lesotho	81.00
Angola	77.00
Burkina Faso	76.00
Cameroon	76.00
Mauritania	76.00
Mozambique	73.00
Liberia	71.00
Togo	70.00
Comoros	68.00
Sudan	61.00
Burundi	59.00
Djibouti	59.00
Gambia	58.00
Zambia	58.00
Ethiopia	55.00
Eswatini (formerly Swaziland)	54.00
Madagascar	54.00
Tanzania	53.00
Congo, Republic of the (RC)	50.00
Malawi	50.00
Ghana	48.00
Uganda	46.00
Zimbabwe	46.00
Gabon	45.00
Senegal	44.00
Eritrea	42.00
Kenya	41.00
Namibia	40.00
Botswana	37.00
Rwanda	35.00
South Africa	34.00
São Tomé & Príncipe	31.00
Algeria	24.00
Morocco	22.00
Egypt	21.00
Cabo Verde	20.00
Tunisia	17.00
Mauritius	16.00

Seychelles	15.00
Libya	12.00

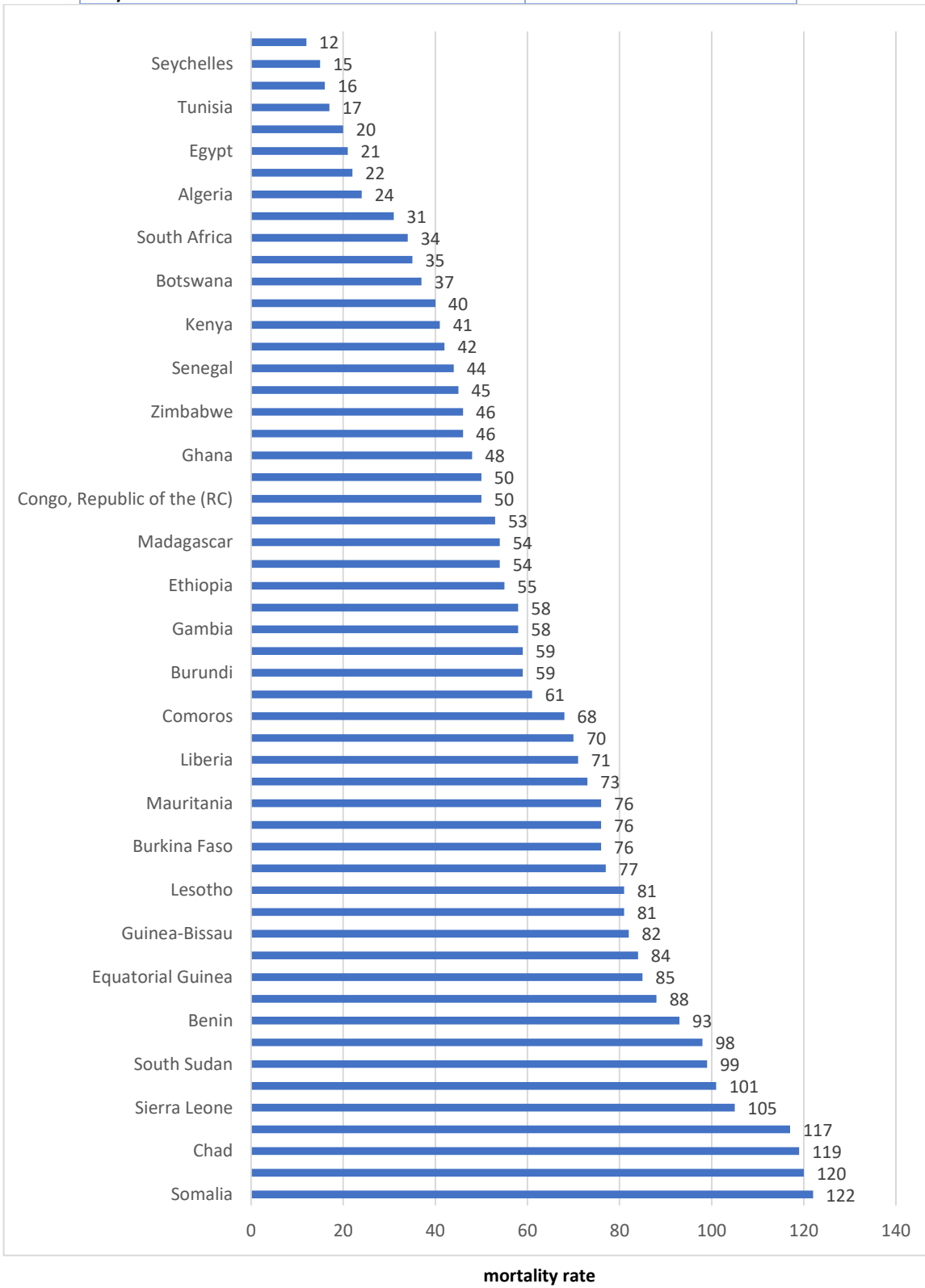


Fig. 5 Under-five

Ranking of Countries by Education Literacy Rate

Libya	99.95
Seychelles	99.07
Mauritius	99.04
Djibouti	98.91
Equatorial Guinea	98.26
Cabo Verde	98.11
Tunisia	98.06
Botswana	97.85
São Tomé & Príncipe	97.78
Morocco	97.73
Algeria	97.43
Eswatini (formerly Swaziland)	95.47
South Africa	95.32
Namibia	95.16
Eritrea	93.27
Ghana	92.49
Zambia	92.09
Zimbabwe	90.43
Gabon	89.78
Uganda	89.40
Burundi	88.22
Egypt	88.19
Kenya	87.83
Rwanda	86.49
Tanzania	85.76
Lesotho	85.09
Cameroon	85.08
Congo, Democratic Republic of the (DRC)	84.99
Togo	84.29
Congo, Republic of the (RC)	82.05
Madagascar	81.20
Comoros	78.27
Angola	77.43
Guinea-Bissau	77.28
Nigeria	75.03
Sudan	73.00
Malawi	72.94
Ethiopia	72.75
Mozambique	70.91
Senegal	69.48
Gambia	67.16
Sierra Leone	66.65
Mauritania	63.95
Benin	60.95
Cote d'Ivoire	58.42
Burkina Faso	58.29
Liberia	55.40
Mali	50.13
South Sudan	47.90
Guinea	45.24
Niger	39.79
Central African Republic (CAR)	38.27

Chad	30.79
Somalia	

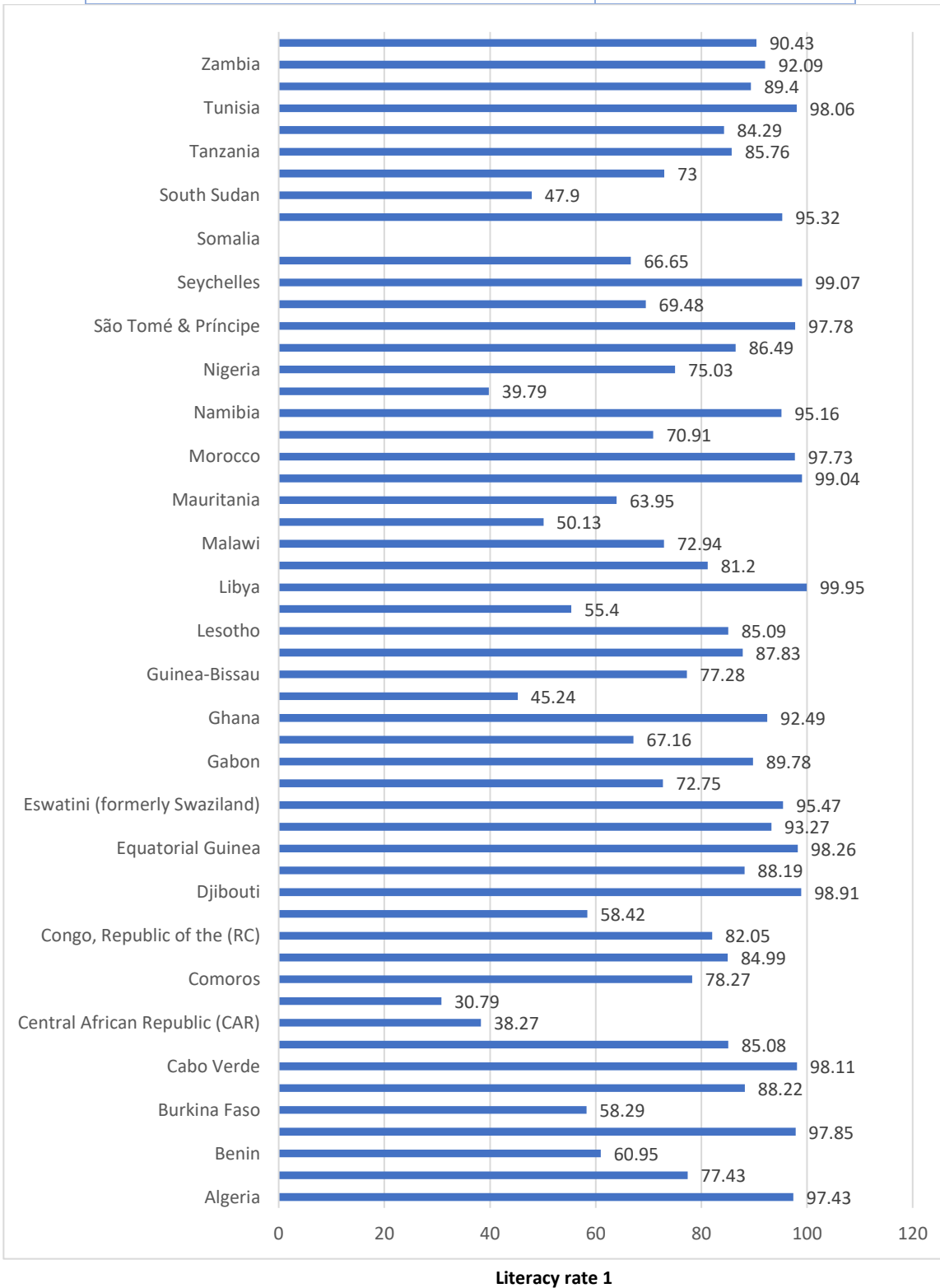


Fig. 6 Education –

Ranking of Countries by Out-of-School Rate

Algeria	0.35
Angola	
Benin	2.79
Botswana	
Burkina Faso	36.27
Burundi	23.70
Cabo Verde	6.45
Cameroon	6.53
Central African Republic (CAR)	
Chad	46.59
Comoros	24.92
Cote d'Ivoire	29.36
Djibouti	48.85
Egypt	6.94
Equatorial Guinea	55.30
Eritrea	44.90
Eswatini (formerly Swaziland)	12.67
Ethiopia	33.85
Gambia	18.19
Ghana	12.94
Guinea	21.91
Lesotho	13.08
Liberia	21.36
Madagascar	1.96
Malawi	15.05
Mali	50.71
Mauritania	33.85
Mauritius	8.65
Morocco	9.67
Mozambique	24.89
Namibia	1.52
Niger	52.04
Nigeria	33.77
Rwanda	14.08
São Tomé & Príncipe	12.12
Senegal	38.28
Seychelles	5.27
Sierra Leone	29.74
Somalia	
South Africa	11.53
South Sudan	62.36
Sudan	38.30
Tanzania	39.72
Togo	21.11
Tunisia	
Uganda	
Zambia	14.90
Zimbabwe	0.35

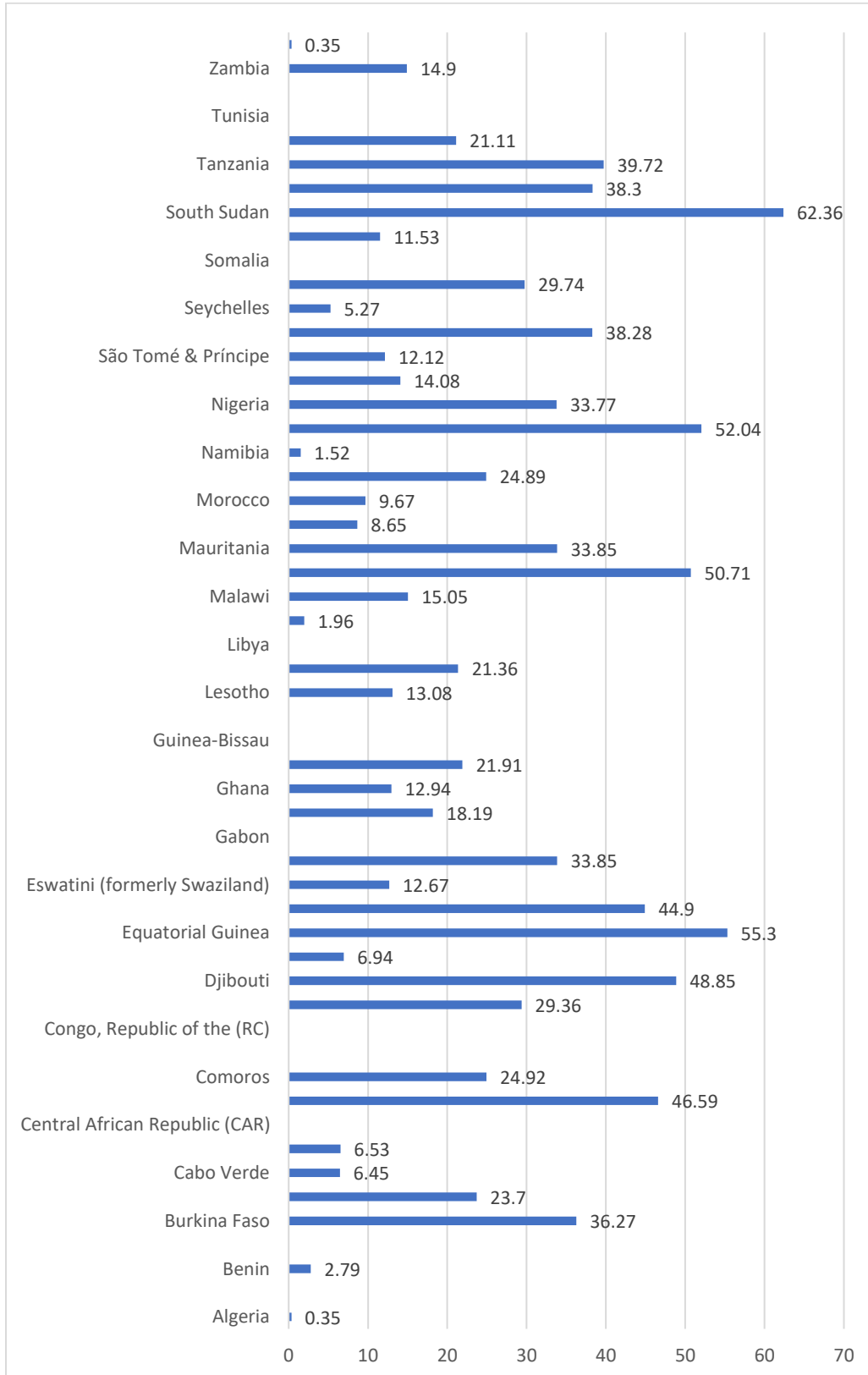


Fig. 7 Out of school rate

Ranking of Countries by Gross Enrolment Ratio (Primary)

Algeria	109.88
Angola	113.48
Benin	121.96
Botswana	103.24
Burkina Faso	96.09
Burundi	121.42
Cabo Verde	104.03
Cameroon	103.40
Central African Republic (CAR)	102.02
Chad	86.85
Comoros	99.51
Congo, Democratic Republic of the (DRC)	107.98
Congo, Republic of the (RC)	108.00
Cote d'Ivoire	99.80
Djibouti	75.29
Egypt	106.28
Equatorial Guinea	61.78
Eritrea	68.43
Eswatini (formerly Swaziland)	115.16
Ethiopia	100.97
Gabon	
Gambia	98.01
Ghana	104.84
Guinea	91.51
Guinea-Bissau	
Kenya	103.21
Lesotho	120.90
Liberia	85.11
Libya	
Madagascar	142.53
Malawi	142.46
Mali	75.60
Mauritania	99.89
Mauritius	101.11
Morocco	113.88
Mozambique	112.60
Namibia	124.25
Niger	74.74
Nigeria	84.73
Rwanda	133.04
São Tomé & Príncipe	106.79
Senegal	80.95
Seychelles	100.38
Sierra Leone	112.75
Somalia	30.10
South Africa	100.86
South Sudan	72.99
Sudan	77.00
Tanzania	94.17
Togo	123.76
Tunisia	115.45
Uganda	102.70

Zambia	98.72
Zimbabwe	110.00

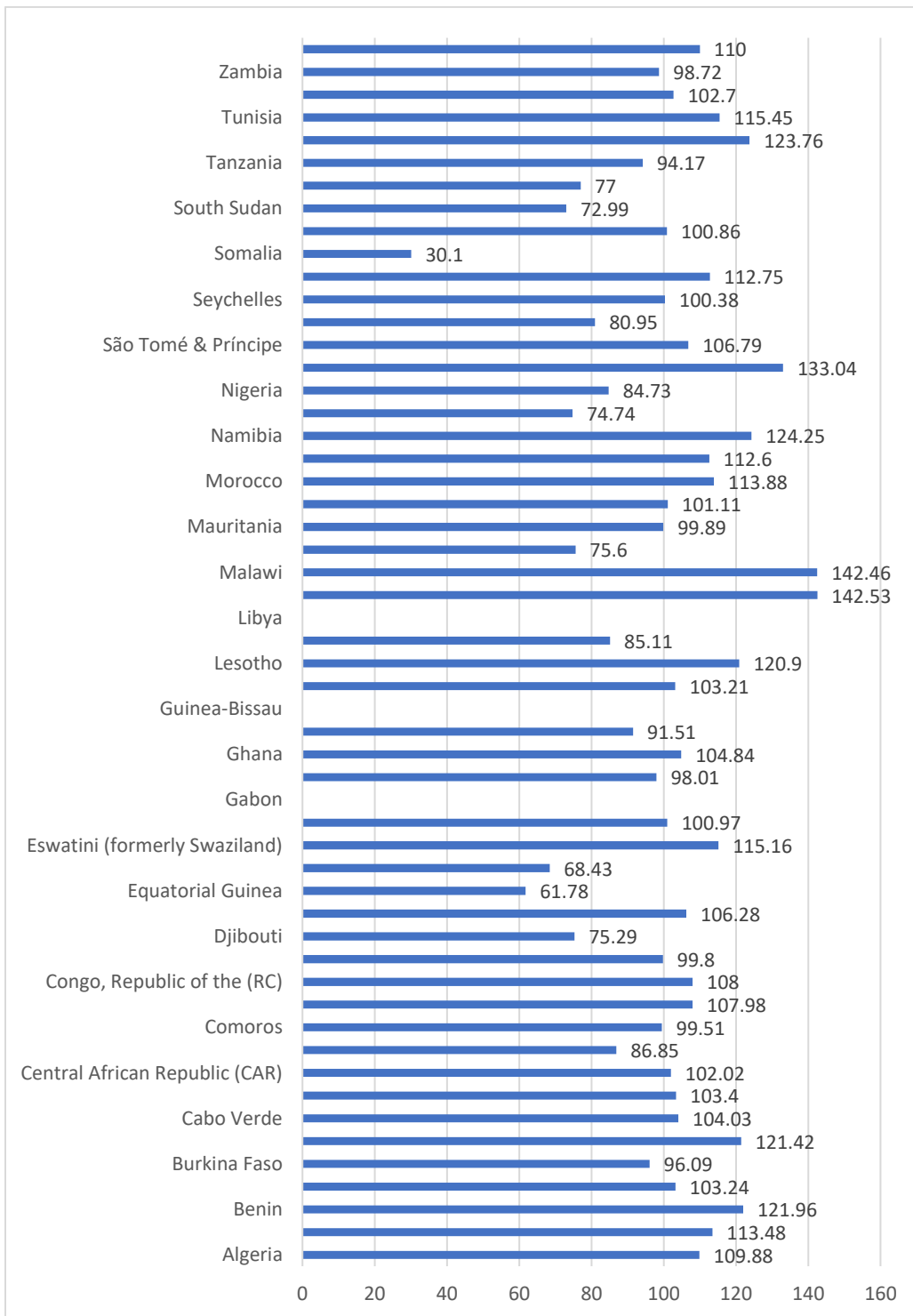


Fig. 8 Gross enrolment ratio - primary

Ranking of Countries by Gross Enrolment Ratio (Secondary)

Algeria	
Angola	50.67
Benin	59.04
Botswana	23.4
Burkina Faso	40.71
Burundi	48.47
Cabo Verde	88.16
Cameroon	60.06
Central African Republic (CAR)	17.14
Chad	22.56
Comoros	59.47
Congo, Democratic Republic of the (DRC)	46.00
Congo, Republic of the (RC)	
Cote d'Ivoire	51.03
Djibouti	51.97
Egypt	87.91
Equatorial Guinea	
Eritrea	47.70
Eswatini (formerly Swaziland)	82.41
Ethiopia	34.94
Ghana	64.57
Lesotho	62.01
Liberia	37.90
Libya	
Madagascar	36.53
Malawi	40.28
Mali	41.03
Mauritania	36.83
Mauritius	95.10
Morocco	80.23
Mozambique	35.41
Namibia	
Niger	24.00
Nigeria	42.00
Rwanda	40.90
São Tomé & Príncipe	89.34
Senegal	43.70
Seychelles	81.45
Sierra Leone	41.80
Somalia	26.50
South Africa	104.70
South Sudan	11.01
Sudan	46.62
Tanzania	29.44
Togo	61.85
Tunisia	92.87
Uganda	
Zambia	19.93
Zimbabwe	23.20

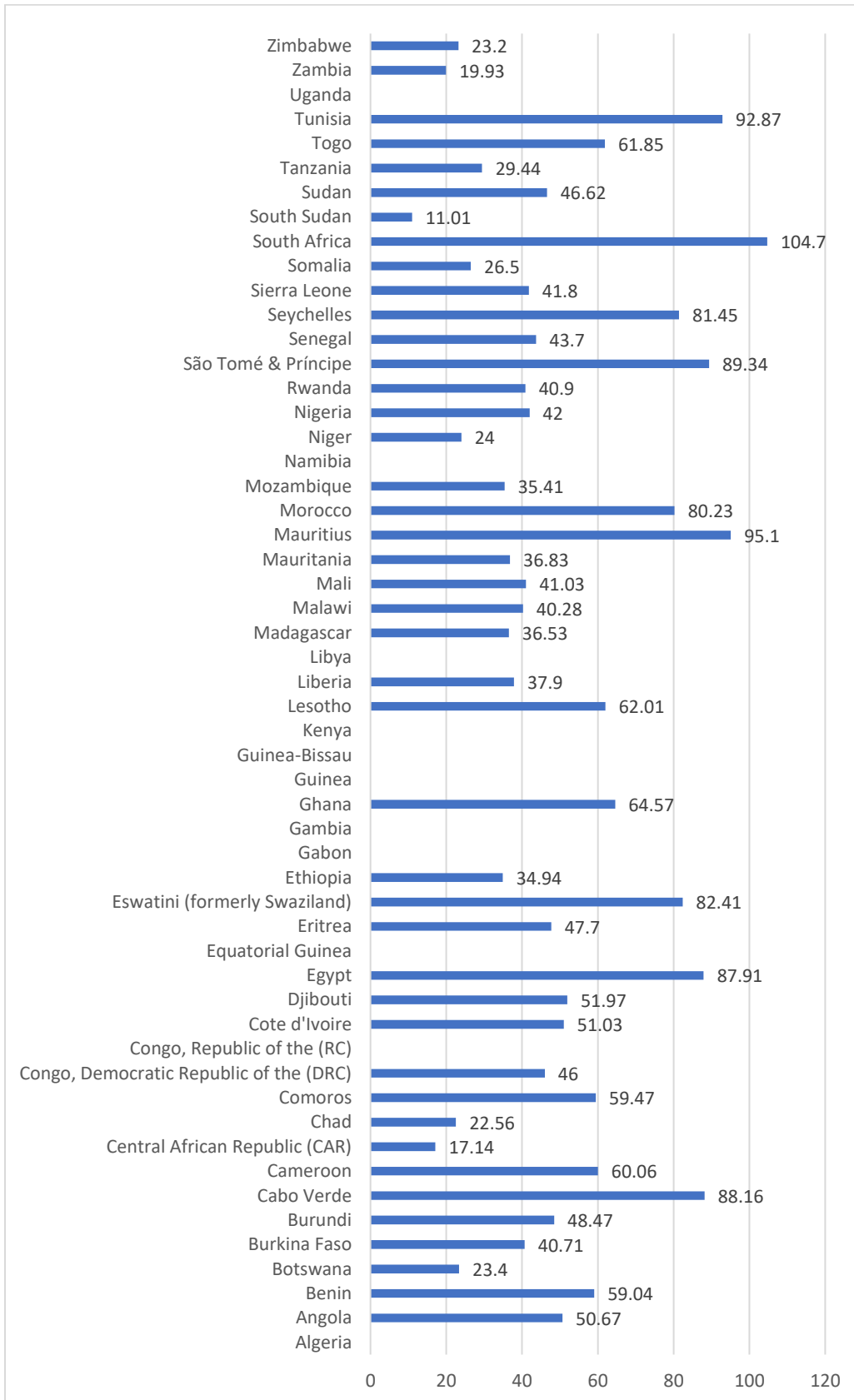


Fig. 9 Gross enrolment ratio - secondary

Ranking of Countries by Gross Enrolment Ratio (Tertiary)

Algeria	51.37
Angola	9.34
Benin	12.27
Botswana	25.00
Burkina Faso	6.50
Burundi	6.05
Cabo Verde	23.62
Cameroon	12.76
Central African Republic (CAR)	3.00
Chad	3.25
Comoros	9.00
Congo, Democratic Republic of the (DRC)	6.60
Congo, Republic of the (RC)	12.67
Cote d'Ivoire	9.34
Djibouti	5.00
Egypt	35.16
Eritrea	3.36
Ethiopia	8.00
Gambia	3.00
Ghana	15.69
Guinea	11.00
Kenya	11.46
Lesotho	10.20
Liberia	12.00
Madagascar	5.35
Malawi	1.00
Mali	4.52
Mauritania	5.00
Mauritius	40.60
Morocco	35.94
Mozambique	7.31
Namibia	22.89
Niger	4.41
Nigeria	18.21
Rwanda	6.73
São Tomé & Príncipe	13.38
Senegal	12.76
Seychelles	17.08
Sierra Leone	
Somalia	
South Africa	22.37
South Sudan	
Sudan	16.92
Tanzania	4.01
Togo	14.52
Tunisia	31.75
Uganda	4.00
Zambia	4.12
Zimbabwe	10.01

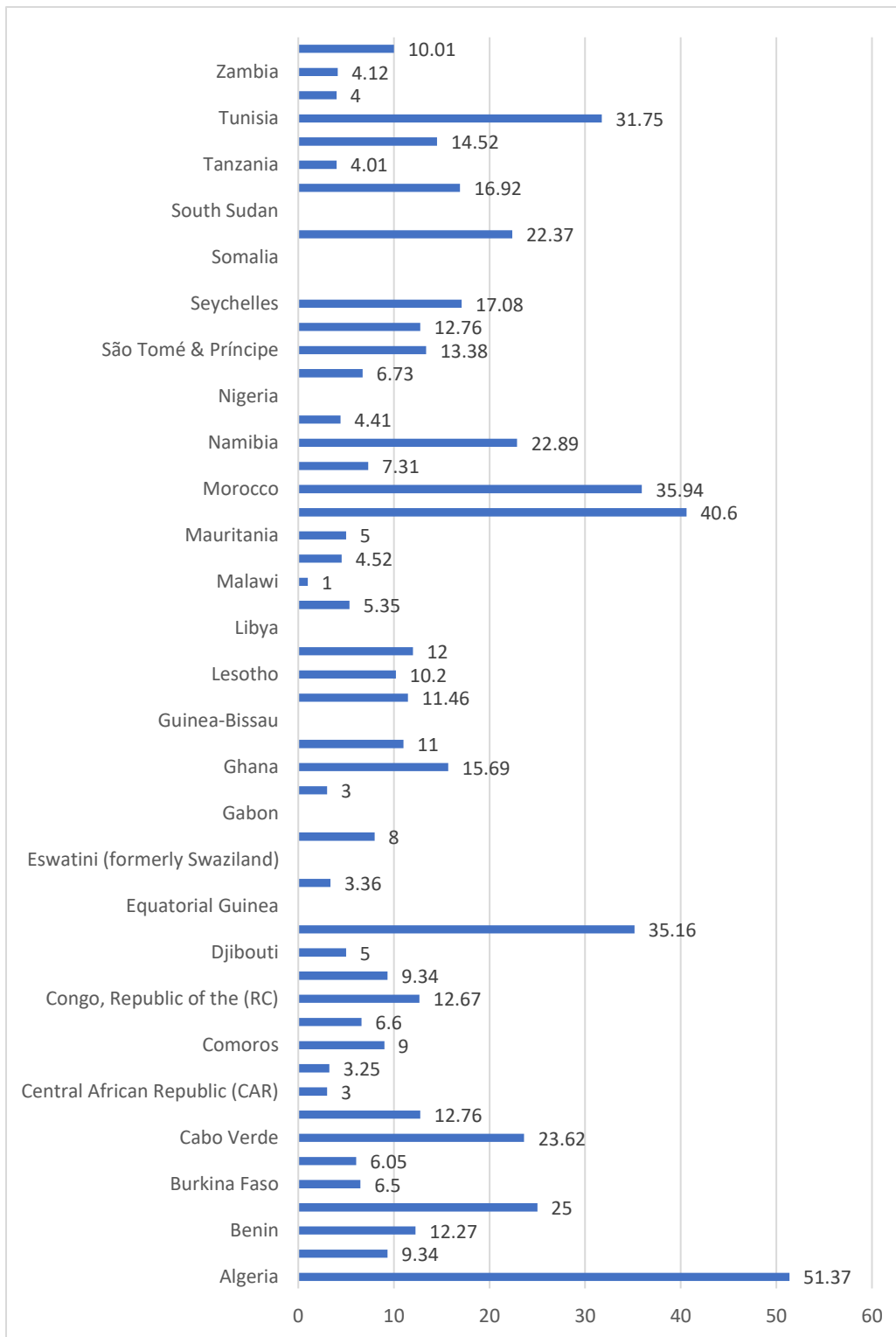


Fig. 10 Gross enrolment ratio - tertiary

Ranking of Countries by Enrolment in Technical and Vocational Education

Algeria	
Angola	14.14
Benin	1.23
Botswana	
Burkina Faso	0.75
Burundi	2.80
Cabo Verde	1.36
Cameroon	7.17
Central African Republic (CAR)	
Chad	
Comoros	0.58
Congo, Democratic Republic of the (DRC)	
Congo, Republic of the (RC)	
Cote d'Ivoire	1.99
Djibouti	7.14
Egypt	11.40
Equatorial Guinea	
Eritrea	0.46
Eswatini (formerly Swaziland)	
Ethiopia	1.69
Gabon	
Gambia	
Ghana	1.31
Guinea	
Guinea-Bissau	
Kenya	
Lesotho	1.29
Liberia	
Libya	
Madagascar	0.73
Malawi	
Mali	3.55
Mauritania	0.14
Mauritius	1.50
Morocco	5.78
Mozambique	0.68
Namibia	
Niger	0.96
Nigeria	
Rwanda	3.95
São Tomé & Príncipe	4.52
Senegal	2.32
Seychelles	13.58
Sierra Leone	
Somalia	
South Africa	5.27
South Sudan	
Sudan	1.13
Tanzania	0.06
Togo	2.61
Tunisia	9.07
Uganda	

Zambia	
Zimbabwe	

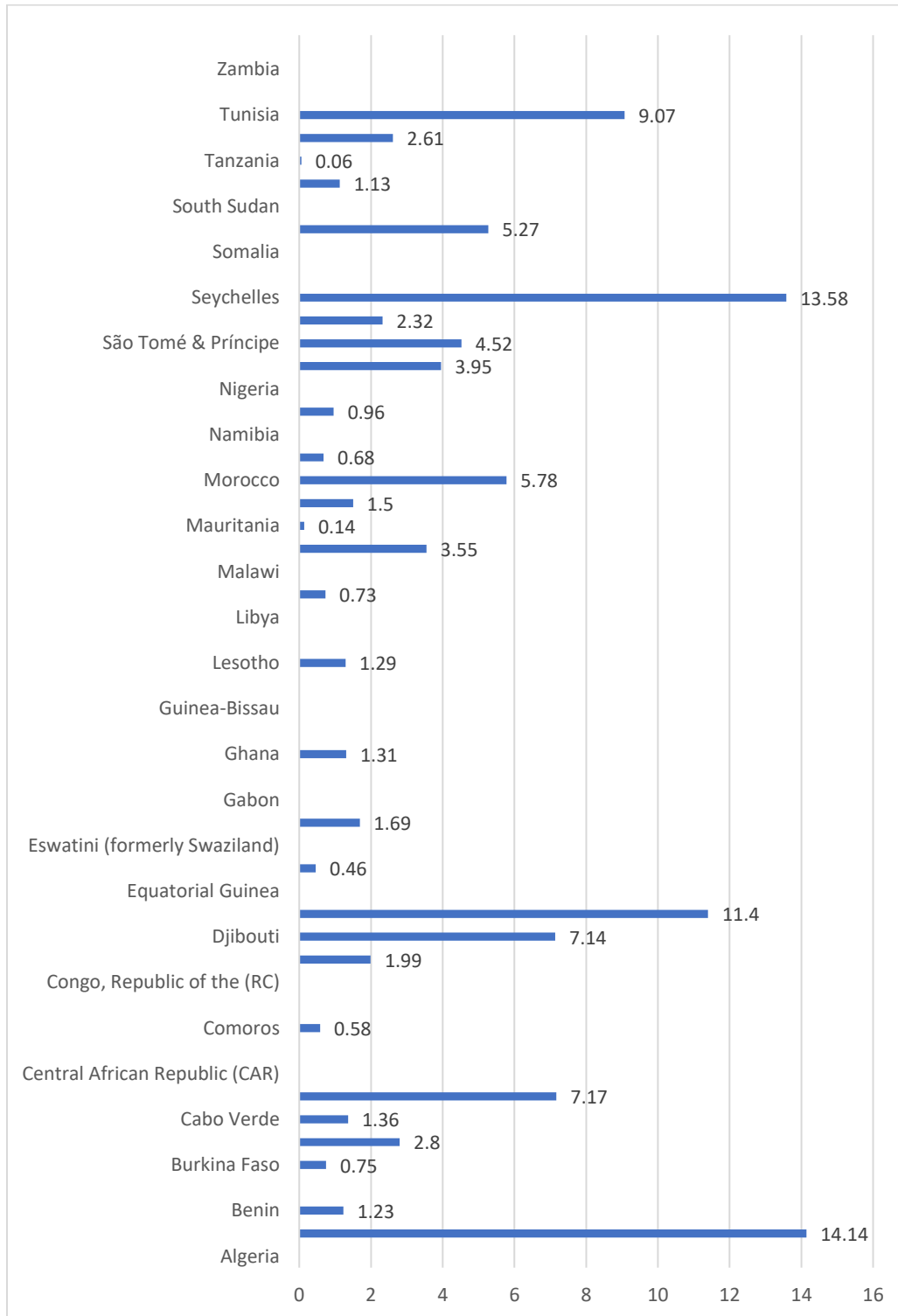


Fig. 11 Technical – vocational programme

Ranking of Countries by Alignment of Education with Market Needs

Algeria	42.40
Angola	
Benin	22.40
Botswana	54.20
Burkina Faso	31.70
Burundi	37.60
Cabo Verde	65.60
Cameroon	50.30
Central African Republic (CAR)	
Chad	19.70
Comoros	
Congo, Democratic Republic of the (DRC)	31.40
Congo, Republic of the (RC)	
Cote d'Ivoire	71.00
Djibouti	
Egypt	19.10
Equatorial Guinea	
Eritrea	
Eswatini (formerly Swaziland)	53.00
Ethiopia	51.10
Gabon	32.70
Gambia	78.80
Ghana	69.50
Guinea	23.80
Guinea-Bissau	
Kenya	83.10
Lesotho	55.70
Liberia	35.20
Libya	.70
Madagascar	34.50
Malawi	41.30
Mali	44.50
Mauritania	.00
Mauritius	69.40
Morocco	26.80
Mozambique	27.10
Namibia	44.40
Niger	
Nigeria	29.10
Rwanda	78.30
São Tomé & Príncipe	
Senegal	52.30
Seychelles	58.30
Sierra Leone	41.50
Somalia	
South Africa	29.60
South Sudan	
Sudan	
Tanzania	44.60
Togo	
Tunisia	38.40
Uganda	48.00

Zambia	59.20
Zimbabwe	68.40

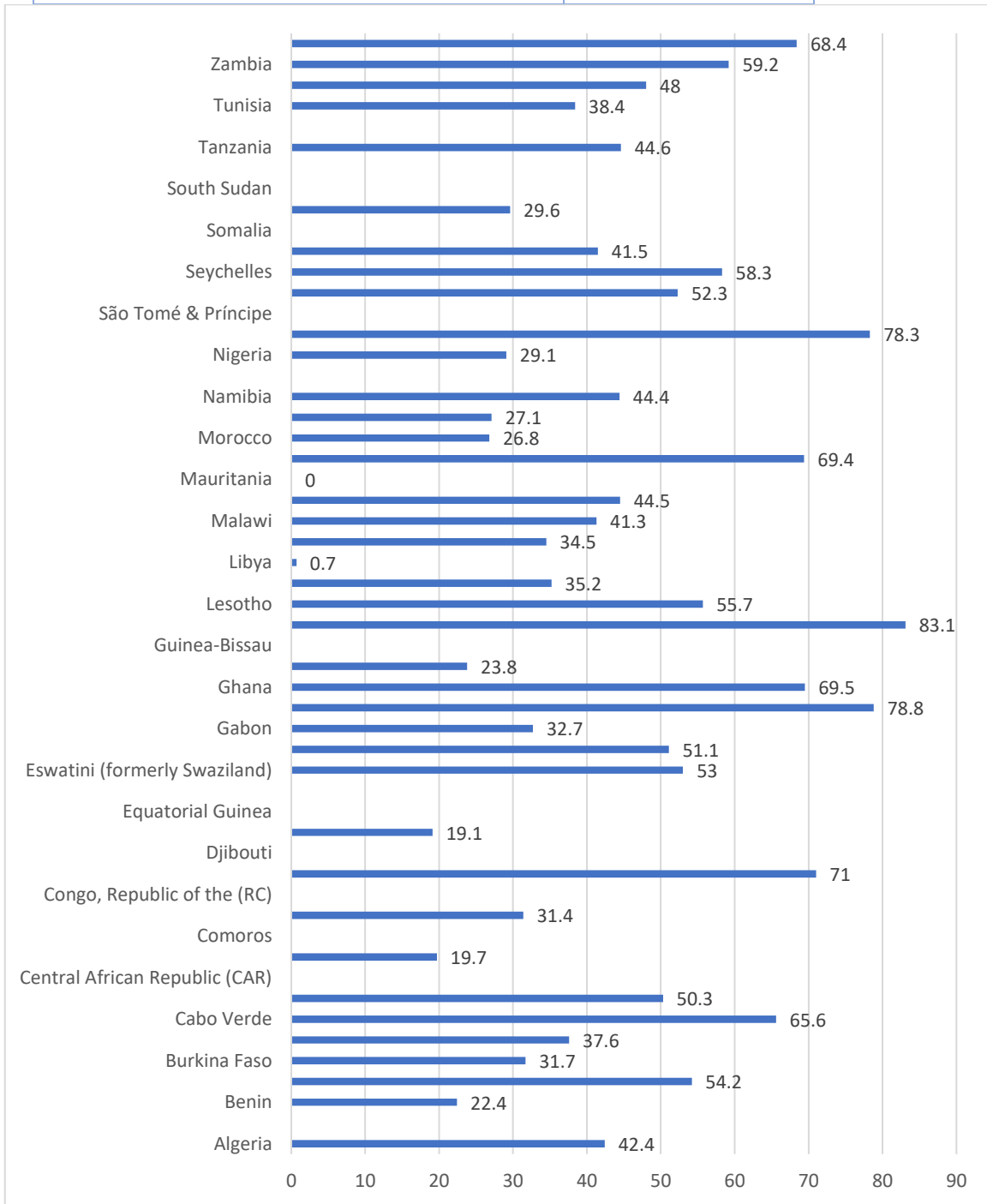


Fig. 12

Alignment of education with market needs

Ranking of Countries Housing Affordability Rate

Egypt	89.73
Algeria	79.17
Namibia	73.90
Mauritius	70.44
Equatorial Guinea	62.52
Seychelles	53.88
Morocco	50.53
Djibouti	47.89
Senegal	40.26
São Tomé & Príncipe	40.23
Lesotho	39.58
Tunisia	37.31
Eswatini (formerly Swaziland)	36.22
Nigeria	26.95
Togo	25.51
Botswana	22.11
Cabo Verde	21.56
Cote d'Ivoire	21.50
South Africa	20.40
Chad	18.86
Kenya	11.36
Gabon	11.03
Eritrea	10.83
Ghana	9.40
Comoros	8.83
Zambia	8.50
Sudan	8.33
Angola	8.12
Libya	7.95
Sierra Leone	6.96
Gambia	6.04
Cameroon	4.56
Rwanda	4.29
Guinea-Bissau	4.19
Uganda	3.93
South Sudan	3.57
Mali	3.48
Zimbabwe	3.29
Mauritania	3.24
Benin	3.15
Guinea	3.10
Congo, Republic of the (RC)	3.08
Tanzania	2.25
Burkina Faso	2.01
Malawi	1.91
Niger	1.78
Madagascar	1.76
Central African Republic (CAR)	1.45
Mozambique	1.23
Burundi	.69
Congo, Democratic Republic of the (DRC)	.58

Ethiopia	.42
Liberia	.01
Somalia	.00

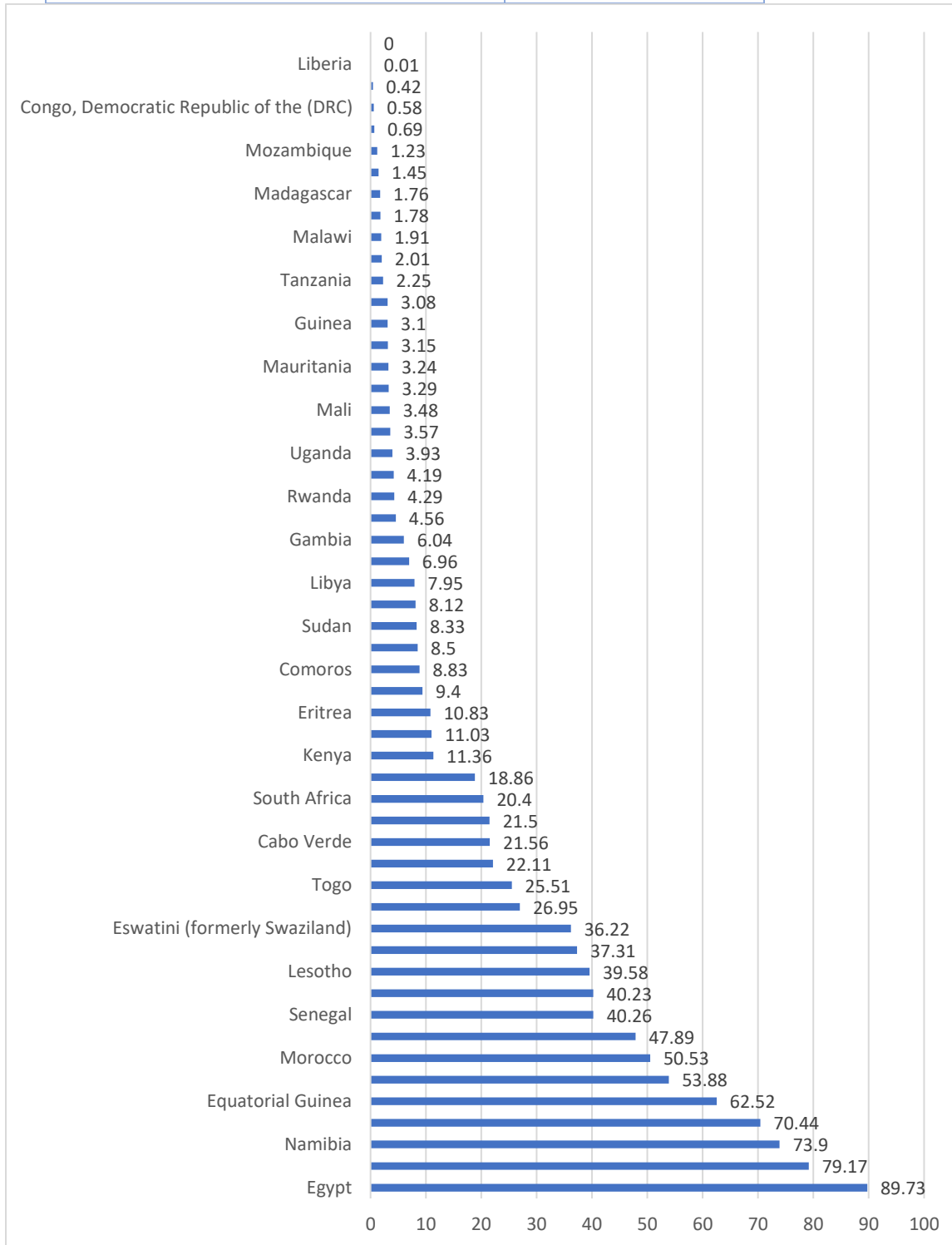


Fig. 13 Housing affordable rate

Ranking of Countries by National Poverty Line

Algeria	5.50
Angola	36.60
Benin	40.10
Botswana	16.30
Burkina Faso	40.10
Burundi	64.90
Cabo Verde	35.00
Cameroon	37.50
Central African Republic (CAR)	62.00
Chad	46.70
Comoros	42.40
Congo, Democratic Republic of the (DRC)	63.90
Congo, Republic of the (RC)	46.50
Cote d'Ivoire	46.30
Djibouti	21.10
Egypt	27.80
Equatorial Guinea	44.00
Eritrea	66.00
Eswatini (formerly Swaziland)	63.00
Ethiopia	23.50
Gabon	33.40
Gambia	48.60
Ghana	23.40
Guinea	55.20
Guinea-Bissau	69.30
Kenya	36.10
Lesotho	57.10
Liberia	50.90
Libya	33.00
Madagascar	70.70
Malawi	51.50
Mali	41.10
Mauritania	31.00
Mauritius	10.30
Morocco	4.80
Mozambique	46.10
Namibia	17.40
Niger	44.50
Nigeria	46.00
Rwanda	38.20
São Tomé & Príncipe	66.20
Senegal	46.70
Seychelles	1.10
Sierra Leone	52.90
Somalia	73.00
South Africa	55.50
South Sudan	82.30
Sudan	46.50
Tanzania	28.20
Togo	55.10
Tunisia	15.20
Uganda	21.40

Zambia	54.40
Zimbabwe	72.30

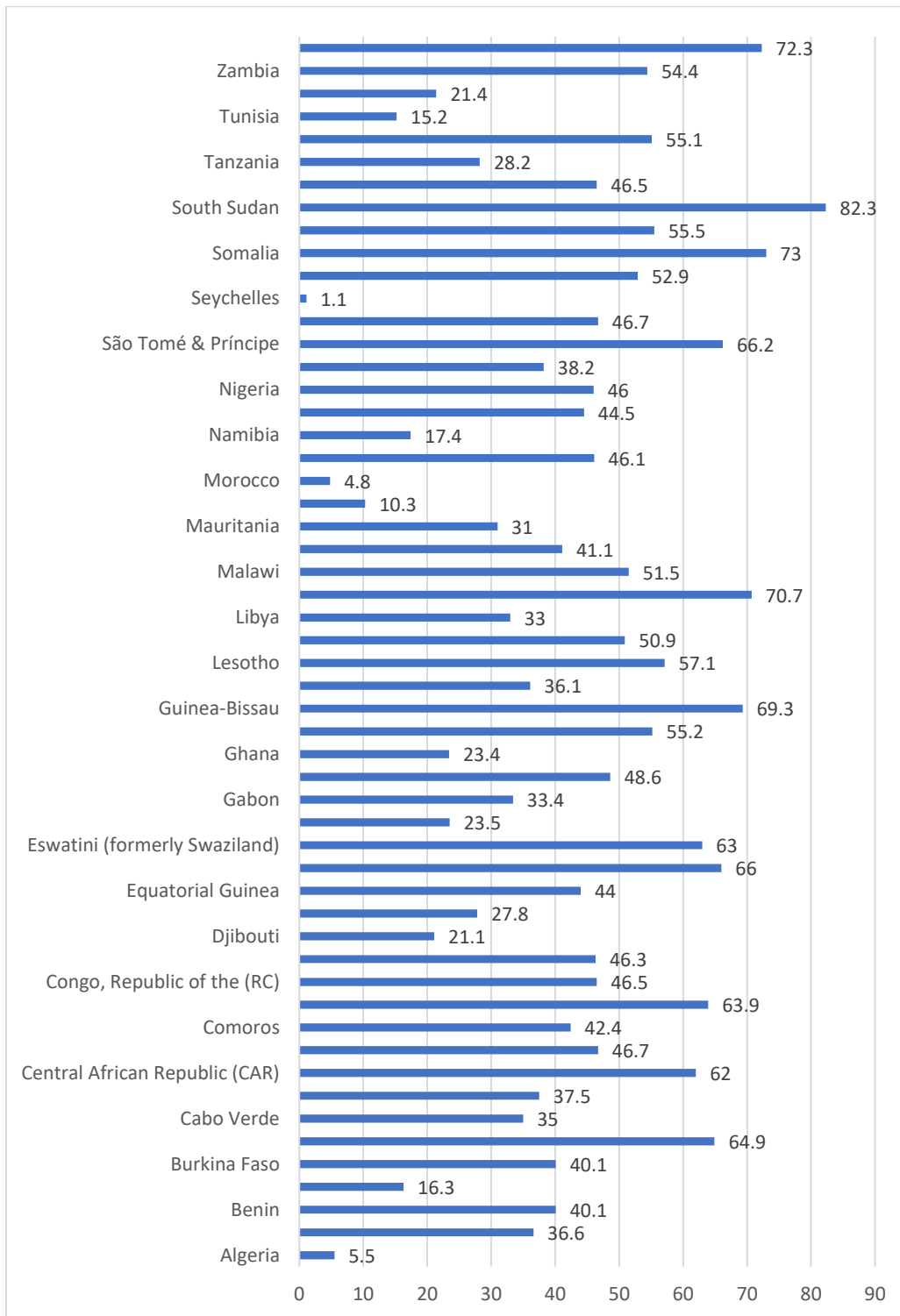


Fig. 14 National poverty line

Ranking of Countries by Food Insecurity

Algeria	
Angola	22.2
Benin	
Botswana	41.3
Burkina Faso	9.1
Burundi	
Cabo Verde	9.6
Cameroon	44.2
Central African Republic (CAR)	91
Chad	91
Comoros	
Congo, Democratic Republic of the (DRC)	
Congo, Republic of the (RC)	
Cote d'Ivoire	
Djibouti	
Egypt	10.1
Equatorial Guinea	
Eritrea	
Eswatini (formerly Swaziland)	29.5
Ethiopia	25.5
Gabon	
Gambia	31.3
Ghana	7.9
Guinea	46.5
Guinea-Bissau	
Kenya	19.1
Lesotho	50.0
Liberia	62.2
Libya	
Madagascar	18
Malawi	51.7
Mali	100
Mauritania	
Mauritius	6.2
Morocco	
Mozambique	42.5
Namibia	39.0
Niger	51.7
Nigeria	6.5
Rwanda	2.6
São Tomé & Príncipe	
Senegal	24
Seychelles	3.2
Sierra Leone	72.7
Somalia	100
South Africa	29.2
South Sudan	100
Sudan	
Tanzania	36.9
Togo	32.2
Tunisia	

Uganda	12
Zambia	53
Zimbabwe	64

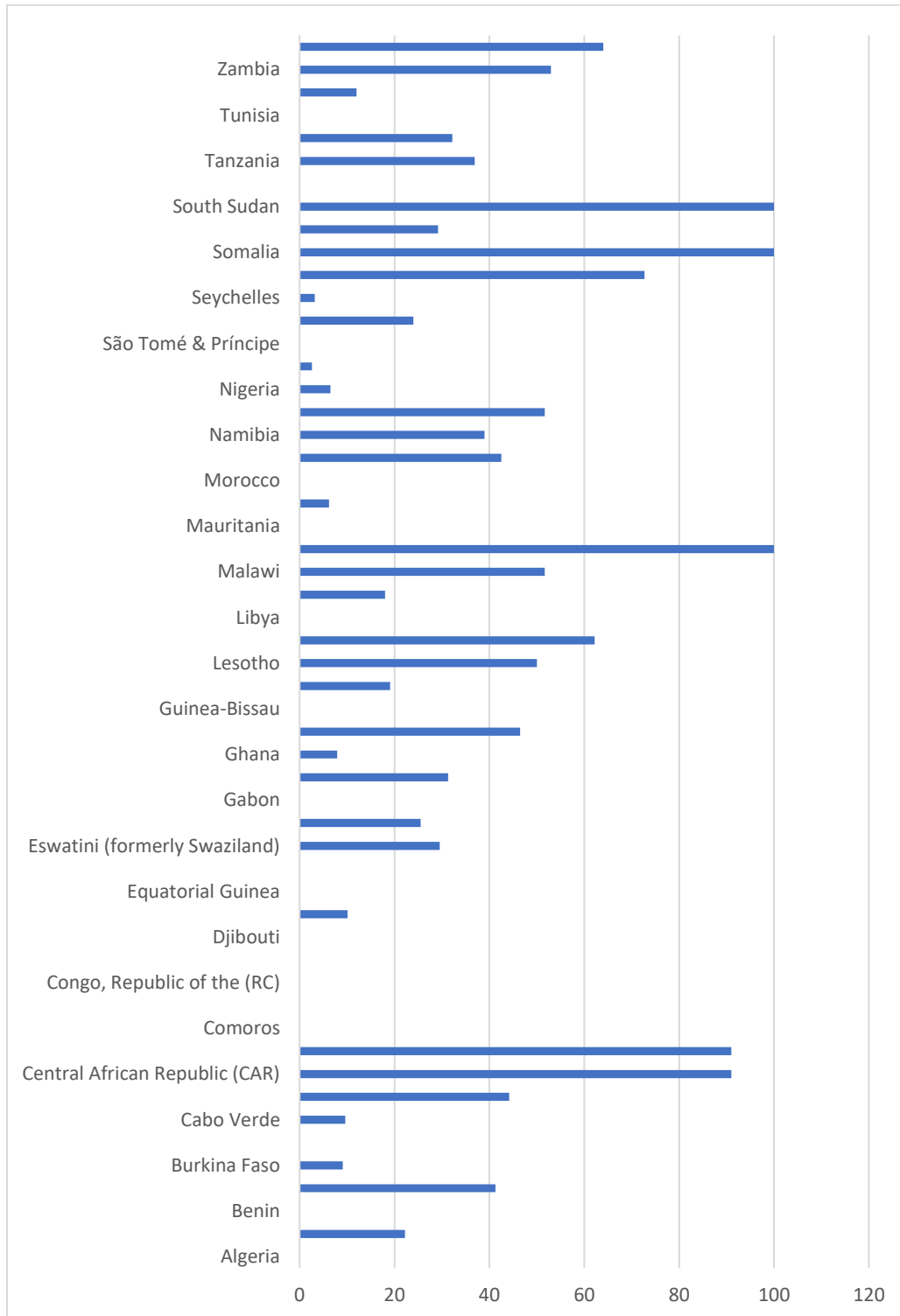


Fig. 15 Food insecurity

Ranking of Countries by Availability of Rural Electricity

Algeria	100.00
Angola	3.80
Benin	18.00
Botswana	28.00
Burkina Faso	3.00
Burundi	3.00
Cabo Verde	97.00
Cameroon	23.00
Central African Republic (CAR)	16.00
Chad	3.00
Comoros	77.00
Congo, Democratic Republic of the (DRC)	1.80
Congo, Republic of the (RC)	20.00
Cote d'Ivoire	33.00
Djibouti	24.00
Egypt	100.00
Equatorial Guinea	7.00
Eritrea	35.00
Eswatini (formerly Swaziland)	70.00
Ethiopia	33.00
Gabon	63.00
Gambia	35.00
Ghana	67.00
Guinea	20.00
Guinea-Bissau	10.00
Kenya	72.00
Lesotho	38.00
Liberia	7.00
Libya	70.00
Madagascar	17.30
Malawi	10.00
Mali	25.00
Mauritania	1.00
Mauritius	100.00
Morocco	100.00
Mozambique	8.00
Namibia	36.00
Niger	12.00
Nigeria	31.00
Rwanda	23.00
São Tomé & Príncipe	56.00
Senegal	44.00
Seychelles	100.00
Sierra Leone	6.00
Somalia	15.00
South Africa	90.00
South Sudan	24.00
Sudan	47.00
Tanzania	17.00
Togo	22.00
Tunisia	100.00

Uganda	38.00
Zambia	11.00
Zimbabwe	20.00

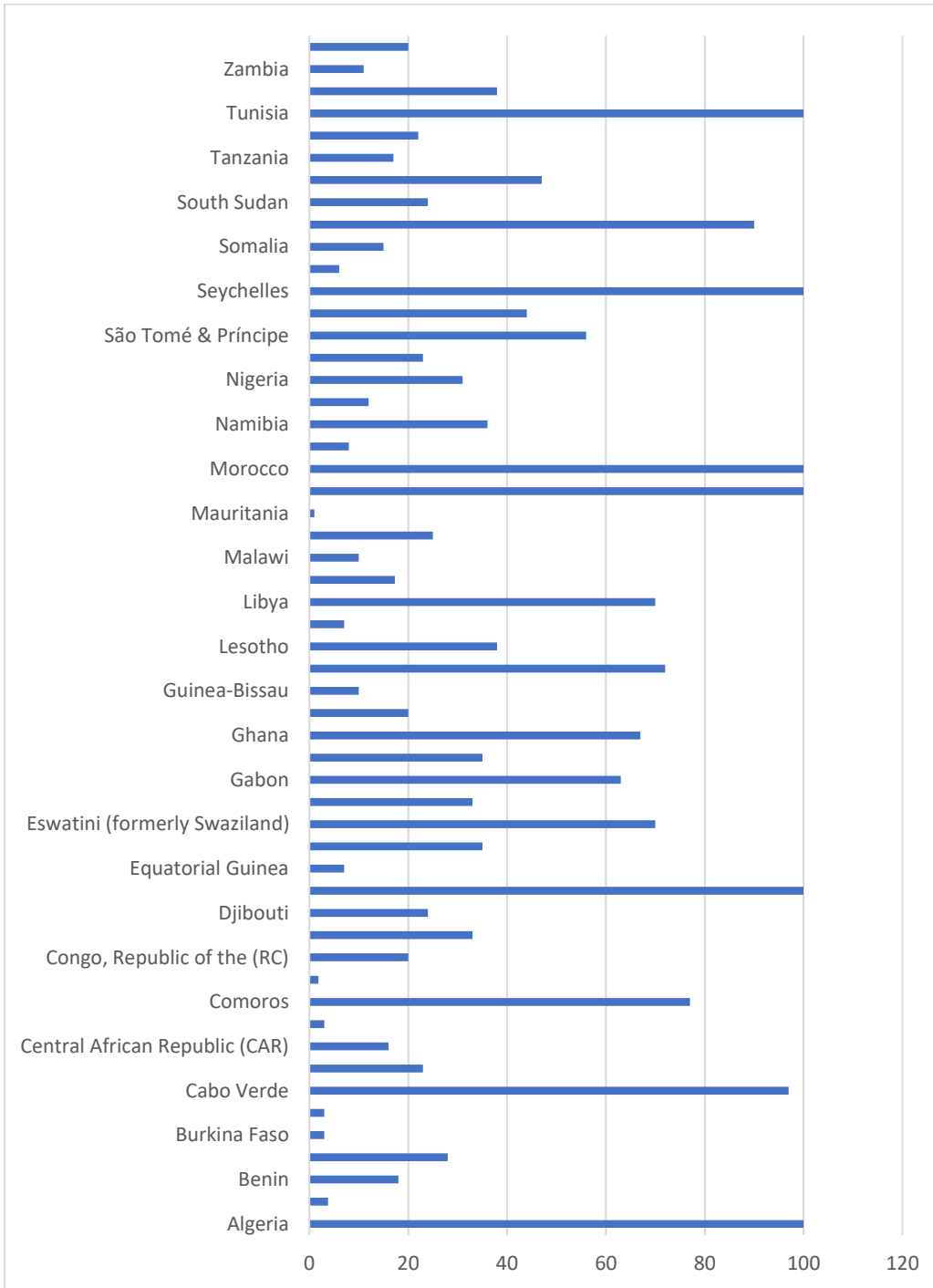


Fig. 16 Rural electricity

Ranking of Countries by Child Marriage

Algeria	3.00
Angola	30.00
Benin	26.00
Botswana	
Burkina Faso	52.00
Burundi	20.00
Cabo Verde	19.00
Cameroon	31.00
Central African Republic (CAR)	28.00
Chad	67.00
Comoros	32.00
Congo, Democratic Republic of the (DRC)	37.00
Congo, Republic of the (RC)	27.00
Cote d'Ivoire	27.00
Djibouti	5.00
Egypt	17.00
Equatorial Guinea	30.00
Eritrea	41.00
Eswatini (formerly Swaziland)	5.00
Ethiopia	40.00
Gabon	22.00
Gambia	30.00
Ghana	21.00
Guinea	51.00
Guinea-Bissau	24.00
Kenya	23.00
Lesotho	17.00
Liberia	36.00
Libya	
Madagascar	41.00
Malawi	42.00
Mali	52.00
Mauritania	37.00
Mauritius	
Morocco	16.00
Mozambique	48.00
Namibia	7.00
Niger	76.00
Nigeria	44.00
Rwanda	7.00
São Tomé & Príncipe	35.00
Senegal	31.00
Seychelles	
Sierra Leone	39.00
Somalia	45.00
South Africa	6.00
South Sudan	52.00
Sudan	34.00
Tanzania	31.00
Togo	22.00
Tunisia	2.00
Uganda	40.00

Zambia	31.00
Zimbabwe	32.00

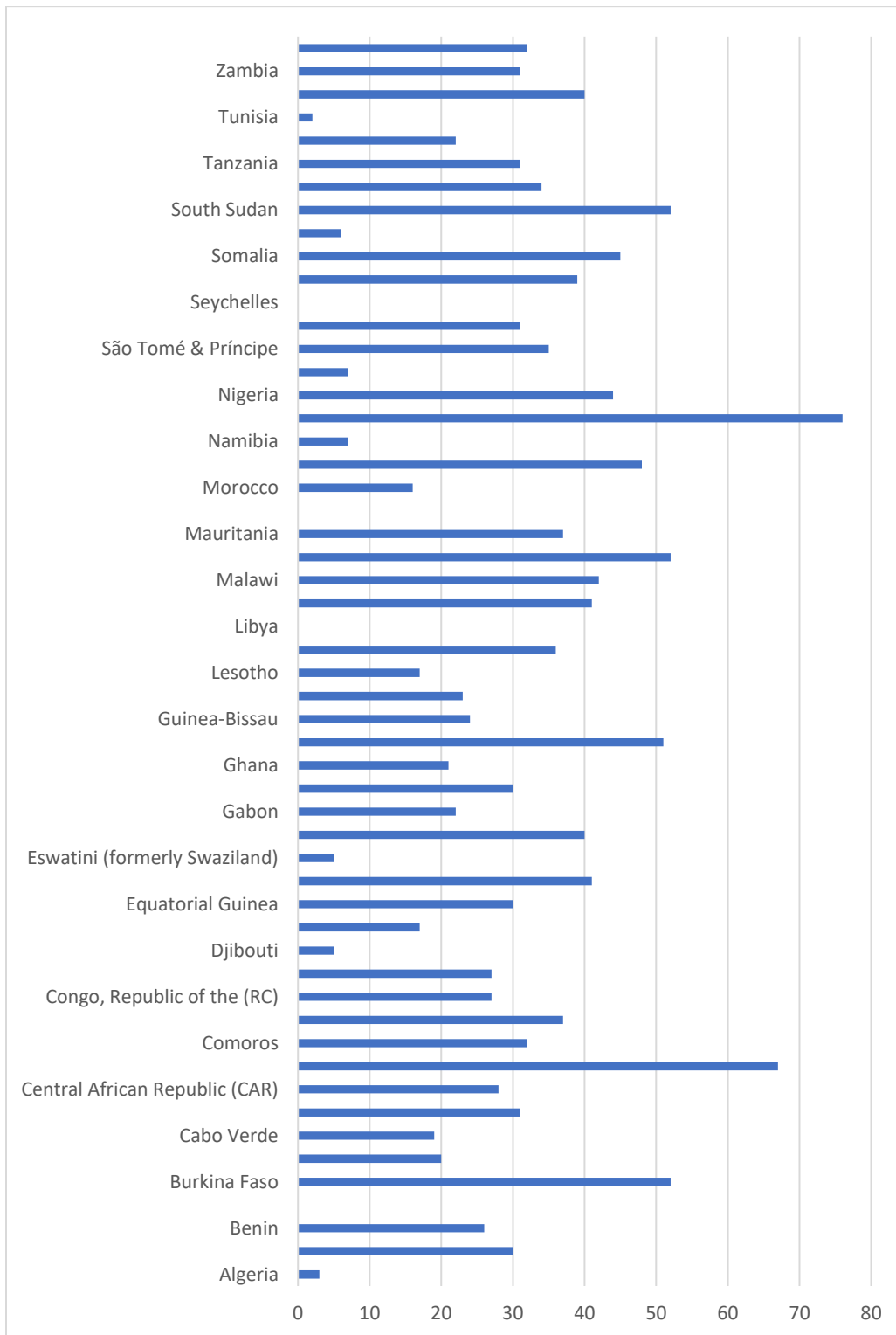


Fig. 17 Child Marriage

Ranking of Countries by Welfare Policies

Algeria	84.90
Angola	71.70
Benin	63.70
Botswana	48.00
Burkina Faso	55.70
Burundi	71.70
Cabo Verde	54.6
Cameroon	68.9
Central African Republic (CAR)	72.0
Chad	72.0
Comoros	64.9
Congo, Democratic Republic of the (DRC)	72.0
Congo, Republic of the (RC)	69.7
Cote d'Ivoire	67.7
Djibouti	100.0
Egypt	69.7
Equatorial Guinea	88.0
Eritrea	60.0
Eswatini (formerly Swaziland)	52.6
Ethiopia	20.3
Gabon	72.0
Gambia	31.4
Ghana	42.6
Guinea	80.9
Guinea-Bissau	63.7
Kenya	84.0
Lesotho	81.7
Liberia	65.7
Libya	74.9
Madagascar	84.90
Malawi	71.70
Mali	63.70
Mauritania	48.00
Mauritius	55.70
Morocco	71.70
Mozambique	54.6
Namibia	68.9
Niger	72.0
Nigeria	72.0
Rwanda	64.9
São Tomé & Príncipe	72.0
Senegal	69.7
Seychelles	67.7
Sierra Leone	100.0
Somalia	69.7
South Africa	88.0
South Sudan	60.0
Sudan	52.6
Tanzania	20.3
Togo	72.0

Tunisia	31.4
Uganda	42.6
Zambia	80.9
Zimbabwe	63.7

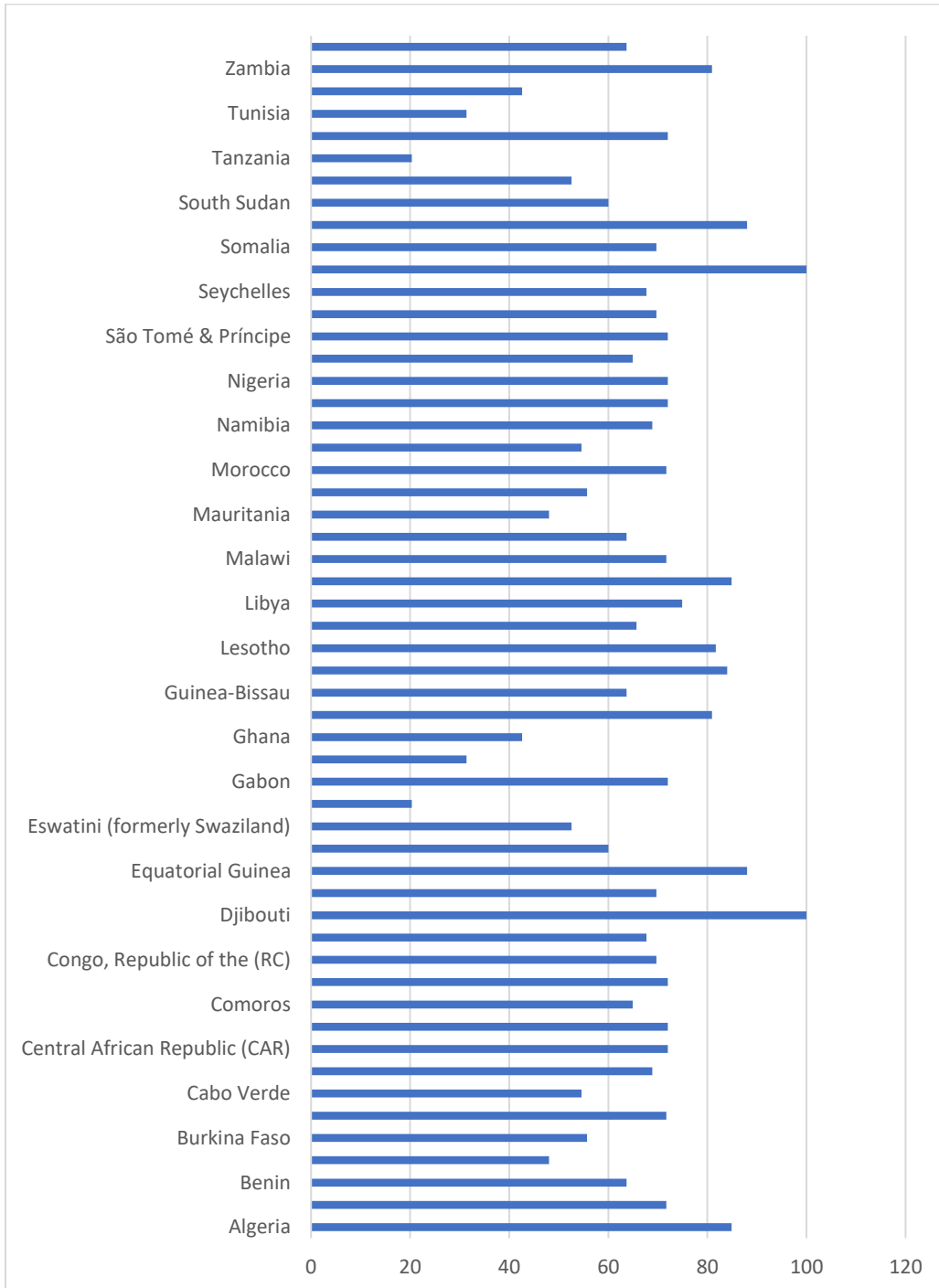


Fig. 18 Welfare policies

Ranking of Countries by Arable Land for Irrigation

Algeria	18.30
Angola	1.80
Benin	.90
Botswana	.80
Burkina Faso	.90
Burundi	1.90
Cabo Verde	7.30
Cameroon	.50
Central African Republic (CAR)	.10
Chad	.60
Comoros	.20
Congo, Democratic Republic of the (DRC)	.20
Congo, Republic of the (RC)	.40
Cote d'Ivoire	2.50
Djibouti	50.00
Egypt	100.00
Equatorial Guinea	4.30
Eritrea	3.00
Eswatini (formerly Swaziland)	28.60
Ethiopia	5.30
Gabon	1.20
Gambia	1.10
Ghana	.80
Guinea	3.10
Guinea-Bissau	8.30
Kenya	2.60
Lesotho	1.10
Liberia	.60
Libya	23.30
Madagascar	31.00
Malawi	1.90
Mali	5.90
Mauritania	10.00
Mauritius	22.70
Morocco	18.80
Mozambique	2.10
Namibia	1.00
Niger	.60
Nigeria	.90
Rwanda	.80
São Tomé & Príncipe	100.00
Senegal	3.80
Seychelles	100.00
Sierra Leone	1.90
Somalia	18.20
South Africa	13.40
South Sudan	.00
Sudan	9.40
Tanzania	2.70
Togo	.30
Tunisia	16.40
Uganda	.20

Zambia	4.10
Zimbabwe	4.40

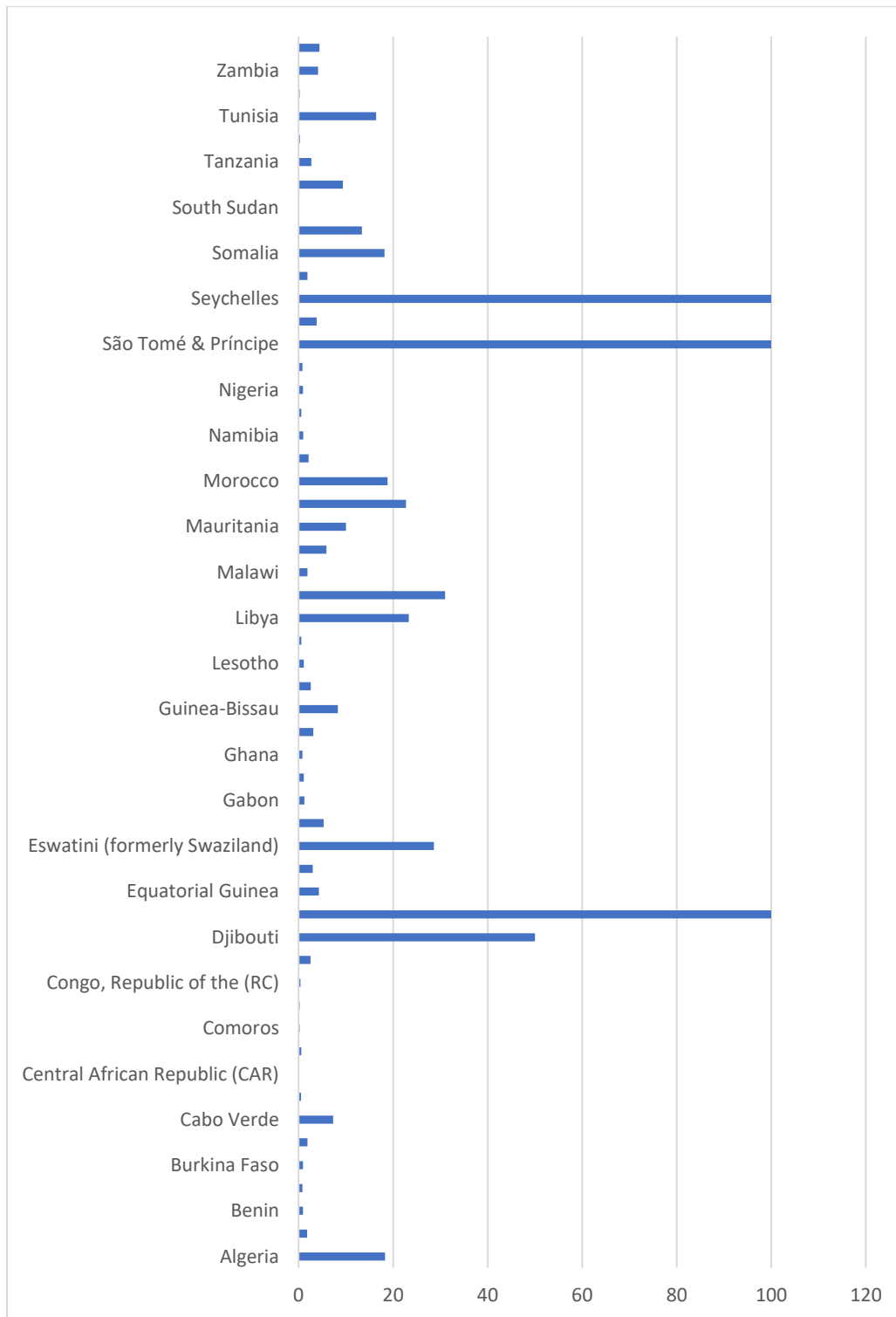


Fig. 19 Arable land for irrigation

Ranking of Countries by Life Expectancy at Birth

Algeria	77.00
Tunisia	77.00
Morocco	76.00
Mauritius	74.00
Cabo Verde	73.00
Libya	73.00
Seychelles	73.00
Egypt	72.00
São Tomé & Príncipe	70.00
Botswana	69.00
Rwanda	69.00
Senegal	68.00
Djibouti	67.00
Madagascar	67.00
Eritrea	66.00
Ethiopia	66.00
Gabon	66.00
Kenya	66.00
Mauritania	65.00
Sudan	65.00
Tanzania	65.00
Comoros	64.00
Congo, Republic of the (RC)	64.00
Ghana	64.00
Liberia	64.00
Malawi	64.00
South Africa	64.00
Zambia	64.00
Namibia	63.00
Uganda	63.00
Gambia	62.00
Niger	62.00
Angola	61.00
Benin	61.00
Burkina Faso	61.00
Burundi	61.00
Guinea	61.00
Togo	61.00
Zimbabwe	61.00
Congo, Democratic Republic of the (DRC)	60.00
Mozambique	60.00
Cameroon	59.00
Eswatini (formerly Swaziland)	59.00
Mali	59.00
Equatorial Guinea	58.00
Guinea-Bissau	58.00
South Sudan	58.00
Cote d'Ivoire	57.00
Somalia	57.00
Chad	54.00
Lesotho	54.00
Nigeria	54.00

Sierra Leone	54.00
Central African Republic (CAR)	53.00

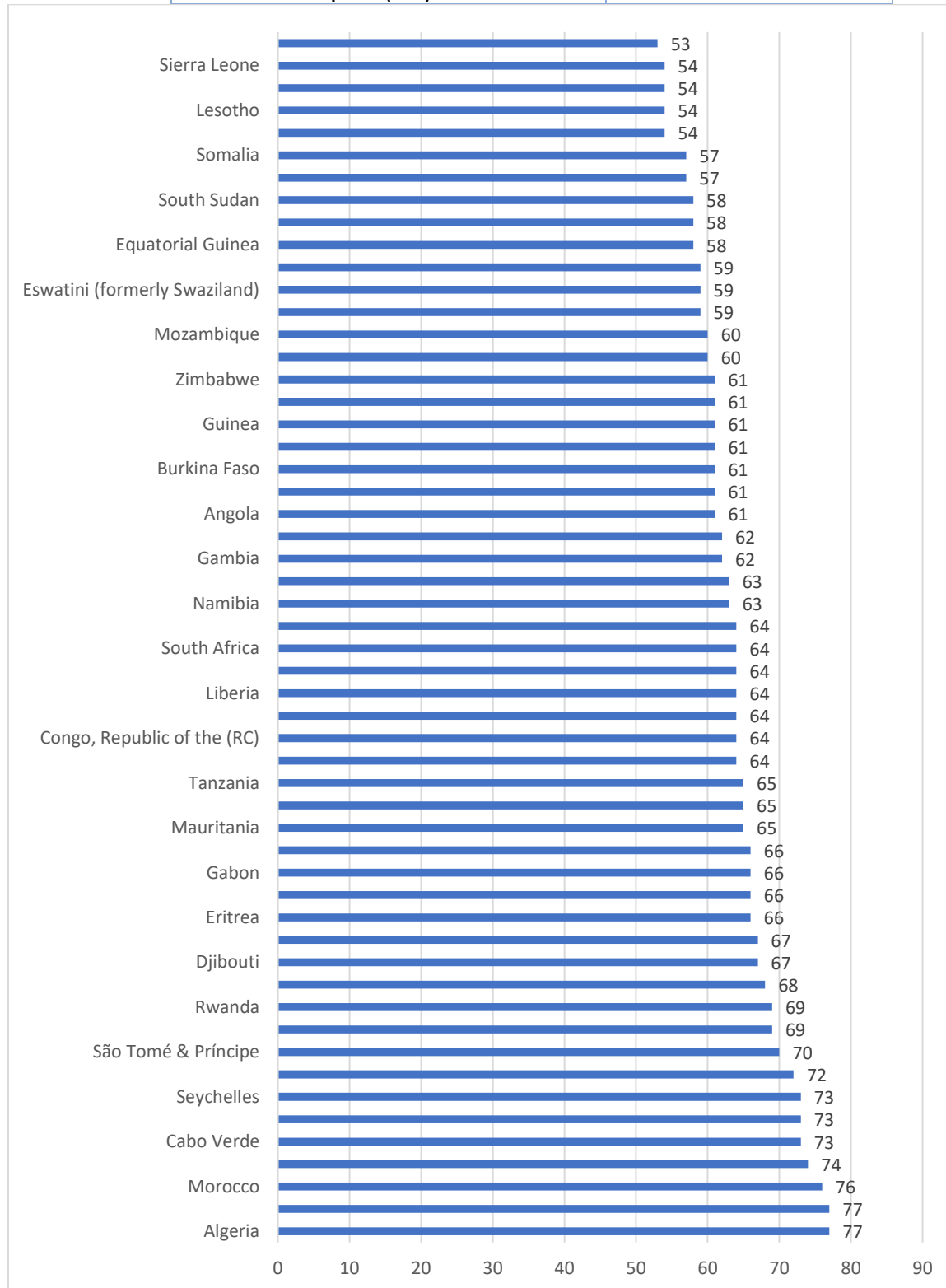


Fig. 20 Life expectancy at birth

Ranking of Countries by Adolescent Fertility Rate

Niger	184.00
Mali	167.00
Chad	158.00
Equatorial Guinea	153.00
Angola	148.00
Mozambique	146.00
Liberia	136.00
Guinea	133.00
Malawi	132.00
Central African Republic (CAR)	127.00
Congo, Democratic Republic of the (DRC)	123.00
Zambia	118.00
Tanzania	117.00
Cote d'Ivoire	116.00
Uganda	116.00
Congo, Republic of the (RC)	111.00
Sierra Leone	110.00
Madagascar	108.00
Nigeria	105.00
Cameroon	103.00
Guinea-Bissau	103.00
Burkina Faso	102.00
Somalia	98.00
Gabon	94.00
Lesotho	93.00
São Tomé & Príncipe	93.00
Togo	89.00
Benin	84.00
Zimbabwe	83.00
Gambia	76.00
Eswatini (formerly Swaziland)	75.00
Kenya	74.00
Cabo Verde	73.00
Senegal	71.00
Mauritania	70.00
South Africa	68.00
Ghana	66.00
Ethiopia	65.00
Comoros	64.00
Namibia	62.00
Seychelles	61.00
Sudan	61.00
South Sudan	59.00
Burundi	55.00
Egypt	53.00
Eritrea	51.00
Botswana	45.00
Rwanda	39.00
Morocco	31.00
Mauritius	25.00
Djibouti	18.00
Algeria	10.00

Tunisia	8.00
Libya	6.00

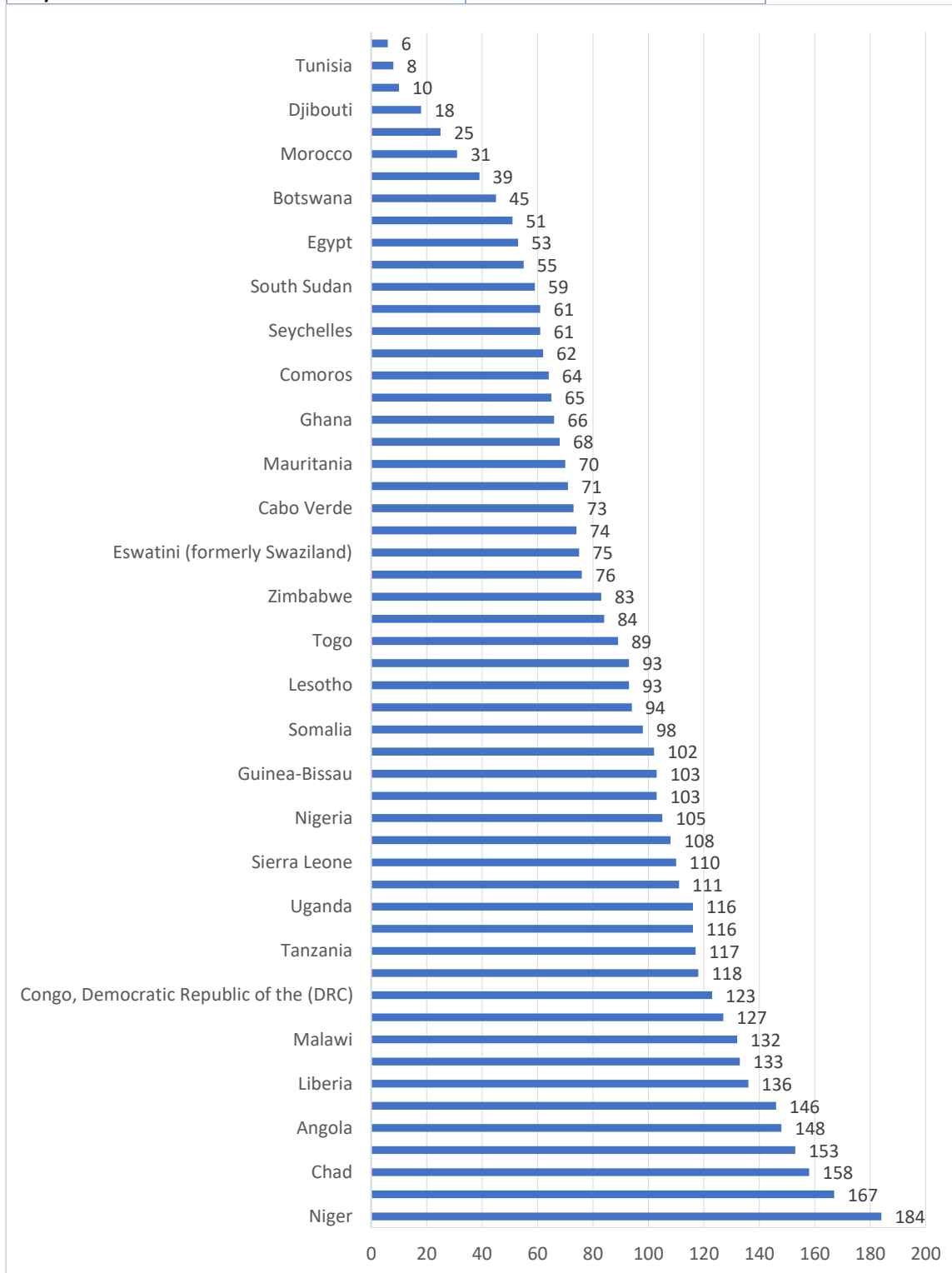


Fig. 21 Adolescent fertility rate

Ranking of Countries by Mortgage Interest Rate

Ghana	34.00
Guinea	33.00
Zambia	29.00
Mozambique	28.00
Nigeria	25.00
South Sudan	25.00
Sierra Leone	23.00
Cameroon	20.00
Congo, Republic of the (RC)	20.00
Madagascar	20.00
Malawi	20.00
Uganda	20.00
Mauritius	19.00
Tanzania	19.00
Ethiopia	18.00
Rwanda	18.00
Gambia	17.00
Angola	16.00
Burundi	16.00
Cabo Verde	15.00
Central African Republic (CAR)	15.00
Equatorial Guinea	15.00
Congo, Democratic Republic of the (DRC)	14.00
Kenya	14.00
Sudan	14.00
Liberia	13.00
Namibia	13.00
Burkina Faso	12.00
Chad	12.00
Lesotho	12.00
South Africa	12.00
Zimbabwe	12.00
Comoros	11.00
Guinea-Bissau	11.00
Seychelles	11.00
Algeria	10.00
Eritrea	10.00
Eswatini (formerly Swaziland)	10.00
Somalia	10.00
Mali	9.00
Botswana	8.00
Cote d'Ivoire	8.00
Mauritania	8.00
Morocco	8.00
Senegal	8.00
Tunisia	8.00
Benin	7.00
Djibouti	7.00
Egypt	7.00
Niger	7.00
São Tomé & Príncipe	7.00
Togo	7.00

Libya	6.00
Gabon	3.00

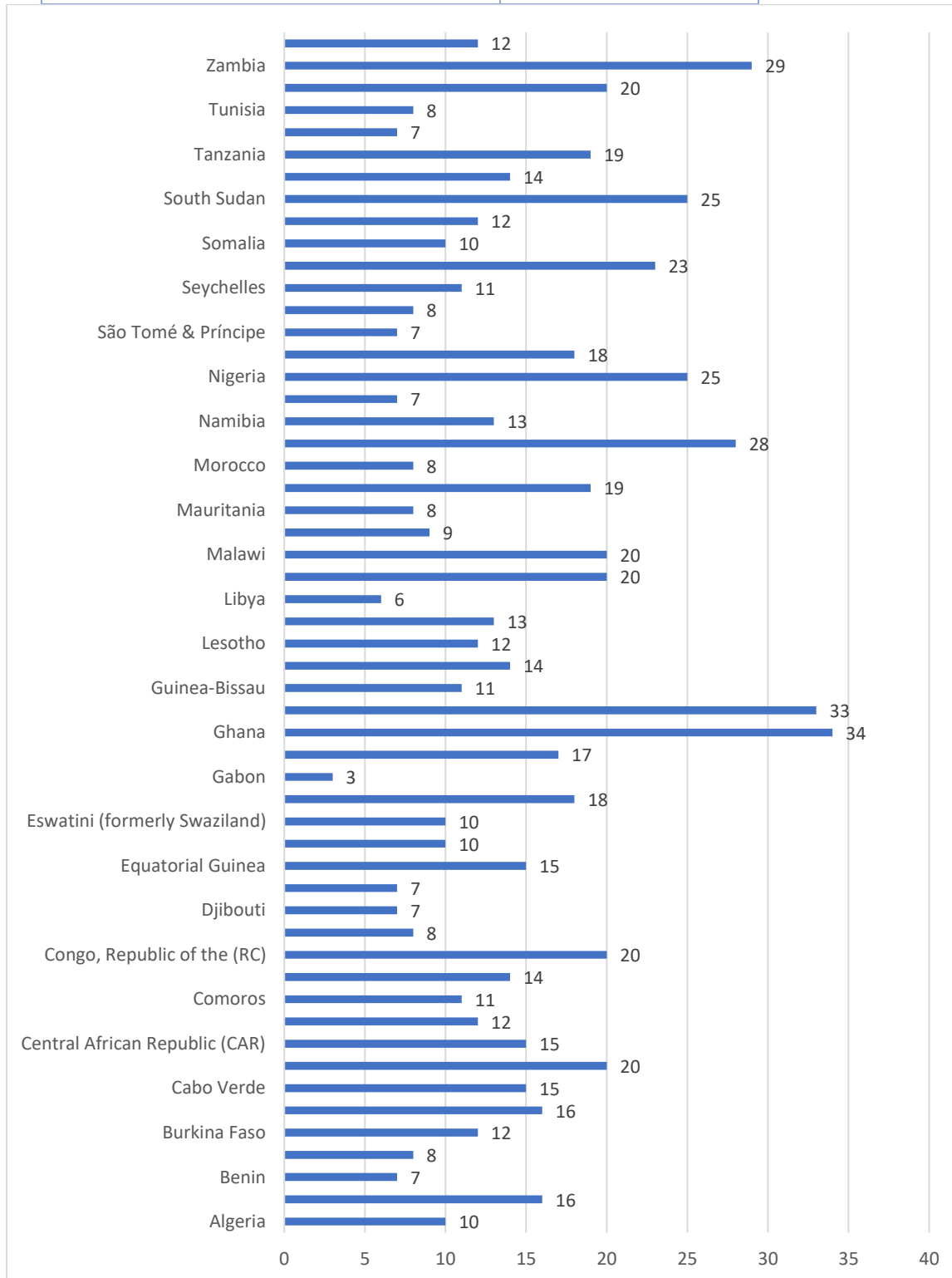


Fig. 22 Mortgage interest rate

Ranking of Countries by PPP \$ A Day

Algeria	.50
Angola	30.10
Benin	49.50
Botswana	16.10
Burkina Faso	43.70
Burundi	71.80
Cabo Verde	3.20
Cameroon	23.80
Central African Republic (CAR)	66.30
Chad	38.40
Comoros	17.90
Congo, Democratic Republic of the (DRC)	37.00
Congo, Republic of the (RC)	28.20
Cote d'Ivoire	76.60
Djibouti	17.10
Egypt	1.30
Equatorial Guinea	
Eritrea	
Eswatini (formerly Swaziland)	42.00
Ethiopia	27.30
Gabon	3.40
Gambia	10.10
Ghana	13.30
Guinea	35.30
Guinea-Bissau	67.10
Kenya	36.80
Lesotho	59.70
Liberia	40.90
Libya	7.24
Madagascar	77.60
Malawi	70.30
Mali	49.70
Mauritania	6.00
Mauritius	.20
Morocco	1.00
Mozambique	62.40
Namibia	13.40
Niger	44.50
Nigeria	53.50
Rwanda	55.50
São Tomé & Príncipe	32.30
Senegal	38.00
Seychelles	1.10
Sierra Leone	52.20
Somalia	
South Africa	18.90
South Sudan	42.70
Sudan	14.90
Tanzania	49.20
Togo	.30
Tunisia	41.70
Uganda	49.10

Zambia	57.50
Zimbabwe	21.40

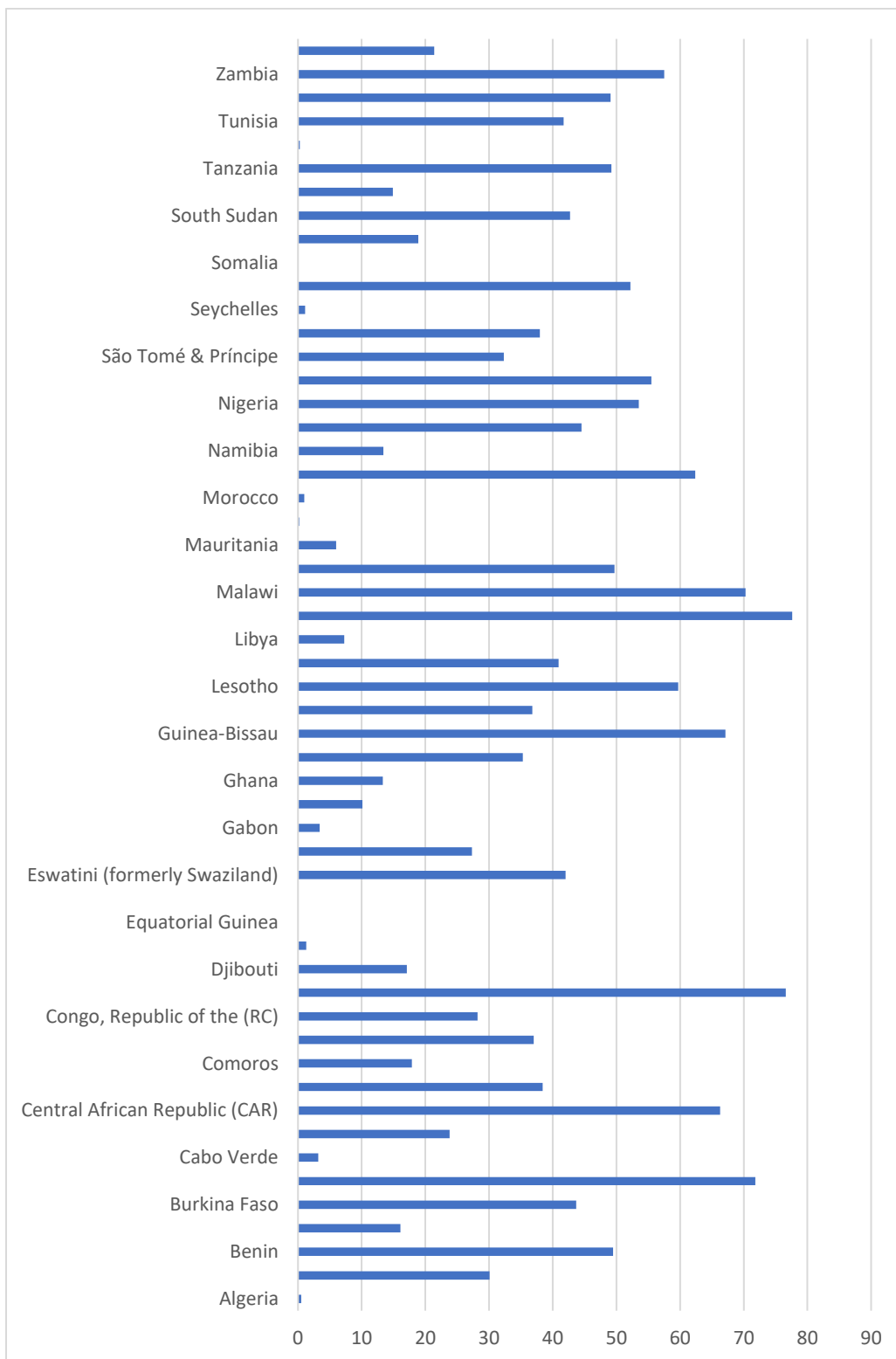


Fig. 23 PPP \$ a day