

**East Africa Collaborative Ph.D. Program  
in Economics and Management**

**An Evaluation of Rwanda Vision 2020's  
Achievements**

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## **Preface**

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The objective is to increase research capacity and quality, to promote research and collaboration in research, to share gained insights into important policy issues and to acquire a balanced viewpoint of economics and financial policymaking which enables us to identify the economic problems accurately and to come up with optimal and effective guidelines for decision makers. Another important aim of the series is to facilitate communication with development cooperation agencies, external research institutes, individual researchers and policymakers in the East Africa region.

Research disseminated through this series may include views on economic policy and development, but the series will not take any institutional policy positions. Thus, any opinions expressed in this series will be those of the author(s) and not necessarily the Research Papers Series.

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# **An Evaluation of Rwanda Vision 2020's Achievements**

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## **Abstract**

This paper evaluates the extent to which Rwanda has achieved its Vision 2020 targets. To address this, it reviews the six-pillar composite indicators -- good governance and a capable state; human resource development and a knowledge based economy; a private sector-led economy; infrastructure development; productive and market oriented agriculture; and regional and international economic integration. It uses descriptive and analytical approaches in analyzing the data and also in its reporting. It also reviews different theories that explain the development discourse and contrasts these with Rwanda's growth path since 1994. Further, it also reviews short-term country development strategies (PRSP, EDPRS 1&2, the seven-year government program (7YGP) and imihigo (annual performance targets).

Keywords: Rwanda, governance, Vision 2020, development.

JEL Classification Codes: D13; D63; H53; I131; I138; J13;

## **1. Introduction**

Research shows that the per capita gross domestic product (GDP) in the world quadrupled between 1900 and the early 1990s, corresponding to an average growth rate of about 1.5 per cent per year. Aggregate production increased steadily in most countries in the world in the 20th century. This growth scenario, however, seemed to have bypassed Rwanda because of its post-independence leadership that lacked strategic foresightedness in its national political, economic, social and technological planning. In general, Rwanda was badly governed during most of the last regimes. Both the colonial and post-colonial regimes ruled Rwanda on the basis of divisionism, favoritism and prejudices that sparked the 1994 Tutsi genocide that killed more than 1 million people. As a consequence, Rwanda was one of the poorest countries in the world and, the people of Rwanda were until recently strongly divided. However, despite this historical scar Rwanda's average annual GDP growth rate of 8 per cent today is higher than that of Western European countries in the early 1990s (5.6 per cent). This success story largely hinges on the strategic roadmap that the Government of Rwanda laid down in 2000 in its Vision 2020. After 1994 a set of integrated development programs were put forth by the government which highlighted unity which justifies all the economic, social, political and technological transformations.

The future that Rwandans wish to see is embedded in its Vision 2020, a statement of the kind of society that Rwandans want to become. It is a reflection of their aspirations and determination to construct a united, democratic and inclusive Rwandan identity without discrimination between its citizens after so many years of authoritarian and an exclusivist dispensation. Through this vision, Rwanda wants to transform into a middle-income nation in which Rwandans are healthier, educated and generally more prosperous; it also wants to be a united and competitive country both regionally and globally (Vision 2020).

The government turned the post-genocide adversity into an opportunity by creating a national vision in Vision 2020 which is a translation of Rwandans' aspirations for the future of their country and society. The vision presents a framework and key priorities for Rwanda's development and is a guiding tool to overcome poverty and foster unity and reconciliation in the future.

Rwanda's Vision 2020 stands on six pillars and three crossing areas: Good governance and a capable state, human resource development and a knowledge-based economy, a private sector-led economy, infrastructure development, productive and market-oriented agriculture and regional and international economic integration. The cross-cutting areas are gender equality, protection of the environment, sustainable natural resource management and science and technology including ICT

Some of the Vision 2020 outcome indicators are GDP per capita of \$ 900 which was later revised in 2012 to \$1,240, average GDP growth rate of 8 per cent, 50 per cent wood energy in national energy consumption, a population growth rate 2.2 ( per cent) (the Rwandan population to be 13 million), life expectancy of 55 years, reducing the infant mortality rate from 107 to 50, reducing the maternal mortality rate from 1,070 to 200, reducing the percentage of the population in extreme poverty from 64 to 30 per cent (revised in 2012 to less than 10 per cent of Rwandan households), reducing child malnutrition from 30 to 10 per

cent of the population, increasing net primary/ secondary school enrolments from 72 to 100 per cent, increasing the rate of admissions in tertiary education from 1 to 6 per cent, gender equality in decision-making positions from 10 to 40 per cent, reducing the HIV/AIDS prevalence rate from 13 to 8 per cent, reducing malaria-related mortality from 51 to 25 per cent, increasing the growth rate of the industrial sector/ services sector from 7 to 11 per cent and increasing non-agricultural jobs from 200,000 to 1,400,000 annually.

Vision 2020 has been converted into action by a series of medium-term national poverty reduction and economic development strategies.

PRSP (2002-06) was the Government of Rwanda's (GoR) first systematic assessment and finding out the action needed to reduce poverty and generate pro-poor economic growth. It was elaborated in a post-conflict environment where the main emphasis was on managing a transition from emergency relief to rehabilitation and reconstruction.

EDPRS 1 (2008-12) was based on PRSP's experience (significant progress particularly in health and education) and focused more on accelerating growth, creating employment and generating exports. This was largely because under PRSP productive sectors including agriculture, infrastructure and industry remained a challenge. These were outlined in three flagship programs: Growth for jobs and exports, the Vision 2020 umurenge (VUP) and good governance.

The overarching goal of EDPRS 2 (2013-18) is 'Accelerating progress to middle income status and better quality of life for all Rwandans through sustained average GDP growth of 11.5 per cent and accelerated reduction of poverty to less than 30 per cent of the population.' EDPRS 2 is guided by revised targets of Vision 2020 adopted in May 2012 which clearly outline the objectives to be achieved as a pre-requisite for rapid growth and poverty reduction. EDPRS 2's objectives were aligned with the objectives of Vision 2020 (Table1).

Insert Table 1 about here

Different theories explain governance, leadership and growth processes in market economies across the globe. These theories in some way answered the recurring question in 2000: What will be Rwanda's sources of economic growth? Other key questions which Vision 2020 had to address were: How do Rwandans envisage their future? What kind of society do they want to become? How will they construct a united and inclusive Rwandan identity? What are the transformations needed to emerge from an unsatisfactory social and economic situation? Remember 60 per cent of Rwandans were living below the poverty line (PRSP) which was unacceptably high for GoR though it was not too surprising given the history of the country when there were years of economic decline and bad governance. With the conviction that it was possible to vanquish hunger, misery and deprivation, in 2000 the government set priorities that would see Rwanda progress in all spheres.

Realistically none of these theories alone sufficiently explain the growth trend in Rwanda considering its national budget of \$260 million francs in 1998 and 1,768.3 billion francs in 2015-16 where 64 per cent of the national budget was domestically financed. As the Minister of Finance told the cabinet recently, 80 per cent of the national budget for financial year 2017-18 will be financed domestically.

The energy and determination invested in the Vision 2020 concept and the implementation of this vision generated an economic recovery which has dramatically impacted growth, income and poverty. Long-term indicators tell the story of socioeconomic rebound after a major upheaval. Average annual economic growth averaged more than 10 per cent in the decade after 1995. Since 2000, this momentum was sustained and culminated in a perfect developmental 'hat trick' of sustained economic growth, poverty reduction and a reduction in income inequalities by the end of the EDPRS 2 period. Despite the disruptions caused by the 2008-09 global financial crisis, Rwanda's the annual economic growth during 2005-11, was a robust 8 per cent, the headcount poverty and extreme poverty ratios both fell by nearly 12 percentage points taking a million people out of poverty and income inequalities also declined. In short, Rwanda has been 'on the move' and has provided real improvements in living standards for its population.

If theoretical models are not capable of replicating at least the most important facts their relevance is only limited. This appears to be a promising route, although one has to admit that it is still ambiguous and debatable. Nevertheless, it seems that empirical regularities about economic growth which are pretty robust can be identified. This was done in the 1960s and the following observations represent stylized facts in the growth theory:

1. The on-going growth in aggregate production and in the productivity of labor with no tendency of a falling rate of growth.
2. A continued increase in the amount of capital per worker.
3. Steady capital-output ratios over long time periods.
4. A steady rate of returns to capital which exceed the long-term rate of interest.
5. A high correlation between the share of profits in income and the share of investments in output and a steady share of wages and physical capital in national income.
6. There are considerable differences in the rate of growth of labor productivity and of total output in different sectors.

Since these observations date back to the 1960s, the question arises whether these can be confirmed. Modern empirical studies have tried to answer this question for different countries. The conclusion they have reached is that all stylized facts can be more or less confirmed for developed countries with the exception of the fourth one. It is argued that the assumption of a stable real rate of return should be replaced by the hypothesis of a slightly declining rate of return as an economy evolves over time. The justification for this is seen in observations that show that the real rates of return in some fast growing countries like South Korea, Singapore and Taiwan in the second half of the 20th century were much higher than those in advanced economies, but these rates declined over time. This leaves lessons for Rwanda and PRSP to draw from the experiences of developing countries both in Africa and in particular in South East Asia. It should be remembered that PRSP was Rwanda's dynamic living document between 2002 and 2006 which had to be continuously reviewed and updated.

Other features of modern economies considered as characteristic for the growth process are a fast rate of structural transformation implying first a shift from the agricultural sector to an industrialized one and later to the services and information technology sectors; the role of technological changes becomes more important in the growth process as countries grow; there is also increased significance of governments in the process of economic growth in terms of laws to regulate economic transactions and also because of the growing significance of public infrastructure in the growth process. Some characteristics of these economies are reduced dependence on natural resources, the rising importance of foreign trade and the increased role of formal education in schools and universities.

Another aspect which should be pointed out is that economists often maintain a theoretical dichotomy between growth and business cycles. This means that growth theories tend to explain the medium- and long-run trends in output and in production possibilities rather than short run fluctuations in production. The latter is the object of the business cycle theory which needs equally serious scrutiny in understanding a country's growth path.

Researchers strongly believe that empirical facts play an important role in defining the future of any country. They also believe that countries derive policy implications from empirical observations. Our study evaluated the six pillars of Vision 2020 and identified whether all the pillars have been achieved and also looked at challenges affecting their implementation.

## **2. Methods**

Our study used a qualitative research design to achieve its objectives. It is analytical and descriptive in nature and uses secondary data.

Our study did a qualitative analysis as a method to review designed policies, reports, published papers, the Vision 2020 revised report of 2012 and country integrated development programs.

A multivariate analysis helped achieve the objectives by looking into the relationship between Vision 2020's pillars and their outcome indicators between 2000 and 2016.

## **3. Results and discussion**

### **3.1 Introduction**

Rwanda is experiencing one of the most exciting and fastest periods of growth and socioeconomic progress in its history. It was the tenth fastest growing economy in the world during the decade from 2000. At the same time more than a million people were lifted out of poverty. Population growth is stabilizing and the country is making great strides towards achieving the millennium development goals (MDGs) and middle-income status.

### **3.2 Discussion of results**

Vision 2020 has been converted into action by a series of medium-term strategic plans.

The six broad areas identified as priorities for action under PRSP (2002-06) were rural development and agricultural transformation, human development, economic infrastructure, governance, private sector development and institutional capacity-building. These led to very good progress in the country's development with major gains in social sectors including in health and education. In terms of non-income poverty, PRSP was much more successful. Infant, under-5 and maternal mortality decreased by 20 to 30 per cent, poverty also reduced from 58.9 per cent to 56.7 per cent. Extreme poverty fell by 4.2 percentage points, from 40 per cent to 35.8 per cent between 2001 and 2005, while income inequality as measured by the Gini coefficient increased from 0.505 to 0.522.

EDPRS 1 (2008-12) was based on the experience of PRSP (significant progress particularly in health and education) and focused more on accelerating growth, creating employment and generating exports. This was largely because under PRSP the productive sectors including agriculture, infrastructure and industry remained a challenge. Hence, in EDPRS 1 these were outlined in three flagship programs: Growth for jobs and exports, the Vision 2020 umurenge (VUP) and good governance. Development analysts have described the achievements under EDPRS 1 as the perfect development 'hat trick' of growth, poverty reduction and reduction in inequalities which have put Rwanda back on track to achieve the MDGs. Economic growth averaged 8.2 per cent over the period while poverty reduced from 56.7 per cent to 44.9 per cent allowing more than 1,000,000 Rwandans to be lifted out of poverty in less than five years. Income inequalities also reduced to 0.49 in 2011 below the level of 2001.

The track record of past achievements has strengthened confidence and the belief of the population in its ability to deliver on development ambitions. Rwanda has the potential to grow rapidly and to exceed the levels of growth and poverty reduction and to exceed the levels of development experienced during PRSP, EDPRS 1&2 and 7YGP.

The overarching goal of EDPRS 2 (2013-18) is 'Accelerating progress to middle income status and better quality of life for all Rwandans through sustained average GDP growth of 11.5 per cent and accelerated reduction of poverty to less than 30 per cent of the population.' EDPRS 2 is guided by the revised targets of Vision 2020 adopted in May 2012 and it clearly outlines the objectives to be achieved as a pre-requisite for rapid growth and poverty reduction (Table 2).

Insert Table 2 about here

Since 2000 Rwanda has made much progress towards attaining Vision 2020's objectives and has even surpassed some of the targets (Table 3).

Insert Table 3 about here

According to Vision 2020's revision report (2012), 26 per cent (12) of the 47 indicators in the original Vision 2020 had already been achieved. In 2011, with less than 10 years for the realization of the vision it was necessary to assess the relevance of the indicators and targets and ensure that they continued to reflect the ambitions and the progress of the country towards attaining its long term development goals. This culminated in a revision of the original Vision 2020 targets through a consultative process where the revised targets were

adopted at the 9th Leadership Retreat in February 2012. The original Vision 2020 contained 47 indicators and targets, which were revised to 48.

The rationale for the revision was based on:

1. Aligning targets to the level of low-middle-income countries: An analytical comparison was done of Rwanda and middle-income countries and adjustments made where necessary. The most notable change is the adjustment of GDP per capita to meet the changing thresholds of middle-income countries. The existing Vision 2020 target for GDP per capita was revised from \$ 900 to \$ 1,240. The current threshold for lower-middle income countries is \$ 1,006 to \$ 3,975; for upper-middle-income countries it is \$ 3,976 to \$ 12,275; and for high-income countries it is \$12,276 or more. Meeting this target will ensure that Rwanda moves into the lower-middle-income category by 2020.
2. Harmonizing with the more ambitious 7-year government program's (7YGP) targets: Some 7YGP targets were found to be more ambitious than those contained in Vision 2020. These include the target for percentage of population below poverty line (20 per cent in 7YGP while it was 30 per cent in Vision 2020) and target for access to electricity in 7YGP (70 per cent while it was 35 per cent in Vision 2020).
3. Inclusion of indicators and targets for climate change, governance, ICT and regional integration: Vision 2020 had already considered these as important areas in the six pillars. This was now reinforced with high level indicators such as biodiversity, citizen satisfaction with service delivery, rule of law and the degree of openness reflected by the proportion of trade in GDP.
4. Some targets already achieved which needed to be more ambitious: Out of the original 47 indicators in Vision 2020, 12 (26 per cent) had already been achieved and 16 (34 per cent) were well on-track to be achieved among which are the average GDP growth rate, agricultural production (kcal/day/person), infant mortality rate, secondary school transitional rate, malaria-related mortality and admission rates in tertiary education. More ambitious targets were set for the indicators already achieved.

For other indicators extremely above average level of achievement had been realized. Life expectancy for an average Rwandese drastically increased from 49 years in 2000 to 66 years in 2016; child mortality rate reduced from 76/1,000 in 2000 to 50/1,000 in 2015. Women mortality rate reduced from 476/100,000 in 2000 to 210/100,000 in 2015. Population still living under the poverty line reduced to less than 20 per cent, extreme poverty drastically decreased from 64 per cent of the population to a less than 16 per cent, more than 1,704,000 million new off-farm jobs were created, 17.3 per cent of the population living was living in urban centers and there was steady exports growth of 15 per cent per annum. The private sector is yet to take a dominant share of investments given the public-private partnerships all over the country. Growth in net primary and secondary school enrolments registered 100 per cent success.

### **3.3 Vision 2020's pillars**

#### **Good governance and a capable state**

Governance is defined by UNDP as ‘the exercise of economic, political and administrative authority to manage a country’s affairs at all levels, comprising the mechanisms, processes and institutions through which that authority is directed.’ While referring to good governance, we seek to highlight attributes of governance that are most likely to promote development, human rights, justice and peace. Some attributes of good governance that we considered are:

1. **State capability:** The government should be capable of ensuring security and rule of law and providing the goods and services required for development.
2. **Accountability:** Mechanisms should exist for the public to hold politicians and civil servants responsible for their performance. Accountability may be horizontal between governmental bodies or vertical between government and citizens.
3. **Responsiveness:** Government policymaking should be responsive to the demands emerging from society. Participatory mechanisms can promote this.
4. **Fairness:** Established rules should apply equally to everyone.
5. **Inclusiveness:** Government employment, institutions and services need to be open to all individuals and groups in society without discrimination.
6. **Legitimacy:** The basis of state institutions should be widely accepted across society.

Our paper argues that Rwanda’s governance performance is the most important measure of all sustainable development; it captures the country’s main sectors as reported by different indices both nationally and internationally. Among the national indices, the Rwanda Governance Scorecard (RGS) produced by the Rwanda Governance Board has been assessing the state of governance in Rwanda over three years along eight indicators --- participation, rule of law, transparency, responsiveness, consensus oriented, equity and inclusiveness, effectiveness and efficiency and accountability. RGS (2016) measures Rwanda’s governance performance along eight indicators -- rule of law; political rights and civil liberties; participation and inclusiveness; safety and security; investing in human and social development; control of corruption, transparency and accountability; quality of service delivery; and economic and corporate governance.

Outside Rwanda, many indices have also been reporting annually on the country’s progress including Gallup, Inc., the Mo Ibrahim Index on Africa Governance (IIAG), the Doing Business Index, the Global Competitiveness Report (World Economic Forum), the Human Development Index, the Corruption Perception Index and the Global Open Data Index. In 2015, Rwanda’s transformational journey was noticed by many international ranking institutions that report on countries’ performances in different areas. Rwanda was ranked among the top performers on the African continent as well as on a global scale.

According to World Bank’s (2015) Doing Business Report, in global competitiveness Rwanda was among the leading economies in Africa in policy and structural reforms. Open Knowledge International’s Global Open Data Index (2015) ranked Rwanda as a country with

the most available open government data in Africa, jumping over 30 places in a period of two years. The emphasis put on Rwanda's robust governance policies also earned it great rewards in terms of the country's competitiveness measures, on economic growth and on the public sector's effectiveness in a number of areas including the low level of waste in government spending. These were a result of the government's efforts in promoting a transparent and accountable governance system. The Rwandan leadership's efficiency and effectiveness was captured by the World Economic Forum in its 2015 report. The report produces an annual overall global ranking in which Rwanda was ranked the 7th most efficient government globally (GCI, 2015). On issues of transparency and accountability, Transparency International's Corruption Perceptions Index (CPI) ranked Rwanda among the least corrupt seven states on the continent. The Rwanda Governance Scorecard (RGS), an index produced by the Rwanda Governance Board (RGB) assessed corruption, transparency and accountability in the public sector on which Rwanda scored 79.04 per cent (RGS, 2014).

### **Human Resource Development and a knowledge-based Economy**

The country has shown progress in all three underlying sub-categories – welfare, education and health. Rwanda's best performance is in sub-category health, scoring 85.1 and ranking 7th on the continent. Rwanda's health gains were also captured by the Lancet Global Health report (June 2015) in its state capability and Rwanda's health gains. Rwanda's health achievements surpassed those of its peers and even of countries with higher levels of economic development. Rwanda has the highest primary school enrolment rate in Africa and is one of the continent's best performers in fighting corruption (WEF, 2015). Rwanda, like any other society that is making socioeconomic changes, continues to invest in its people as the core resource for success.

According to RGS (2014), over the last five years the education sector performed better than other sectors with a score of 84.75 per cent and health slightly improved from 77.78 per cent in 2012 to 79.64 per cent. By 2012 school completion rates had also increased significantly for both boys (79 per cent) and girls (82 per cent).

In the health sector, health transformation over the last 10 years is highly remarkable where life expectancy increased from 51 years in 2002 to 64 years in 2012. Infant, under-5 and maternal mortality all decreased by 20-30 per cent. By 2013, all the health MDG targets for 2015 had been achieved while others were on track. In 2012 the population per doctor was 15,428; this represented an increase of 9 per cent from 2011 (RGS, 2014).

As of 1 January 2017, the population of Rwanda was estimated to be 12,033,749 people. This is an increase of 2.40 per cent (282,385 people) as compared to a population of 11 751 364 the year before. In 2016 the natural increase was positive, as the number of births exceeded the number of deaths by 298 485. Due to external migration, the population declined by 16 099. The sex ratio of the total population was 0.965 (965 males per 1,000 females) which was lower than the global sex ratio. The global sex ratio was approximately 1 016 males to 1 000 females in 2016.

Total life expectancy (both sexes) at birth in Rwanda is 66 years. This is below the average life expectancy at birth of the global population which is about 71 years (according to the Population Division of the Department of Economic and Social Affairs of the United Nations).

According to our estimates 4 853 352 persons or 70.58 per cent of the adult population (aged 15 years and above) in Rwanda are able to read and write. Accordingly, about 2 022 611 adults are illiterate.

The literacy rate for the adult male population is 73.21 per cent (2 485 715 persons); 909 607 people are illiterate. The literacy rate for adult female population is 68.02 per cent (2 367 636 persons); 1 113 005 women are illiterate.

Youth literacy rates are 78.47 per cent and 82.19 per cent for males and females respectively. The overall youth literacy rate is 80.37 per cent. The definition of youth literacy covers the population between the ages of 15 to 24 years (UNESCO Institute for Statistics).

### **A private Sector-led Economy**

Private sector development is one of GoR's key development strategies transitioning from an agrarian society to an economy led by the private sector. The Government of Rwanda has put private sector development at the forefront of poverty reduction and economic transformation since 2000 as one of its strategies for attaining middle-income status. The country consequently adopted the private sector development strategy in 2013 to address key constraints in private sector development including high costs of energy and access to finance and entrepreneur deficits particularly among small and medium enterprises (SMEs). Supporting the private sector to become the engine of growth is the core objective of most development partners in the country. SME development has had a big impact on unlocking the contribution of Rwanda's private sector to inclusive growth, job creation and poverty reduction. The share of private sector investments which was 10 per cent in 2010 increased to 13 per cent in 2016 and many government strategic interventions which will enable the private sector to get a dominant share of investments through private-public partnerships are underway.

In the second quarter of 2014, GDP at current market prices was estimated to be Rwandan francs 1,314 billion, up from 1,185 billion francs in the same quarter in 2013. The services sector contributed 47 per cent of GDP while the agriculture sector contributed 33 per cent of GDP. The industry sector contributed 14 per cent of GDP and 6 per cent was attributed to adjustment for taxes less subsidies on products (NISR, 2014). In the second quarter of 2014, the agriculture sector grew by 5 per cent and contributed 1.5 percentage points to the overall GDP growth. Activities in the 'industry sector' grew by 5 per cent and contributed 0.7 percentage points to GDP growth. The services sector increased by 9 per cent and contributed 4.2 percentage points to GDP growth. This growth trend is in keeping with the Vision 2020 indicator of becoming a knowledge based middle-income country. The inter-sectoral shift of labor from agricultural to non-agricultural activities has been particularly fast in Rwanda and has been the main driver of poverty reduction and economic growth. The

extent to which Rwanda can sustain this shift will determine in part whether the country can keep up its pace of growth and poverty reduction. If Rwanda moves gradually towards a middle-income status and its labor force continues growing rapidly, jobs, especially in the non-farm sector, will become increasingly important as a transmission mechanism between aggregate growth and household living standards.

Infrastructure development, enterprises and institutional development were designed to complement each other to reduce the cost of doing business and to strengthen the business environment in Rwanda. One of the key flagship programs to support private sector development is the Skills, Employability and Entrepreneurship Program (SEEP), which is supporting a comprehensive set of policy reforms to enhance critical skills and attitudes for the labor market and nurturing entrepreneurship and business development skills in order to generate 200,000 off-farm jobs per annum.

Loans have been disbursed to SMEs in key growth sectors of the economy including agribusiness, manufacturing, micro-finance, information and communication technology, hospitality, education, healthcare, energy and water enabling SMEs to access long term loans to expand their operations.

The informal economy remains dominant and accounted for 65 per cent of GDP in 2011 (NISR 2012). Private sector investments while growing remain low and job creation has been well below what the government targeted and what is necessary for Rwanda to become a middle-income country by 2020.

### **Infrastructure Development**

Development of basic infrastructure is one of the key indicators of Vision 2020. It covers areas of transport, ICT based communication, cooking and lighting energy, water and sanitation. This was one of the rational ways of land use updated in terms of land development, housing and urbanization.

Connecting rural communities to economic opportunities through improved infrastructure is one of the key development investment priorities for Rwanda because infrastructure is critical for rural communities to grow.

Rural populations are becoming more connected to each other through the use of ICT devices. This success is primarily through mobile phones owned by an estimated 45 per cent of households (EICV3 survey). This contributes to increased economic interaction and also for demand-driven services such as agricultural market information and mobile banking.

Mobile money enables transfers to those in poor areas and facilitates trading.

Water supply and sanitation play a critical role in preventive healthcare and socioeconomic development in rural areas. Ready access to water reduces the time spent searching for water and may improve educational outcomes. Evidence suggests that women/girls bear more of the cost of distant water sources in Rwanda. Hygiene and sanitation is a strong complement to effective access to clean water.

According to the Rwanda Transport Development Agency (RTDA), the transportation environment is a basic economic interaction between supply and demand. A mature transportation system displays this interaction best in the area where the biggest demand exists, for example, a densely populated urban area would typically have a dense road network and public transport infrastructure to serve the demand for transportation that exists there. In a developing environment though the challenge is to use transportation interventions to have a catalytic effect in ‘creating’ a demand where, at present, it may not be to the extent that warrants investments.

Thus, to develop a vibrant private sector, Rwanda as a country is investing in roads, air, railways and also in water transport infrastructure with the intent to dramatically reduce the cost of transport for businesses and individuals.

Development of physical infrastructure like energy generation and distribution, road construction and rehabilitation and ICT has been the government’s priority to improve the business environment and reduce the cost of doing business in Rwanda (Table 4).

Insert Table 4 about here

### **Productive and Market-oriented Agriculture**

Modern agriculture and livestock has been a priority for Rwanda since 1994. Government expenditure has been directed to agriculture supply, agribusiness, land reforms and promotion of value addition for exports. Strong emphasis has been put on implementing the pro-poor Vision 2020 umurenge program (VUP), introducing integrated development projects in all provinces and promoting non-traditional export crops.

The results of the 2016 SAS indicate that the main crops grown in 2016 Season A were banana followed by cassava, beans, sorghum and maize. In Season B, the main crops grown were banana followed by cassava, beans, sorghum and maize. Season C was different as the main crops were Irish potatoes followed by sweet potatoes, vegetables and beans.

The government policy is to diversify agriculture and encourage more mixed farming; farm animals provide food for the household, a potential source of income and organic fertilizers.

Farming by and large remains non-mechanized; farmers mainly use a simple hoe and other equipment to cultivate (EICV3). The use of improved inputs remains low, although it is being encouraged by the government with subsidies being given for inputs used for growing priority crops on consolidated land.

Rwanda has so far achieved strong, inclusive economic growth and there are signs of economic transformation, a reduction in dependency on agriculture and an increase in non-farm employment with 1.2 million new jobs being created between 2000-01 and 2010-11. Agriculture still dominates in terms of employment and contributes about 55 per cent of the export earnings and meets about 80 per cent of the country’s food needs, although there has been a small decline in its contribution to GDP in recent years.

## **Regional and International Economic Integration**

Rwanda is now a part of regional communities like the East African Community (EAC), the Common Market for East and Southern Africa (COMESA) and the Countries of the Great Lakes (CEPGL) which has opened it to many markets and business opportunities that can be tapped by the private sector to create jobs and in fighting poverty.

Increased regional integration has expanded market potential and economies of scale. Rwanda's alertness and pro-activeness in environment mainstreaming has also provided a natural center for green growth and investments.

### **3.4 Cross-cutting issues**

#### **Gender Equality**

Strong political commitment in Rwanda has resulted in significant positive strides in the promotion of gender equality and women's empowerment. Rwanda is currently the world leader in terms of the number of women in Parliament (64 per cent after the 2013 Parliamentary elections) although women still remain under-represented in politics at the local and sub-regional levels. Conducive policy and legal frameworks for mainstreaming gender in socioeconomic sectors are in place at all levels (including a national gender policy and gender sensitive laws such as the Gender Based Violence Law, Inheritance Law and Land Law). Pro-poor and gender friendly programs such as Girinka have been initiated and gender mainstreaming approaches such as the Gender Responsive Budgeting Initiative have been undertaken. Gender parity at five primary levels is commendable with girls' net enrolment rate of 98 per cent which is higher than for boys (95 per cent).

#### **Environmental protection**

Rwanda is already equipped with policies, strategies, action plans and financial instruments to further upscale and expand green agricultural practices that will increase both food production and protect and sustain the ecosystem services that underpin economic development. The balance between production and protection will be a delicate one, especially given the country's growing population, its landlocked location and the changing global climate among other drivers of environmental change. Resource efficient, low carbon and climate resilient agriculture is a priority for Rwanda and is reflected in different reports.

Rwanda aims to introduce and implement green farming practices and innovation for sustainable agricultural pathways with the twin goals of productivity and ecosystem protection.

#### **Information and communication technology**

The Government of Rwanda prioritized ICT as an enabler of its socioeconomic development through the new five-year (2013-17) national strategy on ICT development called 'Smart Rwanda.' ICT development is private sector led though the government can facilitate its

growth in rural areas by putting in the basic infrastructure such as internet connectivity. Market information systems for farmers covering trade and price information can improve the efficiency of the market.

Recognizing ICT's potential in transforming how government services to citizen and business can be improved and the efficiency and effectiveness that the government is gaining by using ICT efforts to digitize public service delivery were accelerated in 2015 through Irembo by the Rwanda Online Platform Limited. Irembo is envisioned to become the government's one-stop-shop for all services for citizens and businesses. Its objective is to achieve a fully cashless and digital society with at least 95 per cent of all transactions being done electronically by 2017. To date, 30 services are on the platform while more than 100 have already been digitized under the respective institutional platforms.

In the business sector, in 2013 Rwanda had 2,538,651 mobile payment subscribers. Compared to 12,012 in 2012, there was a net increase of 1,098,110 new subscribers in a just a period of 12 months. As a direct effect, the volume of transactions more than doubled, reaching 57,147,777 transactions during one year alone. In the education sector, distribution of XO laptops had reached 203,763 units covering 407 schools by December 2013. Digital content was also used in these schools, allowing primary school students to access courses in a digital format thus improving the quality of education and their learning experience.

In Africa, Rwanda remains the country with the largest deployment of laptops under the One Laptop per Child Initiative (OLPC). In 2016, in partnership with different companies the government launched a laptop purchase program for students in university on a loan scheme to facilitate ICT-based learning and for accelerating the penetration of smart devices and increasing country-wide broad band penetration. These laptops are locally manufactured in Rwanda by Positive BGH.

In the health sector, the use of ICT for the delivery of health services across the country by connecting internet to health facilities has reached 93.8 per cent. This continued development brings health information systems and medical record systems closer to health facilities and helps in providing better and timely reporting. In partnership with the California-based robotics company, Zipline Inc. the government launched the world's first national drone health delivery service across the country to increase the efficiency of transporting blood to 21 transfusion facilities located in the western part of the country.

As a supplement to traditional patterns of healthcare delivery, telemedicine and e-diagnosis have improved the way medical professionals share medical expertise. Numerous benefits have resulted from the use of telemedicine and e-diagnosis, ranging from the creation of a network of specialists; improving access to specialists; and improving the quality of diagnostics and treatment.

In the agriculture sector, the utilization of the flagship e-soko system has been on the increase, empowering more farmers with timely market price information for crops. e-soko has supported more than 11,000 farmers to make informed market pricing decisions.

In 2013 the government continued to be a large consumer of ICT for service delivery to citizens. One key highlight of 2013 was the completion of the telepresence/videoconference

network currently deployed in all districts, provinces and ministries. The use of this technology has dramatically reduced the number of trips by local leaders to other cities. This has translated into several gains such as reduction in fuel expenses, time saving, environmental carbon footprint reductions and most importantly additional time to serve citizens better.

#### **4. Challenges in the implementation of Vision 2020**

A range of challenges were confronted in the medium and long term development aspirations but were balanced by exploitable opportunities: poverty and inequalities are high; land, a basic resource for many people's rural livelihood and for new productive activity is being pressured by increasing population density and demographic trends; and the growing share of the youth in the population requires 200,000 jobs to be created each year. The labor force is characterized by low skills and productivity; the private sector is constrained by its small scale and lack of suitable infrastructure; and delivery of development faces horizontal (across sectors) and vertical coordination (center to district to community) challenges (Table 5).

Insert Table 5 about here

#### **5. Policy recommendations**

The Government of Rwanda should invest more in building the capacity of its citizens. If all Rwandans have the knowledge to understand the available opportunities and challenges they can get out of poverty. Rwanda is surrounded by countries which are rich in mineral resources and are bigger in size so the only way that Rwanda can survive is by building capacity and becoming an industrialized place for their materials.

The Rwandan government should distribute service centers, NGOs and other big projects that are right now allocated to Kigali to other areas that are under-developed so as to help people get jobs.

To deal with high population density, the government should put more effort in sensitizing Rwandans on the advantages of family planning.

The government should invest in establishing industries and encourage other international industries to invest in Rwanda; this will enhance exports and the accessibility of jobs to nationals.

It should aggressively promote and prioritize the 'Made in Rwanda' program.

Develop a comprehensive plan to exploit key emerging sectors of mining, finance, biomedical and pharmaceutical industries, textile and garments etc.

Mobilize innovative financing (the export growth fund, agriculture financing, low cost housing and BPO industry and implement the Capital Market Master Plan).

On good governance, local levels should have programs on a specified day in a week to reach out to citizens to solve their complaints; the government must strengthen awareness campaigns on the usage of online services.

On corruption at the lower levels, the government through the Ombudsman office must implement punitive measures for culprits (including seizing their property) and protect whistle blowers.

In the agricultural sector, Rwanda has less land and the only way to make it productive is to modernize it by improving seeds, scaling-up small and large scale irrigation and improving management models. There is a need to finalize the agriculture decentralization model to ensure efficiency and plan for increased productivity of irrigation sites and inputs (fertilizer and seed distribution) and construction of dam sheets that can keep rain water that can be used at the time of a drought.

In the services sector growth in hotel and restaurant services in Rwanda is disappointing at below 5 per cent. The government should put more effort in establishing technical institutes in every district that can develop and train people on how to give satisfactory services. There is a need to develop a joint plan (public and private) to improve the quality of services in priority sectors like hotels, restaurants, banking, telecommunications and transport.

On energy the government must ensure that all the people are living in planned settlements such that they can have access to electricity:

- Need strong strategies for those who can/ cannot afford off-grid services by working with the private sector.
- Need a strong program for cooking energy – scattered efforts have not yielded significant results especially in rural areas.
- Develop a long term strategy for large scale organized settlements.

On education the Ministry of Education should ensure that teaching programs match employers' demands. There is a need to strengthen reforms in education at all levels with a focus on the quality of education.

On health the Ministry of Health should make sure that health facilities are accredited, audits and peer reviews for enforcing hygiene and service delivery standards are done, IFMIS for health facilities is implemented to improve financial management, early identification and management of malnutrition cases is strengthened, fortified blended food distribution for malaria should distribute bed nets, spraying and there should be community sensitization on hygiene.

## **6. Conclusion**

Despite many challenges, Rwanda has made remarkable progress since 2000 in improving peace and security and also in designing and implementing sound policies in line with her vision of transforming into a middle-income economy by 2020. According to the World Bank (2015) Doing Business Report, in global competitiveness Rwanda was among the

leading economies in Africa in policy and structural reforms. This was a result of the government's efforts towards promoting a transparent and accountable governance system. The Rwandan leadership's efficiency and effectiveness was also captured by the 2015 report of the World Economic Forum which produces an annual overall global ranking; Rwanda was at the 7<sup>th</sup> position for the most efficient government globally (GCI, 2015). More than 1,704,000 million off-farm jobs were created closing the poverty gap to less than 16 per cent in the country and increasing life expectancy from 49 years in 2000 to 66 years in 2016. The literacy rate moved from 48 per cent in 2000 to 72 per cent in 2016. The proportion of the population that now had electricity was 30 per cent compared to 2 per cent in 2000. The population of Rwanda was 8,300,000 million in 2000. It is now 11,809,295 million. This population increase is because of peace and improvements in social and health spheres. Based on the current outcome indicators and with three years still left Rwanda will achieve its Vision 2020 targets.

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Table 1: Linking EDPRS 2's objectives with Vision 2020's targets

EDPRS 2 objectives	Vision 2020 targets
Rapid economic growth to middle-income status	*GDP per capita of \$1240 *Avg. GDP growth of 11.5%
Increased poverty reduction	*Poverty reduced to 20% *Extreme poverty eliminated
More off-farm jobs, more urbanization	*1.8 million new off-farm jobs *35% of the population urban
Reduced external dependency	*Exports growth of 28% p.a.
Private sector as the engine of growth	*Private sector takes dominant share of investment

Source: EDPRS 2.

Table 2: Linking EDPRS 2's objectives with Vision 2020's achievements

EDPRS 2 objectives	Vision 2020 achievements
Rapid economic growth to middle-income status	*GDP per capita of \$ 689.69 *Avg. GDP growth of 6.10%
Increased poverty reduction	*Poverty reduced to 20% *Extreme poverty reduced to less than 16%
More off-farm jobs, more urbanization	*1,704,000 million new off-farm jobs *17.3% of the population urban
Reduced external dependency	*Exports growth of 15% p.a.
Private sector as the engine of growth	*Private sector takes dominant share of investment where 10% in 2010 changed to 13% 2016

Source: National Budget (2015-16).

Table 3: Indicators by 2012

Indicator	Status in 2000	Current status	Original target	7YGP target	Average LMIC	Proposed new Target
Women representation in decision making organs (%)	None	30	40	None	40	40
Citizens' satisfaction with service-delivery (%)	None	66	None	80	None	80
Rank in world corruption	None	49 <sup>th</sup>	None	<10 th	None	10 <sup>th</sup>
Index on Rule of Law (%)	None	67.7	None	None	None	80

Source: Vision 2020's revised report (2012).

Table 4: Key statistics on Rwandan infrastructure

Infrastructure area	Status
Road Transport	The National Paved Road Network is currently 1,210 km. The target is to pave around 500 km more in the coming years (up to 2018). It started with Kivu Belt project (158 km of new tarmac road). Great care is taken in the maintenance of the paved national road network with currently 86% of the roads in good condition with a target of 95% in 2017-18.
Air Transport	The Kigali International Airport terminal has recently been upgraded. The Kamembe Airport (Rusizi) runway was resurfaced in the 2014-15 fiscal year. The New Bugesera International Airport project is progressing with expropriation completed. Rwandair is growing and expanding with a larger fleet of aircraft; an increased target of 20% more passengers for the next 12 months and opening of new destinations.
Regional Projects	Rwanda is currently part of the Railway Line Projects of Dar-es-Salaam - Isaka - Kigali and Mombasa - Nairobi - Kampala - Kigali.
Energy Sector	Increase in electricity connections: From 6% in 2008 to 22% August 2014 Steady increase in generation: 119.6MW in August 2014 Electricity Generation: 59% Hydro, 40% Thermal, 1% Methane. Regional Interconnections: Developing Uganda - Kenya - Ethiopia lines. Biomass Consumption: Reduced from 99% in 2000 to 85% in 2013. Resource Potential: 400 MW Hydro: 84% still available, 350 MW Methane: 79% still available. 700 MW Peat: 89% still available, 4.5 kWh per m <sup>2</sup> - solar for 5 hours per day Average tariffs: \$0.22c/Kwh for industry, \$0.21c for other consumers
The Water and Sanitation Sector	Due to its success in water and sanitation, Rwanda is being used as a case study for all of Africa. Abundant supply of lakes and high altitude water. Access to clean water: 75.2% in June 2014 Sanitation coverage: Around 75% by C.O.B 2014
Housing and Urbanization	For the first time since Rwanda's independence, the urbanization and rural settlement sector is part of the country's political and strategic environment with its importance to the built environment and rapid change being acknowledged. Urbanization in both urban and rural areas is accelerating. Housing and Urban Planning Targets - 2012 to 2020: Main targets: (i) Increase urban population from the current low of 14.8% to 35%, (ii) The sector is in tandem with achieving other infrastructure targets. Urbanization is related to macro targets: <ul style="list-style-type: none"> <li>• Increasing off-farm jobs from 1.4m to 3.2m</li> <li>• Reducing the agricultural population from 71.6% to 50%</li> <li>• Increasing access to financial services from 47% to 90%</li> </ul>
Information and Communication Technology	During 2015, the ICT sector continued to be a major driver of Rwanda's economic growth. The sector recorded an average growth of 16% ahead of the rest of the economy which grew at 6.9%.

Source: Ministry of infrastructure (2014).

Table: 5 Vision 2020's key outcome indicators and challenges

Outcome indicator (area)	Challenges
Governance	<ul style="list-style-type: none"> <li>➤ Poor quality of services in public and private sectors (attitudes, speed, etc.)</li> <li>➤ Problem solving at the local level</li> <li>➤ Sophisticated corruption mechanisms</li> </ul>
Economic Growth Trends	
Agriculture	<ul style="list-style-type: none"> <li>• In agriculture; productivity, use of fertilizers and improved seeds, quality of livestock and plant disease control have not improved enough to grow agriculture output at the targeted rate of 8.5%.</li> </ul>
Industry	<ul style="list-style-type: none"> <li>• In industry manufacturing remained stagnant while growth in mining was affected by a decrease in international prices and regulations.</li> </ul>
Service	<ul style="list-style-type: none"> <li>• In services growth in hotel and restaurant services was disappointing at below 5% reflecting challenges in the quality of services and low spending per tourist. Trade growth was consistently high though short of targets.</li> </ul>
Savings and Investments	<p>Low level of long term saving deposits for investments. High cost of financing.</p>
Energy sector	<ul style="list-style-type: none"> <li>• Poor quality of network resulting in power interruptions and grid losses</li> <li>• Incurring capacity charges for unused electricity and low utilization of available energy</li> <li>• Scattered settlements /households are settled far away from the grid</li> <li>• Limited accessibility to off-grid solutions (estimated 3%)</li> <li>• Low awareness about affordable cooking technologies e.g., LPG and modern cooking stoves</li> </ul>
Job creation and ICT	<ul style="list-style-type: none"> <li>• Poor quality of graduates – mismatch with labor market demands</li> <li>• Access to finance; start-up capital, start-up toolkits</li> <li>• Low survival rate of SMEs (50% not surviving beyond first year); poor follow up services, low managements skills, etc.</li> <li>• Low computer and digital literacy among citizens (8%)</li> </ul> <p>Last mile connection for public facilities yet to be realized</p>
Urbanization	<ul style="list-style-type: none"> <li>➤ Under-developed economic potentials of secondary cities – pull factors still lacking (jobs, services)</li> <li>➤ High costs of housing especially in Kigali city</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Adherence to master plans and land use plans – one-stop-centers not fully operational</li> </ul>
Education Sector	<ul style="list-style-type: none"> <li>➤ Low quality of education at all levels: <ul style="list-style-type: none"> <li>▪ Dropout rates still very high (Primary 5.7%; Lower Secondary 6.5%, Upper Secondary 4.6% (2015 data)</li> </ul> </li> <li>➤ Low completion rate for primary levels (at 60.4% in 2015)</li> <li>➤ Weak inspection functions</li> </ul>
Health Sector	<ul style="list-style-type: none"> <li>➤ Insufficient specialized services, low quality of health services, mismanagement in hospitals</li> <li>➤ Chronic malnutrition – poor feeding practices</li> <li>➤ Recurrence of malaria</li> <li>➤ Delayed health infrastructure projects: Nyabikenke, Munini, Byumba hospitals, etc.</li> <li>➤ Financial sustainability of the CBHI scheme</li> </ul>

Source: MINICOFIN (2015-16).

## APPENDIX A

### *Status summary of Vision 2020's attainments*

Indicators	Status in 2000	Target in 2010	Target 2020	International standard	Current status
Rwandan population	8,300,000	11,000,000	14,000,000		11,809,295 (Source: National Institute of Statistics (NISR), 2017)
Literacy level	48	80	100		77% ( RDB)
Life expectancy (years)	49	50	55		66.6 (source NISR, 2017) Life expectancy at birth to increase by 3.5 years in 2020.
Women fertility rate	6.5	5.5	4.5		4.2 (DHS 2014-15)
Infant mortality rate (0/00)	107	80	50		32 deaths per 1,000 live births (DHS 2014-15)
Maternal mortality rate (0/00.000)	1070	600	200		210/100,000 (DHS 2014-15)
Child Malnutrition (weight insufficiency in %)	30	20	10		
Population growth rate (%)	2.9	2.3	2.2		
Net primary school enrolments (%)	72	100	100	100	
Growth in secondary school enrolments (%)		100	100		
Primary to Secondary school transitional rate (%)	42	60	80		
Growth in secondary school enrolments (%)	7	40	60		
Qualifications of teachers (%)	20	100	100	100	
Professional and technical training centers		50	106		
The rate of admission in tertiary education (0/00)	1	4	6		
Gender equality in tertiary education (F %)	30	40	50	50	
Gender equality in decision-making positions (% of females)	10	30	40		
HIV/AIDS prevalence rate (%)	13	11	8	0	3% (DHS 2014-15)
Malaria-related mortality (%)	51	30	25		
Doctors per 100,000 inhabitants	1.5	5	10	10	1/15,428 inhabitants (Source: Demographic & Health Survey 2014-15)

Population in a good hygienic condition (%)	20	40	60		
Nurses per 100,000 inhabitants	16	18	20	20	1/1,200 inhabitants (Source: DHS 2014-15)
Laboratory technicians per 100,000 inhabitants	2	4	5		
Poverty (%< 1 US \$/day)	64	40	30		
Average GDP growth rate (%)	6.2	8	8		
Growth rate of the agricultural sector (%)	9	8	6		
Growth rate of the industry sector (%)	7	9	12		
Growth rate of the services sector (%)	7	9	11		
Gini coefficient (income disparity)	0.454	0.400	0.350		
Growth in national savings (% of GDP)	1	4	6		
Growth in national investments (% of GDP)	18	23	30	30	
GDP per capita in US\$	220	400	900		
Urban population (%)	10	20	30		
Agricultural population (%)	90	75	50		
Modernized agricultural land (%)	3	20	50		
Use of fertilizers (kg/ha/year)	0.5	8	15		
Financial credit to the agricultural sector (%)	1	15	20		
Access to clear water (%)	52	80	100	100	
Agricultural production (kcal/day/person (% needs)	1,612	2,000	2,200		
Availability of proteins/person/day (% of needs)	35	55	65	70	
Road network (km/km <sup>2</sup> )	0.54	0.56	0.60		
Annual electricity consumption (KhW/inhabitants)	30	60	100		
Access to electric energy (% of population)	2	25	35		
Land portion against soil erosion (%)	20	75	90		
Level of reforestation (ha)					
Wood energy in national energy consumption (%)	94	60	50		
Non-agricultural jobs	200.000	500.000	1.400.000		

Source: Compiled by the authors.