

Monographic Study on
**DEMOGRAPHY,
PEACE, AND SECURITY
IN THE SAHEL:**

CASE OF MALI



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IV EXECUTIVE SUMMARY

Mali's geographical position in a Sahel that has been plagued by insecurity for many years exposes the country to security instability that is aggravated continuously by attacks by non-State armed groups present in the region, including jihadist groups, armed bandit groups, and community vigilante groups, particularly in the border areas with Algeria, Burkina Faso, and Niger. As a result, Mali has been experiencing instability and conflict period since the military coup of 2012 and the north of the country's occupation by armed groups.

The country's security situation creates many uncertainties, particularly about its economic and social development. Therefore, it is crucial to understand how security and development are linked in the specific context of the Sahel. It is against this backdrop that this monograph has been prepared, offering a situational analysis of critical issues related to security, development, and population dynamics in Mali.

Despite the signing of two peace agreements between the various players in Ouagadougou in June 2013 and in Algiers in June 2015, central and northern Mali's situation continues to deteriorate. In the North, violence continues to escalate. Jihadist groups continue their attacks and many armed groups with a wide range of demands are organizing. At the same time, the conflict has moved to the country's centre, where insecurity is increasing, and there is a rise in organized crime and communalism. Moreover, and as with everywhere else in the Sahel, Mali has become a transit point for all kinds of trafficking over the last ten years or so, particularly in migrants, cigarettes, drugs, etc. All these facts illustrate the complexity of Mali's security problem, highlighting the interactions between several issues, including governance, legitimate violence, justice, land issues, inter-community divisions, regional

integration, organized crime, climate change, development, and even patriarchal institutions.

To date, instability with regard to the country's security has resulted in thousands of casualties and hundreds of thousands of displaced persons. The number of deaths continues to rise dramatically each year, and civilians seem to pay a heavy price for this. This has established Mali as the fourth most deadly country in armed conflicts in sub-Saharan Africa, after Somalia, Southern Sudan and the Central African Republic. Other acts of grave violations committed include violations of the right to life, torture, sexual violence, arrests, arbitrary detention, violations of property rights, and collective punishment.

The social and human consequences of all these acts of violence, beyond the immediate cost of death and injury, include migration or displacement of people, closure of businesses, reduced investment, decline in tourism, and lack of institutions' legitimacy. The result is a considerable increase in new public expenditure for reconstructing destroyed infrastructure, assistance to displaced populations, and the resettlement of displaced persons and refugees in their homes and regions of origin. There is also significant new public expenditure involved in the costs of negotiating and implementing the peace and reconciliation agreement in Mali and establishing the new institutions that will be created under that agreement.

At the same time, the deteriorating security situation has prompted the country's authorities to define new programmes for internal and external security and strengthen the law enforcement apparatus. Thus, Mali has become caught up in an arms race, sharply increasing its defence and security spending. From 2010 to 2018, the government's military spending effort increased

quite significantly. In fact, there was slightly more than a threefold spending increase during this period. Mali's military expenditure increased by 233% between 2010 and 2018, which corresponds to an average annual increase of 14% over this period.

However, these increases in military spending have taken place in a context where the State's resources have not increased much. Over the same period (2010-2018), the overall state budget grew at an average annual rate of only 7% and tax revenues by 6%, well below the annual growth rate of military expenditure (14%). Under these conditions, the reallocation of resources is the only option open to the Malian State to support these new military expenditures. The reallocation of resources consists of a readjustment of expenditures in line with the forecasts in the original Budget Act. In the new security environment, reallocation has become an increasingly common means in Sahelian countries to finance new needs in internal and external security and management of the implications of conflict.

The immediate implication is that with the government's limited overall budget, the increase in military spending has a crowding effect on other government spending components such as education and health spending in Mali. The analysis indicates that quite a strong crowding-out effect is occurring as a result of central government spending in the health sector. The health sector is the biggest loser of the increase in defence budget allocations. Between 2010 and 2018, the share of public health expenditure in the State budget was maintained at an average of less than 5 percent, while military expenditure doubled from 7 percent to 14 percent of the State budget.

The crowding-out effect on public spending on education is equally present, though less apparent. The share of education expenditure in the State budget has remained broadly stable, fluctuating around 17 per cent over the 2008-2018 period. At the

same time, the share of military expenditure in the overall State budget has been steadily increasing. A catch-up effect was even observed towards the end of the period, when the military spending share reached almost 15%, while the public education spending share dropped to 15%.

These crowding-out effects are all the more worrying given Mali's overall capital performance alarming. Despite the efforts made over the past six decades, Mali has a severe human capital deficit. It is among the African countries with the lowest score on the human capital index published in 2018. With a score of 0.32 out of a maximum of 1, Mali is ranked 40th, just ahead of Southern Sudan and Chad, and at the same level as Liberia and Niger.

Mali's score of 0.32 on the Human Assets Index means that the level of income that a child born in Mali today can expect to achieve as an adult will be 68% lower than it would have been if he or she had been fully educated and lived in good health. Mali's score of 0.32 also means that the country could reach a future GDP per worker three times higher if it reached the level corresponding to complete schooling and full health.

Furthermore, it should be noted that the human capital deficit could worsen in the future due to uncertainty with regard to the country's security and in particular, due to population growth. All population projections indicate that Mali will experience a considerable increase in its population by 2050, regardless of the total fertility rate (TFR) variation. Over the next three decades, Mali's population will continue to grow regardless of the trend in the TFR, mainly due to population momentum.

In its quest for accelerated economic and social transformation of the country, the Government of Mali should pay particular attention to this demographic dynamic and its impact on development. This cannot be achieved by focusing on the economic dimension alone. Demographics are also a determining factor. Human capital (the potential of each individual) is the most crucial

investment that Mali will have to make in this perspective.

Analysis of the costs associated with the investments needed to close the human capital gap shows that this objective is in fact achievable if the State implements bold policies that allow it to generate sufficient fiscal margins to finance these investments. The prerequisite, however, is to create the conditions for just and lasting peace, which would enable the country to mobilize itself to initiate and implement the reforms needed to increase the growth rate and the level of mobilization of the State's resources (increase tax rates).

I INTRODUCTION

1.1 Background

Mali is located between the 10th and 25th degrees of north latitude, and the 4th degree of east longitude and the 12th degree of west longitude, over a total area of 1,246,814 km², which is divided into one district and 8 administrative regions. Mali shares borders with eight countries, including Mauritania, Algeria, Niger, Burkina Faso, The Ivory Coast, Guinea, and Senegal.

This geographical position in a Sahel that has been plagued by insecurity for many years exposes Mali to instability with regard to its security, which is continuously aggravated by attacks by non-State armed groups present in the region, including jihadist groups, armed bandit groups and community vigilante groups, particularly in the border areas with Algeria, Burkina Faso and Niger.

As a result, Mali has been experiencing instability and conflict period since the military coup of 2012 and the north of the country's occupation by armed groups. In January 2013, under the aegis of France, a military intervention was launched before the United Nations Integrated Multidimensional Stabilization Mission in Mali (MINUSMA) took over in July 2014.

Nevertheless, the situation in central and northern Mali continues to deteriorate, despite the signing of two peace agreements between the various players, in Ouagadougou in June 2013 and in Algiers in June 2015, providing for the return of Malian authorities to entire regions of the country where the State had become absent. The activity of the armed independence or pro-Government groups remains intense in the north of the country. Clashes between separatists and pro-government militias have never ceased and Al-Qaida-related militants continue to perpetrate terrorist attacks. Political and security instability persists in this part of the country

because it is a suitable zone for withdrawal in case of an attack in neighbouring areas, but it also well situated for the provision of supplies and means of subsistence and the recruitment of adherents and accomplices from local communities.

Moreover, the situation is deteriorating sharply in the centre, raising fears of long-term destabilization. On 23 March 2019, the Fulani village of Ogossogou in central Mali, was attacked by militias, killing at least 134 people. In this part of the country too, violence is intensifying, in addition to the growing terrorist threat and flourishing criminal activities, leading to a considerable alteration of the populations way and conditions of life in these mainly agro-sylvo-pastoral areas, with immediate consequences on their livelihoods. This situation has also changed social relations between communities that were already precarious due to conflicts over natural resources sharing, particularly grazing areas.

Besides, massive population displacements are resulting in urgent humanitarian needs. Moreover, these population movements' unpredictability and rapidity make humanitarian and State responses more complex, including food, non-food, and other sectoral responses. These movements also put additional pressure on the State and local authorities, which were already struggling to meet the population's needs.

A direct consequence of the security situation is the surge in new State spending on the reconstruction of destroyed infrastructure, assistance to displaced populations and the resettlement of displaced persons and refugees in their homes and regions of origin. At the same time, public military and security expenditure has also risen sharply. Between 2013 and 2017, they increased at an average annual rate of 20.08% against 3.55% between 2009 and 2011, i.e. a rate three times higher than that

of State revenue¹. Other significant new public expenditure also relates to the costs of negotiating and implementing the peace and reconciliation agreement in Mali and the new institutions to be created under the agreement.

The immediate impact of these increases in expenditure related to the security situation's management is a substantial reduction in the public resources available to other sectors, particularly the social sectors. The Malian State, therefore, has less and less room for manoeuvre to invest more and better in the health and education of its population. However, this is the sine qua non for having a quality human capital capable of ensuring the economic and social transformations envisaged in the CREDD.

The security situation in the country, therefore, creates many uncertainties, particularly concerning its economic and social development.

From a development perspective, responses to security threats cannot be limited to military action. They must also integrate development solutions to generate peace dividends in communities, create more inclusive societies and create the conditions for sustainable economic growth. An essential first step in doing so is, therefore, to understand how security and development are linked in the specific context of the Sahel.

It is with this in mind that this monograph has been prepared, offering a situational analysis of critical issues related to security, development and population dynamics in Mali.

1.2 Objectives

- This monographic study is part of the United Nations Population Fund (UNFPA) initiative to examine the evolution of the demographic factor and issues of peace and security and

their interactions with the development challenges of the Sahelian countries.

- This analysis will be used to guide strategic thinking and the operationalization of the UNFPA regional office's commitment to operationalize the capture of the demographic dividend in the Sahelian countries, based on the premise that the challenges facing these countries must be addressed in a comprehensive and integrated manner to achieve sustainable peace and shared prosperity.

The aim of this analysis is, therefore, to contribute to a deeper understanding of the underlying factors associated with the risk of social and economic unrest and instability in Mali, whether these factors are land issues, violent crime, unemployment, demographic pressure, population displacement, ethnic and religious rivalries or more complex causes (social inequality, State failure, human rights violations, resource predation, terrorism, etc.).

More specifically, it will:

- Describe the security context in Mali over the last 5 years;
- Describe the demographic profile from 1960 to 2040 (population size and structure using national data);
- Describe the dynamics of the structure of the population, taking into account changes in the proportion of young people under 25, those aged 15-34 and the demographic dependence of young people (0-15 years), and any other relevant age groups;
- Describe changes in the share of the national budget allocated to health (1960-2019);
- Describe changes in the share of the national budget allocated to education (1960-2019);

¹ Republic of Mali (2019). *Strategic Framework for Economic Recovery and Sustainable Development (CREDD) 2019-2023*. Bamako, Mali: Technical cell CSLP- Ministry of Economy and Finance. May 2019.

- Describe changes in the share of the national budget allocated to the Ministry responsible for defence and security (1960-2019);
- Provide a cross-analysis of the changing population structure, social demand (education and health) and security issues;
- Discuss the population projections for 2040 and link them to social demand and peace and security issues.

1.3 Theoretical and methodological framework

Demography, peace, security and development have very complex interactional relationships, and, according to contemporary scientific literature, very few studies and research have been carried out on these subjects. However, people have wondered about the impact of their numbers on their security, and their individual and collective well-being, since the dawn of time. In other words, would a smaller or larger population help to ensure their security? Does population growth have an influence on insecurity?

This monograph aims to analyze the security issues linked to the dynamics and demographic structure of the Malian population.

Very few studies have been conducted on the influence of demographic factors on peace and security.

1.4 Manifestations of insecurity according to stakeholders

The manifestations of insecurity as revealed in the surveys can be summarized as physical, moral or psychological harm and damage to property:

- Organized crime: trafficking in arms of all types, all categories of drug trafficking and human trafficking, terrorism, bomb attacks, financial crime, cyber crime;
- The rise of radicalism and violent extremism in many places in which State control is weak;

- Banditry: armed attacks and violent extortion; robberies using small arms; illegal carrying of weapons of war; robberies, threats, etc.;
- Human rights violations (murder, rape, sexual violence, abduction and missing persons, etc.);
- Increase in the consumption of drugs and other substances harmful to health;
- Displacement of populations fleeing the atrocities of armed conflict;
- Extreme poverty among populations affected by conflict; youth unemployment; despair among displaced populations; fear; hopelessness; isolation; abandonment; community confidence crises; misunderstandings; disgust or even hatred towards others (people, ethnic groups, people of another colour); social exclusion and inequality;
- Worsening crime and delinquency, especially juvenile delinquency, in the affected areas;
- Increasing poverty, linked to the food crisis in many areas facing insecurity;
- Migration and economic exile;
- Low school enrolment rates; early school leavers;
- Decrease in life expectancy due to illness and death related to extreme poverty.

The demographic, economic, social and cultural data used in drafting this monograph have mainly been compiled from national sources, and in particular, the National Institute of Statistics (INSTAT), the Ministry of Economy and Finance, sector-specific ministries (Population and Land Management, Health, Education, Employment, Defence, etc.), the Demographic Dividend Observatory (ODD), the Sustainable Development Observatory (ODHD), etc.). Other data sources include the Center for Studies and Research on Population and Development (CERPOD) at the Sahel Institute (INSAH/CILSS, based in Bamako, Mali) and United Nations System organisations including, in particular, the United Nations Office for

the Coordination of Humanitarian Affairs (OCHA) for humanitarian data and the United Nations Population Division (UNPD) for demographic perspectives.

The time periods used in Mali's national population projections (2009 to 2035) are not suitable for producing this monograph, which requires demographic data covering the period 1960-2050. Mali does not currently have population projections covering the period 1960-2050. The United Nations population projections were used in combination with national data from the general population and housing censuses (RGPH I, RGPH II, RGPH III and RGPH IV), the demographic and health surveys in Mali (DHSM I, DHSM II, DHSM III, DHSM IV, DHSM V and DHSM VI) and the continuous modular household surveys (EMOP).

II DEMOGRAPHIC PROFILE, SECURITY ISSUES AND FUNDING OF SOCIAL SECTORS

1.5 Demographic profile: past data and projections

1.1.1. A diverse population...

The total population of Mali is estimated at 20,251,000 inhabitants in 2020. The population is made up of around 100 ethnic groups, the main ones including the Bambara, Bobo, Bozo, Dogon, Fula Khassonke, Malinke, Minianka, Senoufo, Soninke (or Sarakole), Sonrai (or Songhai), Tuaregs, Moors and Arabs. French is the official language, but the majority of the population speaks national languages. Bambara is the most widely spoken.

Maliens are predominantly Muslim (94.4% of the population). Christians are estimated to make up 2.4% of the population, with the majority of these being Catholic (1.6%). 2.7% of Malians practice a popular religion. Religion is omnipresent in Mali. It is rare to find a village that does not have a mosque. Although they are forbidden by Islam, animist ceremonies are still held in some villages. Griots and marabouts are a reminder of the animist past of many of the country's regions, as are talismans and amulets, which are very widely used in certain ethnic groups that remain attached to animist practices.

Almost half of the population lives in urban centres. In half a century, Mali's urbanization rate has quadrupled, from 11% in 1960 to 44% in 2020. This rapid urbanization has led to an increase in slums (informal settlements), housing problems, land disputes and the resulting conflicts, as well as urban and organized crime. In addition to this, the increase in the urban population has led to an explosion in demand for housing that has not been satisfied, which has become a source of individual and collective frustration.

1.1.2. ... which is rapidly increasing

Mali's population has been rapidly increasing since 1960 (see figure 1). It is estimated that the population will grow to 20.3 million in 2030, an increase of nearly 10 million people since 2000 and a population 2.5 times greater than in 1990.

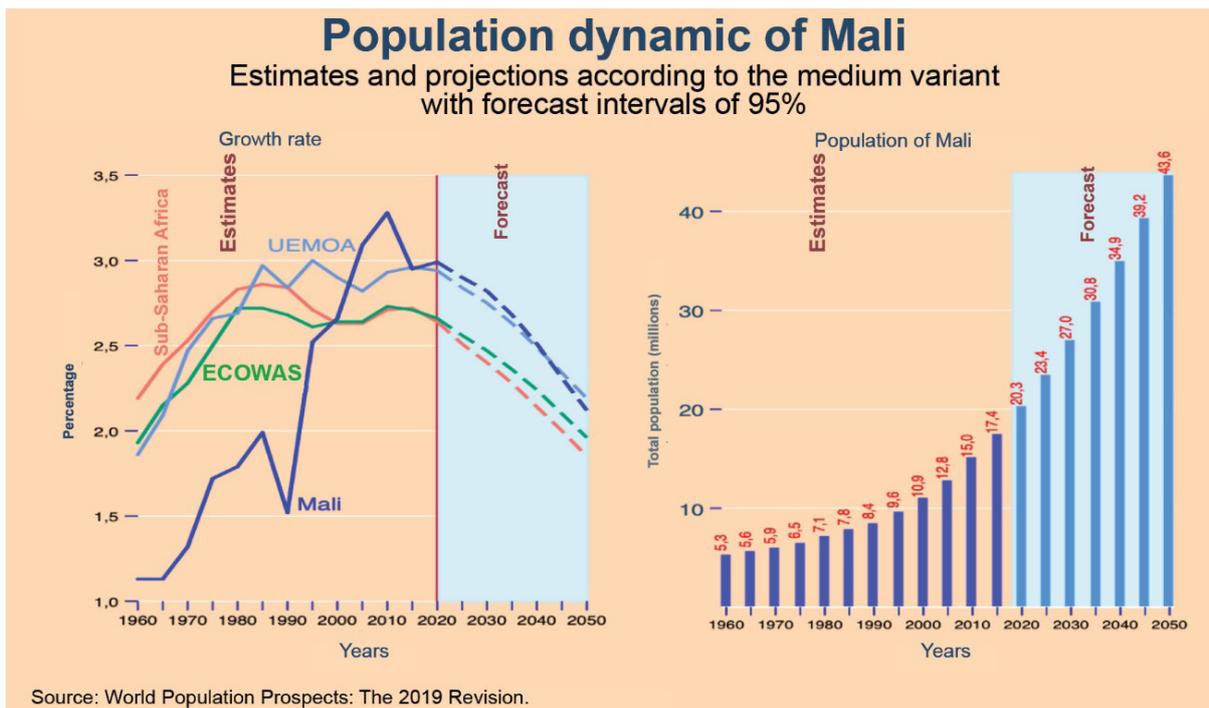


FIGURE 1: Population dynamics in Mali

The Malian population is set to reach 27 million in 2030, 35 million in 2040 and 44 million in 2050 according to the United Nations medium-variant projection, which is based on the assumption that fertility rates will decline in countries where large families are still common and that there will be a steady reduction in mortality rates across all age groups. Even taking this into account, the population of Mali is still set to double (from 2020) in a time frame just short of a quarter of a century.

These levels of change in the size of the population reflect Mali's particularly high population growth rate, which exceeds averages even for countries in Sub-Saharan and West Africa, at an average rate of 2.7% per year from 2000. This rate even peaked at over 3.2% in 2010, during the period from 2005-2015, when the average annual growth rate reached over 3%. Even though the demographic growth rate is expected to decline between 2020 and 2050, this decline will be much less pronounced compared to the averages of other countries on the continent and in the sub-region.

1.1.3. A young population

Observed and projected demographic trends suggest that the age structure of the Malian population (and therefore the dependency ratio) should not change in any specific way over the course of the next decades, mainly due to the dynamics of fertility and life expectancy. Between 1960 and 2020, the proportion of young people that make up the total population has increased substantially. The number of young people under the age of 25 within the total population more than doubled between 1960 and 2020, from 59.18% in 1960 to 66.89% in 2020. The proportion of young people aged 5-20 years increased from 34% in 1960 to 40.31% in 2020. The percentage of young people aged 15-34 fluctuated between 31% and 33% between 1960 and 2020.

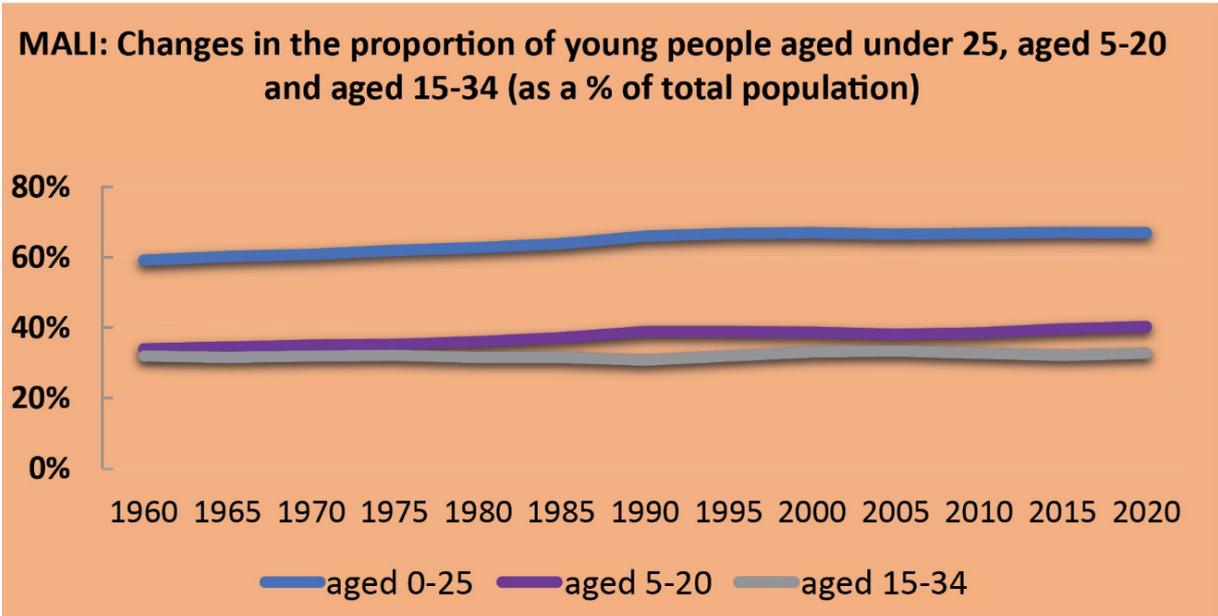


FIGURE 2: Mali: proportion of young people in the total population

The age structure of the Malian population is not set to change dramatically over the course of the next three decades. The Malian population will remain relatively young, at least until 2050, according to the United Nations demographic projections. Looking at projections up to 2050, based on the medium-variant scenario, which assumes a decline in fertility rates and an increase in life expectancy, the youth population is set to remain relatively dominant, as it is currently.

The age pyramids below (see figure 3) illustrate the evolution of the distribution of the population by sex and by age groups in increments of five years. Each bar corresponds to the proportion of each sex within a given age group of the total population (men and women combined). The age pyramid for 2020 is wider at its base and narrower at its peak due a persistently high fertility rate. The shape of the pyramid is not set to change dramatically by 2050. Over the period from 2020-2050 (over a quarter of a century), projections show that the youth population (0-14 years) is only set to decrease by 10 percentage points from 47% in 2020 to 37% in 2050. The resulting pyramid, with its wider base and tapering out at the top, is clearly indicative of a population set to remain young.

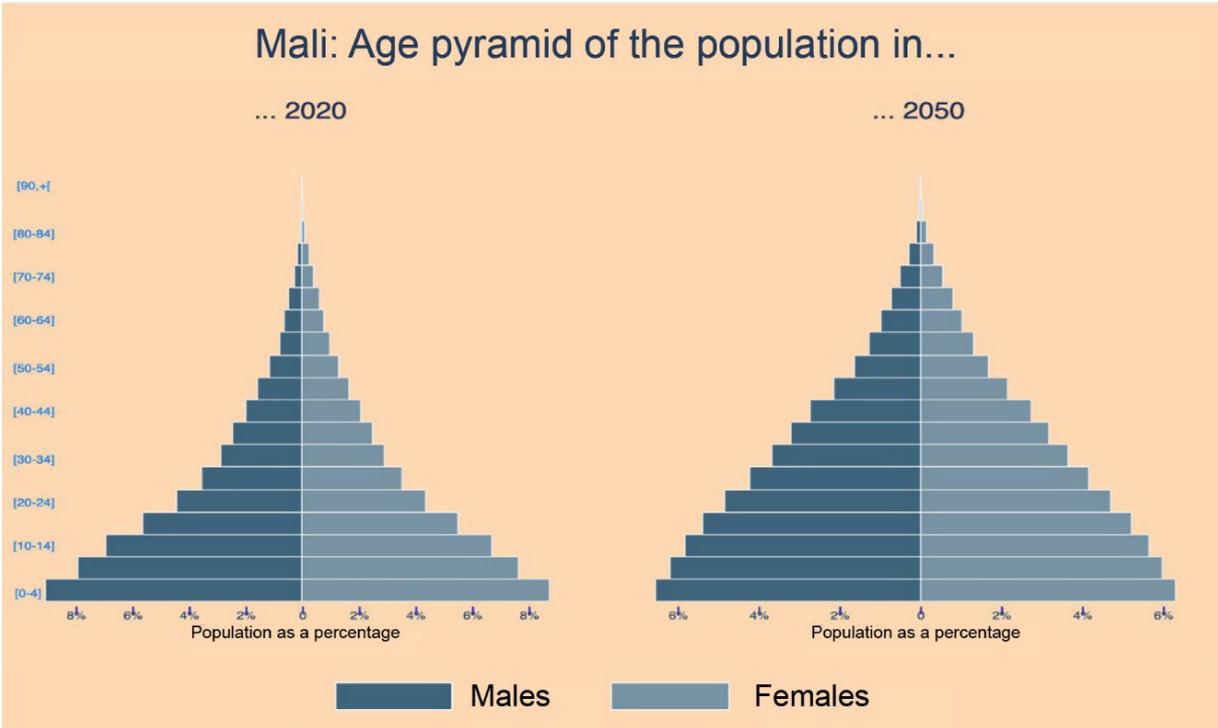


FIGURE 3: Pyramid illustrating the age of the population

These pyramids also indicate that the proportion of the population aged 15-25 should remain fairly consistent at around 20%. The proportion of people aged 24-65, on the other hand, is set to increase by 10 percentage points from 30% in 2020 to 40% in 2050. The proportion of people aged 20-65 will increase from 39% in 2020 to 49% over the same period. This trend suggests that the working population (15-65 years) is expected to represent a growing share of the population due to declining fertility rates and a steady increase in life expectancy. The percentage of the population aged 15-65 will also rise from 50% in 2020 to 60% in 2050. However, the median age of the population is not set to change rapidly. It will not reach 21 years before 2050.

1.1.4. A very low median age

The median age of the Malian population is quite low at an estimated 16.3 years in 2020 (see figure 4). This means that half of the population had passed this age and the other half had not yet reached it, thus confirming the relatively young demographic structure of the population.

The analysis of the evolution of the median age since 1960 indicates a certain decrease in the age of the Malian population. The median age declined from 19.5 in 1960 to 16.3 in 2020, indicating a decrease of 3.2 over the whole period, or 0.05 on average per year. This decrease in the median age during the period from 1960-2020 can mainly be explained by the high levels of fertility recorded during this period and the low increase in life expectancy at birth.

Moreover, projections suggest that Mali's median age is unlikely to change significantly in the medium term. It will only increase from 16.3 to 17.8 years between 2020 and 2030, then to 19.4 in 2040 and will barely exceed 20 years in 2045. In addition, there is a relatively stark contrast between both the observed and projected trends in the median age of Malians and these trends in the rest of Sub-Saharan Africa, and in particular, West Africa. Figure 4 indicates how the median age diverges between Mali and the other parts of Sub-Saharan Africa. While Mali will see its median age stagnate at less than 18 years until 2035, both the average for African countries and for the sub-region already exceeds this threshold in 2020.

In terms of numbers, 10.2 million young people will be 16.3 or younger in 2020 and 13.5 million will be younger than 18 in 2030. This again confirms the statistics indicating a markedly young population in Mali. This is certainly a positive thing but it also brings with it many challenges in terms of the demand that needs to be met in the fields of health and education, as well as jobs to be created in the future.

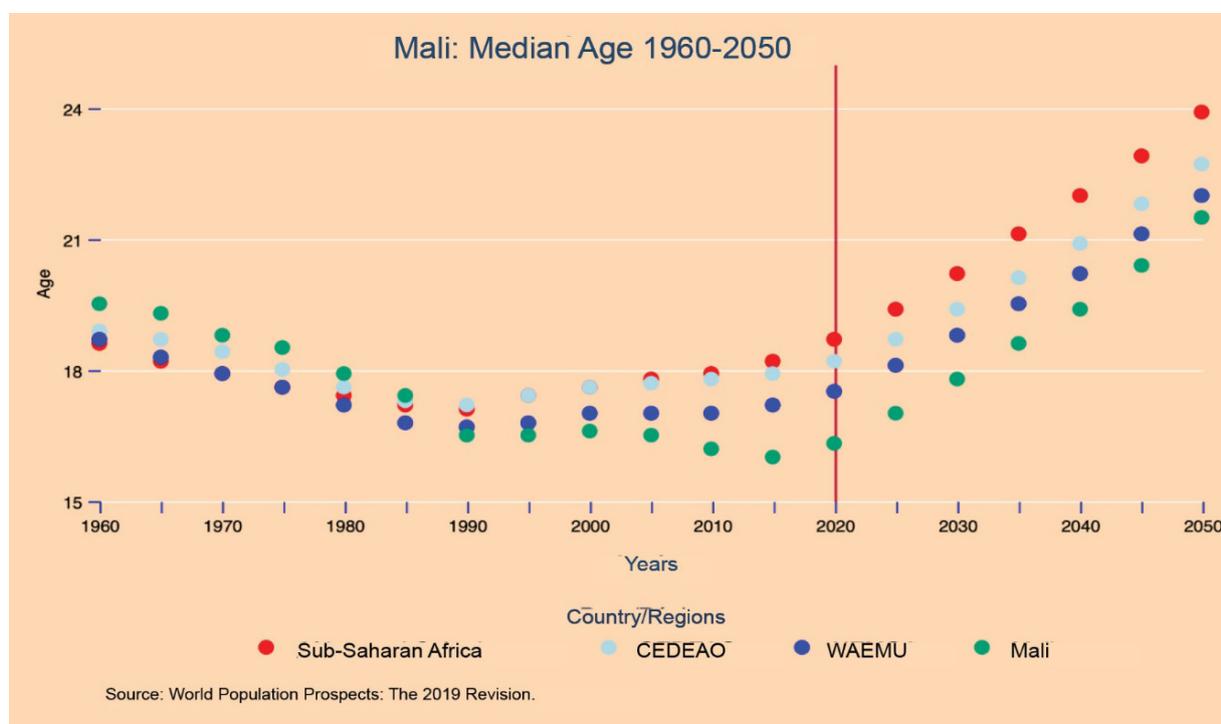


FIGURE 4: Changes in median age of the population

1.1.5. Changes in the dependency ratio

The dependency ratio depends on the age structure of the population. It is the ratio of the number of individuals who are presumed to “depend” on others in their daily lives (either young or old people) and the number of individuals able to take on this responsibility.

The key indicator of demographic dependency used in this analysis is the ratio of the number of individuals under 15 or over 65 to the number of individuals aged between 15 and 64. Two other indicators are also given: the dependency ratio of young people (individuals under the age of 15) and the dependency rate of the elderly (65 years and above), both calculated in relation to the number of individuals aged 15-64. These different ratios provide information on the demographic changes that have characterized Mali thus far, as well as those that can be expected in the future. Figures 5 and 6 indicate changes in the dependency ratios of young people under 15, as well as the total dependency ratio in Mali from 1960 to 2020.

The takeaway is that Mali’s dependency ratios increased significantly from 1960-1995 before starting on a downward trend from 1995 onwards. The overall dependency ratio rose from 76 dependents per 100 adults of working age in 1960 to 102 dependents per 100 adults of working age in 1990, an increase in the burden of dependents amounting to 26 percentage points in 30 years. Between 1990 and 2040, the dependency ratio falls by 4 points, from 102 to 98 dependents per 100 adults of working age. By 2040, the dependency ratio will gradually decline as Mali moves forwards at its own pace on the path to demographic transition.

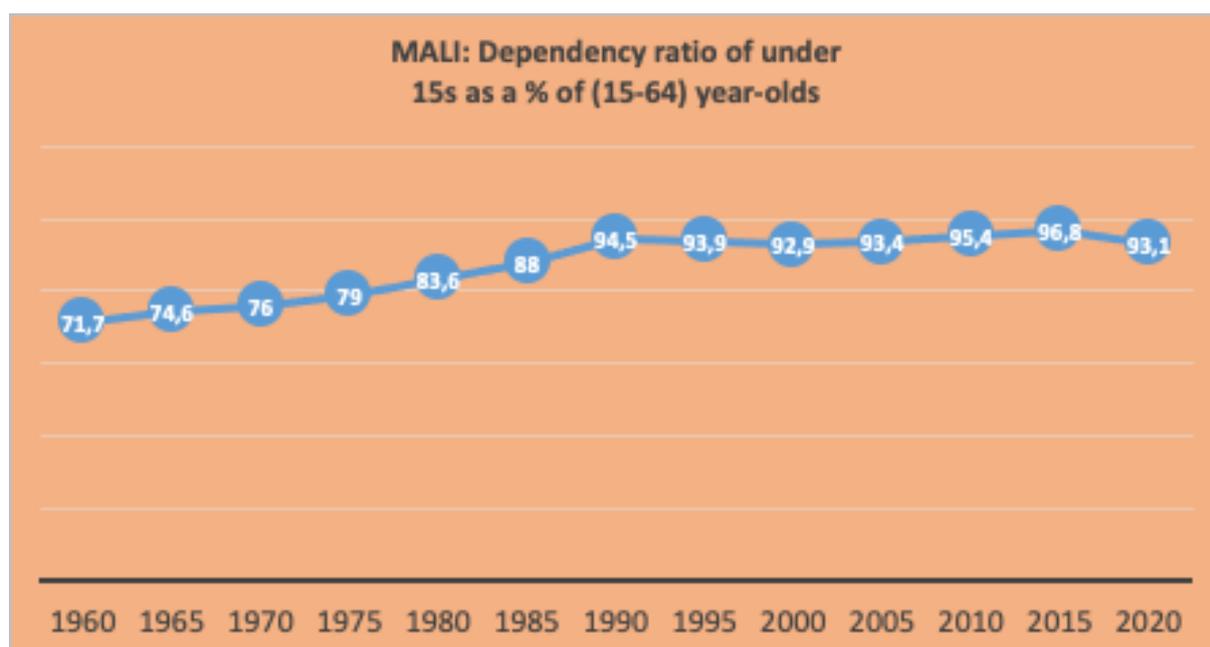


FIGURE 5: Youth dependency ratio, under 15s

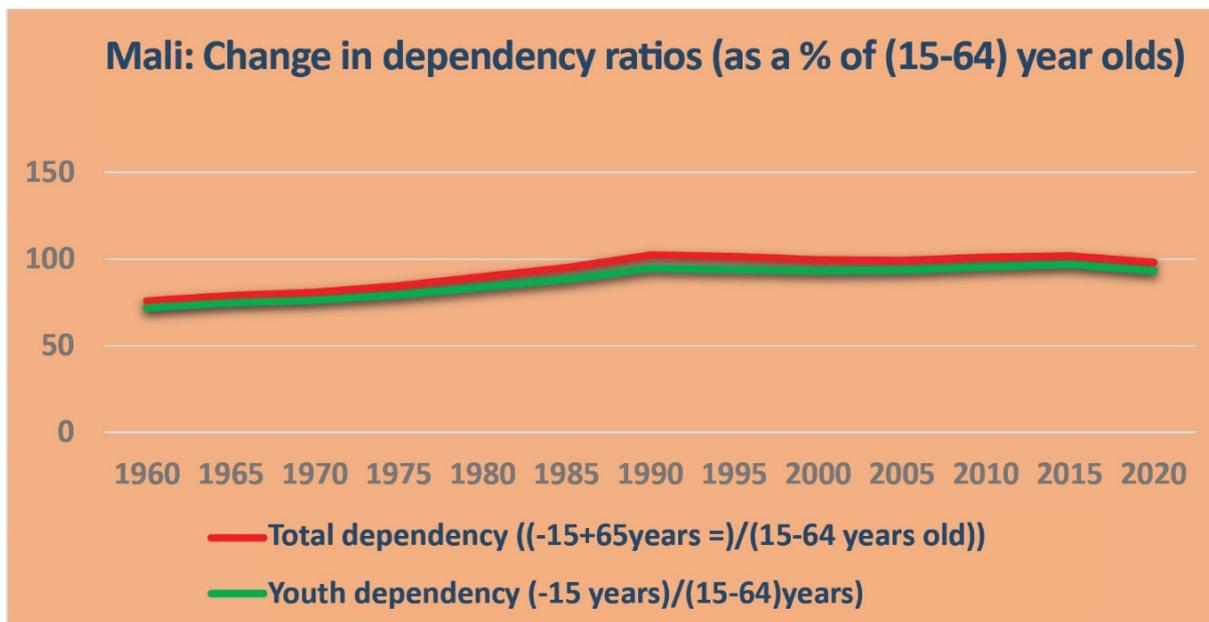


FIGURE 6: Dependency ratio

Figure 7 indicates the changes in dependency levels among young people under 25 in Mali over the past 60 years.

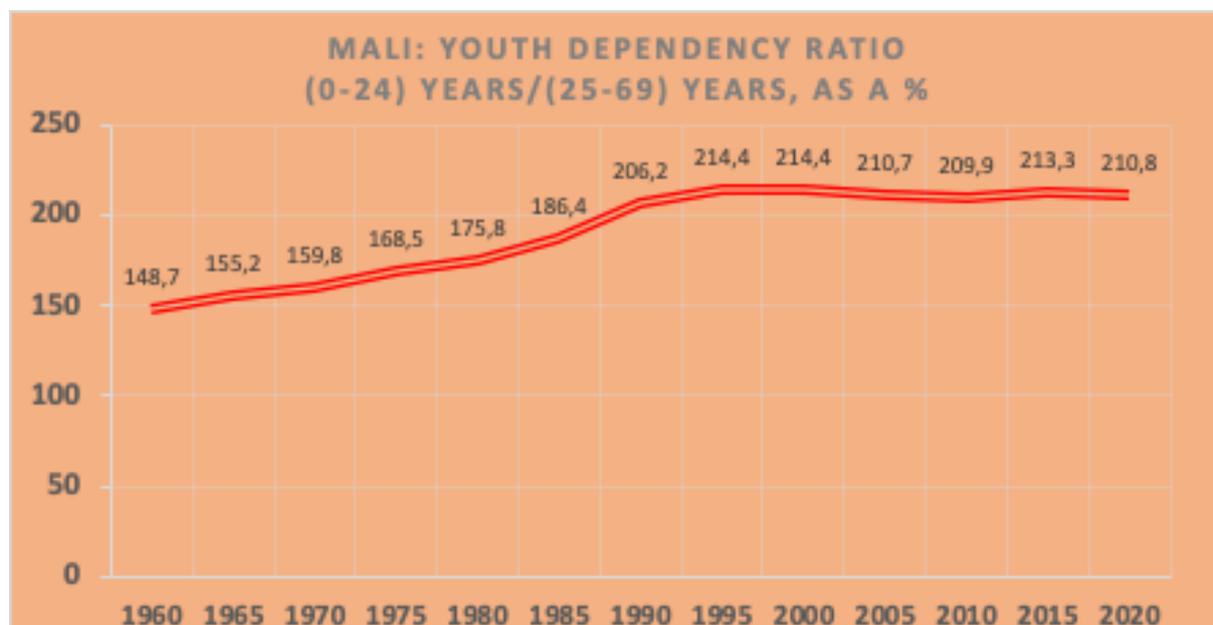


FIGURE 7: Youth dependency ratio, under 25s

1.1.6. Factors for population growth

1.1.6.1 High fertility rates

Mali's strong population growth (observed and projected) is mainly attributable to persistently high fertility rates. While fertility has declined significantly over the past few decades in many countries, it remains high

in Mali and is above the Sub-Saharan African average of 4.6 live births per woman. In 2020, the fertility level in Mali is estimated to be 6 children per woman. This figure remains very high, bearing in mind that just over 2.1 children per woman is enough to ensure the renewal of generations.

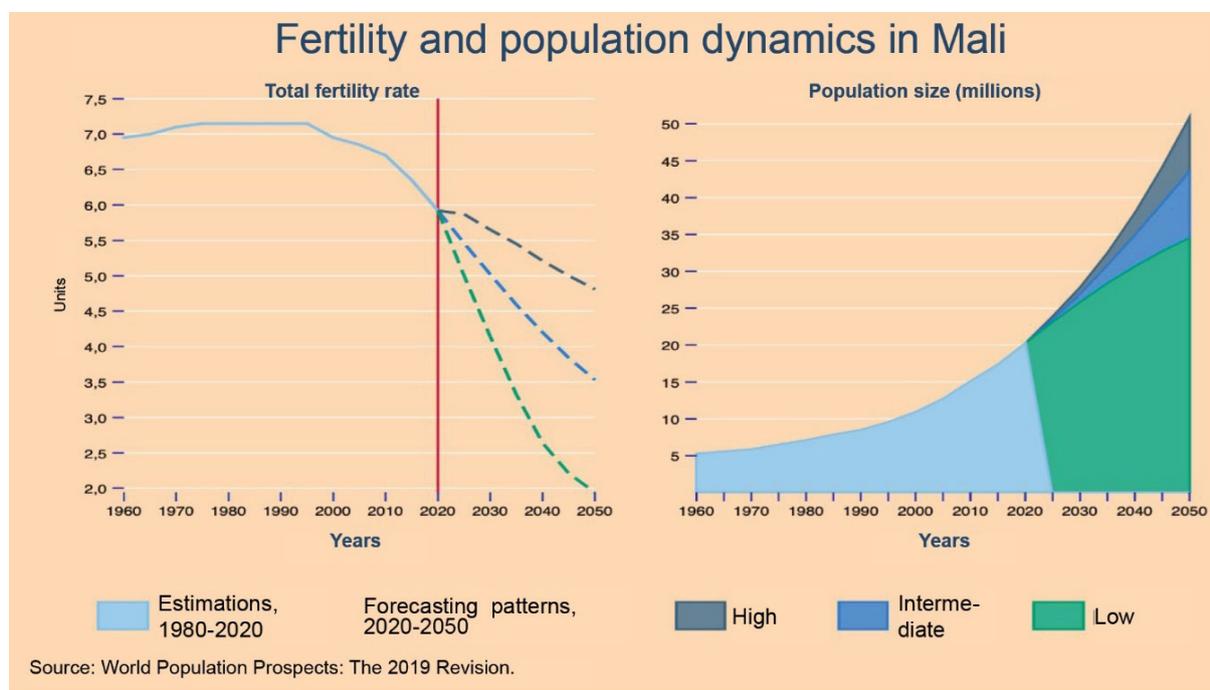


FIGURE 8: Fertility and population dynamics in Mali

Figure 8 indicates the historical changes in fertility rates in Mali from 1960 to 2020. Mali's fertility rates were at their highest in the 1970s, 1980s and 1990s. The rate remained at over 7 children per woman during this period. From 2000 onwards, there was a certain change in the curve, but this was not significant enough to radically change the situation. From 2000 to 2020, the fertility rate has only declined by one point from 6.95 in 2000 to 5.92 in 2020, representing an average decrease of 0.05 points per year.

According to the projections, the fertility rate should continue to decline, but will still remain high at above 3 until 2040 in all projection scenarios. Figure 5 indicates the result of the three projections according to the scenarios provided by the United Nations. By focusing on projections up to 2050 based on the medium variant scenario, it is possible to discern that the fertility rate will still remain high, reaching 3.5 in 2050. The demographic projections associated with this variant of change in fertility rate indicate a population size of nearly 44 million inhabitants in 2050, more than double the population level in 2020.

1.1.6.1 Population momentum

Due to the current age structure of the population (predominantly young), Mali is on track to see significant population growth. This means that even if the total fertility rate (TFR) drops immediately to the replacement level of 2.1, the country will still experience rapid population growth for several decades. This is because a large proportion of the youth population today has not yet started to reproduce or is still in the early years of its reproductive cycle. Up until now, Mali has experienced a relatively high fertility rate. As a result, in years to come, the number of women of childbearing age will increase massively. In terms of population growth, this will compensate for a potential drop in fertility because even if the TFR per woman drops, there will still be many more women to give birth.

The implication of the current age structure of the population on future population growth is known as population momentum and can be assessed using population projections, assuming that (a) mortality rates remain constant at current levels; and (b) the fertility rate remains equal to the replacement level associated with the current mortality level.

A comparison of the projected Malian population size under the medium variant scenario and the momentum scenario indicates that a significant proportion of the country’s population growth between 2020 and 2050 is attributable to the current age structure of the population (see figure 6). In other words, this growth would occur even if Mali’s fertility were to immediately drop to around two births per woman in a lifetime. For example, in 2040, 75% of population growth would be attributable to the momentum generated by the relatively young age structure of the population in 2020; the remaining 32% of the growth projected by the medium variant scenario is due to fertility above the level required to balance mortality, as well as improvements to survival chances that are considered likely during this period.

This assessment of Mali’s population dynamics implies that in the short term, between 2020 and 2050, the country’s population growth can only be influenced to a limited extent by policies intended to slow or accelerate the decline in fertility.

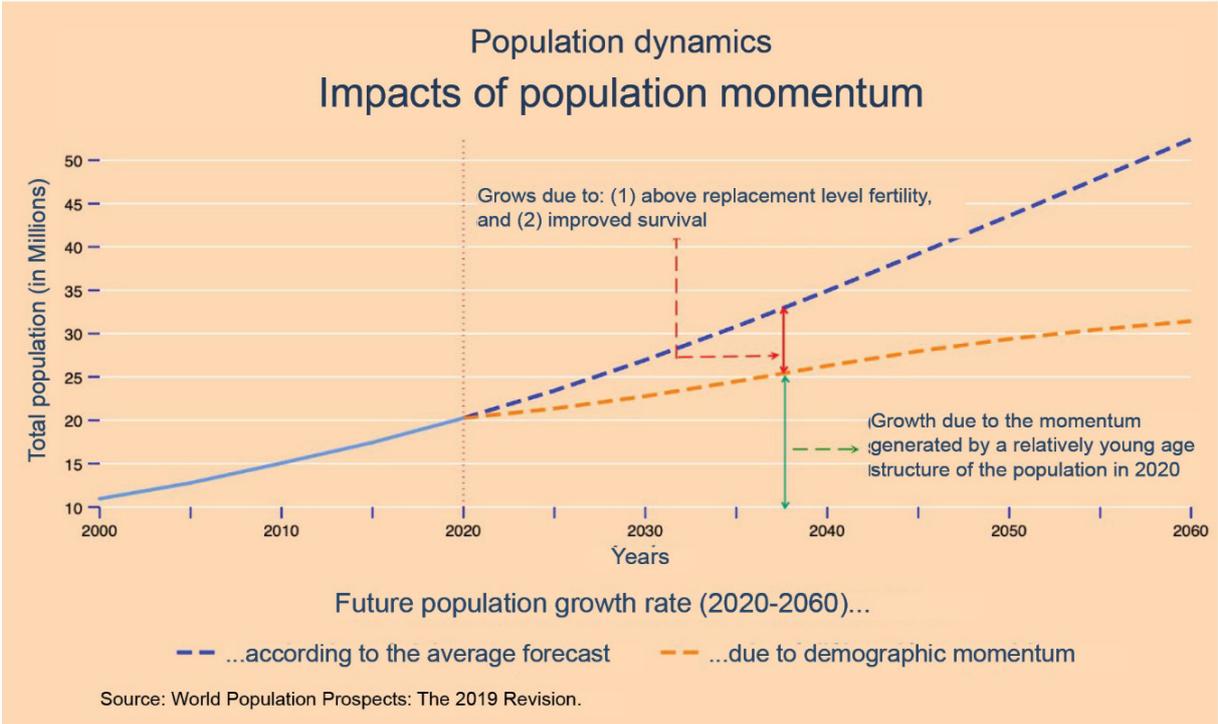


FIGURE 9: Impacts of demographic momentum

1.6 Challenges associated with population growth and population structure

1.1.7. Mali's socioeconomic context

1.1.7.1 Economic trends

1.1.7.1.1 Evolution of growth

Mali is a low-income country with a poorly diversified economy, which is highly vulnerable to external shocks and disasters. Since it gained independence, its economic growth has been mostly weak, fragile and erratic. Figure 10 provides an overview of growth trends in Mali over the past six decades. It indicates that throughout this time frame, Mali has never succeeded in establishing a period of positive and continuous growth for a period of over ten (10) years.

The Malian economy is largely independent on the agriculture sector, which in turn is highly susceptible to hydro-climatic risks. This has been a definite constraint on real GDP growth in recent decades. It is not, however, the only major constraint; the development of the Malian economy is also hampered by a series of other problems. The country's economy has also always suffered from the low level of diversification of its productive system and its strong dependence on external factors (fluctuations in world market prices, influx of foreign capital, insecurity in the Sahel, etc.). Other major obstacles include: a poor business environment (limited business opportunities, high costs of factors linked to certain rigidities, high energy costs, a complex tax and customs system that creates distortions, corruption, regulatory and supervisory mechanisms, and insufficient skills), limited access to and high cost of financing (high collateral requirements, focus on short-term credit, information asymmetries, etc.). Other weaknesses are related to infrastructure problems (energy and transport), access to land, protection of property rights, anti-competitive regulations and practices and ineffective government actions.

In order to address these constraints and make the most of the growth potential of the economy, the authorities of Mali are continuing to implement a series of economic reforms in the wake of the structural adjustment plans of the 1980s and 1990s. The objective is still to promote the market economy and encourage the participation of the private sector in economic development (liberalization of prices, elimination of import or export monopolies for certain products, reduction of customs duties, etc.). In this context, the country's investment, trade and labour codes have been revised and other initiatives have been launched to improve the business environment.

These reforms have made it possible to improve Mali's macroeconomic framework and increase the country's growth rate (table 1). They have also made the Malian economy more resilient in the face of the security crisis and political turmoil going on in the country. Despite this uncertainty regarding the political, social and security situation, Mali's economic performance has remained relatively good since 2000. The country's real GDP growth remained on virtually the same course before and after the 2012 crisis. Between 2015 and 2017, the real GDP growth rate remained at an average of 5.7% (6.0% in 2015, 5.8% in 2016 and 5.3% in 2017). In addition, the household consumer price index (base 100 in 2008) rose from 112.2 in 2016 to 114.7 in 2017, an annual inflation rate of 1.8% in comparison to -1.8% in 2016, lower than the UEMOA standard (3.0% maximum). In the area of public finance management, the underlying fiscal balance stood at -1.4% of GDP in 2017 in comparison to -2.4% in 2016 and -0.9% in 2015.

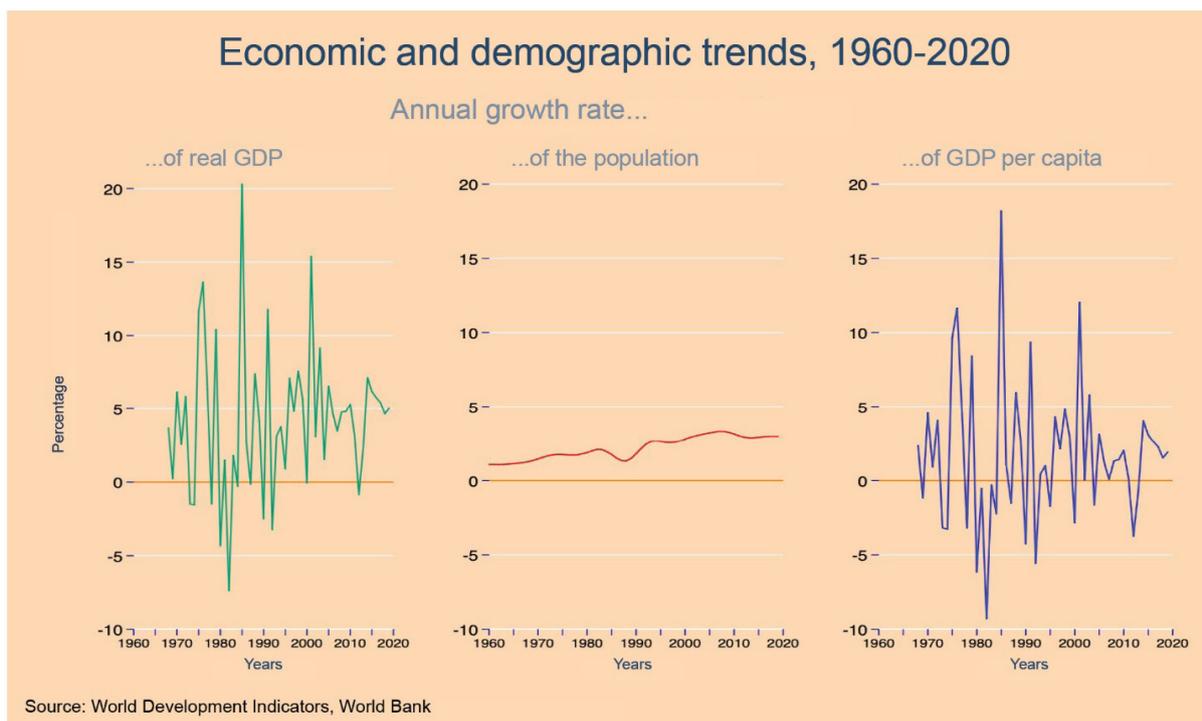


FIGURE 10: Evolution of economic growth

However, while these reforms make it possible to improve the macroeconomic framework and promote growth, they have not yet led to a qualitative transformation in terms of the standard of living of Malians. This is evidenced by the various rankings of Mali according to the UNDP Human Development Index, which synthesizes indicators of life expectancy, level of education and income. The progress made was largely offset by the country's strong population growth (figure 10). Mali remains one of the countries with the highest fertility rates; the total fertility rate was estimated at 6 children per woman in 2017.

On average, the real GDP growth has often remained at the same level or even well below the population growth rate. As a result, GDP per capita has never seen a continuous positive change over the course of these decades. The past and recent performance of the country's economy has not yet resulted in a clear improvement in the standard of living for the average Malian.

TABLE 1: Recent and projected macroeconomic indicators

Indicators	2017	2018(e)	2019(e)	2020(e)	2021(e)
GDP (billion USD)	15.37	17.18	17.65	19.02	20.44
GDP (annual growth as a % of constant price)	5.4	4.7	5.0	5.0	4.9
GDP per inhabitant (USD)	854	927	924	967	1,009
State debt (as a % of GDP)	36.0	37.3	37.6	38.2	38.9
Inflation rate (%)	1.8	1.7	0.2	1.3	1.7
Balance of payments (billion USD)	-1.12	-0.65	-0.97	-1.04	-1.30
Balance of payments (as a % of GDP)	-7.3	-3.8	-5.5	-5.5	-6.3

Source: IMF - World Economic Outlook Database, most recent data available; note: (e) estimated data

1.1.7.1.1 Growth drivers

Figure 11 indicates Mali's GDP structure over the period of 1970-2020. The most striking observation is the permutation that occurred between the primary and tertiary sectors in their order of importance in terms of contribution to GDP. From independence up to the 1980s, the primary sector, which includes agriculture, fishing and animal husbandry, was the main sector of activity within the Malian economy, contributing to more than half of the overall added value. However, with the recurrent droughts of the 1980s and subsequent years, the primary sector's share fell, giving way to the tertiary sector, which until then contributed less than a quarter of the country's overall added value.

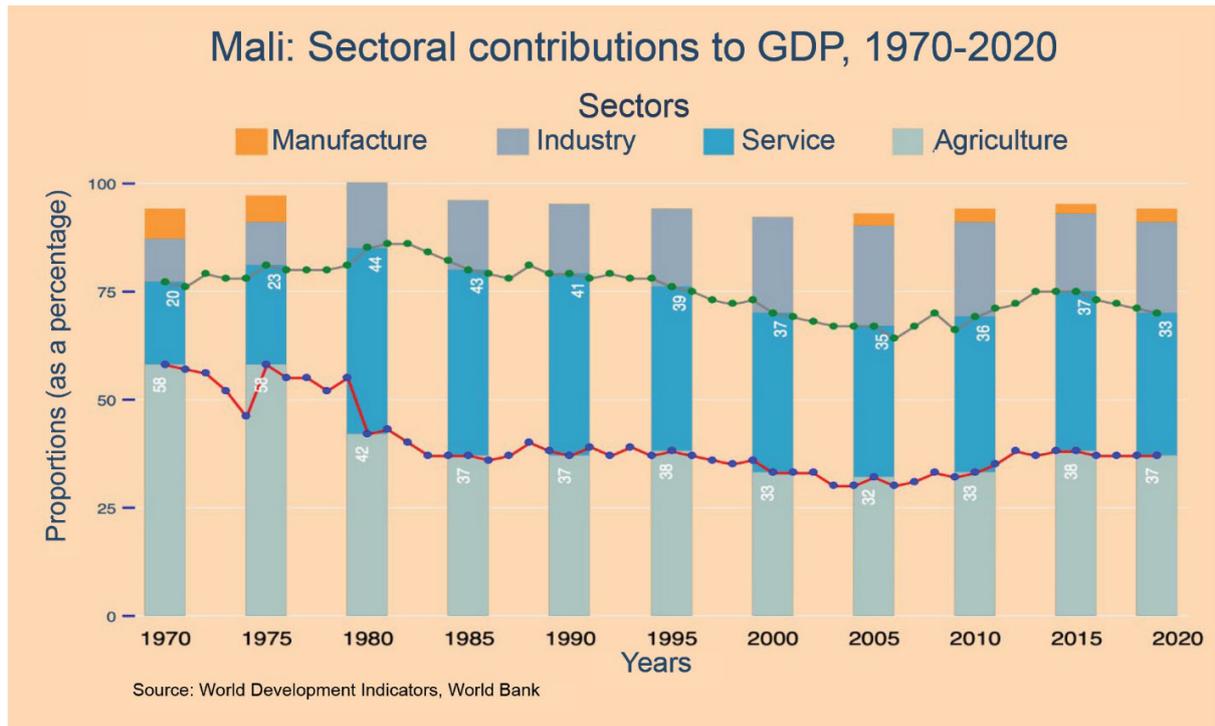


FIGURE 11: Contributions of economic sectors to GDP

While the primary sector employs a large proportion of the working population, its contribution to GDP is rather modest, fluctuating around the 35% mark, depending on the performance of the agriculture sub-sector. The tertiary sector, which mainly comprises telecommunications, transport, commerce, real estate and other services (including public services) has therefore become the most important sector and represents the bulk of economic activity in Mali. Over the same period, the secondary sector's share of GDP remained relatively low, at less than 25% on average. This sector mainly comprises mining, construction, public works and the industry and manufacturing sub-sectors.

In terms of contribution to real GDP growth, the tertiary sector is therefore the main driver of progress (figure 12). This is primarily thanks to the performance of several sub-sectors within this sector, which have experienced episodes of very rapid growth over the past two decades. This growth has mainly occurred in postal services and telecommunications, commerce and transport. Other sub-sectors, such as real estate and financial services, also experienced strong growth during this period.

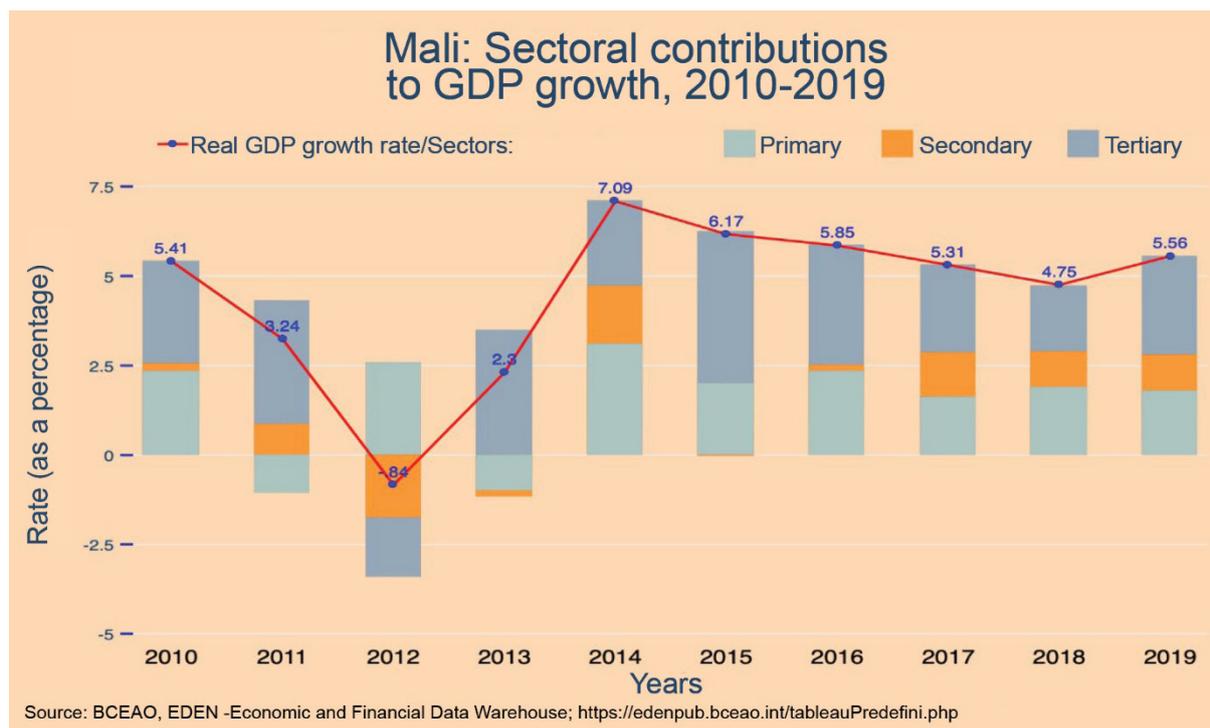


FIGURE 12: Contributions to GDP growth by sector

In contrast, during the same period, the real growth rate of the secondary sector has been low and volatile. Figure 12 indicates that this sector plays a secondary role in terms of contribution to GDP growth compared to the tertiary and primary sectors. The sector's contribution to GDP growth has not reached half a percentage point on average over the past twenty years. The highest levels of contribution to growth achieved by this sector occurred in 2014 and 2017, at 1.61 and 1.23 percentage points respectively. That said, this sector also experienced a few episodes of negative growth during the same period.

The primary sector, which includes agriculture, fishing and animal husbandry, is the second driver of economic growth in Mali, despite the sharp decline in its share of GDP. The annual contribution of this sector to the real growth rate was just over 1.5 percentage points between 2010 and 2019 and over 2 percentage points between 2014 and 2019. The performance of the main components of the primary sector is highly dependent on weather conditions and other exogenous shocks (e.g. global prices of agricultural products). In recent years, all of the country's primary sub-sectors have therefore suffered contractions, in particular the agriculture sub-sector, which is the sector's most important component. Consequently, the underperformance of the agriculture sub-sector strongly affected the primary sector's overall contribution to GDP growth.

It is important to note that the primary sector – and in particular the agriculture and livestock sub-sectors – has significant impacts on the secondary and tertiary sectors, particularly in the food processing, transport and financial services sub-sectors. The performance (or underperformance) of the primary sector consequently leads to growth (or contraction) in the secondary and tertiary sectors.

In addition, historical growth trends in Mali indicate that any progress made in other sectors has never been enough to compensate for underperformance in the agriculture sub-sector. This is why the trend of weak and erratic growth in Mali is largely due to fluctuations in the agricultural sector.

Various factors explain the contraction of the agriculture sub-sector in Mali. These include a reduction in the area of cultivated land, poor equipment and limited mechanization, declining soil fertility, drastic reduction in yields, and insufficient management and advisory services. Other exogenous factors include the drop in global prices of major export products, in particular cotton.

1.1.7.1.1 Changing the narrative: The Strategic Framework for Economic Recovery and Sustainable Development (CREDD)

Despite recent improvements, Mali does not seem to be following the course of strong economic growth that can be observed in the rest of the West African sub-region. At the same time, the country's economic performance remains subject to significant risks, particularly related to the climate, security, and variations in price of raw materials, especially given that Mali attracts little foreign direct investment (FDI) in strategic sectors of its economy. In the absence of substantial reforms, the country still faces many obstacles to sustainable growth (population growth, lack of diversification, weak private investment, lack of infrastructure, a weak energy sector). The Malian economy also remains very dependent on the mining sector and crop yields. The industrial and manufacturing sector is very underdeveloped and the country is experiencing strong demographic growth that the labour market is struggling to absorb. In addition to these issues, the state's ability to govern, efficiency of public spending and low productivity of public investments all constitute a serious constraint on economic and social development.

To change the narrative and accelerate economic and social transformation, Mali adopted a new economic and social development model in March 2019 by implementing a new plan called the Strategic Framework for Economic Recovery and Sustainable Development (CREDD 2019-2023). This new economic and social policy framework emphasizes five strategic axes, in particular: consolidation of democracy and the improvement of governance, restoration of peace and security and emphasis on the importance of living together, inclusive growth and structural transformation of the economy, environmental protection and strengthening of resilience to climate change, and development of human capital with significant impacts on improving the well-being of populations, particularly through access to basic essential services.

A macroeconomic and budgetary framework was created for the implementation of the CREDD with two different scenarios: a trend-based scenario and an optimistic scenario. In the "optimistic" scenario, the effective implementation of all the actions outlined in the CREDD would lead to average growth of around 6.5% over the period 2019-2023, in comparison to the 3.0% reached between 2012 and 2014. The trend-based scenario, which attempts to reproduce the country's current economic course with no policy changes, would lead to growth at an average annual rate of 5.3%, in line with the recent growth trend of the Malian economy, i.e. 3.0% between 2012 and 2014.

The "optimistic" scenario assumes a tax rate of 17% from the implementation of the CREDD onwards, in comparison to a rate of 16.4% in the trend-based scenario. In the trend-based scenario, the overall cost of implementing the CREDD would rise to 13,876 billion CFA francs, excluding public debt service costs, which amount to 2,775.2 billion CFA francs. In the optimistic scenario, the figures are 14,320.4 billion CFA francs excluding public debt service costs (2,864.1 billion CFA francs), totaling 88.9 billion CFA francs of further resources per year. This campaign would be funded through the mobilization of domestic resources, and in particular fiscal resources.

The CREDD is structured around five strategic axes, which can be broken down into global and specific objectives and courses of action. The development of human capital is the fifth strategic axis. The fourth and fifth objectives of this axis aim to: 1) Create the conditions for the empowerment of women, children and families, and 2) Better manage demographic growth and migration so that these can contribute to poverty reduction and sustainable development in Mali.

1.1.7.1 Poverty and social indicators

1.1.7.1.1 A relatively high poverty level

The human development index, developed by the United Nations in 2019, ranks Mali 184th of 189 countries, with a very low human development index of 0.427. The country’s social situation, which was already fragile, deteriorated as a result of the crisis, prior to which the poverty rate had fallen on average from 55.6% in 2001 to 41.7% in 2011. Two thirds of the reduction in the poverty rate between 2001 and 2011 was due to economic growth, and one third to the reduction of inequalities. According to poverty assessment surveys, poverty remains a matter of concern. The poverty rate has increased since the crisis (42.7% in 2012 and 47.1% in 2013, according to estimations by the Modular and Permanent Household Survey, EMOP 2013). Exacerbated by drought and war, the incidence of poverty is much lower in urban areas, with 90% of poor populations concentrated in rural areas in the south of the country, where population density is at its highest.

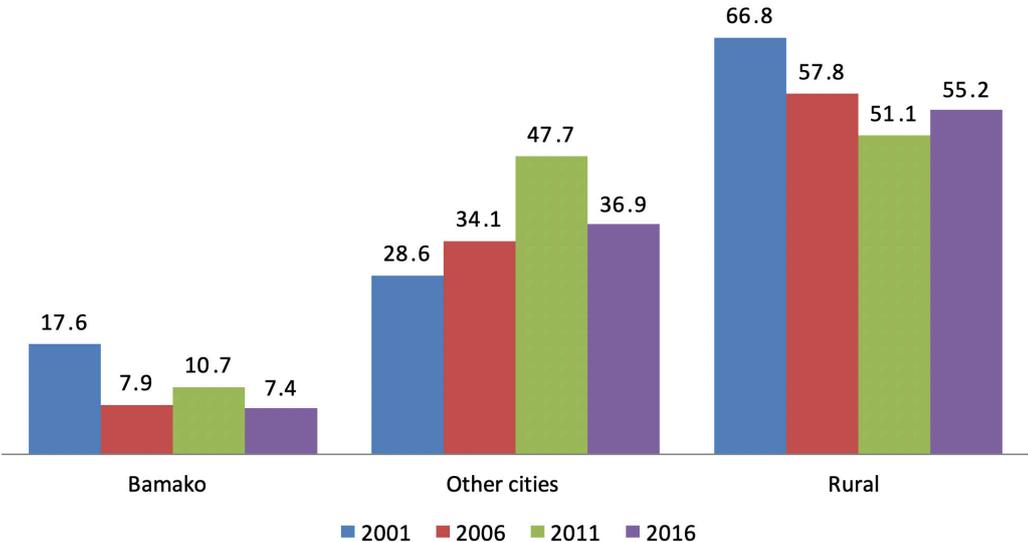


FIGURE 13: Changes in the incidence of poverty according to place of residence

The national depth of poverty, i.e. the average shortfall in per capita spending of the poor in relation to the poverty line, is estimated at 12.9%. The severity of poverty, which takes into account not only how far below the poverty line the poor are but also inequality among the poor, stands at 4.9%.

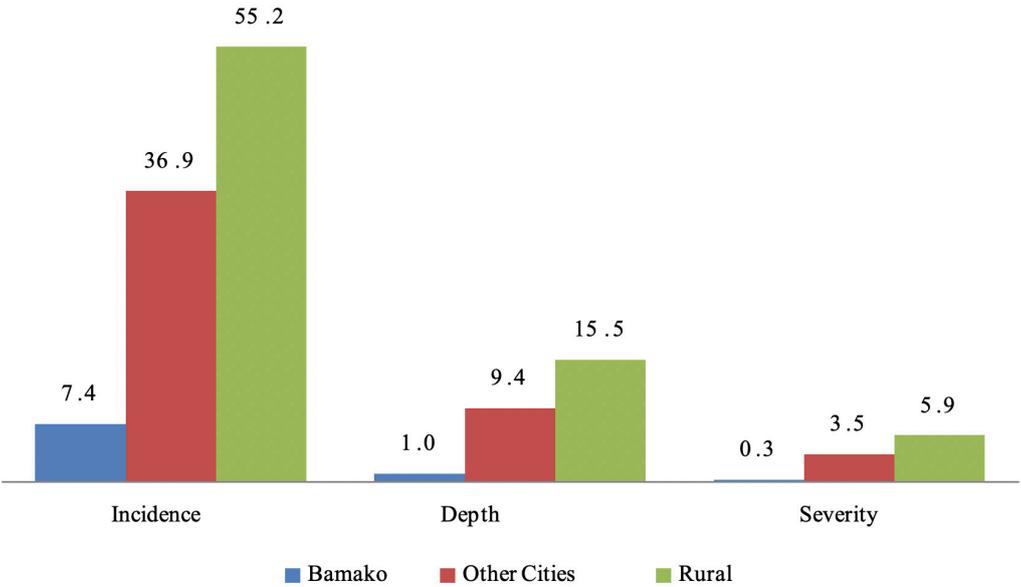
After increasing between 2011 and 2013 due to the security crisis, it is estimated that the extreme poverty rate fell slightly, from 43.4% to 41.3% between 2017 and 2019, thanks to the exceptional agricultural production periods over those three years.

The situation is exacerbated by population displacement in a country with 143,500 refugees in neighbouring countries and 86,000 internally displaced persons. At the same time, the nutritional status of children under five, as well as pregnant and breastfeeding women has been worsened by: (i) population displacements in the northern regions of the country; (ii) the interruption of health care supply in most health centres following the departure of health workers and the deterioration of health facilities; (iii) disruption of the supply chain for nutritional inputs and other basic drugs; and (iv) limited access of humanitarian partners to the northern regions.

1.1.7.1.1 Geographic distribution of poverty

The incidence and extent of poverty are unevenly distributed across the country. Poverty is more prevalent in rural areas than in Bamako and other urban centres. The results of the EMOP (2016) survey indicate an estimated poverty incidence of 7.4% in Bamako, compared with 36.9% and 55.2% respectively in other cities and in rural areas.

The same trend can be observed in terms of the depth and severity of poverty. This means that there are more efforts to be made in terms of resources to reduce poverty in rural areas than in Bamako and other cities (see figure 11).



Source: EMOP-2016

FIGURE 14: Poverty indices by place of residence in Mali in 2016 (%)

The poverty level is higher in Sikasso, Mopti et Ségou, at 66.2%, 64.6% et 55.5% respectively (see table 2). The depth and severity of poverty is also more pronounced in Sikasso, Mopti and Ségou, reflecting an inequality in the distribution of consumer spending, which is used to measure the level of welfare. The results of the survey indicate a positive correlation between the incidence and depth of poverty observed in the regions. The severity of poverty is more pronounced in Sikasso, Mopti and Ségou.

TABLE 2: Poverty indices in Mali and its regions in 2016 (%)

Region	Incidence	Depth	Severity
Kayes	31.3	5.9	1.6
Koulikoro	51.5	14.2	5.3
Sikasso	66.2	20.8	9.0
Ségou	55.5	16.1	6.0
Mopti	64.6	18.4	6.7
Timbuktu	16.9	2.5	0.6
Gao	52.5	11.9	4.1
Bamako	7.4	1.0	0.3
Total	46.8	12.9	4.9

Source: EMOP-2016

1.1.7.1.1 Changes in food security in Mali

According to data provided by the World Food Programme (WFP), the food insecurity situation remains relatively worrying in Mali (see table 3). In 2016, 21.9% of households across the country were moderately food insecure and 3.1% severely food insecure. These percentages increase to 23.6% and 3.3% respectively if Bamako is excluded from the numbers. This insecurity is much more common in the regions of Gao and Mopti with a 35.8% and 27.3% moderate food insecurity rate respectively, and a 6.3% and 3.8% severe food insecurity rate.

TABLE 3: Level of food security in Mali in 2016 (as a %)

Regions	Food security	Vulnerability to food insecurity	Moderate food insecurity	Severe food insecurity
Bamako	56.5	35.4	7.1	1.0
Gao	3.8	54.1	35.8	6.3
Kayes	23.7	55.0	19.4	1.9
Kidal	14.2	69.6	14.5	1.8
Koulikoro	26.8	48.1	22.5	2.6
Mopti	15.8	53.2	27.3	3.8
Ségou	21.4	53.3	22.3	2.9
Sikasso	33.1	43.2	21.5	2.2
Timbuktu	9.6	65.8	19.4	5.1
National average (excluding Bamako)	20.4	52.8	23.6	3.3
National average	24.1	51.0	21.9	3.1

Source: PAM, 2016

Across the whole country, the global hunger index (GHI) was cut by almost half between 1995 and 2013. However, the hunger situation still remains serious (an index of 15 out of 30, with the global index at 14). The social context of Mali is also characterized by strong demographic growth (3.6%) which, if not accompanied by growth in resources, has the potential to cancel out all efforts to improve the standard of living and access to basic social services. Over a 50-year period (1960-2009), the country's population has quadrupled (see table 28), during which time it doubled over the space of 22 years (1987-2009). The country has not yet truly started its demographic transition (from high birth and death rates to low birth and death rates). Controlling this kind of demographic growth is a crucial factor in improving access to basic social services for all.

1.1.7.1.1 Employment and unemployment

In Mali, statistical data on annual job applications underestimate the actual numbers of job seekers. They exclude all less skilled job seekers who do not register with the national employment agency or private agencies. The overall volume of job applications is estimated at 7,361 applications in the year 2017 for the whole country. The total number of job offers in the same year was 5,444. If the numbers of job offers and job applications are compared, there is a total of 1917 unsuccessful applications, assuming that all vacancies were filled on the labour market. This overall number of unsuccessful applications is not the most relevant indicator for assessing the scale of cyclical unemployment. The most relevant indicator is the change in the number of unmet monthly requests at the end of each month. However, this data has not been collected or even requested.

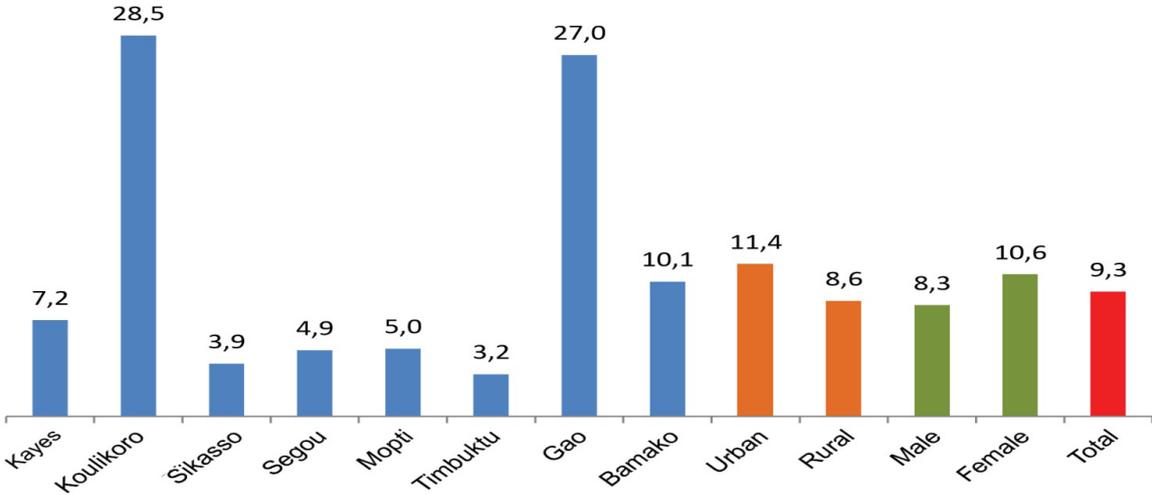
TABLE 4: Changes in unemployment rate by age and sex in Mali between 2017 and 2018

Age Group	MALI: Unemployment rate (as a % of the working population)					
	2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
aged 15 - 19	24.1	28.8	26.3	20.5	26.2	23.1
aged 20 - 24	14.7	19.1	17.0	13.8	15.0	14.4
aged 25 - 29	12.9	10.9	11.8	15.1	10.2	12.6
aged 30 - 34	7.1	8.0	7.6	5.8	6.2	6.0
aged 35 - 39	3.4	3.2	3.4	3.8	4.6	4.1
aged 40 - 44	0.2	0.9	0.5	3.0	2.9	3.0
aged 45 - 49	1.0	0.3	0.7	1.2	1.6	1.4
aged 50 - 54	0.2	0.1	0.2	0.1	0.2	0.2
aged 55 - 59	0.9	-	0.6	0.4	0.5	0.4
aged 60 - 64	1.7	0.7	1.4	0.3	-	0.2
Total	8.0	10.4	9.1	7.9	9.4	8.6

Source: INSTAT/EMOP 2017 and 2018

At the macroeconomic level, the overall unemployment rate, as defined by the ILO (number of unemployed/working population), remained almost stable at 9.3% of the working population across Mali during the period from 2015-2018, with variations between Mali's urban and rural areas and between the country's

various administrative regions. The unemployment rate for young people aged 15-24 years decreased from 22.5% in 2015 to 16.5% in 2018. The unemployment rate for young people aged 15-19 was estimated to be 40.3% in 2016 for Mali as a whole.



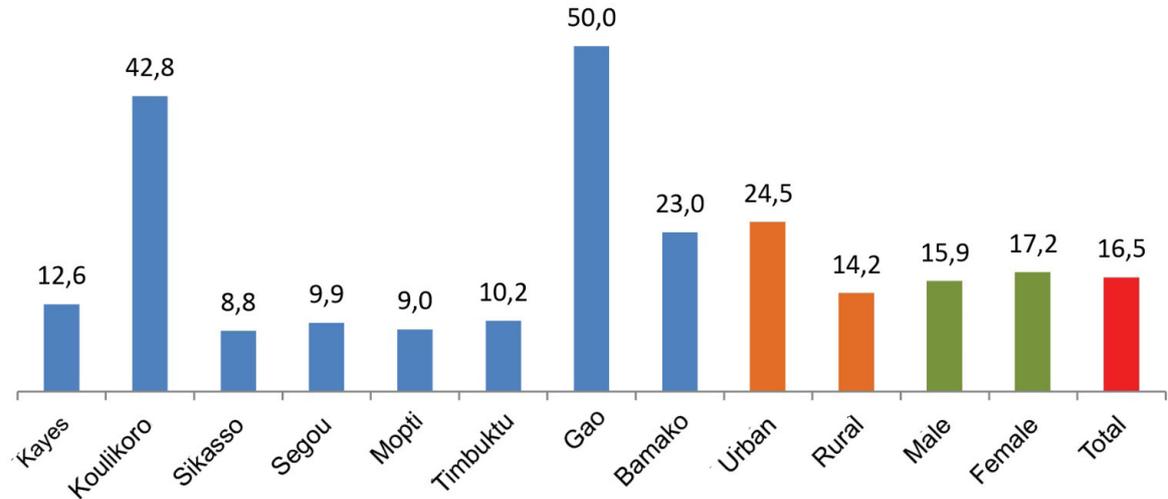
Source: EMOP 2017/2018, 1st survey period (April-June)

FIGURE 15: Unemployment rate by region, area (urban/rural) and sex in Mali in 2018 (as a %)

Unemployment is particularly pronounced in Koulikoro (28.5%), compared with 3.2% in Timbuktu and 3.9% in Sikasso (figure 12). As might be expected, unemployment is higher in urban than in rural areas (11.4% compared to 8.6%).

Unemployment rates for young people who have completed secondary education are higher than the national average, indicating a poor fit between the qualifications gained in the initial vocational training system and the requirements of businesses and other economic players on the labour market. Women are the most affected by unemployment, with a rate of 10.6% compared to 8.3% for men.

The youth unemployment rate (15-24 year-olds) is 16.5%. With 50.0% of its young people aged 15 to 24 unemployed, Gao is the most affected region, followed by Koulikoro (42.8%).



Source: EMOP 2017/2018, 1st survey period (April-June)

FIGURE 16: Youth unemployment rate (15-24 year-olds) by area (urban/rural) and sex in Mali in 2018 (as a %)

1.1.7.1 Politics, governance and transparency

The process of democratizing political life in Mali has been underway for two decades. However, the process has not yet established good governance of security and justice, or at least not according to acceptable standards in terms of rights and freedoms. There are also often issues with corruption, financial delinquency, embezzlement of public funds, etc.

The fight against corruption has been a central focus in the speeches of successive public authorities of the Third Republic and various strategies have been implemented to fight corruption. These different strategies have resulted in the implementation of several reforms aimed at strengthening institutional and organizational mechanisms for fighting corruption.

The complexity of the fight against this scourge led the Malian authorities to convene a general conference on corruption and financial crime, with national meetings held from 25-28 November 2008. These meetings, the first of their kind, were preceded by consultations, hearings at the level of the committee set up to fight corruption and financial crime, as well as regional consultations and the preparation of thematic reports. During the general conference, a set of measures were proposed (short, medium and long term) covering all affected sectors.

This does not seem to have yielded the desired results, however. Various governance indicators show that corruption is perceived to be very widespread and systemic at all levels of society in Mali. Some of the major indicators include Afrobarometer, Transparency International (index based on perceptions of corruption), the World Bank (Worldwide Governance Indicators), The World Economic Forum (Global Competitiveness Report), and the West African Economic and Monetary Union (Observatory of Abnormal Practices).

Transparency International's Corruption Perceptions Index ranks countries based on perceived levels of public sector corruption. The index is based on a composite indicator that combines different sources of information on corruption, which makes it possible for comparisons to be made between countries. The index ranges from 0 (high level of corruption) to 10 (high level of integrity). The results illustrate the seriousness of the corruption problem in Mali according to Transparency International. Mali is systematically ranked among the most corrupt countries in the world according to this indicator.

1.1.8 Lifecycle deficit and support ratio

Depending on which period of life they are in, individuals either benefit from other generations and public authorities, or help to support them. Using the National Transfer Accounts method, which is based on the concept of the economic lifecycle, it is possible to measure the shifts that are linked to changes in the demographic structure of a country.

This original approach is based on a three-step process: the creation of average age profiles based on survey data, the creation of aggregate profiles calculated by multiplying average profiles by demography, and finally, the adjustment of aggregate profiles based on economic aggregates of national accounts. The result is what are known as "aggregate" profiles, which are the total values at each age for the entire economy, as well as "average" profiles, which are individual values.

This approach makes it possible to integrate age ranges into the national accounts, which helps to explain the way in which individuals produce, consume, save and redistribute wealth at each stage of life. The difference between consumption and labour income is known as the lifecycle deficit (LCD) and is a measure of the level of age-specific economic dependence. For both children and the elderly, the lifecycle deficit is positive, i.e. the average consumption at these ages exceeds average labour income. The LCD is negative during working years, when labour income is greater than consumption. Another term used for a negative LCD is lifecycle surplus. By multiplying the LCD (by age and per capita) by the corresponding population figures and adding all the age groups with a positive LCD, it is possible to obtain a separate measure for the total economic dependence of children and the elderly respectively. This measure is also known as the economic support ratio. The total economic surplus of the working-age population (the sum of all age groups with a negative LCD) provides a measure of a society's ability to support the population with a (positive) lifecycle deficit.

The NTA Mali team estimated Mali's economic support ratio and lifecycle deficit for the years 2015 and 2016. The results of this assessment are useful for understanding the extent of the economic impact of the age structure of the population in Mali.

1.1.8.1 Lifecycle deficit

The results of the evaluation indicate that in 2015, labour income in Mali amounted to 3867 billion CFA francs, of which more than two thirds were generated by 27-62 year-olds with peaks around 35-45 years of age. These incomes correspond mainly to income from (informal) self-employment and, to a lesser extent, to income from wages and salaries. The peak in salaried income is reached between the ages of 54 and 60. A dip in income can be observed within the 45-52 age bracket. Total consumption is estimated at 7,561.42 billion CFA francs. There is an overall lifecycle deficit of 1,882.60 billion CFA francs; the labor income generated therefore covers only 75.1% of consumption needs.

Lifecycle deficit estimates indicate a deficit of 1,480 billion CFA francs in 2015, 22% of GDP. The deficit is filled by individuals between 26 and 62 years of age, who in 2015, generated a surplus of 1,229 billion CFA francs, which financed part of the consumption of individuals aged 0 to 25 (3,218 billion) and individuals over 62 (187 billion). The youth population creates an LCD up to the age of 27, while the elderly begin to create an LCD from 67 years of age. The surplus period, which is therefore from 28 to 66 years of age, lasts for 38 years over an individual's lifecycle. The youth deficit has been estimated at 3,455 billion CFA francs, while the deficit generated by the elderly population is just 48 billion CFA francs. It is important to note that migrants also participate in financing this deficit through transfers generated by their work (approximately 11% of GDP in 2012).

The very young population structure influences lifecycle deficit trends. Adults aged 28 to 66 have a surplus of 1,620 billion dollars, covering only 46.8% of the youth LCD. Young people represent 64.3% of total consumption and produce only a quarter of total labour income. Table 5 provides a breakdown of Mali's lifecycle deficit in 2017 by age bracket.

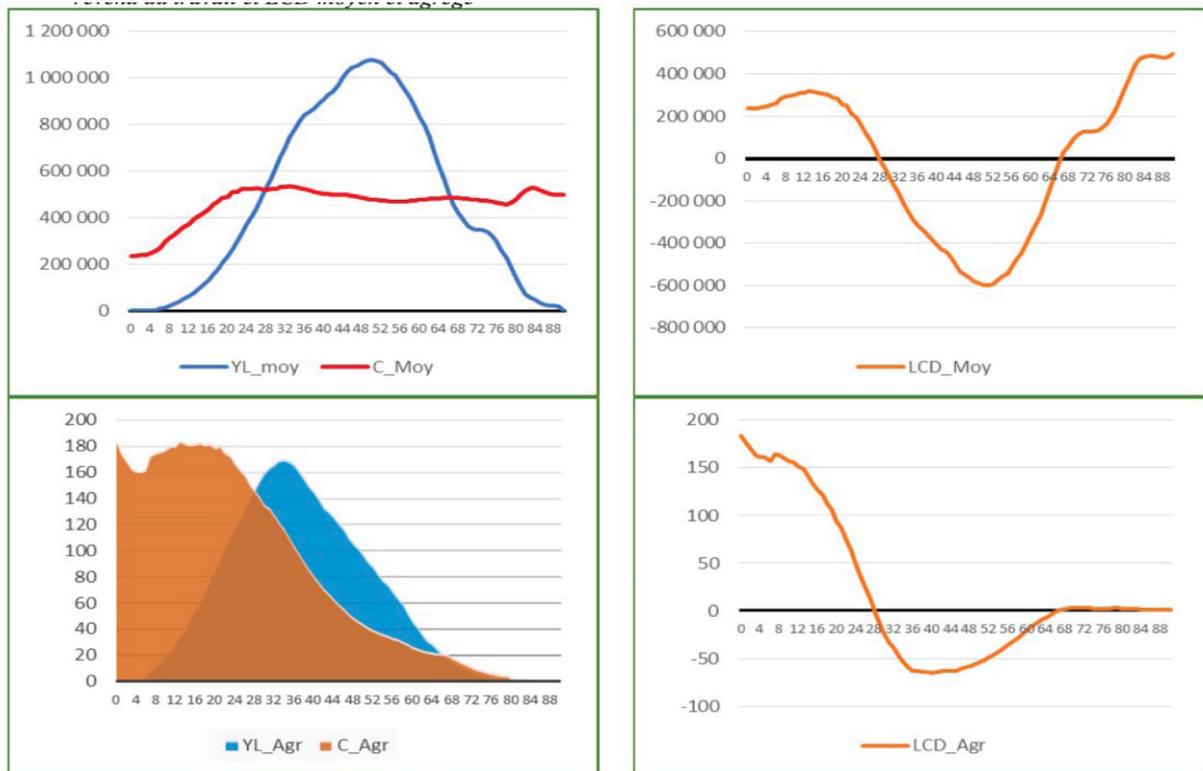
TABLE 5: Aggregate consumption and labour income in Mali (in billions of CFA francs)

Age	Consumption	Labour income	Aggregate LCD
0-26 years old	3,326	718	2,608
27-62 years old	1,850	3,079	-1,229
63 years old and over	170	70	100
Total	5,346	3,867	1,479
Youth deficit as a percentage of GDP			20%
Old-age deficit as a percentage of GDP			1.59%
Overall deficit as a percentage of GDP			23.56%

Source: 2016 NTA Calculations

At the individual level, this deficit drops from 235,552 CFA francs for children under 1 year of age to 314,888 CFA francs at 13 years of age before gradually decreasing up to the age of 27 and beyond. It is possible to conclude from this that the wellbeing of the individual, measured by their level of consumption, follows a downward trend even if their income increases. At age 51, for example, for an average labour income of 1,072,569 CFA francs consumption amounts to just 474,913 CFA francs (or 44% of labour income).

Figure 14 shows outlines individual and aggregate consumption profiles by age.



Source: NTA Mali Team and CREG/CREFAT, 2019

FIGURE 17: Average consumption and labour income profiles, aggregate consumption and labour income profiles and average and aggregate LCD

1.1.8.1 Economic support ratio

The essential element of the NTA methodology is the application of the economic support ratio concept. Similar to the dependency ratio measure, the economic support ratio as applied in the NTA methodology is a departure from the strict demographic definition that defines the working-age population as those aged 15-64 (with those aged between 0-14 and over 65 classified as dependent). The NTA methodology uses comprehensive labour income and consumption data that is not limited to restrictive definitions of age. As such, the support ratio is a calculation of effective agents versus effective consumers.

The numerator in the support ratio is the actual number of workers. This makes it possible to take into account differences by age in participation in the labour force, hours worked, unemployment, productivity and wages. The denominator is the actual number of consumers. This makes it possible to take into account the differences in consumption by age.

This method of calculating the support ratio therefore makes it possible to contextualize the realities, which are dependent on age, in economic production between different societies, as well as differences dependent on age between consumption models. The support ratio is an intuitive measure of the effect of changes in the age structure of the population on consumption. Each percentage – one percentage point of the result of the support ratio – increases consumption by one percent across all age groups, other things being equal. In the NTA system, an increase in the support ratio is often referred to as a demographic dividend.

Mali's NTA study shows that the support ratio has increased in Mali since 1998 (see figure 14), the first year in which there was a window of opportunity for a demographic dividend. This ratio was 43.5% in 2015, which means that 43 actual producers meet the consumption needs of 100 actual consumers (see table 6). This rate is lower than those of Ethiopia, Senegal and South Africa.

The support ratio is affected by changes in the level of production and the level of consumption. It is also affected by the low contribution of women to labour income (22% in comparison to 78% for men), even if their consumption is almost equal to that of men. In order to achieve high ratio levels, it is necessary to put in place strategies to increase the number of workers faster than the number of consumers. This is easily justified if we consider, for example, that despite a longer period of dependency for young people in Senegal (35 years) than in Mali (26 years), the support rate is higher there due to a relatively smaller number of actual consumers.

TABLE 6: Change in the support ratio and lifecycle deficit in Mali, 2015–2016.

INDICATOR	Years	
	2015	2017
Economic support ratio (ESR) as a percentage	43.5	43.5
Lifecycle deficit (LCD) (in billions of CFA franc)	2,608	1,883

Source: National Transfer Accounts (NTA) Team – Mali – National Observatory for the Demographic Dividend (NODD) and Regional Centre of Excellence in Generational Economics (CREG)/ Centre for Economic and Applied Finance Research of the University of Thiès (CREFAT), 2017, 2019

The support ratio is highly dependent on the consumption and income profile of the population. The Malian population is growing rapidly (3.6 per cent per year) with adolescents contributing a large share (14 per cent according to the 2012 Demographic and Health Survey (DHS)) of overall fertility. According to 2012 DHS data, half of women entered their first union before the age of 18, 39 per cent of adolescent girls aged 15–19 have already started their reproductive life and 33 per cent (1 in 3) have already had at least one child.

If Mali does not implement economic and social policies to accelerate the demographic transition and harness the initial dividend, it will not reach the support ratio levels that will be reached by Ethiopia in 2030 and were reached by Senegal and South Africa in 2010 by 2050, and it could even completely miss the window of opportunity offered by the dividend.

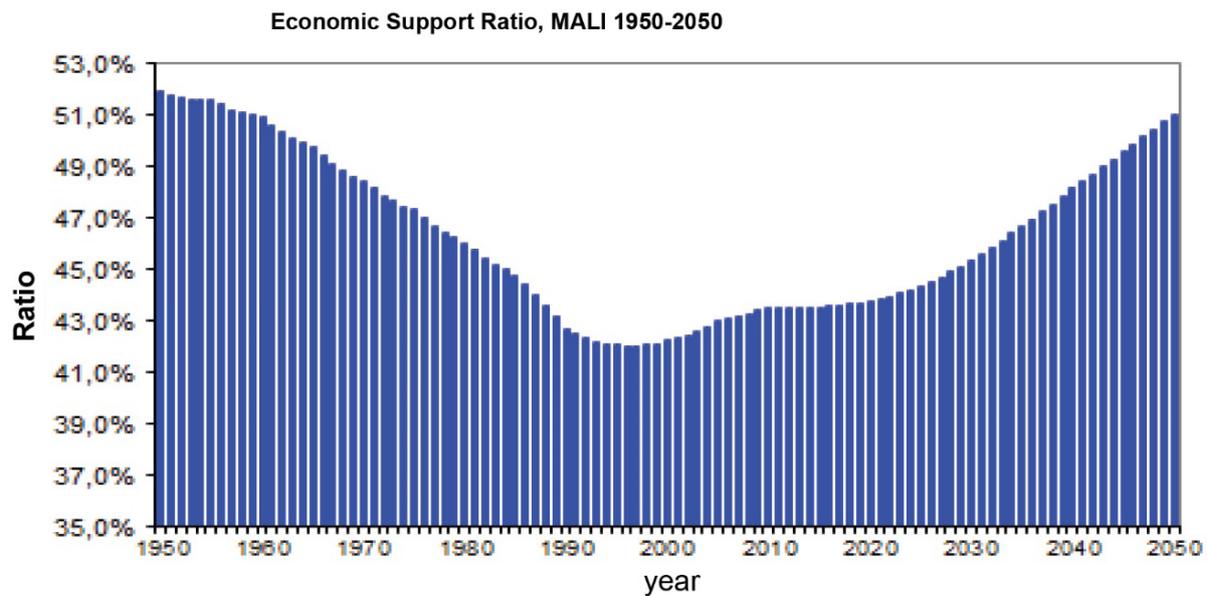


FIGURE 18: Change in the economic support ratio in Mali as a percentage, 1950–2050

1.7. Security Context and Challenges

1.1.9 Changes in the security situation

Since becoming independent, and even before the outbreak of the 2012 crisis, Mali has faced regular social and political unrest that has had a lasting impact on its ability to build stability and shared prosperity. In addition to recurrent droughts and famines, Mali’s recent history has seen long periods of dictatorship, a series of coups (1968, 1990, 2012) and several Tuareg rebellions (1963/64, 1990/92, 1994/95, 2006, 2012). Moreover, since 2012, the involvement of Islamist jihadist groups in the Tuareg rebellions has led to the *de facto* partitioning of the country. The National Movement for the Liberation of Azawad (MNLA), supported by Al-Qaeda in the Islamic Maghreb, succeeded in occupying the north of the country, in the middle of the desert. A military coup followed in March 2012, plunging the country into deep instability and weakening the authority of the State considerably.

Despite peace agreements being signed (Ouagadougou in 2014 and Algiers in 2015) and the return to constitutional order (2013 and 2018 elections), the security and political situation remains concerning with few encouraging signs. Progress is rare, fragile and largely marginal. Worse still, the 2012 conflict seems to be transforming into multiple conflicts. Armed groups have fragmented or reconstituted themselves and the violence is showing worrying signs of identity-based isolationism.

In the North, violence continues to escalate. Jihadist groups continue their attacks and many armed groups with a wide range of demands are organizing. At the same time, the conflict has moved to the centre of the country, where the State is not in a position to assume control. In this part of Mali, insecurity is increasing and organized crime and communitarianism is on the rise. Moreover, like much of the Sahel, over the last ten years or so Mali has become a transit country for all kinds of trafficking, particularly of migrants, cigarettes and drugs.

The situation in the centre of the country illustrates the complexity of Mali’s security problem. It highlights the interactions between several key issues, including governance, legitimate violence, justice, land

tenure, inter-community divisions, regional integration, climate change, development and even patriarchal institutions.

1.1.10 A heavy human price

To date, instability with regard to the country’s security has resulted in thousands of casualties and hundreds of thousands of displaced persons. Table 7 provides an overview of the total number of casualties recorded since the armed conflicts broke out in Mali. The picture is rather alarming. The number of deaths continues to rise dramatically each year, and civilians seem to pay a heavy price for this.

TABLE 7: Number of casualties of armed conflict in Mali, 2012–2019

Years	Total number of casualties recorded since armed conflict broke out in Mali	
	Minimum number of deaths per year	Civilian deaths
2012	538	115
2013	883	170
2014	381	49
2015	428	95
2016	320	75
2017	947	251
2018	1,739	871
2019	1,868	888
Total	7,104	2,514

Source: University of Sussex / Armed Conflict Location and Event Data project (ACLED)

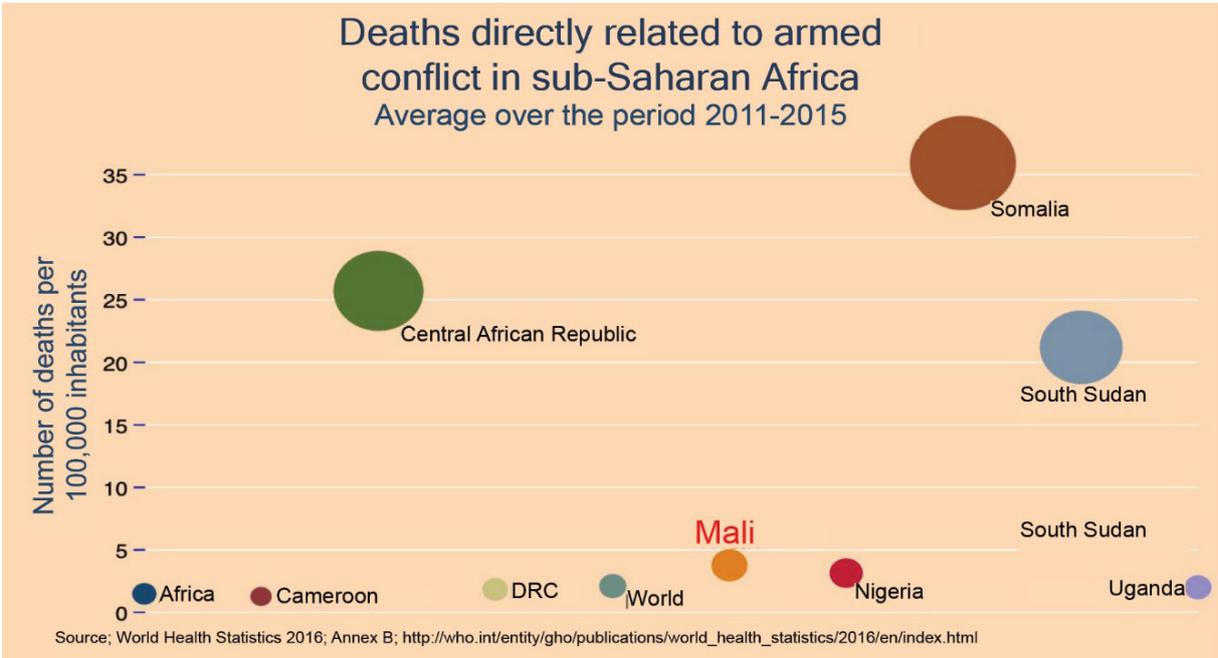


FIGURE 19: Deaths directly related to armed conflict in Africa

The International Federation for Human Rights (FIDH) recorded 385 attacks that claimed the lives of at least 332 people, including 207 civilians, in 2016. It also indicated that at least 151 people were killed in the first four months of 2017 and that more than 117 people had died during the intercommunal conflicts in the Mopti and Ségou region from January 2016 to May 2017.

Figure 19 shows that, over the 2011–2015 period, Mali was the fourth most deadly country in terms of armed conflict in sub-Saharan Africa, after Somalia, South Sudan and the Central African Republic. These statistics bear witness, well beyond the numbers themselves, to the intensity of the atrocities committed in the country in these times of unrest. The number of deaths is an important indicator of the scale of armed conflict in terms of casualties. As such, everyone seeks out this figure first. But many bodies are never recovered. The actual total could therefore be even more alarming than these figures suggest.

These deaths were caused by both armed groups and government forces. Several recent reports published by Human Rights Watch, United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), Amnesty International and Suliman Baldo, the UN Independent Expert on Human Rights in Mali, have revealed that all parties involved in the conflict (armed rebel groups, extremist groups, loyalist militias and the Malian security forces) have all committed extrajudicial killings, executions and enforced disappearances and ill-treatment at all stages of the conflict since 2012.

Other acts of grave violations committed include violations of the right to life, torture, sexual violence, arrests, arbitrary detention, violations of property rights, and collective punishment. The quarterly report on the situation in Mali published by the Secretary General of the United Nations on 20 March 2020 provides some examples. Over the period in question, MINUSMA documented 123 cases of human rights violations and abuses. The 123 cases included 222 civilians killed, 20 cases of enforced disappearance, 72 individuals injured and the abduction or disappearance of 46 people. Slightly more than half the cases (62) were reported in the Mopti region. Incidents were also recorded in the regions of Gao (20), Kidal (6), Ménaka (14), Ségou (6) and Tombouctou (15).

The social and human consequences of these acts of violence, beyond the immediate cost of death and injury, include, in particular, migration or displacement of people, business closures, reduced investment, a decline in tourism and a lack of institutional legitimacy.

1.1.11 Military expenditure and human capital financing: a crowding out effect?

The deteriorating security situation has prompted the country's authorities to establish new programmes for internal and external security and to strengthen the law enforcement apparatus. Thus, Mali has become caught up in an arms race, sharply increasing its defence and security spending. Figure 20 shows the change in the budget allocated to military spending in Mali since 1980. The sharp shift around 2010 is quite striking. From 2010 to 2018, the government's military spending effort increased quite significantly. In fact, there was slightly more than a threefold spending increase during this period. Mali's military expenditure increased by 233% between 2010 and 2018, which corresponds to an average annual increase of 14% over this period.

What's more, this increase in military spending is happening despite the State's resources not having increased much, if at all. Mali, like many WAEMU countries, faces particular constraints when it comes to mobilizing resources to finance its budget. These constraints include a low tax burden, a fairly high level of indebtedness and weak growth. Over the same period 2010–2018, the overall State budget grew at an

average annual rate of only 7 per cent and tax revenues by 6 per cent, well below the annual growth rate of military spending (14 per cent).

In this situation, it seems that the only way the State can finance its new military spending is to reallocate resources, The reallocation of resources consists of a readjustment of expenditures in line with the forecasts in the original Budget Act. In the new security environment, reallocation has become an increasingly common means in Sahelian countries to finance new needs in internal and external security and management of the implications of conflict.

In other words, to finance additional security spending, these countries make budgetary trade-offs between security spending and spending that seeks to eradicate the economic and social causes of the crises. In so doing, they risk increasing their level of indebtedness. Choosing this path could, however, hinder the harmonious development of these countries, which face the challenge of generating wealth to support investment expenditure.

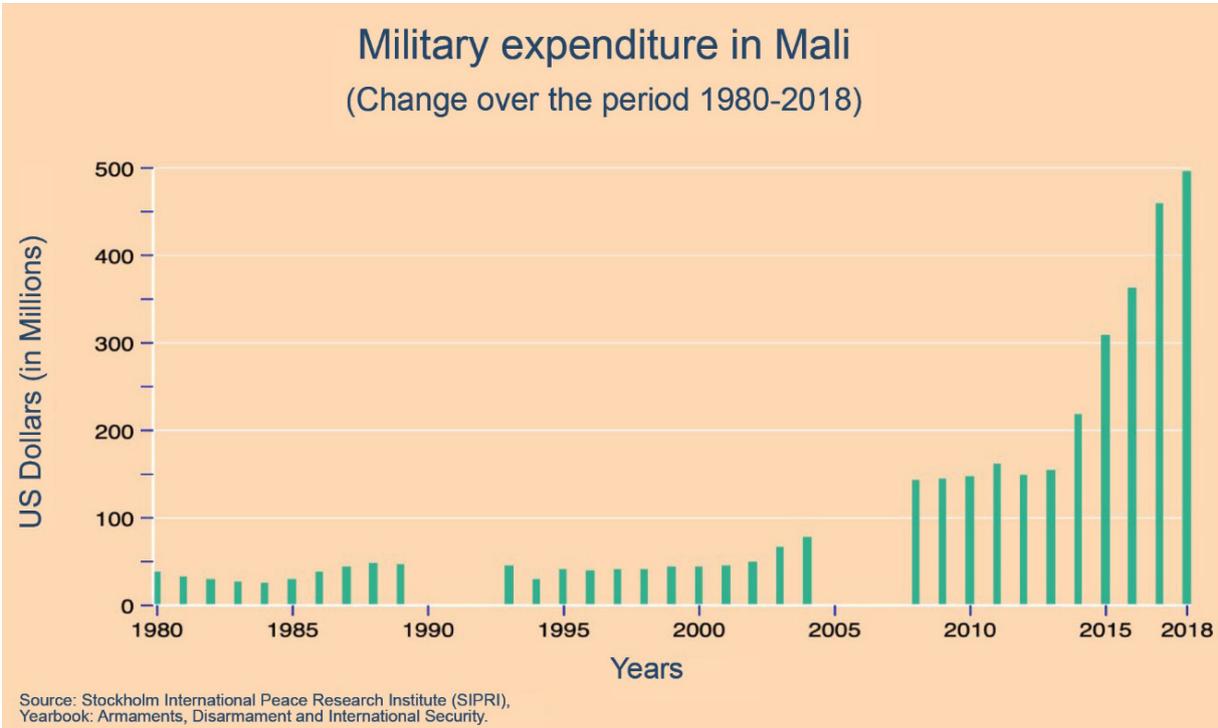


FIGURE 20: Change in military spending in Mali

Admittedly, in the current context of the Sahel, States and governments have legitimate security concerns, particularly with regard to self-defence. And military spending is indeed a security measure. There are therefore minimum or optimal levels of defence spending, which must be justifiable in terms of enhancing security. However, to be effective, security efforts must not be made at the expense of other spending on the poorest populations and on development for the benefit of all.

Indeed, there is a long-standing debate about whether a government should choose to spend its money on “butter” (i.e. food or other services) for its citizens or on “guns” (i.e. money spent by the government on military defence). The “guns or butter” model highlights the trade-off between military spending and other major government spending. Several empirical studies have demonstrated the negative relationship (or trade-off) between defence and welfare, in particular the fairly strong negative relationship between

military spending and government spending on health and education. It has therefore been established that: (1) there are opportunity costs for education and health in all countries and for all years, and (2) levels of economic development have little or no impact on the opportunity costs for these specific sectors.

It is therefore understandable that in Mali, which has a limited overall State budget, increasing military spending crowds out other government spending on areas such as education and health. Figure 21 clearly shows the effects of recent increases in security spending on public funding of the health and education sectors.

The most obvious finding is that the crowding out effect is real and has a strong impact on central government spending in the health sector. The health sector is the biggest loser when defence budget allocations increase. Between 2010 and 2018, the share of public health expenditure in the State budget was maintained at an average of less than 5 per cent, while military spending doubled from 7 per cent to 14 percent of the State budget. It is interesting to note that in 2003, both sectors received the same level of funding in the State budget.

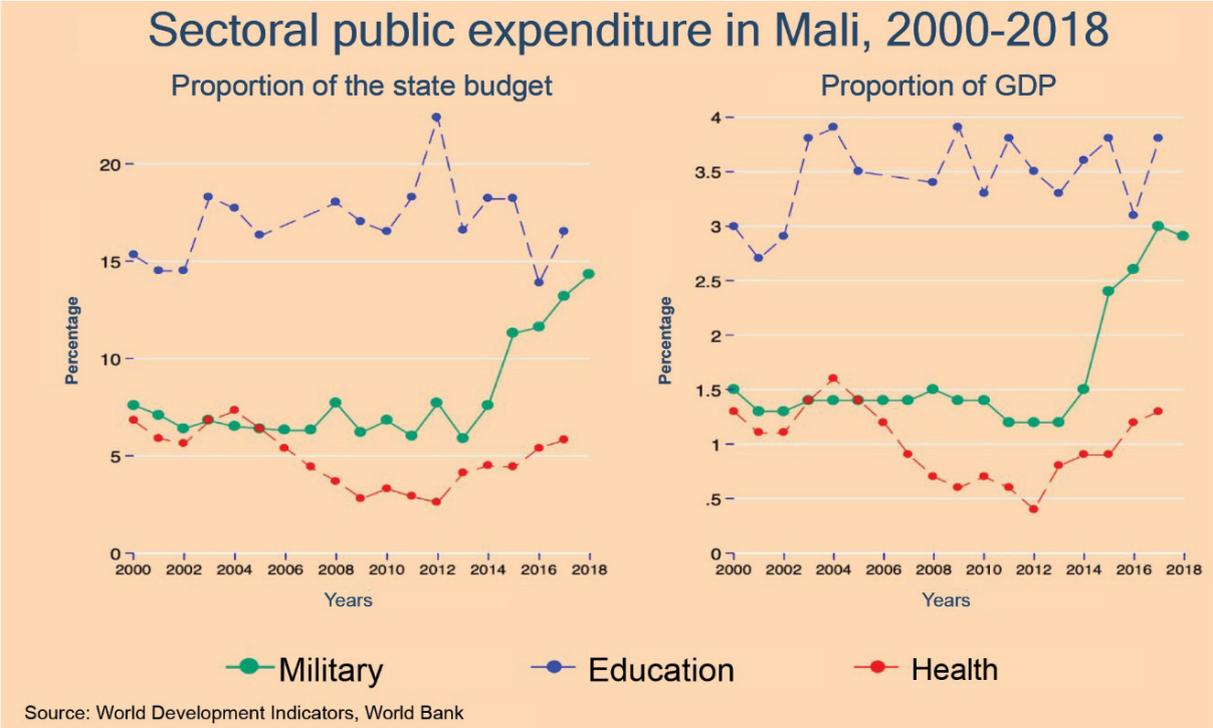
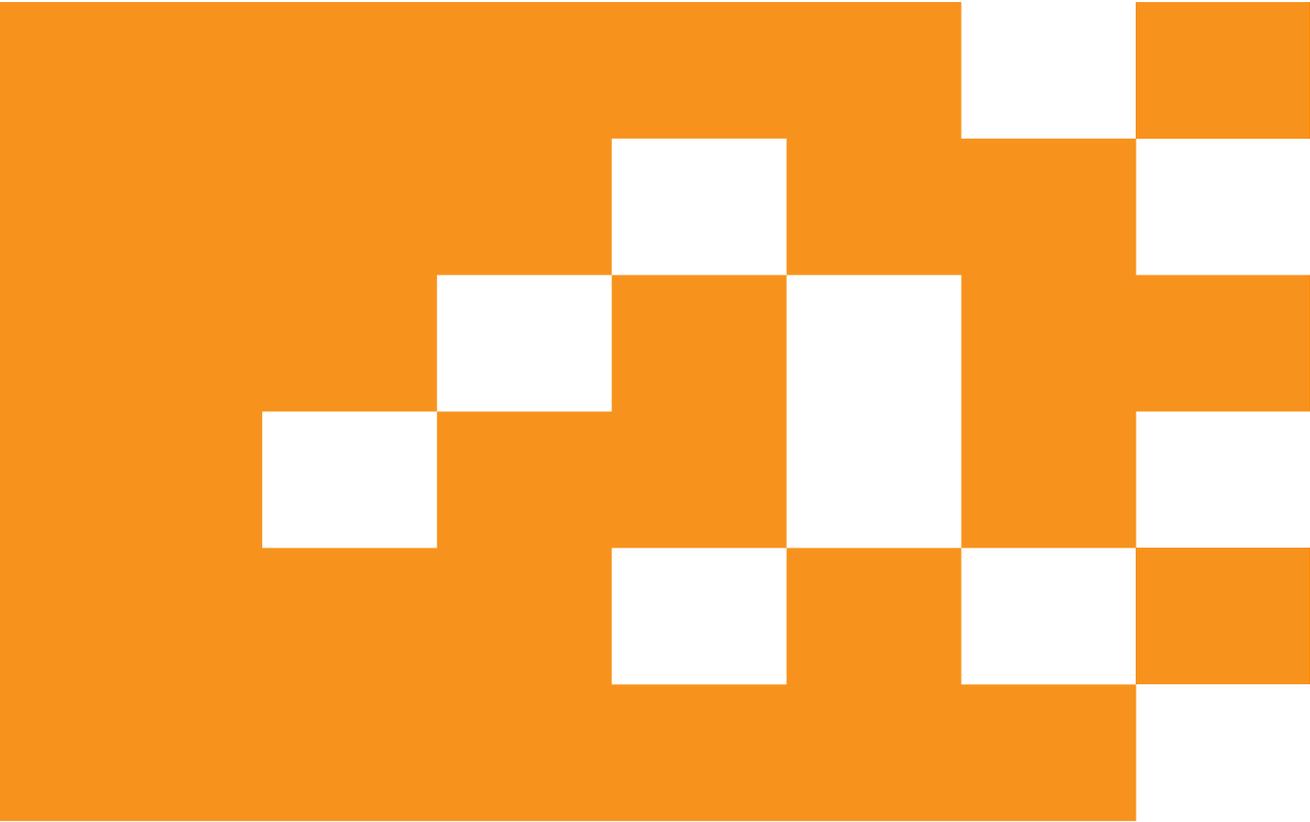


FIGURE 21: Public expenditure and public social expenditure

The crowding out of public spending on education is equally real, though less apparent. The share of education expenditure in the State budget has remained broadly stable, fluctuating around 17 per cent over the period 2008–2018. At the same time, the share of military expenditure in the overall State budget has been steadily increasing. A catch-up effect was even observed towards the end of the period, when military spending reached almost 15 per cent, while public education spending dropped to 15 per cent. This catch-up effect is even clearer when both levels of spending are compared to GDP (Figure 21).

The crowding out effect of military spending on education spending is all the more evident considering that the central government’s contribution to the education budget had to increase sharply given the challenge of and Mali’s commitments to providing universal access to education and improving quality

in this sector. By signing up to the Millennium Development Goals (MDGs) and then the 2030 Agenda and its Sustainable Development Goals (SDGs), Mali has committed to devote more public resources to this sector to guarantee that all boys and girls in the country have free access to quality primary and secondary education. Mali's recent financial efforts in the area of security and defence are currently being made to the detriment of its ability to adequately finance the education sector for the development of quality education for the benefit of all.



III POPULATION PROJECTIONS AND HUMAN CAPITAL DEVELOPMENT

1.8. Population projections for the period to 2050: Issues and challenges

1.1.12 What are the issues?

Mali's projected population growth between now and 2050 raises a number of geostrategic, security, economic and political issues.

Geostrategic issues. The size and age structure of a country's population are essential components of a nation's claim to sovereignty in the general context of international relations. This is what demographic history teaches and what current events confirm every day. The status of a nation's population is certainly not sufficient to make a political claim to that nation, but it is a necessary and conspicuous component of it. As such, despite the ideological differences that might exist between them, no great nation can afford to have poor relations with a demographic giant. The examples of China, India and even Nigeria (in West Africa) bear witness to this fact. The international credibility of the two demographic giants in Latin America, Brazil and Mexico, is significantly undermined by their demographic deficit. Therefore, to be included, have weight and be respected in international relations, a nation like Mali must have a dissuasive demographic weight compared with its neighbouring countries and the rest of the world.

Security issues. Population growth is generating considerable needs in the defence and security sector, since safeguarding a large population requires a large number of military and police personnel, as well as more weapons and logistics support to enable the troops to properly carry out their missions of providing security to individuals and defending the integrity of the national territory.

Economic issues. How can we provide food security to a population of more than 40 million Malians in 2050? Food security is critical to national and, therefore, regional security. This is evidenced by the domestic and international refugee flows generated by major famines. The destabilizing power of such human tragedies is significant. Women, children and the elderly are particularly adversely affected by these situations. Moreover, such distressing situations enable leaders and armed groups to maintain an emotional climate that acts as a barrier to security and civil peace in the country.

Political issues. The political implications of population growth are unpredictable. They range from political demands and collective aggression to challenging the authority of political and administrative officials, customary chiefs and opinion leaders. These various social upheavals can be a source of destabilization and real threats to peace and security.

The size, age structure and dynamics of the population are major components of a nation's claim to sovereignty in the general context of international relations. This is what history teaches and what current events confirm every day. The status of a nation's population is certainly not sufficient to make a political claim to that nation, but it is a necessary and conspicuous component of it. As such, despite the ideological differences that might exist between them, no great nation can afford to have poor relations with a demographic giant like China or India. The international credibility of the two Latin American giants, Brazil and Mexico, is significantly undermined by their demographic deficit. Mali's demographic vitality is therefore essential to its stability, peace, security and claim to sovereignty.

The demographic weight of a country is a decisive factor in rivalries and competition between countries internationally. The total size of a country's population has significant symbolic weight for its neighbouring countries and often guides their demographic behaviour given the hypothetical prospect of a military confrontation.

1.1.13. Natural resource governance-related conflicts: Challenges

Mali's total population has grown considerably over the last 60 years, from 5.3 million in 1960 to 20.3 million in 2020. In a subregion where peace and security are out of balance due to the combined actions of armed groups, drug traffickers and terrorists, this high population growth is helping to intensify the fight for means of survival, particularly between crop farmers and herders in relation to access to natural resources, especially water and land.

Mali's two main means of subsistence, agriculture and livestock, are vulnerable to climate change, recurrent disasters and natural resource degradation. Consequently, competition between crop and livestock farmers for access to land, water and pasture is often a source of inter-communal conflict. Access to land is therefore one of the main sources of social tension and conflict between communities and families.

As land and water become increasingly scarce, competition for these vital resources is intensifying, especially between the rich and poor, between sedentary farmers and livestock farmers/nomadic peoples. Moreover, as the population increases, the share of these vital resources available per person decreases, thus reducing the population's standard of living. Millions of people are therefore at risk of falling into poverty, which can lead to uncontrollable social unrest.

These tensions often lead to conflict between livestock and crop farmers, as well as conflict within each group. Whether communities living in Mali specialize in agriculture or livestock farming often depends on their ethnicity. Due to the scarcity of resources and their exclusive management in many areas, competition leads to increasingly violent clashes involving non-State armed groups.

This situation means that the interests defended by members of socio-professional groups align with those of ethnic groups and that the struggle for access to land and water resources is also divided along ethnic lines.

1.9 Improving human capital: Challenges

All population projections indicate that Mali will experience a considerable increase in its population by 2050, regardless the change in the total fertility rate (TFR). Over the next three decades, Mali's population will continue to grow regardless of the trend in the TFR, mainly due to population momentum.

In its quest for accelerated economic and social transformation of the country, the Government of Mali should pay particular attention to this demographic dynamic and its impact on development. Progress, prosperity and well-being cannot be achieved by focusing solely on the economic dimension. Demographic parameters are essential factors that influence how an economy operates in relation, for example, to savings, labour supply, competitiveness and security. More specifically, they are powerful levers that could be acted upon to enable an economy to achieve higher standards of living. Therefore, to achieve its objective, Mali must adopt clear strategies to overcome the challenges of population growth.

Investing in human capital – the potential of each individual – is the most significant investment that Mali will have to make in this context. To achieve economic and social transformation, Mali’s future workforce should be both productive (well qualified and healthy) and economically active.

Investing in a country’s human capital is not just about educating the next generation. It primarily seeks to build an economic future for the country. Investing in human capital prepares children to pursue a career based on choices made over time and prepares the country to participate in the global economy. The economic rationale for investing in human capital is therefore clear.

It is an absolute necessity for Mali to invest in human resources through quality education, health services, nutrition, skills development and jobs to enhance its human capital. This section seeks to identify gaps in these areas, particularly in education and health, and to assess the costs associated with the investments needed to close these gaps. This is particularly important for Mali, to enable informed decisions to be made on how public and private resources should be allocated and to ensure that adequate financial resources are allocated to achieving the goal of developing sufficient human capital.

The analysis is based on the Human Capital Index (HCI) developed by the World Bank.² The Human Capital Index quantifies the contribution of health and education to the productivity of the next generation of workers. Countries use it to assess how much income they lose due to their lack of human capital and to determine how much they could accelerate their progress and turn these losses into gains if they were to act now.

1.1.14. The human capital deficit

Despite the efforts made over the past six decades, Mali has a severe human capital deficit. It is among the African countries with the lowest score on the human capital index published in 2018. Scoring 0.32 out of a maximum of 1, Mali ranks 40th, just ahead of South Sudan and Chad, and level pegging with Liberia and Niger (Figure 22).

² World Bank. 2018. *The Human Capital Project*. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/30498> License: CC BY 3.0 IGO.

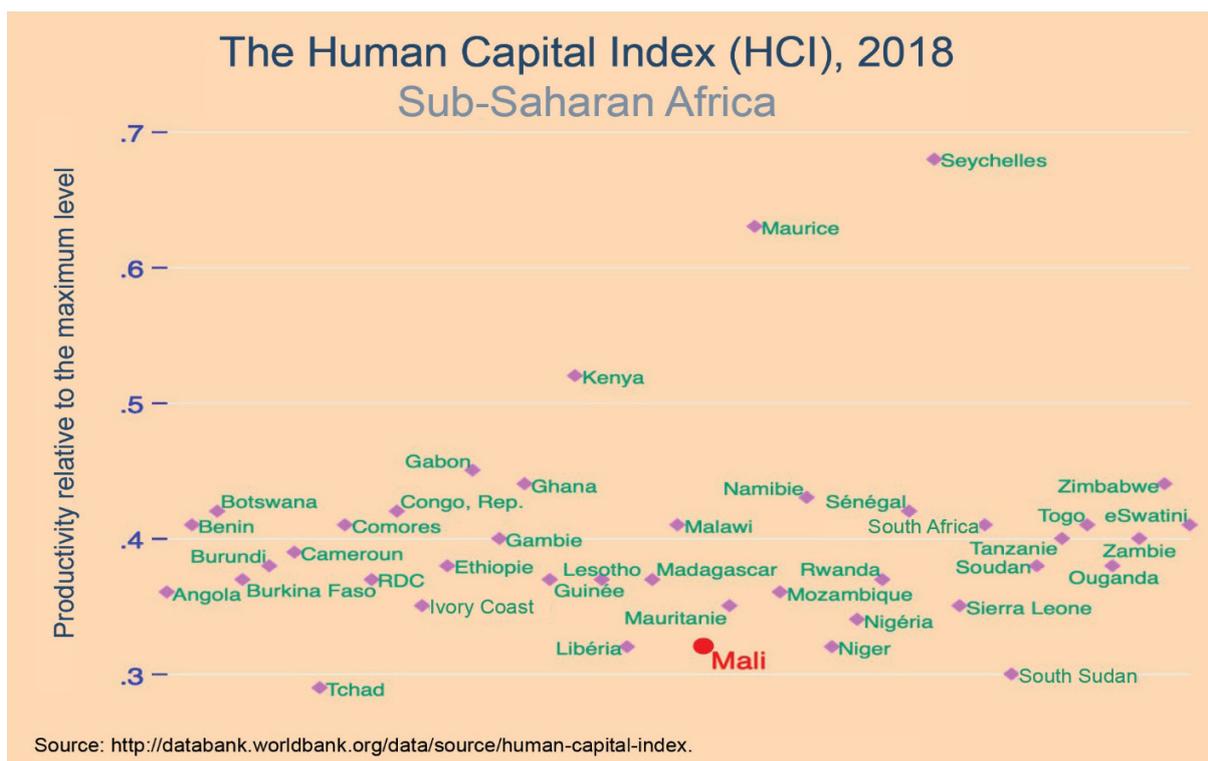


FIGURE 22: Human Capital Index in Sub-Saharan Africa, 2018

Ranging between 0 and 1, the index takes the value 1 only if a child born today can expect to achieve full health (defined as no stunting and survival up to at least age 60) and their education potential (defined as 14 years of high-quality school by age 18). A country's score is its distance to the "frontier" of complete education and full health.

Mali's score of 0.32 on the Human Capital Index means that the level of income a child born in Mali today can expect to achieve as an adult will be 68 per cent lower than it would have been had they received a complete education and lived in full health. The index can be directly linked to scenarios for the future income of countries as well as individuals. Mali's score of 0.32 means that its future GDP per worker could be three times higher if it were to reach the benchmark of complete education and full health.

While Mali's overall performance is alarming, the figures are even more concerning when the different components of the Human Capital Index are considered.

1.1.14.1 Probability of survival to age 5

This component of the Human Capital Index reveals a disturbing reality in Mali. Indeed, the country's score for child survival beyond age 5 is only 0.89 out of 1. In other words, only 89 per cent of children born today will survive to school age, which means that 11 per cent of children born today will not live beyond age 5. Mali is among the poorest performing countries on this measure in sub-Saharan Africa, alongside Sierra Leone and Chad. In Sierra Leone, up to 11 per cent of children born today will die before age 5, while in Chad the figure is 12 per cent. The average in sub-Saharan Africa is 0.93 out of 1. In other words, only 93 per cent of children born today in sub-Saharan Africa are likely to survive to age 5 and the remaining 7 per cent are likely to die before reaching that age. Elsewhere in sub-Saharan Africa, including in Namibia, Rwanda, South Africa, Botswana and Madagascar, 96 per cent of children born today are likely to survive to age 5.

Mali's low score is all the more worrying as this rate is not necessarily tied to the security context. For example, in Iraq (the fourth most dangerous country in the world according to the Global Peace Index), 99 per cent of children are likely to survive to age 5, while in Côte d'Ivoire, this figure is only 91 per cent. While the safer a country is, the more likely it is for children to grow up, the conditions and chances of those children reaching at least school age are determined primarily by the policies put in place by the government to invest in human capital.

1.1.14.1 The education challenge

The Human Capital Index takes account of the education sector via two sub-indicators: the quantity of education (expected years of school and learning-adjusted years of school) and its quality. The benchmark adopted for calculating the index is that a child receives complete education if they complete 14 years of quality education before the age of 18.

According to index data, the global average expected years of school before age 18 for children born today is 11.2 out of 14 years. However, the global average for learning-adjusted years of school is only 7.9 out of 14 years. In sub-Saharan Africa, only 8.1 years on average will be dedicated to educating children before age 18, with learning-adjusted years of school of 4.9 out of 14.

Comparing these figures with Mali's performance, we can see that once again Mali is one of the worst performing countries both in Africa and globally. Children born in Mali are only expected to complete an average of 5.6 years of school, with learning-adjusted years of school of 2.7 out of 14. This is little better than the level expected for children born in Chad, who will only complete an average of 5 years of school providing 2.6 learning-adjusted years of school.

This affects the quality of education as measured by the harmonized test scores of major international student assessment programmes. While the global average is 431 points, Mali is among the weakest in this area with an average of 307 out of 625 points. Sub-Saharan Africa as a whole scores 374 on average, with very good scores recorded for Gabon (456), Kenya (455) and Senegal (412).

1.1.14.1 Health accounts

The 89 per cent of children born in Mali who survive to age 5 face another challenge: enjoying good health. The Human Capital Index incorporates this dimension by measuring the rate of children not affected by stunting before age 5 and their survival rate in adulthood.

Human Capital Index data indicate that 30 per cent of children born in Mali today will have stunted growth before age five. This figure is only 8 per cent in the Seychelles, 17 per cent in Gabon and Senegal, and 19 per cent in Ghana. The average for sub-Saharan Africa as a whole is 32 per cent and the global average is 23 per cent.

As regards the adult survival rate, the average for the sub-Saharan Africa region is lower than the global average (0.73 compared with 0.85). Only 73 per cent of children born today who reach age 15 will survive until age 60. This figure explains the presence of a large number of sub-Saharan African countries at the bottom of the ranking. Mali, however, scores slightly higher than the average for sub-Saharan Africa at 74 per cent.

Nevertheless, Mali's score is much lower than that of some of its neighbours, such as Senegal and Mauritania, where adult survival rates are 82 per cent and 80 per cent respectively. On the other hand, Mali does much better than other countries in the region, such as Côte d'Ivoire (61 per cent), Chad (64 per cent), Sudan and South Africa (68 per cent) and Nigeria (65 per cent).

In summary, Mali's scores reflect a serious human capital crisis in the country and call into question its ability to achieve the Agenda 2030's Sustainable Development Goals (SDGs). This weakness also has serious implications for its ability to achieve the economic and social transformations required to build a society conducive to shared prosperity, as set out in the CREDD and Africa's Agenda 2063. Most importantly, it should be noted that this human capital deficit could get worse in the future due to insecurity, rapid population growth, the fragile political and social fabric, community conflicts and climate change.

Nevertheless, Mali can still make a difference if bold initiatives are taken to guarantee every Malian complete quality education and full health.

1.1.15 How to change the game

1.1.15.1 Education

By signing up to the 2030 Agenda and the SDGs, Mali has committed to providing every child on its territory with free, quality primary and secondary education. However, the Malian education system is characterized above all by stark social inequalities, both in terms of school attendance and the allocation of public resources. Mali must therefore redesign its education system from the core to make it more equitable and efficient, and in so doing enable the country to achieve SDG 4.³ As such, reforms should focus on helping the Malian education system to target and successfully reach more girls and children from rural areas and the poorest and most disadvantaged regions, as well as on ensuring conditions conducive to learning and entry into the labour market.

However, population growth and the age structure of the population are likely to constitute major barriers to achieving this ambition. Indeed, Mali's age pyramid is very wide at the base and will still be fairly wide in 2050 (see Figure 3). Each year, therefore, the education system must enrol a larger cohort of children in school. This means that, in the absence of massive and sustained efforts to increase the education budget, Mali's enrolment rate will remain perpetually low, especially for girls. Recent experience has shown that despite the enormous progress made in financing education, the country is still far from achieving the goal of universal education. Improving school attendance rates has so far failed to prevent an increase in the number of children not in school. In other words, population growth, driven by high fertility, continues to outpace the progress Mali has made on school attendance.

1.1.15.1 School-age population dynamics

Figure 23 shows the projected change in the school-age population at the different levels of education over the period 2020–2050. These figures are estimated based on the medium-variant population growth scenario. The data show that the school-age population will grow fairly rapidly, in parallel with the total

³ Republic of Mali (2019). *Programme décennal de développement de l'éducation et de la formation professionnelle deuxième génération [Ten-year programme for the development of second-generation education and vocational training] (PRODEC 2), 2019–2028*. Bamako, Mali: Ministry of National Education. June 2019

population. On average, the school-age population is projected to grow at a rate of 2.1 per cent per year over the period 2020-2050, roughly equal to the 2.69 per cent total population growth rate.

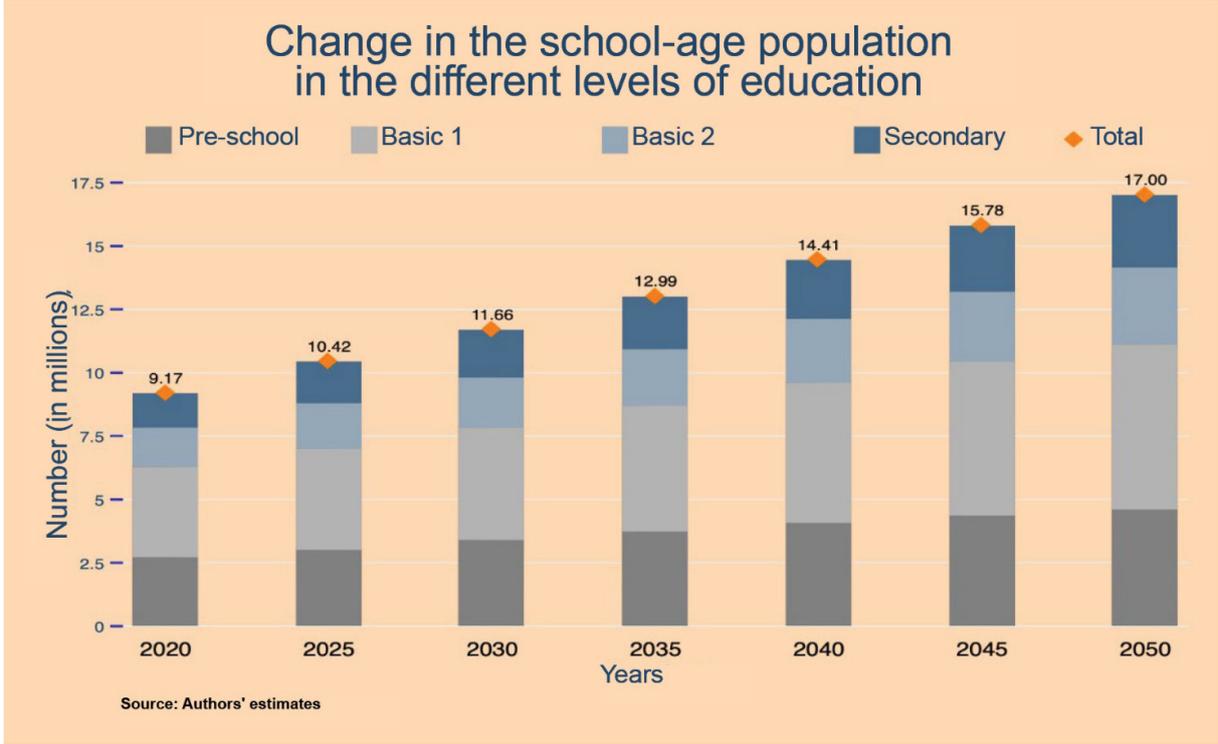


FIGURE 23: Change in the school-age population, 2020–2050

Mali’s current and future demographic dynamics will exert significant pressure on the country’s education system. Therefore, to maintain a stable school enrolment rate, the Malian education system will have to accommodate a higher number of pupils each year, with an annual increase of more than 2 per cent.

Moreover, given the current backlog and the growth of the school-age population, to achieve SDG 4 (i.e. full primary and secondary education by 2030), greater efforts must be made to increase the system’s intake and reduce the pupil-to-teacher ratio to ensure full coverage of the school-age population. Without such efforts, SDG 4 will be like a mirage that is always slipping away even as the country believes it is getting closer to achieving it.

These efforts should include, in particular, large-scale teacher training and recruitment and building the educational infrastructure to accommodate teachers and pupils.

1.1.15.1 Human resource and school infrastructure needs

The human resource and infrastructure needs required for full enrolment of the target population are assessed based on a number of assumptions about the evolution of the education system. These assumptions are aligned with the Government of Mali’s vision as defined in its Ten-year programme for the development of second-generation education and vocational training (PRODEC-2), 2019–2028. This vision is set out as follows: “By 2028, Mali will have an effective and inclusive education system that educates patriotic, responsible, productive and creative citizens who contribute to the socio-economic development of their country.” To this end, the government has committed, through PRODEC-2, to overhauling the national education system through a series of major reforms centred around five programmes, which will form part

of a holistic approach. The overall objective is to “guarantee the right of citizens to quality education and training through an inclusive, better adapted, consistent and functional education system.”

The needs assessment is therefore based on four specific reforms required to transform the Malian education system and achieve SDG 4 by 2030 and beyond. These include: (i) expanding educational coverage to make it universal at primary and secondary level (access, equity, parity); (ii) increasing the number of years of schooling completed by each child (completion rate); (iii) improving the quality of teaching (pupil-to-teacher ratio); and (iv) improving the performance of the system (internal efficiency). The specific objectives of these reforms are as follows:

- Pre-school education provision is improved to gradually increase the gross enrolment rate to 50 per cent from 2030 for children aged 3 to 5 years.
- From 2030, all children aged 6 and over have access to primary education. They complete both cycles of primary education and all have access to secondary education. No children drop out of primary education (100 per cent completion rate).
- The repetition rate is limited to 10 per cent in both cycles of primary education.
- At secondary level, the enrolment breakdown is as follows:
 - » 67 per cent of students move on to general secondary education;
 - » 33 per cent of students move on to technical and vocational secondary education, of which 40 per cent are in technical education;
 - » The repetition rate is 15 per cent and the survival rate is 90 per cent.
- The quality of education is improved through a substantial injection of human resources, infrastructure and equipment to achieve a pupil-to-teacher ratio of 40 pupils per teacher at primary level and 25 pupils per teacher at secondary level.

Based on these assumptions, needs estimates have quantified the number of teachers and classrooms required at each level of education, using the Ministry of National Education’s Education Financial Simulation Model (EFSM). Tables 8 and 9 present the results of these estimates.

TABLE 8: Number of teachers needed for full coverage of the population to be enrolled

Year	Equivalent academic year	Early childhood	Primary (first cycle)	Primary (second cycle)	General secondary	Secondary technical and vocational	Secondary vocational
2020	2019–20	12,337	45,978	16,874	4,919	241	1,151
2021	2020–21	14,074	57,720	25,579	6,275	265	1,362
2022	2021–22	15,811	59,748	40,266	10,781	315	1,793
2023	2022–23	17,547	61,829	40,998	18,909	409	2,622
2024	2023–24	19,284	63,987	41,591	21,155	496	3,481
2025	2024–25	21,021	66,200	42,108	23,532	577	4,388
2026	2025–26	21,489	68,450	42,631	25,984	650	5,362
2027	2026–27	21,957	70,818	43,174	28,449	716	6,435
2028	2027–28	22,425	73,356	43,677	30,924	775	7,655
2029	2028–29	22,893	76,072	44,214	33,442	829	9,085
2030	2029–30	23,361	78,958	44,790	36,089	877	10,826
2031	2030–31	22,893	82,000	45,410	37,491	920	11,414
2032	2031–32	22,893	85,255	46,054	38,879	958	11,850
2033	2032–33	22,893	88,727	46,756	40,216	991	12,256
2034	2033–34	22,893	92,396	47,582	41,535	1,019	12,639
2035	2034–35	22,893	96,251	49,211	42,900	1,044	13,014
2036	2035–36	22,893	100,277	50,924	44,329	1,065	13,392
2037	2036–37	22,893	104,562	52,712	45,824	1,083	13,782
2038	2037–38	22,893	109,091	54,584	47,815	1,098	14,180
2039	2038–39	22,893	113,851	56,588	50,065	1,109	14,588
2040	2039–40	22,893	118,827	58,717	52,408	1,116	15,010
2041	2040–41	22,893	124,003	60,968	54,118	1,120	15,448
2042	2041–42	22,893	129,496	63,319	55,266	1,121	15,904
2043	2042–43	22,893	135,278	65,769	56,398	1,117	16,373
2044	2043–44	22,893	141,346	68,350	57,531	1,110	16,855
2045	2044–45	22,893	147,696	71,062	58,691	1,097	17,352
2046	2045–46	22,893	154,322	73,914	59,859	1,079	17,861
2047	2046–47	22,893	161,377	76,897	61,005	1,056	18,381
2048	2047–48	22,893	168,858	79,999	62,108	1,026	18,910
2049	2048–49	22,893	176,793	83,249	63,190	988	19,447
2050	2049–50	22,893	185,203	86,661	64,276	942	19,993

Source: Estimates from the Education Financial Simulation Model (EFSM) of Mali's Ministry of National Education

The youthfulness of the population means that a major and sustained effort to recruit teaching staff is required to ensure full coverage of the population to be enrolled. For example, by 2030, the number of teachers in the first cycle of primary education will have to almost double (times 1.7 to be exact) to make it possible to enrol all children in the age group for this level of education. And due to high population growth, the need for teachers at this level will be much greater in the future. Between 2020 and 2040, the number of teachers will have to be multiplied by 2.6 and by 4 between 2020 and 2050. In the second cycle of primary education, the number of teachers will have to almost triple by 2030. It will have to be multiplied by 2.6 by 2030, 3.5 by 2040 and 5.1 by 2050. In general secondary education, the need for teachers in 2030 is estimated at more than 7 times the number in 2020. By 2040, these needs are expected to be 11 times higher than in 2020 and by 2050 13 times higher than in 2020.

Moreover, providing universal education is not only a challenge in terms of recruiting teachers on a large scale, but also in terms of building the necessary infrastructure to accommodate a rapidly growing school-age population. Table 9 presents the estimated number of new classrooms required to accommodate the entire school-age population and provide quality education.

TABLE 9: New classrooms needed to accommodate the entire school-age population

Year	Equivalent Academic Year	Early Childhood	Primary (First Cycle)	Primary (Second Cycle)	General Secondary	Secondary Technical And Vocational	Secondary Vocational
2020	2019–20	1,738	20,539	1,367	231	11	99
2021	2020–21	1,738	15,187	5,646	728	14	132
2022	2021–22	1,738	1,370	9,707	2,421	25	266
2023	2022–23	1,738	1,336	1,098	4,457	46	520
2024	2023–24	1,738	1,328	1,028	1,388	48	568
2025	2024–25	1,738	1,287	995	1,506	49	628
2026	2025–26	470	1,219	1,014	1,597	50	702
2027	2026–27	470	1,247	1,045	1,653	51	798
2028	2027–28	470	1,332	1,033	1,709	51	931
2029	2028–29	470	1,412	1,073	1,786	51	1,113
2030	2029–30	470	1,469	1,120	1,917	51	1,375
2031	2030–31	470	1,499	1,172	1,229	51	588
2032	2031–32	470	1,580	1,210	1,253	51	485
2033	2032–33	470	1,648	1,277	1,251	50	467
2034	2033–34	470	1,679	1,401	1,270	50	454
2035	2034–35	470	1,685	2,097	1,331	49	449
2036	2035–36	470	1,661	2,220	1,405	48	454
2037	2036–37	470	1,710	2,338	1,483	48	464
2038	2037–38	470	1,727	2,468	1,861	47	472
2039	2038–39	470	1,713	2,645	2,089	45	480
2040	2039–40	470	1,668	2,823	2,207	43	491
2041	2040–41	470	1,591	3,003	1,804	41	504
2042	2041–42	470	1,603	3,169	1,434	39	517
2043	2042–43	470	1,566	3,338	1,451	35	527
2044	2043–44	470	1,506	3,543	1,482	31	536
2045	2044–45	470	1,421	3,755	1,532	26	546
2046	2045–46	470	1,311	3,983	1,568	19	553
2047	2046–47	470	1,293	4,207	1,582	12	558
2048	2047–48	470	1,241	4,426	1,578	3	561
2049	2048–49	470	1,178	4,682	1,591	0	563
2050	2049–50	470	1,094	4,959	1,624	0	564

Source: Estimates from the Education Financial Simulation Model (EFSM) of Mali's Ministry of National Education

1.1.15.1 How much will it cost?

The financial cost of covering the entire school-age population is estimated, for each level of education, based on the total cost for each pupil. This includes current operating costs (teaching and non-teaching staff, teaching materials, administration, social security contributions) and costs related to capital expenditure (investments) for equipment and the construction or maintenance of infrastructure (including the construction of classrooms and premises for central or decentralized administrative and pedagogical support services).

Current costs depend on the number of pupils and capital costs depend on the increase in the number of pupils (which requires the creation of new school places). Therefore, the total cost of education is obtained by multiplying the number of pupils by the current cost per pupil and adding the capital cost per pupil multiplied by the number of additional pupils expected in the following year.

The cost is estimated using the Ministry of National Education's Education Financial Simulation Model (EFSM). Figure 24 presents the estimated annual costs of education provision for the entire primary and secondary school-age population.

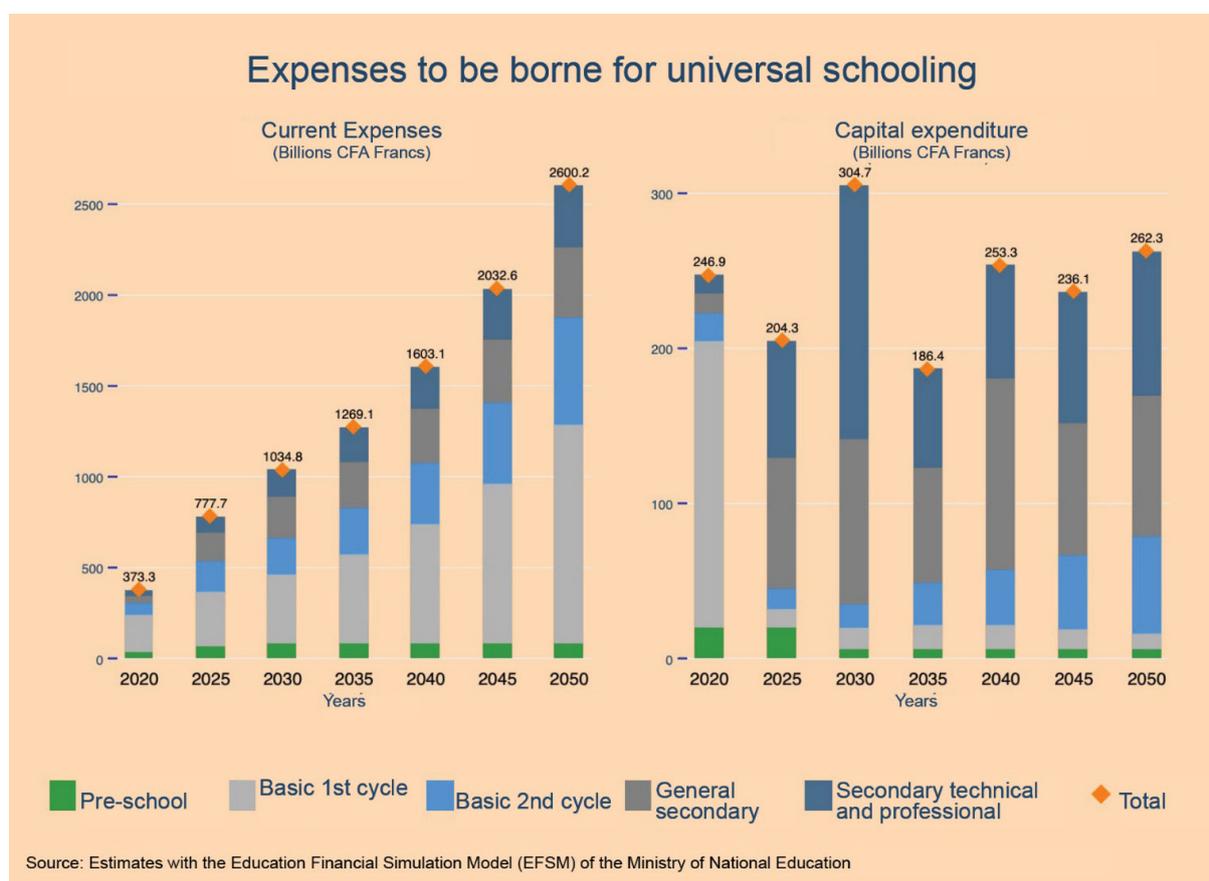


FIGURE 24: Cost of universal education

The simulations highlight the significant additional financial burden of providing school places to the entire school-age population. If the system is to cater for all school-age children from 2020, additional expenditure amounting to more than CFA franc 350 billion will be required for current expenditure alone. At the same time, investments of nearly CFA franc 250 billion will have to be made to increase the intake capacity of the education system to achieve universal enrolment.

Current expenditure accounts for the largest share of the costs. It will have to increase fairly sharply (CFA franc 778 billion in 2025, 1,035 billion in 2030, and more than 2,030 billion from 2040 onwards) to cover the entire school-age population. This is due to Mali's high population growth, which is increasing the size of the population aged 6 to 19.

1.1.15.1 Health

1.1.15.1.1 A shortage of financial resources and health workers

Figures 24, 25 and 26 present an overview of the resources available to the Malian health system, in particular the workforce (doctors, nurses and other health workers) and the state's current expenditure per capita. These data are essential to a better understanding of the extent to which the health needs of the population are being met. Indeed, health services rely heavily on well-trained human resources, particularly specialists and primary care staff. The number of human resources available to a given population is a good indicator of the operational capacity of a health system.

There is no golden rule for determining whether there is a sufficient number of health workers. However, the World Health Organization (WHO) considers countries with fewer than 23 health workers (counting only doctors, nurses and midwives) per 10,000 inhabitants to have inadequate coverage to provide their population with basic primary health care services. WHO has therefore set a minimum density of 23 per 10,000 inhabitants below which it is difficult to provide adequate health care services to the population.

This WHO indicator does not, however, adequately capture all health worker requirements in a given country.

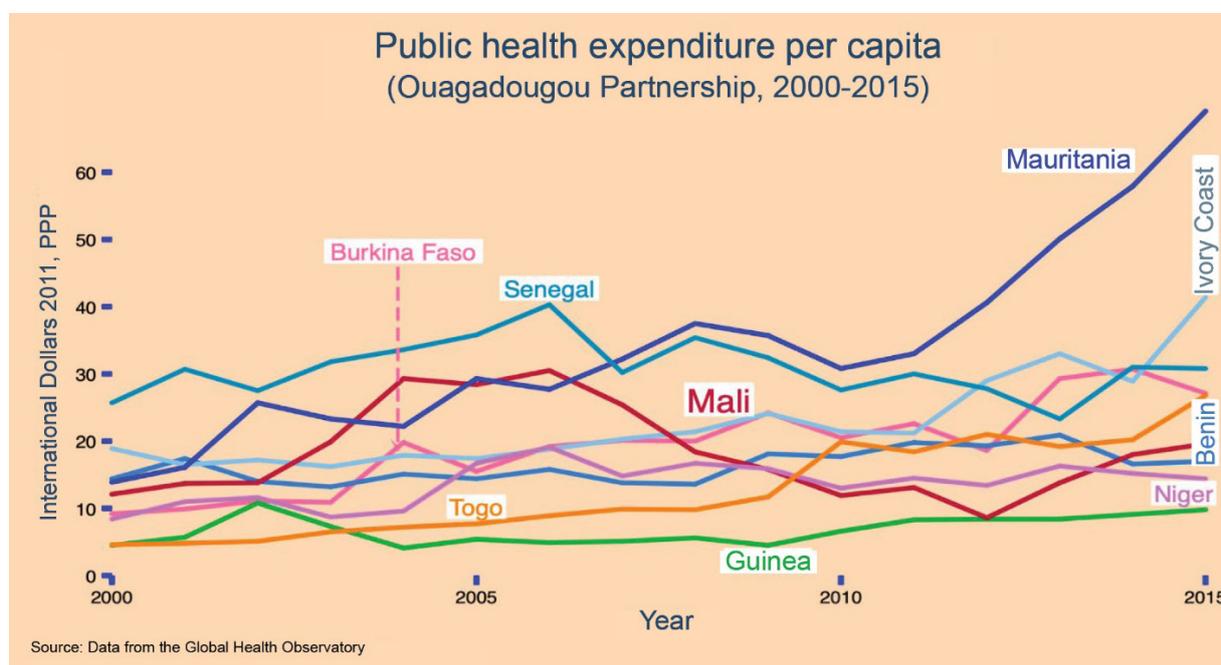


FIGURE 25: Public health expenditure per capita

On the other hand, the staff-related access deficit is an indicator of the gap in health coverage caused by the shortage of health workers. The staff-related access deficit indicator was developed by the International Labour Organization (ILO). It provides information on the shortage of skilled health workers and serves as a proxy measure for the availability of health services. It is measured using the relative difference between

a particular country's health workforce density and a benchmark. The benchmark is based on the median health workforce density in a group of countries that have succeeded in making health services widely available to the population, based on the available data on service coverage. Based on 2011 WHO data (number of doctors, nurses and obstetric staff per 10,000 inhabitants), this population-weighted median health workforce density is 41.1 per 10,000 inhabitants. This gives a median of just over 4 health workers per 1,000 inhabitants and exceeds the 2.3 per 1,000 minimum workforce density established for primary health care (ILO, 2011, 2014).

In the case of Mali, the staff-related access deficit indicator suggests that 86.9 per cent of the population does not have the health coverage provided for by law due to a shortage of health workers (threshold: 41.1) (ILO, 2008, 2014, 2017; WHO, 2014a, 2014b). Mali, like the vast majority of African countries, has a very high access deficit. Therefore, one way to improve the overall health status of the population would be to close this human resource gap.

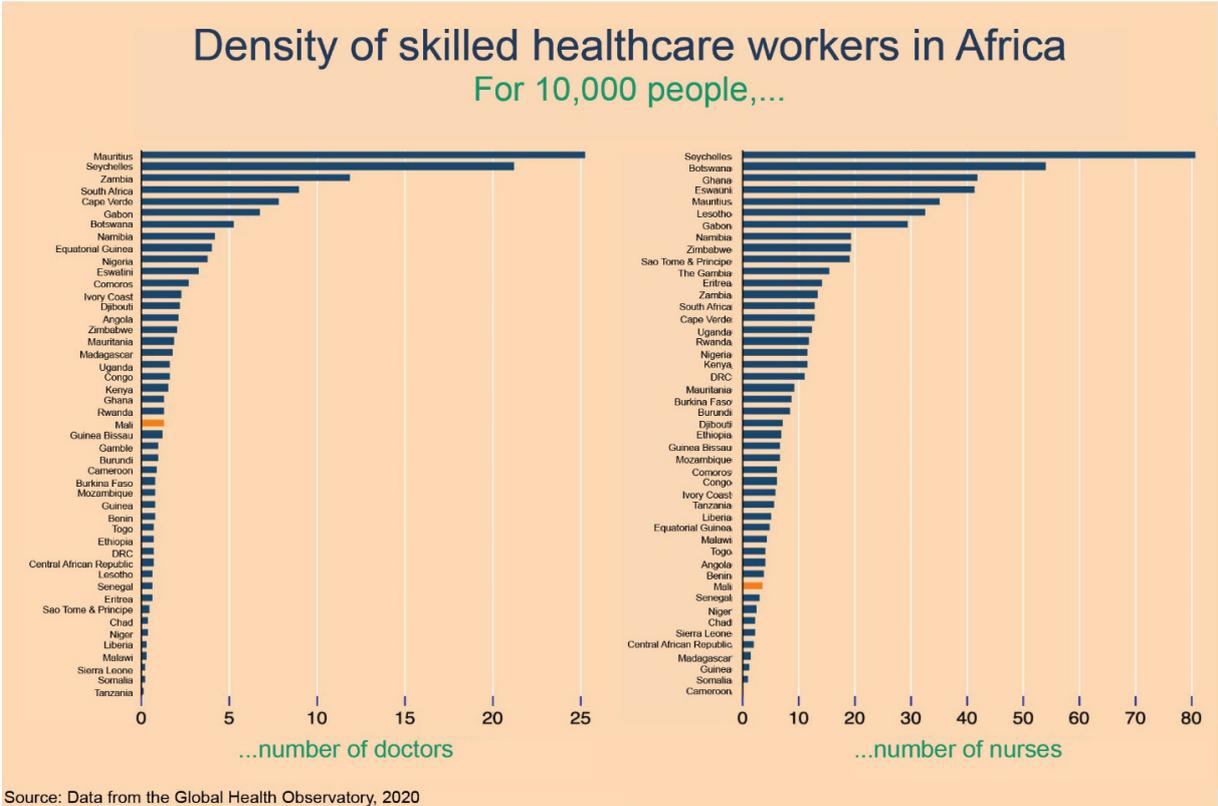


FIGURE 26: Density of skilled healthcare workers in Africa

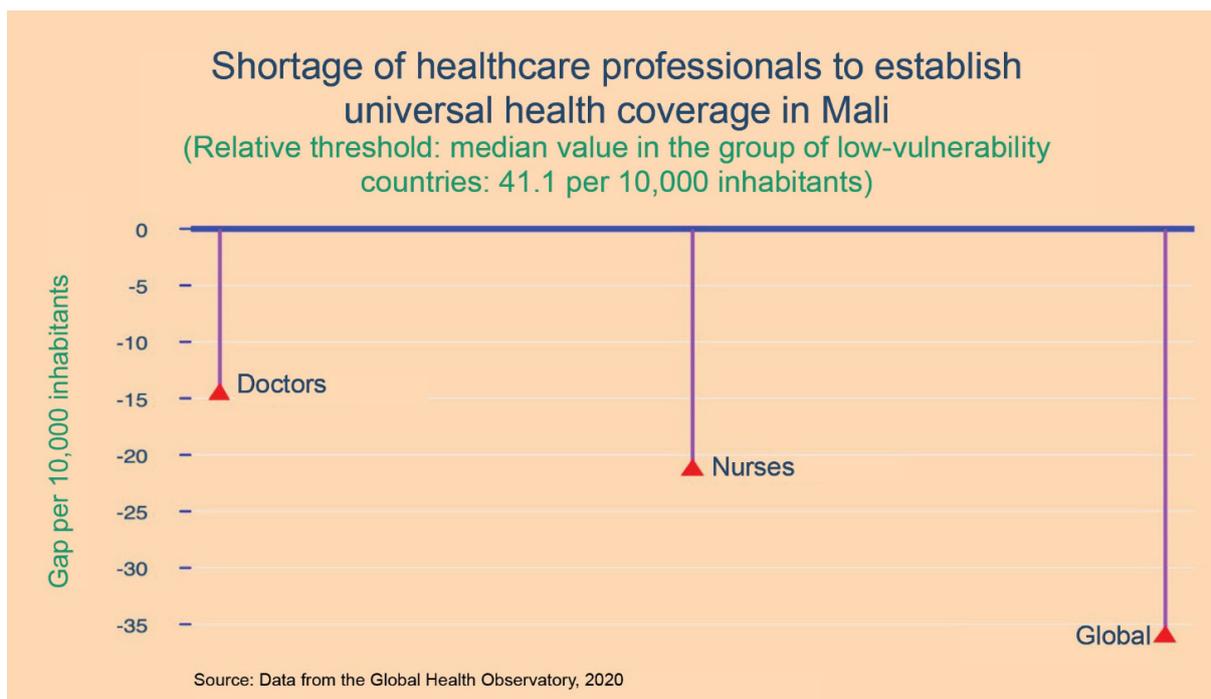


FIGURE 27: Health worker deficit in Mali

1.1.15.1.1 Projected health workforce needs

Improving the health status of the population, especially children, is key to improving a country's Human Capital Index score and to slowing the rate of population growth. This means that Mali must invest more in the health sector to create conditions conducive to the economic and social transformation envisaged in the CREDD. Above all, this will involve investing to improve public health and general health care services for the population. More specifically, Mali must strengthen its efforts to ensure that all people, especially the poorest, have access to affordable quality health care.

In Mali's context, the health system and services mainly depend on the number, skills and commitment of health workers, as is the case in almost all developing countries. The health workforce is the cornerstone of the building blocks of a health system. This means that any strategy seeking to strengthen a country's health system must focus primarily on strengthening the workforce. The priority is therefore to significantly increase the number of health workers to lay the foundations for an overall improvement in the health status of the population and in so doing create the conditions for a demographic dividend.

To estimate the need for skilled health workers (doctors, nurses and obstetric staff), the International Labour Organization (ILO) uses as a proxy the relative difference between a particular country's health workforce density and the median health workforce density in countries with low vulnerability. The population's access to health workers in low-vulnerability countries is therefore used as a benchmark for other countries. The ILO's relative benchmark is the median value in the group of countries considered low vulnerability based on their labour market structure and poverty (for the list of countries see ILO, 2014). Figure 28 presents Mali's estimated needs in terms of health workers over the period 2012–2030.

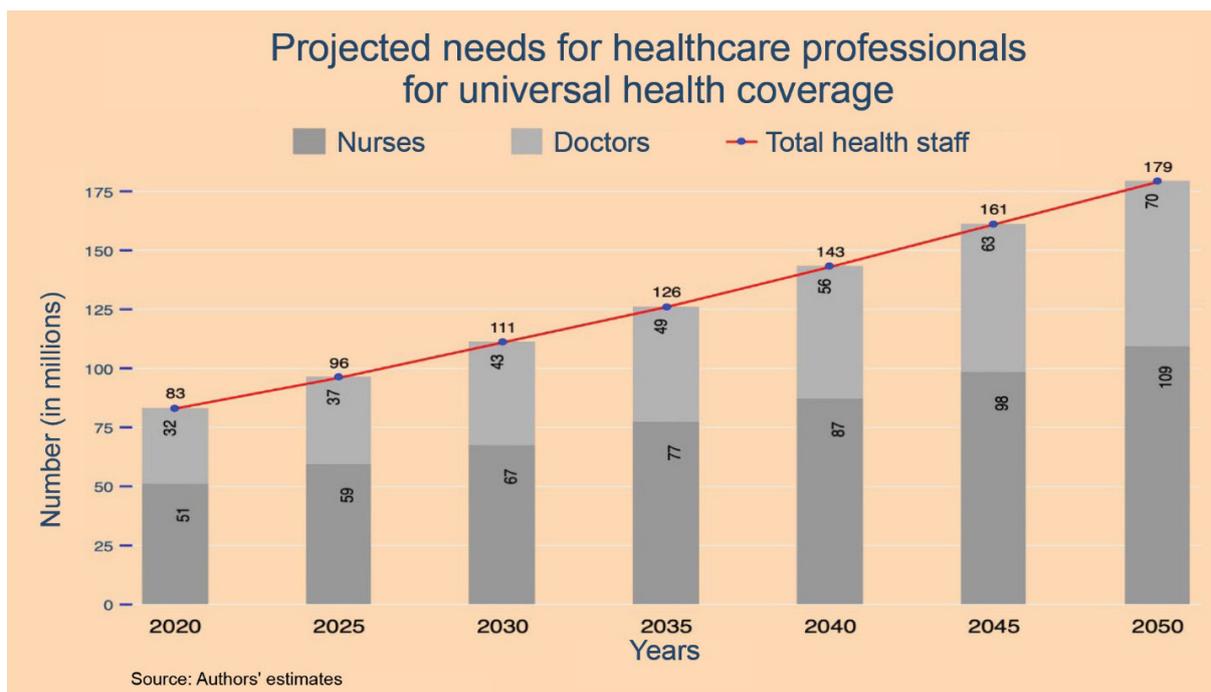


FIGURE 28: Health workforce needs

Figure 28 shows the increasing need for health workers in Mali to ensure the health system is able to provide adequate quality care to the population.

This projected change in the number of health workers needed to provide full health coverage to the population is mainly a consequence of rapid population growth. Indeed, for health coverage ratios to comply with established standards in terms of the number of health workers in each professional category (doctors, nurses, midwives, etc.) and the density of health care facilities, Mali will need to increase the number of skilled health workers each year. As such, current and projected population growth is exerting significant pressure on the country's health care system. Unless it also takes measures to address the population variable, Mali will not be able to cover its staffing needs through measures in the health sector alone (e.g. investing in staff development and recruitment).

1.1.15.1.1 Estimated cost of health workforce needs

Mali's health system currently has a severe shortage of health workers. To close this gap and to ensure there are enough health workers to comply with established standards for staffing levels in each professional category (doctors, nurses, midwives, etc.), adequate and predictable financial resources must be made available to invest in staff development.

Figure 29 provides an assessment of the levels of expenditure required each year to ensure the availability of these staff. The calculation is based on the average full-time equivalent gross monthly salary of a public sector employee: CFA franc 310,501 for a general practitioner, CFA franc 342,163 for a specialist physician and CFA franc 153,503 for a nurse. The projections show a rapid increase in the annual cost of providing a health worker density in line with the median of the group of benchmark countries (ILO, 2014). For example, between 2020 and 2050, these costs will increase by an average of 15 per cent every five years, rising from CFA franc 214 billion in 2020 to CFA franc 460 billion in 2050.

The high levels of expenditure required reflect the significant financial effort needed to ensure a qualitative transformation of health coverage in Mali. This raises the issue of sustainability. The question is whether Mali will have sufficient fiscal space to mobilize the necessary resources. Analysing the country’s expenditure-to-GDP ratios can help to answer this question.

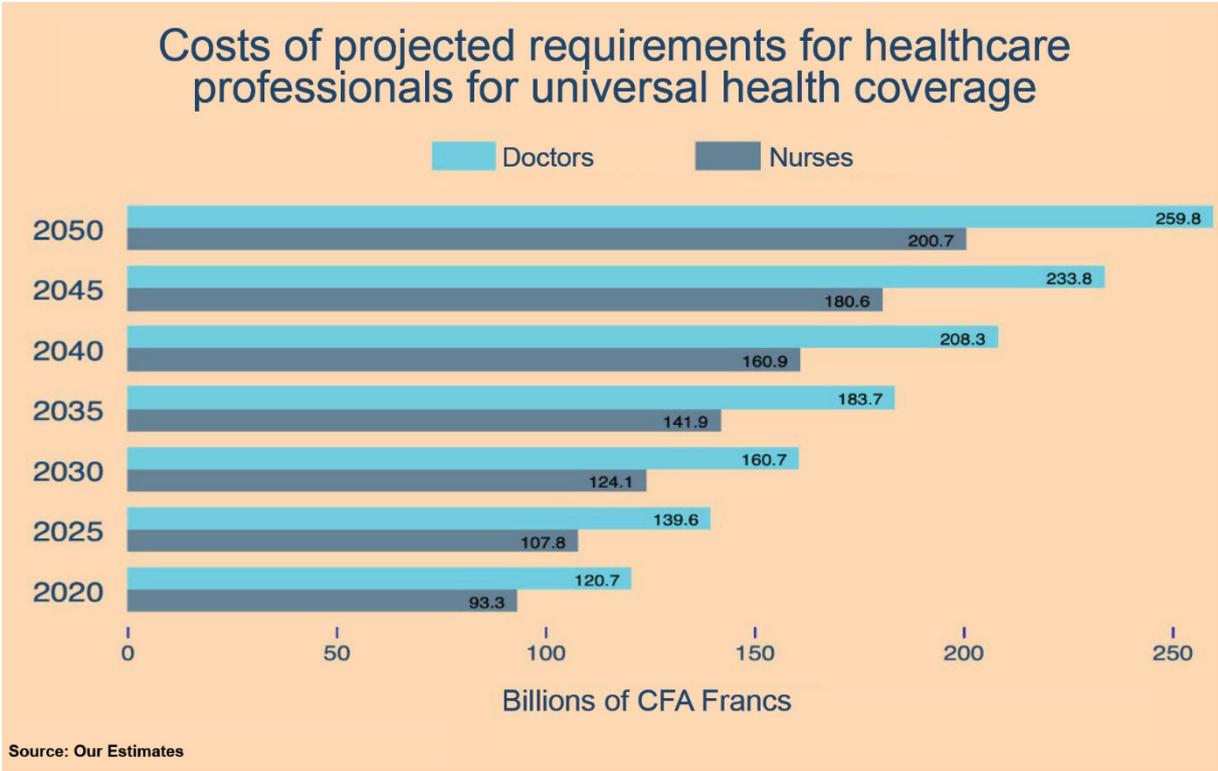


FIGURE 29: Cost of projected health workforce needs

1.1.16 The funding challenge

It is clear from the above assessments that more resources must be allocated to the social sectors to achieve the objectives set out in the country’s strategic economic and social policy documents, including the CREDD, as well as its commitments within the framework of the SDGs. This has major implications for closing the country’s human capital gap, accelerating the rate of economic growth and improving Malians’ standard of living. However, the question remains how and from where additional resources can be mobilized.

The simulations show that the financial burden of providing every Malian with a complete quality education and full health in the future is relatively high, increasing significantly and continuously until 2050. The amounts needed are in the order of CFA franc 835 billion in 2020, 1,230 billion in 2025, 2,225 billion in 2040 and more than 3,300 billion in 2050.

As a share of GDP, these amounts represent a relatively large proportion of national resources. Figure 30 shows the change in the expenditure-to-GDP ratio expected over the period 2020–2050. It is notable that, if the current trends for economic growth and tax-to-GDP ratio continue, a large share of national resources will inevitably have to be mobilized to build and maintain a health system and an education system capable of providing universal coverage and quality services to the population. The resources needed to meet the country’s objectives will account for around 10 per cent of GDP on average, rising from 9 per cent in 2020 to almost 12 per cent in 2050.

Compared with the state budget, the burden is much higher. Indeed, Mali will have to mobilize more than half of its State budget each year to finance the investments needed to eliminate the country’s human capital deficit. The share of public expenditure required to reach this target is estimated at 53 per cent in 2020, 63 per cent in 2025 and 70 per cent in 2050.

This trend is unsustainable, as it requires the State to devote the bulk of its resources to education and health.

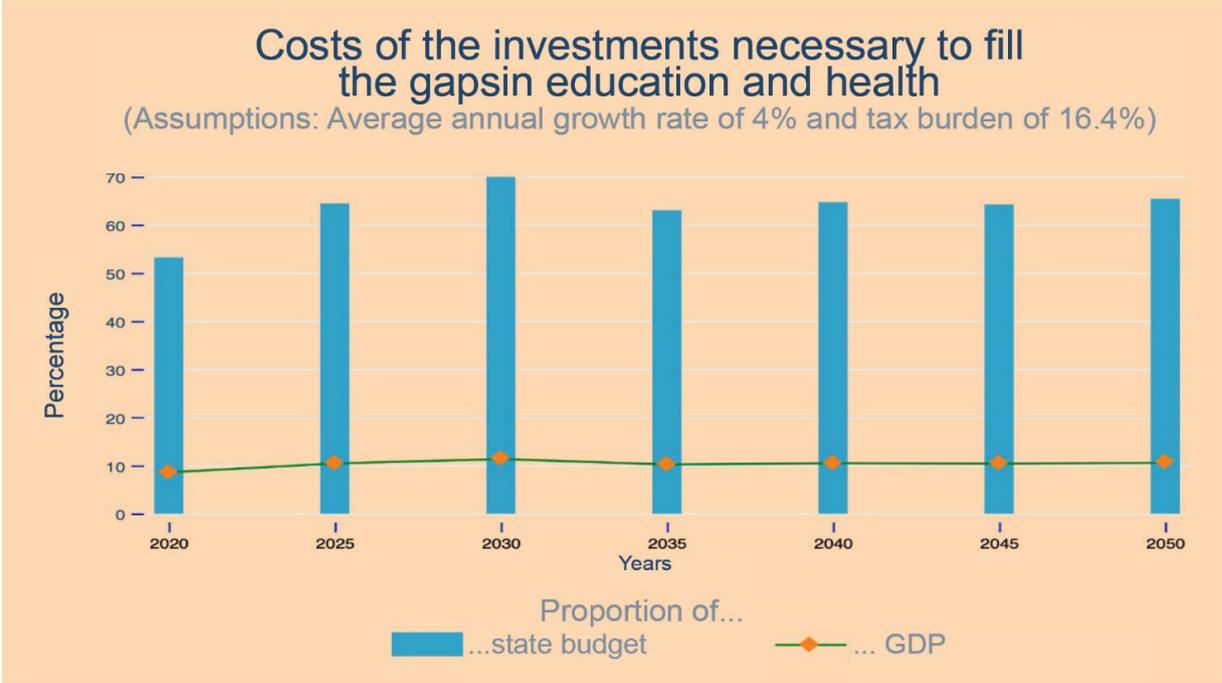


FIGURE 30: Relative cost of investments to close the human capital gap

It is therefore clear that, given the economic outlook, population growth and low tax-to-GDP ratio, the Government of Mali will not have the resources required to achieve its ambition of guaranteeing the population full health and complete quality education. In other words, if current demographic, economic and fiscal trends are not reversed as quickly as possible, Mali will not have sufficient additional resources to adapt the services offered by its health and education systems to the needs of its population moving forward.

The question then becomes how and from where it can mobilize additional resources. This question is all the more important as Mali is currently going through a period of instability that is putting additional pressure on the economy and the State budget.

Indeed, Mali has the resources to finance most of the strategies proposed to create conditions conducive to closing its human capital gap. The resource potential is there, and additional domestic resources can be mobilized to finance these policies. It is certainly possible for the country to increase its domestic financial resources by creating fiscal space more generally, giving it room to manoeuvre from which social sectors, such as education, health and family planning, could benefit.

Fiscal space is the budgetary room that allows a government to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy (Heller, 2005). Mali, specifically, could increase its fiscal space in two ways. First and foremost, it could harness the country’s full fiscal capacity given that the country’s tax-to-GDP ratio is still very low. According to the CREDD document, the

country's tax revenues in 2017 and 2018 represented only 15.2 per cent and 15.7 per cent of GDP respectively, well below the community minimum of 20 per cent provided for in the WAEMU Convergence Pact. In fact, only Togo achieved this standard in 2019 with a rate of 20.9 per cent according to the semi-annual report on the implementation of multilateral surveillance published in December 2019. The situation is as follows in the other member countries: Benin (11.0 per cent), Burkina Faso (17.8 per cent), Côte d'Ivoire (16.6 per cent), Guinea-Bissau (8.0 per cent), Mali (14.9 per cent), Niger (10.8 per cent) and Senegal (17.9 per cent).⁴

Given Mali's performance in this area, it seems that fiscal policy plays only a marginal role in meeting the country's financing needs. Broadening the tax base and strengthening the tax administration should therefore significantly increase the country's tax resources. The country's tax revenues as a share of GDP could be increased by at least 5 percentage points through reforms to tax policy and the customs administration, enabling the country to meet the 20 per cent minimum convergence criterion. With a nominal GDP of CFA franc 10,256.377 billion in 2019, this would correspond to additional tax revenue of at least CFA franc 513 billion. Mali would then have significant fiscal space to allocate adequate financing to an ambitious human capital catch-up strategy (Figure 31).

Equally important are government policies aimed at accelerating growth. Faster GDP growth increases the overall size of the economy and strengthens the fiscal environment. Growth that is widespread and equitably distributed among different populations increases the material standard of living of the average Malian.

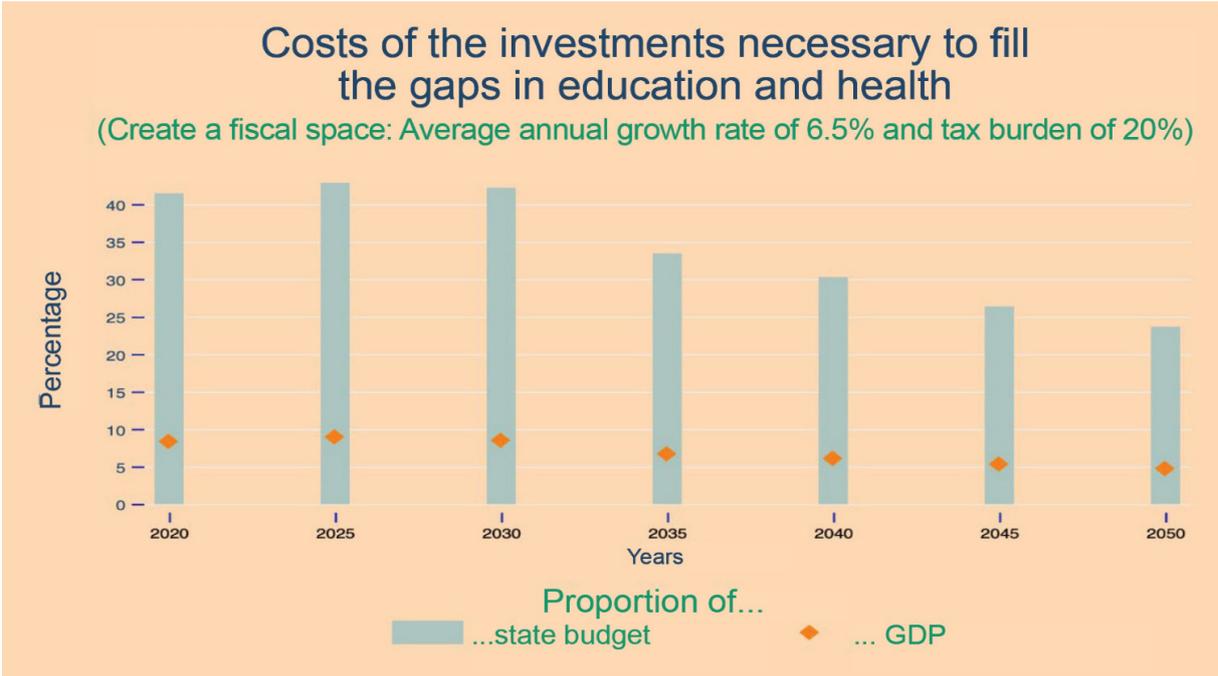


FIGURE 31: Creating fiscal space to finance human capital development

All the econometric estimates suggest that faster economic growth would improve the fiscal outlook. They show that stimulating economic growth reduces future budget deficits, other things

4 West African Economic and Monetary Union (WAEMU), The Commission (2019). *Rapport semestriel d'exécution de la surveillance multilatérale [Semi-annual report on the implementation of multilateral surveillance]*, December 2019.

being equal, mainly through higher tax revenues. As GDP grows, the government will be able to collect more taxes, given that as incomes and spending rise, people will pay more income tax and VAT. This is beneficial because the government can then use the increased revenues to reduce the level of government borrowing and/or spend more on public services and investments in human capital development and the country's infrastructure. This investment in human capital and infrastructure can, in turn, help improve the long-term performance of the economy. For example, a higher level of human capital can improve productivity and reduce the cost of doing business. Growth can therefore trigger a virtuous circle of higher investment leading to higher growth – which in turn leads to more investment.

1.1.17 Building peace to finance development

For more than ten years, Mali has sought to create conditions conducive to strong and sustainable growth, not only by developing an environment favourable to productive investment and economic diversification, but also by continuing and intensifying its efforts to build a stable macroeconomic framework and ensure the sound management of public finances. The country is, therefore, in the midst of a relatively vigorous but still fragile growth cycle.

However, the outlook for a strong and sustained improvement in output over the medium term remains uncertain, given the unstable security situation and unhelpful population dynamics. Uncertainty is high and security concerns are undermining the country's performance in terms of long-term economic growth. Mali is currently devoting a disproportionate share of its limited economic resources to military spending, compromising its ability to achieve the country's ambitions as set out in the CREDD.

It is widely accepted that high levels of military spending can undermine a country's performance in terms of long-term economic growth in two direct and interrelated ways. Firstly, increased military spending reduces the total stock of resources available for other national uses such as investments in productive capital, education and health. Secondly, increased military spending can exacerbate distortions that reduce the efficiency of resource allocation, thereby reducing total factor productivity.

While some might argue that military spending promotes economic growth by improving the security situation, there are undoubtedly other, more efficient, ways of using resources that would be more beneficial to the economy. The opportunity costs of military spending, mainly in relation to alternative public programmes, are therefore still very high.

It is therefore imperative that Mali create conditions conducive to a peaceful socio-political climate to enable it to release the resources needed to implement strategies to accelerate economic growth for the benefit of all.

IV CONCLUSION

This monograph has examined the security challenges arising from Mali's population dynamics over the period from 1960 to 2040. The analysis was based on existing national data that were collected, processed and analysed in line with a framework submitted by the United Nations Population Fund/West and Central Africa Regional Office (UNFPA/WCARO), based in Dakar, Senegal, with support from the UNFPA/Mali office. The population projections prepared by the United Nations Population Division (World Population Prospects, The 2019 Revision, medium variant) were used to analyse the change in Mali's population over the period 1960 to 2040 and the needs arising from this demographic change in the health, education, defence and security, economic and food security sectors.

The analyses conducted have found that the status of the population, its size, its age and gender structure, its distribution over the national territory and its dynamics (fertility, mortality, migration), at a given time, can create a very complex interactional situation that can promote peace, security and stability in a country or endanger peace, security and stability, if the high social demands arising from population growth in the social sectors (health, education, defence, employment) are not met. The budgetary efforts made by Mali to meet the social demands arising from the country's population dynamics have been analysed. These analyses have shown that the country's efforts have been insufficient to meet these social demands. Mali must therefore make greater budgetary efforts for the benefit of the social sectors in the future to ensure that supply and the social demands arising from population growth are aligned in the health, education, defence, employment, and food and nutritional security sectors. The study has found that the current security problems are rooted in a decades-long failure to satisfy social demands and are exacerbated by the effects of changes in the structure and dynamics of the Malian population.

The interrelationship between population growth, peace and security has affected almost all areas of Mali over the last twenty years or so, and has been particularly evident in certain regions in the north and centre of the country, leading to multifaceted conflicts that usually begin as community conflicts over the means of survival.

The national response to these crises grew as the size of the problems became increasingly apparent.

In a context of multiple cross-border security threats, sub-regional and multilateral cooperation remains the most appropriate way to address a challenge of this nature. The G5 Sahel and the Sahel Alliance remain an appropriate framework for effective collaboration, consultation and joint action between multiple countries. The Sahel Alliance has launched a quick-impact programme to stabilize the border areas of the G5 Sahel, improve access to and the quality of basic social services and strengthen populations' resilience. The programme will also have a strong impact in terms of mitigating vulnerabilities, by reducing social imbalances in the region, for the benefit of young people and women in particular, and strengthening social cohesion. It will also help to reduce disparities between geographic areas in terms of social and economic development. Regional initiatives should be complemented by the establishment of an overarching information system on the various dimensions of development issues.

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