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**Rwanda forging ahead:
The challenge of getting everybody
on board**

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**Employment
Sector**

* This study is the result of collaboration between ILO and Sida. The views expressed in this paper are those of the authors and do not necessarily represent neither ILO nor Sida.

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Preface

The primary goal of the ILO is to contribute, with member States, to achieve full and productive employment and decent work for all, including women and young people, a goal embedded in the ILO Declaration 2008 on *Social Justice for a Fair Globalization*, and¹ which has now been widely adopted by the international community.

In order to support member States and the social partners to reach the goal, the ILO pursues a Decent Work Agenda which comprises four interrelated areas: Respect for fundamental worker's rights and international labour standards, employment promotion, social protection and social dialogue. Explanations of this integrated approach and related challenges are contained in a number of key documents: in those explaining and elaborating the concept of decent work², in the Employment Policy Convention, 1964 (No. 122), and in the Global Employment Agenda.

The Global Employment Agenda was developed by the ILO through tripartite consensus of its Governing Body's Employment and Social Policy Committee. Since its adoption in 2003 it has been further articulated and made more operational and today it constitutes the basic framework through which the ILO pursues the objective of placing employment at the centre of economic and social policies.³

The Employment Sector is fully engaged in the implementation of the Global Employment Agenda, and is doing so through a large range of technical support and capacity building activities, advisory services and policy research. As part of its research and publications programme, the Employment Sector promotes knowledge-generation around key policy issues and topics conforming to the core elements of the Global Employment Agenda and the Decent Work Agenda. The Sector's publications consist of books, monographs, working papers, employment reports and policy briefs.⁴

The *Employment Working Papers* series is designed to disseminate the main findings of research initiatives undertaken by the various departments and programmes of the Sector. The working papers are intended to encourage exchange of ideas and to stimulate debate. The views expressed are the responsibility of the author(s) and do not necessarily represent those of the ILO.

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¹ See http://www.ilo.org/public/english/bureau/dgo/download/dg_announce_en.pdf

² See the successive Reports of the Director-General to the International Labour Conference: *Decent work* (1999); *Reducing the decent work deficit: A global challenge* (2001); *Working out of poverty* (2003)

³ See <http://www.ilo.org/gea>. And in particular: *Implementing the Global Employment Agenda: Employment strategies in support of decent work*, "Vision" document, ILO, 2006

⁴ See <http://www.ilo.org/employment>

Foreword

In any poor country, the challenges of moving forward, of development understood as the expansion of civil, social, and economic opportunities, can often seem impossibly daunting. One needs to ask oneself some root questions: What can be done? What can be done now? And what needs to be done first? Now think of a country at war with itself in not so distant times on which all of these development questions are superimposed.

From the violent and tragic maelstrom of ethnic warfare that engulfed Rwanda in the 1990s, the country in more recent years has shown quite decisively every sign of having turned the page. It has given very convincing evidence of having embarked on a course with the hopeful aim of fulfilling the aspirations of all Rwandans.

Problems indeed remain. Where do they not? This paper builds on the interest in recent years of identifying the truly “binding constraints” to growth, of evaluating the relatedness among these, and of focusing on the essentials so as not to overburden the policy agenda to the point of paralysis. The authors make not merely a substantive contribution to the analysis of the Rwandan experience and the constraints to productive employment needing to be addressed; they offer a welcome and original contribution to the methodology for undertaking just such an analysis.

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Introduction

Executive summary

The main objective of the study is to gain a solid understanding of the dynamics of the growth – employment – poverty nexus in Rwanda, with a particular focus on constraints on young people's access to productive employment and the incidence and causes of inequalities in this regard. This is achieved through a stepwise employment diagnostic analysis. The first section provides a broad-brushed analysis of the development dynamics during the past decade, with a particular focus on the interplay between economic and social development, employment, poverty and inequality. This analysis leads up the identification of three core development challenges: (i) enhancing productive employment in agriculture, (ii) human resources development, and (iii) economic diversification and development of the nonfarm sectors. These challenges are explored in some depth in the subsequent chapters. In the final chapter the main constraints on achieving sustained inclusive and job-rich growth are identified and discussed.

Rwanda has taken a giant leap forward during the past decade. It has escaped from a cataclysm, culminating in genocide in 1994, and a situation of extreme human insecurity and suffering to become a society where its population enjoys basic human security, political and social stability and economic improvement. These achievements are all the more remarkable as they constitute a decisive break with decades of accelerating developmental regression and impoverishment.

Building on the achievements made so far and the development momentum that these have created, the transformation of the Rwandan society envisioned in the coming 10-15 years is no less dramatic. Rwanda's Vision 2020 has set the aim very high; to develop Rwanda into a middle-income, semi-industrialised country by 2020, halving income poverty and substantially reducing inequality in the process. If this ambition is achieved, Rwanda will join the small and exclusive group of countries that have managed to achieve an economic and societal transformation from a state of impoverished underdevelopment to a position of relative well-being within a span of a generation. High rates of population growth and over-dependence on agriculture and on scarce resources of land that are subject to increasing environmental pressure makes development a race against time.

The population of Rwanda is expected to increase by some 300 thousand people per year over the coming fifteen years, reaching 13.7 million by 2020. The Rwandan labour force is expected to increase by well over 40 per cent, i.e. by almost two million over the same period. Apart from reducing the large backlog of working poor, in particular in agriculture, the Rwandan labour market will have to absorb an annual increment of some 120-125 thousand new labour market entrants per year.

The challenge of Vision 2020 becomes clear when seen through the prism of employment. The target for poverty reduction implies a need to increase the number of productive employment opportunities, defined as employment that provides incomes above the poverty line, by almost 2.5 million. These jobs will primarily need to be created in the non-farm sectors. The non-agricultural sectors of the economy will be expected to absorb the entire labour force increase until 2020, plus an additional 400 thousand from agriculture. As a consequence, the non-agricultural employment is expected to more than treble over a fifteen year period, reaching 50 per cent of the total labour force by 2020. Some 2.2 million productive employment opportunities will need to be created in the still infant and predominantly informal non-farm sectors of the Rwandan economy, achieving a fundamental restructuring of the economy in the process. Meanwhile, rapid intensification of agriculture combined with increasing exit possibilities to the non-farm sectors of surplus

agricultural labour is expected to substantially reduce the number of working poor in agriculture.

The envisaged development will entail a major structural transformation of the Rwandan economy and society; from an essentially agrarian economy and society to a diversified, semi-industrialised economy and a much more urbanised society where manufacturing and services have become the main areas of employment and income generation. Such an occupational transformation of the labour force, amidst rapid growth, will inevitably exert enormous demand on the educational sector. The broad base of the population pyramid and continued high birth rates imply increasing number of school entrants and a quantitative challenge. However, the qualitative challenge is probably the more important one. The foreseen occupational transformation of the labour force, mirroring that of the economy, will inevitably require that the entrants into the labour force in the coming years are equipped with education and professional and vocational skills at a much higher level than has been the case with earlier generation. It also implies a large need for skill and educational up-grading of the existing labour force.

Yet, arguably the greatest challenge of all may well be to achieve this rapid development and transformation in a manner that creates new and better opportunities for all and not just for some. A development that created some winners and many losers in the past decades has brought economic inequality to dangerously high levels. Despite a strong political commitment to gender equality, gender-based differences in educational attainment and labour market access remain large. Achieving a truly inclusive development and economic transformation will require putting the goal of equal rights and opportunities for all at the very heart of the development agenda and to allow these considerations to actually shape the agenda.

Some basic factors auger well for the future. The picture that emerges, looking only at the post-2000 period, is overwhelmingly positive. Rwanda has achieved a clear break with its legacy of developmental regression and misrule.

- Agriculture is breaking out of its long standing stagnation. There is an incipient structural shift in the mode of production away from low-productivity subsistence farming to a higher degree of market-orientation and more use of soil-enriching and yield-enhancing cash inputs. Such a transformation is fundamental for a dynamic and sustainable development of agriculture and will no doubt need to be complemented with specific measures to reverse the trend of environmental degradation and depletion of the natural resources base. The pace of change will be important, as will measures to ensure that not only the large and medium sized farms, but also small-holders will be able take part in and benefit from this structural change. Substantial increases in production and yields in recent years are evidence of the high dividends of this structural change.
- A development of the non-agricultural sectors of the economy has clearly begun. So far, this has been dominated by a proliferation of small-scale business and activities operating on an informal or semi-informal basis. Yet the magnitude of this phenomenon over the past few years has been large enough to make non-agricultural entrepreneurship and wage employment a major source of new employment and income opportunities and to have quite a significant impact on the structural pattern and pace of economic growth. It is important that this development continues, and that the business climate evolves so that the many new small-scale businesses are able to grow and increase demand for non-farm labour.
- The impressive achievements in the field of education have no doubt played an important role in making this development possible. These achievements will need to be sustained and expanded to higher levels of education and to vocational and professional training in order to ensure that lack of education and skills does not become a constraint on the developing economy.

- There are still large gains in productivity to be had from a transfer of labour from agriculture to the non-agricultural sectors. The productivity gap between these two broad sectors remains large. For most, moving out of agriculture implies moving out of poverty. This fundamental structural change still holds the potential of serving as a major source of overall growth, productivity growth and reduced poverty. It can also serve as a vehicle for demand-led growth, with increased incomes domestic demand for both agricultural and non-agricultural goods and services will increase.

However, there are also a number of challenges and potential threats. Arguably, one of the most important challenges facing Rwanda today is to make development inclusive; to reverse the trend of high and increasing income (and asset) inequality.

- The highly unequal land distribution and the existence of a very large number of near-landless agricultural households imply that a dynamic development of agriculture will not necessarily be particularly pro-poor and that it may not offer sufficient improvements in employment and income opportunities for the large number of near-landless agricultural households to allow them to escape poverty. Some 40 per cent of the rural households have less than 0.3 hectares of land. For these, alternative (non-farm) sources of income are a must if they are to escape poverty. Even under the most optimistic scenario of agricultural development, they simply have too little land to become major beneficiaries of a transformation of agriculture. For these, acquiring the education, skills and knowledge needed to access productive non-farm employment probably offer the only way out of poverty.
- A rapid, broad-based and inclusive human resources development resulting in increased employability stands out as a key issue. It is primarily a question of formal education and of professional and vocational training, but there are also other important aspects such as health and nutrition. For the young, in particular, achieving sufficient and adequate education and training to be able to get a foothold and play an active role in the expanding non-agricultural sectors of the economy or in the development of a modern agriculture will be crucial for their prospects to escape poverty through productive employment. Skill shortages are already reported to be a constraint on the growth of the non-agricultural sectors and Rwanda currently imports skilled labour to remedy shortfalls in the domestic supply.
- While most people in Rwanda would seem to have benefitted from the past decade of developmental gains, large groups in society have fallen behind. Young people from impoverished rural families with precious little access to land and with a history of food insecurity and malnutrition risk ending up as losers also in the field of education and in the labour market. With insufficient land to make a living from own account agriculture, they are forced to seek employment elsewhere. If their employability is impaired by poor educational achievements, the road to more lucrative employment opportunities in the non-agricultural sectors will be closed to them and they are likely to be forced into distress employment, typically as agricultural wage labourers, at such low levels of productivity and incomes that they have little chance of escaping poverty. Indeed, the number of agricultural wage labourers increased by over 220,000 between 2000/01 and 2005/06, at the same time as real wages for this type of work fell by some 30 per cent. Achieving food security and elimination of malnutrition also remains a major challenge and necessity for poverty reduction and for achieving equal educational and employment opportunities for the young generation.
- Although the main pattern of structural changes of employment is the same for men and women, there are large differences in magnitude. Generally speaking, the shift from farm to non-agricultural employment is much more pronounced among the male than the female labour force. It would appear that the slower shift out of agriculture of the female labour

force is largely due to a poorer ability of women to access non-agricultural wage employment.

In broad terms the main components for meeting the economic development challenge rest on an intensification and market-orientation of agriculture on the one hand, and a diversification of the economy through a proliferation of the non-agricultural sectors on the other hand. These two processes are mutually supportive and dependant. An intensification of agriculture will require as well as foster a development of backward and forward linkages to other sectors of the economy, provide a source of demand-led growth through broad-based increases in incomes, as well as much needed food security. A development of the non-agricultural sectors is a prerequisite for successful intensification of agriculture. It will also provide much needed productive employment opportunities for surplus labour in agriculture - thus further contributing to increases in productivity and incomes in agriculture – and result in a diversification of the economy which is a *sine qua non* for sustainable economic development.

At present yields for main crops, such as maize, beans and potatoes are a mere 25 to 30 per cent of their potential, implying a large potential for increasing returns to land as well as returns to labour. The target of achieving an annual growth rate of value added in agriculture of 6 to 8 per cent seems well within reach and could result in reduction of rural income poverty of some 17 percentage units by 2015, substantially increasing growth generating domestic demand in the process. Furthermore, a recent analysis suggests that such an increase in food production could by and large be absorbed by the domestic market. Thus, there would not seem to be any demand constraint to rapid agricultural growth.

Large differences in productivity between agriculture and the non-agricultural sectors imply that the transition of labour from the former to the latter can yield substantial productivity gains. However, one should remember that this source of growth is finite and that to ensure the sustainability of high rates of growth, much attention needs to be given already at an early stage of the structural transformation to increasing total factor productivity in the non-agricultural sectors in order to gradually shift the engine of growth of these sectors from adding more factors of production, to making better use of the available factors of production. These processes will need to be backed up by a continued rapid development of the human resource base, while a strong focus on equal opportunities is fundamental for the sustainability of the development as well as being an objective in itself.

The present study results in the identification of a number of constraints on achieving sustainable and inclusive growth and productive employment creation as well as in the identification of some specific challenges and opportunities. The nature of the constraints varies. Two constraints – *human capital accumulation and physical infrastructure* – are arguably binding in an absolute sense of the word. That is, if they are not adequately addressed they risk derailing the development process already in the short term and unless they are addressed other policy interventions in other areas are likely to have reduced effectiveness. Two other constraints – *environment and inequality* – are equally binding, but will primarily undermine the sustainability of development, while probably being less of constraints on short term development gains. Lastly, two other constraints – *poorly functioning financial markets and shortcomings in the overall business environment* – may not be binding in the sense that they are likely to derail the development process, if not addressed, but are likely to substantially slow down the pace of economic development and structural transformation as well as having a detrimental impact on the equity aspects of its outcome.

Immediate binding constraints for inclusive growth and productive employment generation

Human capital accumulation

The rapid structural transformation of the Rwandan economy and society away from an agrarian economy based subsistence agriculture implies that demands for more skilled and well educated labour will increase rapidly. The increase in demands for skills in the non-agricultural sectors will be reinforced by use of more modern production technologies within agriculture as a consequence of increasing market orientation. The low level of education of the work force is already hampering the growth of the non-agricultural sectors thereby limiting overall growth and also hampering the ability of poor people to access more productive and remunerative jobs. Increasing completion and transition rates from primary schools is central in order to address this. This needs to be accompanied by broad based access to secondary education and vocational training. In particular, efforts are needed to increase the number of children from poor and rural households enrolled in secondary education from the very low levels found today. Special attention should be given to gender differences in educational outcomes at the post-primary levels. Any efforts to address unequal educational outcomes between poor and rich households will have to tackle the problem of malnutrition and its impact on cognitive abilities. As malnutrition primarily affects the very poorest and food insecure segments of the population, the issue has a clear relevance from an equity perspective, and in creating more equal opportunities for the poorest

Parallel to this, technical and vocational education and training (TVET) needs to be considerably expanded. Available evidence indicates that there is a need, not only to expand vocational training, but also to decrease fragmentation and improve relevance by ensuring that skills taught are demanded by potential employers. Skills and skill certificate standards also need to be established at the central level to bring order to the plethora of different certificates presently issued by the various agencies providing vocational training. Access to vocational training appears to be especially limited in rural areas. Ensuring access in rural areas is, arguably, particularly important if vocational training is to contribute to reducing inequality, and offer the large numbers of rural youth a viable alternative to employment in agriculture and a chance to get a foothold in the dynamic and more productive non-farm sectors of the economy. Addressing gender disparities should be an integral part of all efforts to increase TVET.

Physical infrastructure

Currently, Rwanda is unable to meet even the existing, rather modest demand for electricity and is forced to rely on heavy use of diesel generators. Not only is this an expensive way of energy provision, but it is also an unreliable and highly exclusive form of energy supply that effectively excludes the poorer and weaker actors from the market and decreases the profit margins for the larger actors who have the means to secure their own supply of electricity. Restructuring the economy, expanding the manufacturing sector and modernising agriculture pose a challenge on the energy supply in Rwanda, which will have to be faced if the ambitious plans for growth are to materialise. The state of the current infrastructure imposes an immediate constraint to economic activity, as well as a hindrance for growth in the future. This issue is presently being addressed with large investments to increase the domestic power generation and to move away from costly sources of electricity coming on stream. These efforts are a prerequisite for rural electrification, which in its turn is a prerequisite for rural development.

Furthermore, the outreach of road infrastructure outside the main trunk roads is also rather limited and a constraint on inclusive growth. Despite the high population density, large parts of the population face difficulties in reaching markets and there are constraints on their mobility. Lowering the transportation costs by improving the physical infrastructure will not only improve the profitability of the current economic activities, but it will also expand the market size, facilitate market integration and bring in new actors into the enhanced domestic and regional market network creating new opportunities for all.

Binding constraints for the sustainability of inclusive growth

Unsustainable use of the ecosystem

Increasing population pressure on land, which has reached a precariously high level in many parts of the country, and, until recently, a failure to fundamentally change the mode of agricultural production has resulted in environmentally unsustainable cultivation practices. Extension of cultivation to marginal land, an overreliance on wood as a source of fuel, and cultivation of steep slopes on hilly land without proper terracing and use of other soil preserving methods have resulted in deforestation and increasing problems of erosion. A shortening of fallow periods and failure to introduce soil-enriching inputs and practices have resulted in a depletion of soil nutrients. The on-going transformation of the mode of agriculture away from subsistence cultivation with little or no use of soil-enriching cash inputs is a prerequisite for moving towards an environmentally sustainable development, but may in itself not be enough to ensure such sustainability. Proactive measures are needed to restore and rehabilitate environmental resources damaged or depleted in the past and to ensure that safeguards are introduced against new environmental threats following from increasingly rapid industrialisation and urbanisation.

Inequality

In Rwanda equality is a key aspect for sustainable peace, unity and social cohesion. It is a question of creating and safeguarding equality of opportunity and containing inequality of outcome. Failure to address inequality of opportunity and to take measures to ensure that the inequality of outcome remains within socially acceptable limits will undermine the social cohesion and broad-based popular support that is needed to pursue a coherent strategy for long term growth, thus increasing the likelihood that the growth process will be derailed through political channels or conflict.

In Rwanda, there can be little doubt that the very high inequality of outcome, in the form of high inequality of income and assets and reflected in the Gini coefficient of consumption, to a large extent is the result of a high inequality of opportunities. The inequality of opportunities is largely structural; boys and men have on average better opportunities than girls and women, those growing up in Kigali have better opportunities than those growing up in rural areas and, most importantly, boys and girls growing up in poverty get a considerably worse start in life than those growing up in relatively more affluent circumstances. Poverty tends to be intergenerational, transmitted from one generation to the next. The sources of inequality are several fold, but three main sources can easily be identified; health and nutrition, education, and employment and economic opportunities. They would all require further in-depth analysis and they all require to be forcefully addressed.

Second order constraints on rapid and inclusive growth

Poor financial intermediation

The majority of the small businesses in Rwanda have limited access to credit and have to rely on their own savings or on borrowing from family members. These constraints can only partially be explained by the informality and high risk attached to the economic activity of these businesses. The financial system in Rwanda is underdeveloped and shallow as most banking transactions take place in Kigali and lending is largely restricted to a limited number of businesses operating in the service and manufacturing sectors. The thin coverage of the financial system in different parts of the country is not only problematic to the inclusiveness of the financial services, but an indication of the fragility of the system itself. There is a lack of human capital in the financial sector and related services, such as auditing and accounting, which hinders the roll-out of such services outside the limited business community in Kigali.

The weak institutional setup also makes the financial system more vulnerable to shocks in particular in relation to credit risks related to the narrow base of a few large borrowers, but also to exposure to changes in the external environment. Rwanda is heavily reliant on foreign aid inflows to cover the financing gap left by one of the lowest domestic savings rates in Africa, and as the main commercial banks are foreign owned the present financial turbulence in the world economy poses a real threat on the financial service delivery. The ambitious economic growth targets will require substantially higher rates of domestic savings and investments in the years to come. This, in its turn requires a well functioning financial system providing efficient financial intermediation and accessible savings and borrowing facilities.

Improving profitability by creating an enabling environment

Currently most of the economic actors choose to stay in the informal economy in Rwanda despite the cost that comes with being informal, such as higher transaction costs with unknown parties and limited size of the potential market. This is a clear indication that the overall business environment in Rwanda is not particularly conducive. Indeed, a global comparison suggests that Rwanda ranks worse than its regional and income group averages on most business environment indicators, with the important exception of corruption. Especially trade cost across borders are several times higher than in other comparable countries, and once these administrative difficulties are added to the geographical constraints of cross-border trade even the most lucrative business opportunities start to lose their edge. Lowering the unnecessarily high cost of administration and regulation would be an important complement to the investments in infrastructure and education.

In addition to removing barriers, more pro-active measures could be considered to strengthen the private sector actors in their efforts to navigate through the regulatory system. Improved supply of business development services and targeted training in business skills for the poorer and weaker economic actors will be important in order to level the playing field. Strengthened entrepreneurial resource base in terms of basic business skills as well as improved availability of information on the existing regulation and services provided will be important building blocks towards a stronger and more productive private sector-led growth.

Challenges and opportunities for enhanced inclusiveness

Rwanda is a small country with very large regional differences in the levels of economic development and prosperity. These differences are *inter alia* reflected in very large regional differences in headcount poverty. Poor physical infrastructure continues to result in a 'high friction of distance'. Rural areas are poorly linked with neighbouring towns, and the economic integration of different parts of the country remains underdeveloped. Yet, unlike the situation in most other African countries, the high population density and small size of the country offer Rwanda a, as yet unexploited, comparative advantage, which might be termed proximity. High population density and small distances makes expansion of physical infrastructure and the development of financial and other business services as well as various public services across the whole country feasible.

A determined effort to achieve a geographically dispersed economic development, which would involve special attention to diversify and strengthen the economy and role of provincial towns, would have several obvious advantages. It would greatly facilitate the development of the linkages between agriculture and the non-agricultural sectors, which is an indispensable cornerstone in the country's economic development strategy. It would also greatly facilitate domestic market integration and the creation of a functionally well-integrated economy and society, at the same time as it would be of pivotal importance in reducing inequalities in opportunities between people living in rural and urban areas and in different parts of the country. By creating economic opportunities and diversified labour markets in different parts of the country it would also stem an uncontrolled, rapid, migration-driven growth of the capital, which would otherwise almost certainly follow from rapid economic development and structural transformation. While such an emphasis on the regional and geographic dimensions of the economic development would entail some additional initial costs in the form of investments in physical, economic and social infrastructure, the pay-offs in terms of a more inclusive and sustainable, and arguably faster, economic development would no doubt be well-worth the effort.

The rapid transformation of Rwanda from a predominantly agrarian and rural country to a middle-income country with a diversified economy and, by implication, much more urbanised population will inevitably require an inordinate amount and level of mobility. Removing constraints on occupational, geographic and social mobility will be crucial. Well-managed, such an economic and social transformation may serve as a vehicle for achieving greater economic and social equality and cohesion, creating social dynamics that contribute to leaving the past behind and to creating a society with new social patterns and links across old ethnic, social and economic divides. However, left on its own, there is also a risk that a rapid structural transformation could deepen economic and social divides if parts of the population are deprived of opportunities to actively participate and benefit from the transformation. High rates of migration and occupational mobility in the past decade provide an indication of people's willingness to move to new areas with more attractive employment opportunities and auger well for the future.

Tackling identified barriers for occupational mobility (such as inadequate and unequal access to TVET), geographical mobility (poor infrastructure) and informal barriers that keep women and poorer households in the pursuit of low productivity activities at the bottom of the labour market will be crucial for making the development vision codified in Vision 2020 more than a pipedream. Beyond this, a proactive strategy for high and inclusive mobility may be required to ensure that policies and interventions aimed at facilitating and removing constraints on mobility receive adequate priority and are part of a coherent and comprehensive approach.

Main objective and scope

The main objective of the study is to gain a solid understanding of the dynamics of the growth – employment – poverty nexus in Rwanda, with a particular focus on constraints on young people’s access to productive employment and the incidence and causes of inequalities in this regard. This is achieved through a stepwise employment diagnostic analysis. The first section provides a broad-brushed analysis of the development dynamics during the past decade, with a particular focus on the interplay between economic and social development, employment, poverty and inequality. This analysis leads up the identification of three core development challenges: (i) enhancing productive employment in agriculture, (ii) human resources development, and (iii) economic diversification and development of the nonfarm sectors. These challenges are explored in some depth in the subsequent chapters. In the final chapter the main constraints on achieving sustained inclusive and job-rich growth are identified and discussed.

1. Development dynamics

1.1 A formidable challenge

Rwanda has achieved remarkable progress in all fields – economic, political, and social – since the genocide was brought to an end in 1994. In little over a decade Rwanda has risen from an abyss of violent conflict and extreme human suffering and insecurity and embarked on a development that is yielding tangible results in terms of economic and social development and poverty reduction. These achievements are all the more remarkable as they constitute a decisive break with decades of accelerating developmental regression and impoverishment. A modest per capita growth during the first two decades after independence⁵ came to an end around 1980 (Table 1.1). The early post-independence gains in development did not last as the economy fell into regression after 1980. Economic stagnation combined with high rates of population growth resulted in declining per capita GDP throughout the 1980s and 1990s. Economic decline was accompanied by a deterioration in key social indicators, such as life expectancy at birth (Table 1.1).

Table 1.1 Rwanda's long term development record. Select indicators.

	1965	1980	1990	2000	2007	2008
Infant mortality rate (per 1000 live births)	141	128	120	110	62	62
GDP per capita (current US\$)			310	225	403	492
Gross capital formation (% of GDP)	10		12	13	18	23
Trade/GDP (in %)			18.4	31	38	44
Life expectancy at birth (years)		46	48	40	46	
Total fertility rate	7.5	7.5	6.2a	5.8	5.5	5.5
% annual change			1965-80	1990-00	1990-00	2 -07
GDP			4.9	-0.2	-0.2	6.8
Population			3.3	3.0	3.0	2.4
GDP/capita			1.6	-3.2	-3.2	4.4

a) 1992

Sources: NISR (2009a); (2009b); World Development Report (various years); World Development Indicators (www.worldbank.org);

Until recently, Rwanda remained an agrarian economy with a very high population density and population pressure on land, rapid population growth and stagnating agricultural production. Agricultural production was stagnant at least from 1980 up to the Genocide in the mid-1990's (Table 1.2). Combined with a population increase of some 40 per cent in the 1980's this led to a rapid fall in per capita production of food. A rough calculation suggests that per capita production fell by some 30 per cent in the 1980's. The

⁵ Rwanda gained independence in 1962

rapid and prolonged economic decline contributed to, and finally culminated in the civil war in 1994. The conflict accentuated the decline and despite the sharp fall in the population due to the Genocide, per capita production in 1994-1996 averaged only half of the level in 1980-82. The loss of population during the Genocide, dramatic as it was, had little long term impact on population growth (Table 1.3). As a result of return migration of refugees and a sharp increase in birth rates, the population increased by 2.5 million or 45 per cent over a period of five years. The per capita agricultural production remained unchanged despite an almost 50 per cent increase in production between 1994-96 and 1999-2001.

Table 1.2 Long term trends in cereal production. Index: 1980-82 = 100.

	1980-82	1984-86	1989-91	1994-96	1999-01	2005-07
Production	100	106	98	52	79	122
Cultivated area	100	106	101	53	109	134
Yields	100	199	98	98	73	91
Population index	100	118	140	109	157	178
Production/capita	100	90	70	48	50	69
Population (1 000)	5 197	6 139	7 294	5 644	8 176	9 237

Sources: FAOSTAT (www.faostat.fao.org), NISR (www.statistics.gov.rw). Author's calculations.

Remarks: Calculated in milled rice equivalents and three year averages. Population estimates for 1980-82 refer to 1980, for 2005-07 to 2005 and for other periods to mid-year. Population index based on 1980

After 2000 the secular negative trend in per capita food production was broken. Agricultural production began to increase quite rapidly and for the first time since 1980 per capita production also increased. Yet, by 2005-07 it was still only 69 per cent of the 1980-82 level and food security and malnutrition remain serious problems. The sustainability of agricultural development remains a key issue. Until recently, agricultural development took mainly the form of an expansion of the cultivated area into land less suitable for agriculture. This is also one, but not the only, reason behind the slow increase in land productivity. There are strong indications that the predominant mode of agriculture that is largely subsistence-oriented with very little use of yield-enhancing and soil-enriching inputs, combined with the high and increasing population pressure on land is environmentally unsustainable. It results in deforestation, erosion and depletion of soils, which is another reason why yields remained low. Population is forecast to continue to increase by around 2.7 per cent per year during the next decade, reaching 10.6 million by 2010 and 12.2 million by 2015⁶. Agriculture will inevitably remain the main source of employment and livelihood for the majority of the population for at least another decade, if not more. Hence, the present pattern of development of agriculture is unlikely to be sustainable. Fundamental structural changes of the mode of agricultural production, including market orientation and links to the rest of the economy, are required to put agriculture on a path of sustainable and rapid development. Such a transformation – which is presently underway – is also fundamental for achieving food security and eliminating malnutrition.

⁶ UNSTAT (<http://unstats.un.org>)

Table 1.3 Evolution of the population and the labour force. In thousands

	1988/89	1996	2000/01	2005/06
Total population	6 783	5 869	7 963	9 460
Population aged 15+	3 572	3 136	4 365	5 367
- In the labour force	3 143	2 697	3 745	4 460
- Unemployed	26	15	62	83
- Employed	3 117	2 682	3 683	4 377
Labour force participation rate %	88	86	85.8	83.1
- men			84.1	81.3
- women			87.2	84.6
Dependency ratio	1.16	1.18	1.13	1.12

Sources: For 1988/89 and 1996 <http://laborsta.ilo.org>, based on the National Labour Force Survey 1988/89 and Demographic and Health Survey of 1996. For 2001/01 and 2005/06 NISR (2007b: Tables 5.1, 5.3, 5.5) and Strode, Wylde & Murangwa (2008: Tables 3.1, 3.3 and 6.1), based on EICV1 and EICV2.

Remarks: Figures are survey-based estimates. Dependency ratio calculated as total population not in the labour force divided by total labour force.

High fertility and birth rates have resulted in a continued very young population. The share of children, aged below 15, in the total population has slowly fallen from 47 per cent in 1988/89 to 43 per cent in 2005/06 (Table 1.3). As a result of the large number of children in the population, the dependency ratio remains high, despite a very high participation rate in the labour force. Every working Rwandan supports on average more than 1.1 persons apart from her/himself. Indeed, Rwanda has barely entered the demographic transition. Fertility is slowly falling from a very high level. According to official survey data the total fertility rate remained a high 6.1 in 2005.⁷ High fertility and a broad-based population pyramid result in forecasts of continued high birth rates and rapid population increase. However, the desired number of children by women is reported to be around four, which is considerably lower than actual fertility rate. If the rapid improvement in girls' access to education is matched with subsequent economic empowerment and improved employment opportunities outside the home, fertility rates may well begin to fall quite sharply. Such a decline could rapidly translate into an improvement of the dependency ratio and higher per capita incomes and could also provide an improved basis for higher growth.

The 15+ population has had a consistently very high participation rate in the labour force, with the participation rate among women slightly surpassing that for men (Table 1.3). This reflects the agrarian nature of the economy and a culture where men and women participate in equal measure, if not always on an equal footing, in the economy. The very large number of widows and female-headed households in the aftermath of the genocide has no doubt further contributed to a high female participation rate in the labour force.⁸ Open unemployment remains at an overall low level, although it is becoming a concern in urban areas. Hence, the main challenge is not to increase employment *per se*, but one of increasing productivity. It should however be noted that in agriculture many work less than full time and work is highly seasonal.

⁷ 'Indicateurs des Enquêtes Démographiques et de Santé de 1992, 2000 et 2005', <http://www.statstics.gov.rw>

⁸ More than one third of all households were headed by a woman in 2005 ('Indicateurs des Enquêtes Démographiques et de Santé de 1992, 2000 et 2005', <http://www.statstics.gov.rw>.)

Table 1.4 Employed population by main industry and status.

	1988/89	1996	2000/01	2005/06
Absolute numbers (1 000)				
Agriculture	2 855	2 438	3 263	3 481
- Own account	n.d.	2 415	3 127	3 122
- Wage workers	n.d.	23	136	359
Non-agricultural industries	262	244	420	896
- Own account	n.d.	108	147	419
- Wage workers	n.d.	136	273	477
Total	3 117	2 682	3 683	4 377
Percentages				
Agriculture	91.6	90.9	88.6	79.5
- Own account	n.d.	90.1	84.9	71.3
- Wage workers	n.d.	0.8	3.7	8.2
Non-agricultural industries	8.4	9.1	11.4	20.5
- Own account	n.d.	4.0	4.0	9.6
- Wage workers	n.d.	5.1	7.4	10.9
Total	100.0	100.0	100.0	100.0

Sources: For 1988/89 and 1996 <http://laborsta.ilo.org>, based on the National Labour Force Survey 1988/89 and Demographic and Health Survey of 1996. For 2001/01 and 2005/06 NISR (2007b: Tables 5.1, 5.5) and Strode, Wylde & Murangwa (2008: Tables 3.1, 3.3 and 6.1), based on EICV1 and EICV2.

Remark: Figures are survey-based estimates. Own account include unpaid family labour and employers.

Until 2000 agriculture remained almost the sole source of employment (Table 1.4). By 2000/01 agriculture provided the main source of employment for almost 90 per cent of the labour force and 85 per cent derived their living mainly from work on their own farm. Subsistence-based agriculture remained the by far most important source of living and the mainstay of the economy. Between 1996 and 2000 agriculture absorbed 80 per cent of the increase in the labour force resulting in an increase of the agricultural labour force by almost 30 per cent, that is by over 800,000 people, over a mere five year period (Table 1.4). As discussed above, this coincided with a rapid recovery of agricultural production from an abysmally low level after the genocide and the rapid expansion of the agricultural labour force could thus take place without any loss of labour productivity. However, it is noteworthy that by 1999-2001 agricultural per capita production was still only half of the level two decades earlier (Table 1.2). The increase in production during this period was no doubt partly made possible through increased cultivation of unused and/or marginal land, but it most certainly also resulted in increasingly fragmented holdings.

The increase in the non-farm employment during the second half of the 1990s was primarily due to an increase in wage employment. The figures on own-account non-farm employment suggest that there was little increase in non-farm entrepreneurship during this period.

As per capita food production as well as per capita GDP fell after the early 1980s, income poverty increased. The share of households below the poverty line increased from 46 per cent in 1985 to 53 per cent in 1993 (Table 1.5). In 1994 as a result of the Genocide, poverty rose dramatically. Since then poverty has fallen steadily and encompassed slightly

less two thirds of the Rwandan households by 2000. A shift in methodology makes exact comparisons of poverty prior and after 2000 difficult. Between 2000/01 and 2005/06 headcount poverty fell by slightly less than 4 percentage units to 57 per cent. Methodological differences notwithstanding, it is quite clear that by the latter date poverty was still far more widespread than it had been two decades earlier.

Poverty also increased in other dimensions (Table 1.6). Despite impressive achievements to reduce infant and child mortality in the past decade, by 2005/06 these levels were still no lower than they had been almost twenty years earlier.

Table 1.5 Development of poverty and inequality.

	Percentage households below poverty line			Gini coefficient
	Rural	Urban	Total	
1985	48.4	16.1	45.7	0.27
1990	50.3	16.8	47.5	
1993	53.0	n.a.	n.a.	
1995	76.6	25.5	72.4	
2000 est.	67.9	22.6	64.1	
Headcount poverty incidence				
2000/01	66.1		60.4	0.47
2005/06	62.5		56.9	0.51

Sources: Government of Rwanda (2002: 14-19); Government of Rwanda (2007a: 15-18); NISR 2009:7).

Remarks: Poverty estimates for 1985 to 2000 based on 1985 household survey methodology and refers to households. Poverty estimates for 2000/01 and 2005/06 refer to new methodology and is a headcount measure.

Table 1.6 Development of infant and child mortality. Per thousand

	Infant mortality (below 1 yr)	Child mortality (below 5 yr)
1987-1992	85	150
2000	107	196
2005	86	152
2008	62	103

Sources: Government of Rwanda (2002: 21); NISR (2009a).

Equality has been a main casualty of the past decades of economic regression and political and social turmoil culminating in the war in 1994. By 1985 Rwanda had reportedly one of the least unequal income distributions in Africa, with an estimated Gini coefficient of 0.27. Fifteen years later, income inequality had increased dramatically and the Gini coefficient stood at 0.47 (Table 1.5). While it is difficult to quantify the causes behind the sharp increase in inequality, two factors clearly played a major role. The stagnation of agriculture in combination with a rapidly increasing agricultural population, no doubt resulted in increased marginalisation of many rural households, fragmentation of holdings and most probably increasing inequality in access to land. It also seems highly probable that the Genocide and the massive dislocation of people during this period not only resulted in a dramatic increase in poverty, but also in inequality.

The colonial period also left behind a legacy of artificial exaggeration of differences between the main ethnic groups and systematic ethnic discrimination. The post-genocide government has set as an aim to remove the traces of this legacy and has made equal rights and status for all, irrespective of ethnic belonging or gender, a hallmark of its policy. However, economic aspects and causes of inequality have proven more difficult to redress. Income inequality has continued to increase during the past decade of economic recovery

and development (Table 1.5). As will be argued in greater detail below, addressing inequality may well be the single most important challenge facing Rwanda today as it aspires to achieve rapid and sustainable development and freedom from poverty as well as reduce the risk of further conflict.

1.2 The achievements of the past decade – a break with the past

1.2.1 Impressive social development

Considerable achievements have been made in the fields of social development and human capital accumulation.⁹ The most remarkable successes have arguably been obtained in the field of education. Net enrolment in primary education has increased from 72 per cent in 1999/2000 to 94 per cent in 2004/2005. The net enrolment of girls in primary education is at par or even slightly higher than that of boys and income poverty is no longer the barrier preventing access to primary education that it used to be.

As the target of achieving universal primary education is coming well in sight, the focus is shifting to increasing access to secondary education. Fee-free education has been extended to lower secondary education, making the first nine years of formal education free from fees. Net enrolment in secondary education registered a modest increase from 7 per cent in 2000/2001 to 10 per cent in 2004/2005, but remains far below the levels for primary education and access to secondary education remains a privilege for the relatively better-off.

Education is arguably the single most important factor determining future employability. As access to basic education and the possibility of achieving at least literacy have become almost universal, the focus needs to shift to differences and inequalities with regard to access, completion and performance rates in post-primary education.

Health and other social indicators have also improved significantly in recent years. Infant mortality has fallen from 107 per thousand to 62 since 2000, while under-five mortality has fallen by a third, from 152 to 103. Some 80 per cent of all children under five are now fully immunized and more than half of all births are assisted by skilled health personnel. The proportion of women using insecticide treated long lasting mosquito nets has increased from a mere 10.5 per cent in 2005 to 45 per cent in 2008.¹⁰

1.2.2 Economic performance

The past decade has seen record high economic growth, averaging 8.4 per cent between 2000 and 2009, yielding a per capita growth of well over five per cent per year.¹¹

Value added in the agricultural sector (including forestry and fisheries) increased at an average rate of 5.9 per cent between 2000 and 2009.¹² Export crops (tea, coffee) registered

⁹ The progress in the field of education is examined in some depth in Chapter Three

¹⁰ NISR (2009a)

¹¹ NISR (2010b)

marginally higher rates of growth than food crop production, averaging 6.3 and 5.1 per cent per year, respectively.¹³ The two main sources of growth would appear to have been increases in yields and a shift to more high value crops, but there was also an increase in the cultivated area. For the first time in decades, cereal production increased at a faster pace than the population. Yet, by 2005-6 cereal production was still some 30 per cent below the level of 1980-82 (Table 1.2). The non-farm sectors of the economy as a whole grew at a somewhat faster pace than the agricultural sector. The highest growth rates were registered in construction, finance and insurance and in transport and communications. Manufacturing, on the other hand, increased by a mere 7.3 per cent per year and its share of GDP remained very small at no more than 6 per cent.

A dynamic development of SME's accounted for much of the growth of the non-farm sectors. By 2005/2006 there were some 350,000 people running independent businesses as their main job, while an almost equal number of businesses were run on a part time basis.¹⁴ Some 80 per cent of them were run as sole proprietor operations with no employees and many were apparently only run on a part time basis. Most of the SMEs were engaged in trade (56 per cent), but around 10 per cent had manufacturing as their main activity.¹⁵ The overwhelming majority of the non-farm businesses were largely informal. Some 79 per cent had not registered with any state authority and 91 per cent did not have any accounting system. Indeed, formal sector employment accounted for a mere 6.2 per cent of all employment and 26.6 per cent of the non-farm employment, in 2005/06.¹⁶

1.2.3 Employment and economic development dynamics since 2000.

The population of Rwanda is estimated to have increased by some 1.5 million, from 8 to 9.5 million, between 2000/01 – 2005/06 (Table 1.3). The share of the population living in urban areas increased only slowly and by 2005/06 some 83 per cent of the population was still living in rural areas.¹⁷ The working age population, defined as those aged 15+, increased by about one million people over the same period, while the labour force (confined to those aged 15+) increased by some 715 thousand. As a result of a fall in child labour and a larger share of young people in education, the number of children and adolescents in the labour force (defined as those aged between 7 and 15) fell considerably.

¹² NISR (2010b)

¹³ Government of Rwanda (2007a: 6)

¹⁴ NISR (2007b: 36)

¹⁵ Strode, Wylde & Murangwa (n.d.: Table 5.4)

¹⁶ Strode, Wylde & Murangwa (n.d.: Table 6.1)

¹⁷ NISR (2007b: 5)

Table 1.7 Employment dynamics 1996 – 2000/01 and 2000/01 – 2005/06.

	Change 1996 – 2000/01			Change 2000/01 – 2005/06		
	(1 000)	A	B	(1 000)	A	B
Agriculture	826	-2.3	82.5	218	-9.1	31.4
- Own account	711	- 5.2	71.1	-5	-13.6	-0.7
- Wage workers	114	2.9	11.4	223	4.5	32.1
Non-agricultural industries	176	2.3	17.5	476	9.1	68.6
- Own account	39	+/- 0	3.9	272	5.6	39.2
- Wage workers	137	2.3	13.7	204	3.5	29.5
Total	1 001	0	100	694	0	100

A: Percentage points change in share of the total over the period

B: Share of total change over the period.

Sources: See Table 1.4.

Remark: Own account includes unpaid family labour and employers.

Table 1.7 brings out the dramatic changes in the employment since the turn of the millennium. The rate of increase in the labour force has fallen to more normal, but still high, levels as return migration of refugees has largely come to an end. In sharp contrast to the past and despite its pervasive importance as a source of livelihood and employment, the agricultural sector absorbed only a minor part (31 per cent) of the increase in the labour force in the period after 2000. Indeed, self-employment in agriculture actually declined not only in relative, but also, albeit marginally so, in absolute terms. Employment in the non-agricultural sectors more than doubled, from 420 to 896 thousand people over the period (See also Table 1.4). Thus, the non-agricultural sectors, which accounted for less than 12 per cent of total employment in 2000/01, absorbed some 69 per cent of the increase in employment over the period, as against a mere 20 per cent during the previous period, thus increasing its share of total employment from 12 to 21 per cent. The growth in non-agricultural employment was primarily due to an increase in entrepreneurship in the non-agricultural sectors. There was a proliferation in non-agricultural small businesses, mainly in the services sector and most of them were run on an informal basis. Indeed, non-farm own account entrepreneurship absorbed some 40 per cent of the increment in the labour force, which is more than what was absorbed in agriculture. The very rapid increase in non-agricultural own account employment stood in sharp contrast to the insignificance of this field of employment during the previous period. This provides a clear indication of a rapid development of non-agricultural economic activities and the importance of this development as a source of employment and incomes. Most of this development is still in the form of small-scale activities of an informal or semi-formal basis. However, non-agricultural wage employment increased as well, accounting for a third of the total increase in employment.

Table 1.8 Development of GDP (at constant prices), employment and labour productivity by main sectors 2001 – 2006. Index: 2001 = 100.

	GDP	Employment	Labour Productivity
Agriculture	116.3	106.7	109.6
Non-agriculture	147.8	213.3	65.5
Total economy	134.8	122.2	112.6

Sources: Table 1.7; national account statistics from NISR (www.statistics.gov.rw).

For the first time in modern history, labour productivity in agriculture actually increased, as agricultural production increased faster than the agricultural employment (Table 1.8). Following over twenty years of decline, the importance of this turnaround and of sustaining the incipient dynamic development of agriculture can hardly be exaggerated. The improvement in labour productivity in agriculture was due to two fundamental factors. First, a reversal of the long standing trend of stagnation and decline in production. In contrast to the situation during the first post-genocide period, growth in agriculture was not only due to an expansion of the land frontier, but in equal measure to an increase in land productivity through higher yields and a shift to more high-value crops. As discussed briefly above, this development, in its turn, was linked to increased use of soil-improving and yield enhancing cash inputs and increased market-orientation albeit from a very low level. Second, the incipient, but significant diversification of the economy as reflected in the rapid growth of the traditionally very small non-agricultural sectors of the economy, resulting in an increase in non-agricultural employment opportunities and a shift of labour from the agriculture to other areas of the economy.

Despite a continued rapid increase in the labour force, overall productivity in the economy increased by 13 per cent between 2000/01 and 2005/06 (Table 1.8). This increase in labour productivity was partly due to the increase in labour productivity in agriculture, but also to no small degree to a transfer of labour from agriculture to much more productive pursuits in the non-agricultural sectors of the economy. While the difference in labour productivity between agriculture and the non-agricultural sectors had been a whopping eleven times in 2000/01, it had been reduced to a still high seven times by 2005/06 (Table 1.9.)

Table 1.9 Labour productivity by main sectors in 2001 and 2006. Total labour productivity for each of the years = 100.

	2001	2006
Agriculture	45	51
Non-agricultural industries	529	367
Whole economy	100	100

Sources: Table 1.4 and 1.7; national account statistics from NISR (www.statistics.gov.rw).

Table 1.10 The share of the agricultural sector in GDP at current prices and in employment in 2001 and 2006.

	2001	2006
Share of GDP	39.6	41.2
Share of employment	88.6	79.5

Sources: Table 1.4 and 1.7; national account statistics from NISR (www.statistics.gov.rw).

Remark: Agricultural prices increased at a much faster pace than non-agricultural prices over the period (87.5 versus 40 per cent). The faster increase in agricultural prices explain the increased share of agricultural GDP in total GDP. Measured at constant prices the share of agriculture in GDP fell somewhat.

Table 1:11 Employment by category and sector and gender in 2000/01 and 2005/06.

	2000/2001			2005/2006		
	Female	Male	All	Female	Male	All
Non-wage agriculture	89.7	78.7	84.9	79.6	61.1	71.3
- own account farmer	25.0	49.7	35.8	23.4	41.6	31.6
- unpaid farm worker	64.7	29.0	49.1	56.2	19.5	39.7
Agricultural wage labour	2.6	5.1	3.7	6.6	10.2	8.2
Agriculture total	92.3	83.7	88.6	86.1	71.3	79.5
Non-agr. wage labour	4.3	11.3	7.4	5.6	17.4	10.9
Non-agr. own account	3.4	5.0	4.1	8.3	11.3	9.6
Non-agriculture total	7.7	16.3	11.5	13.9	28.7	20.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Strode, Wylde & Murangwa (n.d.: Tables 3.1 and 3.3).

Remark: Data refers to labour force aged 15+.

Although the main pattern of structural changes of employment was the same for men and women, there were large differences in magnitude. Generally speaking, the shift from farm to non-agricultural employment was much more pronounced among the male than the female labour force (Table 1.11). The share of the male labour force working in the non-agricultural sectors increased by 12 percentage units to 29 per cent, as against an increase by 6 percentage units to 14 per cent for the female labour force. It would appear that the slower shift out of agriculture of the female labour force was largely due to a poorer ability of women to access non-agricultural wage employment. The gender dimensions of the labour force dynamics are also clearly reflected in a breakdown of employment by category, gender and age. Over 35 per cent of the male labour force aged 20-39 were working in the non-agricultural sectors in 2005/06, as against a mere 17 per cent of the female work force in the same age group.¹⁸

A combination of pull and push factors fuelled the rapid move of labour out own account farming into other sectors and types of employment. The many, mainly young people who moved out of agriculture to join the ranks of the non-agricultural labour force as wage workers or own account entrepreneurs since 2000 were clearly attracted by the prospects of higher incomes. Indeed, among the heads of household some 70 per cent of the non-agricultural wage workers and 64 per cent of the non-agricultural own account workers belonged to the fourth or fifth income quintiles, as against a mere 38 per cent of the own account farmers (Table 1.12). The figures in Table 1.12 clearly show the large differences in the incidence of poverty between agricultural and non-agricultural households, and moving from the former to the latter has no doubt for many proved a successful strategy for escaping poverty. A fall in the average wage in the non-agricultural sectors (Table 1.13) is likely to reflect a response to an increase in the demand for non-farm wage employment and a diversification of the non-agricultural sectors, and as such is hardly surprising in view of the large differences in incomes and productivity between the agricultural and non-agricultural sectors (see also Table 1.9 and 1.10).

¹⁸ Strode, Wylde & Murangwa (n.d.: Table 4.9)

Table 1:12 Work status of heads of household by consumption quintiles.

	Quintile		Poverty status	
	1 & 2	4 & 5	Non-poor	Poor
Own account farmer	39	38	42	58
Unpaid farm worker	47	34	38	62
Farm wage worker	61	20	28	72
Own account non-farm	20	64	64	36
Unpaid non-farm	30	59	69	31
Non-farm wage worker	19	70	75	25
All heads of households			45	55

Source: Strode, Wylde & Murangwa (n.d.: Tables 8.4, 8.5).

However, there is also evidence of strong push factors at play behind the move out of own account farming. A most disturbing feature was a rapid increase in agricultural wage labour. The number of agricultural wage workers more than doubled between 2000/01 and 2005/06, increasing to over 8 per cent of the total labour force by the latter date.

Three categories of workers dominate among the agricultural wage labourers.¹⁹ The largest group are heads of agricultural households or spouses of heads of households, who's own agricultural holding yield so little income that they are forced to resort to working the land of others as wage workers as a main occupation. This category has existed for a long time. The other main group are the sons and daughters of own account farmers, who resort to agricultural wage work for lack of other options. They tend to belong to households whose family land holdings are too small to offer them a livelihood, while at the same time they are not able to access non-farm employment. They are young, some 96 per cent were found to be under the age of 25 in 2005/06 and almost all are unmarried.

A third, smaller category is made up of migrants who have joined their employers' households as non-family members. Agricultural wage workers are firmly placed at the bottom of the income scale and belong to the poorest of the poor in Rwanda. Approximately 40 per cent of them belong to the lowest income quintile and 72 per cent of them are classified as poor (Table 1.14). The strength of the push factors out of own account agriculture among those holding little land is clear not only from the rapid increase in the number of agricultural wage workers, but also from a dramatic fall in the average wages among this category of workers. The average daily wage for agricultural wage workers reportedly declined by over 30 per cent in real terms between 2000/01 and 2005/06 (Table 1.13). By the latter date the average wage in agriculture was less than half of that obtained on average in the non-agricultural sectors.

Table 1:13 Average daily wage rates and days worked per year in 2000/01 and 2005/06.

	Daily wage (FRw, 2001 prices			Day equivalents worked per year		
	2000/01	2005/06	% change	2000/01	2005/06	% change
Agr. wage labour	360	247	-31	175	158	-10
Non-agr. wage labour	587	520	-11	305	269	-12

Source: Strode, Wylde & Murangwa (n.d.: Tables 10.1 & 10.2).

Remark: Wages in Rwandan Franc at 2001 prices.

¹⁹ Strode, Wylde & Murangwa (n.d.: 37-39)

Table 1:14 Wage workers in agriculture by consumption quintile. Percentages

Relation to head of household	I	II	III	IV	V	Total
Head or spouse	41	23	18	12	7	100
Relative of head	37	26	18	14	5	100
Not a relative	6	4	5	25	60	100
All	36	22	17	14	11	100

Source: Strode, Wylde & Murangwa (n.d.: Table 7.1).

Access to education beyond the primary level appears to serve as a watershed, separating those destined for agriculture from those who can aspire to employment in the non-agricultural sectors (Table 1.15). While some 77 per cent of the agricultural labour force has no more than primary education, half of those in the labour force with a few years of education beyond the primary level (whether vocational or general) have found work in the non-farm sectors of the economy, while well over three quarters of those with at least four years of post-primary education are found in the non-agricultural sectors.

Table 1.15 Labour force by level of education and main sector of employment. Percentages

Level of education	Agriculture	Non-agriculture
No formal education	89.3	10.7
Primary 1 – 5	82.6	17.4
Primary 6 – 7	76.6	23.4
Vocational training	53.6	46.4
Secondary 1 – 3	51.3	48.2
Secondary 4 – 6	27.0	73.0
University	3.3	96.7
Total labour force	79.4	20.6

Source: Strode, Wylde & Murangwa (n.d.: Table 4.4).

In particular for the young generation growing up in farm households with little land, achieving post-primary education seems to be a main determinant of their prospects to leave agriculture and escape from poverty. As discussed above, a large number of them end up as losers. Failing to acquire more than primary education and to access non-farm employment, they are left with no option but to take up wage work in agriculture, where dismally low and falling levels of income threaten to push them deeper into poverty.

Thus, a picture emerges of increasing intra-generational inequality as a part of the young manage to access adequate education and subsequent non-farm employment, thus securing an escape from poverty, while another part of the same generation fail to do so and as a consequence are pushed even deeper into poverty. As the rate of growth of the labour force is forecast to increase substantially in coming years, providing adequate (post-primary) education and sufficiently productive employment opportunities to all will become an even more daunting challenge.

1.2.4 Dynamics of incomes, poverty and inequality

Progress in reducing income poverty between the two survey points in 2000/01 and 2005/06 was considerably more modest than the economic growth rates might suggest. Despite positive per capita growth, headcount poverty actually increased in absolute terms, from 4.82 million to 5.38 million and fell by a mere 3.5 percentage units in relative terms, from 60.4 to 56.9 per cent of the population (Table 1.16). The evolution of extreme poverty

followed that of overall headcount poverty. While the share of the population living in extreme poverty fell from 41 to 37 per cent, it actually increased marginally in absolute terms. Thus, while Rwanda has managed to achieve a respectable rate of overall growth, it has failed to achieve pro-poor growth. Growth incidence curves clearly show that households in the highest income quintile have also benefitted from the highest increases in their incomes (averaging 3-5 per cent per year), while the income growth for the 60 per cent of households found in the three lowest quintiles averaged less than two per cent per year.²⁰ The skewed distribution of the fruits of growth were reflected in the Gini coefficient, which increased from an already very high level of 0.47 in 2000/01 to 0.51 in 2005/2006. The high initial level of inequality and the fact that inequality worsened over the period explain why growth only had a very modest impact on poverty.

Table 1.16 Headcount poverty in Rwanda 2000/01 and 2005/06.

	Share of population %		Number (1 000)	
	2000/01	2005/06	2000/01	2005/06
Living in poverty				
Kigali	16.1	13.0	110	90
Other urban	46.5	41.5	290	360
Rural	66.1	62.5	4 430	4 930
All areas	60.4	56.9	4 820	5 380
Living in extreme poverty				
Kigali	8.4	6.3	60	40
Other urban	28.5	25.3	180	220
Rural	45.7	40.9	3 060	3 230
All areas	41.3	36.9	3 300	3 490

Source: Government of Rwanda (2007a: 13).

Remark: Kigali refers to urban Kigali only.

Poverty is essentially a rural phenomenon. Well over 90 per cent of the poor live in rural areas and the incidence of poverty in rural areas remains many times higher than that in the capital Kigali. Indeed, the low levels of poverty in Kigali contrast sharply to the picture not only in the rural areas, but also to that in other urban areas. High population pressure on land, compounded by erosion and declining land fertility and, at least until recently, being trapped in a subsistence-oriented low productivity mode of cultivation, stand out as by far the most important cause of poverty. Surveys suggest that over 60 per cent of the population perceive lack of land together with poor soils to be the main cause of poverty.²¹ More than 60 per cent of the cultivating households cultivate less than 0.7 hectares of land and more than a quarter less than a fifth of a hectare.²² In rural areas household consumption is strongly related to access to land. The 2005/06 survey revealed that more than 70 per cent of the households in the lowest consumption quintile held less

²⁰ NISR (2007b: Figure 2.1.). As the comparison is not based on panel data it should be interpreted with some caution

²¹ Government of Rwanda (2007a: 14). Other important factors were drought and weather-related and lack of livestock

²² NISR (2007b: p11)

than 0.7 ha of land, while more than half of the households in the top quintile cultivated more than 0.7 ha.²³

Table 1.17 Headcount poverty by province. Percentages

	Living in poverty		Living in extreme poverty	
	2000/01	2005/06	2000/01	2005/06
City of Kigali	24.4	20.2	15.4	11.1
Southern province	65.8	67.3	45.9	47.2
Western province	63.1	62.0	41.8	40.9
Northern province	66.9	62.7	47.2	40.8
Eastern province	61.8	50.4	41.7	28.7
All areas	60.4	56.9	41.3	36.9

Source: Government of Rwanda (2007a: 162)

Remark: City of Kigali is an administrative unit including some of rural hinterland of urban Kigali.

The evolution of poverty has displayed pronounced regional differences. The Eastern province registered the most rapid fall in headcount poverty of all provinces, from 62 to 50 per cent. Indeed, the Eastern Province accounted for more than two thirds of the national reduction in poverty between 2000/01 and 2005/06.²⁴ Large regional variations in the levels and evolution of poverty (Table 1.17) can largely be explained by regional variations in the population pressure on land and in the quality of land. The Southern and the Western province have the highest proportion of households with very small holdings, while land is relatively more plentiful in the Eastern Province, which also benefits from flatter terrain and generally higher soil fertility. It would also appear that regional differences in poverty have increased, contributing to the overall increase in income inequality. The relative prosperity of the Eastern Province has attracted large numbers of migrants. The labour force in the Eastern Province increased by 34 per cent between 2000/01 and 2005/06 - as against 19 per cent for the country as a whole - largely as a result of migration.²⁵ At the other end of the spectrum was the Southern Province, which regressed deeper into poverty. By 2005/06 almost two thirds of the population in the Southern Province lived in poverty and, even more worrisome, almost half lived in extreme poverty.

Poverty is closely linked to food insecurity. A survey in 2006 found that that some 28 per cent of the rural population was food insecure.²⁶ Among the food insecure households, a third stated that they were chronically short of food. Not surprisingly, the most critically food-insecure households shared characteristics of recurrent exposure to shocks, limited access to land, low levels of skill and education and limited access to non-farm economic opportunities.²⁷

²³ *Ibid*

²⁴ Government of Rwanda (2007a: 14)

²⁵ Stode, Wylde & Murangwa (n.d.: Table 2.10)

²⁶ CFSVA (2006: 3)

²⁷ *Ibid*

Table 1.18 Nutritional status of children aged up to 5 years. Percentages

	Stunted		Wasted		Underweight	
	2000	2005	2000	2005	2000	2005
Boys	43.9	46.3	7.0	4.2	25.1	22.9
Girls	41.2	44.4	6.5	3.6	23.4	22.1
Urban	27.4	33.1	6.4	3.8	15.2	16.2
Rural	45.3	47.3	6.8	3.9	25.9	23.5
Total	42.4	45.3	6.8	3.9	24.5	22.5

Source: Government of Rwanda (2007a: 165)

Remark. Stunted; height for age, indicator of long-term malnutrition.

Wasted; weight for height, indicator of present nutritional status.

Underweight; weight for age, indicator of both long-term and present nutritional status.

Malnutrition represents one of the main channels for transmitting poverty from one generation to the next. It would seem that the incidence of stunting increased somewhat between 2000 and 2005, although the incidence of wasting (acute malnourishment) declined (Table 1.18). This negative development confirms the impression that economic development failed to make any real dent on poverty and underscores that extreme poverty and food insecurity is not only an acute problem, but also a threat to the long term development of the human resource base and, thus, to the sustainability of development of Rwanda.

As discussed above,²⁸ access to non-agricultural employment and diversification of incomes provide the main escape route from poverty. The degree of income diversification is greater than employment data would suggest, as many have secondary sources of income (Table 1.19). While the non-agricultural sectors accounted for 20.5 per cent of the employment in 2005/06, they accounted for 25 per cent of the total income from employment (Table 1.19). Still, by 2005/06 agriculture was not only the main source of employment for close to 80 per cent of the labour force, but also provided some 75 per cent of the total income from employment. The emergence of agricultural wage employment as last resort source of income is clear from Table 1.19. While the share of the labour force for whom working for wages on the land of others was the main source of employment increased from 3.7 to 8.2 per cent, the importance of agricultural wage employment as a source of income increased much less.

²⁸ See not least Table 1.14

Table 1.19 Sources of employment and income from employment in 2000/01 and 2005/06. Percentages

	Employment		Income from employment	
	2000/01	2005/06	2000/01	2005/06
Agriculture	88.6	79.5	80.7	75.3
- Own account	84.9	71.3	74.4	66.4
- Wage employment	3.7	8.2	6.3	9.0
Non-agricultural industries	11.4	20.5	19.3	24.7
- Own account	4.0	9.6	8.4	12.1
- Wage employment	7.4	10.9	10.9	12.6
All sources	100.0	100.0	100.0	100.0
- Wage employment	11.1	19.1	17.2	21.6

Sources: NISR (2007b: Tables 2.2, 5.1, 5.5).

Remarks: Employment; Labour force distributed by main source of employment.

Income from employment: Average shares of total average household income from employment.

Employment provide far and above the most important source of household income in Rwanda. Some 90 per cent of all household income is generated by the employment of household members (Table 1.20). Except for the capital Kigali, income from self-employment on own land accounts for two thirds or more of the income from employment. Income from employment in the non-agricultural sectors accounts for an additional 20 to 25 per cent of the household income. Only in Kigali does non-farm employment account for the bulk of the income, suggesting that the economies of the urban areas outside Kigali remain poorly diversified and firmly based on agriculture. Interestingly, the shift over time from agricultural to non-agricultural sources of income from employment has been considerably more modest than the shift in the sectoral composition of the population would suggest (see also Table 1.19).

Table 1.20 Sources of income in 2000/01 and 2005/06 by location. Average shares of total average household income. Percentages

	Own farm	Non-farm own account	Agr. wage labour	Non-agr. wage labour	Employ- ment total	Other sources
2001/05						
Kigali	6.7	27.6	1.2	51.8	87.3	12.7
Other urban	60.1	11.3	4.6	17.8	93.9	6.1
Rural	75.3	5.4	6.4	5.4	92.5	7.5
All areas	68.6	7.7	5.8	10.1	92.2	7.8
2005/06						
Kigali	8.2	21.2	1.5	53.9	84.7	15.3
Other urban	62.2	12.2	6.9	10.6	91.9	8.1
Rural	64.4	9.8	8.9	7.7	90.7	9.3
All areas	60.0	10.9	8.1	11.4	90.4	9.6

Source: NISR (2007b: 8)

An analysis of employment and incomes based on a division of the population into livelihood categories that take into account household diversification strategies and multiple sources of income provides a more nuanced picture than a standard employment analysis. A food security and vulnerability survey undertaken in 2006 provide a reasonably good basis for such an analysis although it does not allow for any inter-temporal comparisons.²⁹ The survey data permits a division of the population into eight livelihood categories.

- *Agriculturalists*. Primarily subsistence farmers, comprising 30 per cent of the population, deriving more than 75 per cent of their income from agriculture. With an average per capita income of 108 US\$ per year and 60 per cent earning less than 100 US\$ per year they belong to the poorest in society. Some 22 per cent were found to earn less than 40 US\$ per year, suggesting extreme poverty (Table 1.21).
- *Agro-labourers* make up 20 per cent of the population. They combine work on own farm with employment as day labourers, deriving some 61 per cent of their income from work outside the farm, typically as agricultural wage workers, and a mere 30 per cent from their own farm. With an average annual per capita income of 132 US\$ they would seem to be slightly better off than the agriculturalists, and they are less exposed to extreme poverty.
- *Agro-pastoralists* combine income from cultivation of own land with animal husbandry and, to a lesser extent, fishing. They have a considerably higher average income than the agriculturalists – about two thirds from cultivation and one third from animal husbandry/fishing – suggesting that they are relatively better endowed with land than most other rural households.

Table 1.21 Share of population earning less than 40, 100 and 200 US\$ per year by livelihood groups. Percentages

	Share of total population	<40	<100	<200	Avg. income, US\$
Agriculturalists	30	22	60	88	108
Agro-labourers	20	8	42	86	132
Agro-pastoralists	18	12	37	72	186
Agro-sellers	5	6	26	55	276
Agro-traders	5	7	19	60	282
Agro-artisans	5	6	27	65	228
Employee – agriculturalists	5	0	9	11	634
Marginal livelihoods	3	27	63	83	126

Source: CFSVA (2006: 20-21).

- *Agro-sellers*, making up 5 per cent of the population, are farmers who have moved beyond sporadic sale of surplus on the market to producing primarily for the market (62 per cent of their income), complementing income from sale of own produce with some on-farm consumption of own produce. With an annual average per capita income of 276 US\$ and

²⁹ CFSVA (2006). The survey covered some 2,786 households based on a multiple stage cluster sampling covering the whole country except for the City of Kigali. The sample was representative at the national level (excluding the City of Kigali) as well as at the sub-provincial levels

almost three fourths earning more than 100 US\$ per year, this category is considerably better off than the subsistence-oriented agriculturalists.

- *Agro-traders*, making up 5 per cent of the population, differ from agro-sellers in that they act primarily as intermediaries, trading agricultural products produced by others, suggesting that they may have relatively little land on their own. They are considerably better off than the agriculturalists and the agro-labourers, with an average annual per capita income of 282 US\$ and less than a fifth earning less than 100 US\$ per year. Slightly more than half of their income is derived from trade and about 30 per cent from on-farm consumption of own produce.
- *Agro-artisans*, making up 5 per cent of the population, would seem to have essentially the same livelihood strategy as agro-traders, complementing meagre and insufficient incomes from their own farm with non-agricultural economic activities. They derive their main source of income, on average about two thirds, from handicraft, complemented with some income from agriculture. With an average annual per capita income of 228 US\$ they find themselves in an intermediate position between the agriculturalists and agro-labourers on the one hand and the commercial farmers and agro-traders on the other hand. As in the case of the agro-traders, the multiple sources of income would seem to provide a safeguard against extreme poverty.
- *Employee – agriculturalists*, some 5 per cent of the population, would seem to make up an economic elite, with an average annual per capita income far and above that of any other group (Table 1.21). As might be expected their bulk of their income comes from salaries, typically from public sector employment, complemented by some income from cultivation of their own land.
- *Marginal livelihoods*. At the bottom of society one finds a small (3 per cent) heterogeneous group of people who share the common characteristics of being extremely short of productive resources. Many of them lack labour, making them dependent on transfers, while some live primarily from hunting and gathering. With an average annual per capita income of no more than 126 US\$ they are at the bottom of the income league together with the agriculturalists and the agro-labourers. More than one fourth earn less than 40 US\$ per year, suggesting extreme poverty and vulnerability.

The livelihood classification above permits some tentative conclusions:

- For those with sufficient access to land, increased market orientation can offer a way out of poverty (viz. agro-sellers).
- For those with little land, income diversification in the form of self-employment as traders or craftsmen may also offer substantial improvement in incomes, less vulnerability and an escape from poverty.
- The majority of the population remains trapped in low income subsistence farming, sometimes complemented by income as daily wage labourers on the land of others. With few exceptions – less than 15 per cent of this group earn more than 200 US\$ per year – this group live in poverty and many are also exposed to extreme poverty.
- Access to salaried employment remains a privilege for the few, but offers totally different levels of income and seemingly a certain escape from poverty.

1.3 Responding to the development challenge

1.3.1 *The political response*

The Genocide not only devastated the Rwandan population and economy, but also exacerbated a number of development constraints. The already poorly developed productive infrastructure was completely destroyed and the country was robbed of a generation of trained teachers, doctors, public servants and private entrepreneurs.

The daunting development challenges facing Rwanda at the turn of the millennium were summarised in Vision 2020. Vision 2020 was developed through a consultative process in the late 1990s with a view to arrive at a shared vision of the country's future and to chart out a road map towards this future.³⁰ The challenges outlined in Vision 2020 are:

- Diminishing agricultural productivity and falling per capita availability of arable land.
- Natural barriers to trade resulting from Rwanda's geographic location as a severely landlocked country.
- A narrow economic base.
- Weak institutional capacity.
- Low level of human resource development.
- A high public debt.
- Social and economic consequences of the genocide.

Vision 2020 aspires to transform Rwanda into a middle income country by 2020. It concludes that this will require the transformation of the country from a subsistence-based agrarian economy to a knowledge-based society and an annual economic growth rate of at least 7 per cent. As important, development must be pro-poor, giving all Rwandans the chance to gain from the new economic opportunities. 'Vision 2020 aspires for Rwanda to become a modern, strong and united nation, proud of its fundamental values, politically stable and without discrimination amongst its citizens.'³¹ To achieve this overall goal, six core objectives were identified.

- Reconstruction of the nation and its social capital anchored on good governance, underpinned by a capable state.
- Transformation of agriculture into a productive, high value, market oriented sector, with forward linkages to other sectors.
- Development of an efficient private sector spearheaded by competitiveness and entrepreneurship.

³⁰ Rwanda Vision 2020

³¹ Rwanda Vision 2020, p. 4

- Comprehensive human resources development, encompassing education, health, and ICT skills. This goal was to be integrated with demographic, health and gender issues.
- Infrastructural development, entailing improved transport links, energy and water supplies and ICT networks.
- Promotion of regional economic integration and cooperation.

Three cross-cutting issues playing an important role in achieving the vision were identified and defined:

- Gender equality.
- Sustainable use of natural resources and protection of the environment.
- Embracing and exploiting advances in science, technology and ICT.

Vision 2020 has so far been operationalised in two consecutive strategies for economic development and poverty reduction. The first of these strategies (PRS), developed in 2002, identifies some of the main ingredients necessary for economic success to be:³²

- Improved infrastructure.
- Higher human capital.
- Greater financial depth.
- Economic openness.
- Well-defined property rights.
- Avoidance of an overvalued exchange rate.

The strategy took note of the progress made since the genocide, particularly in the political and social fields. It concludes that ‘since 1994, stability and security have been restored. Political and administrative structures have been established which decentralise power to the local level and encourage popular participation. Economic growth has been significant throughout the years of recovery, and a major programme of economic and political liberalisation has been achieved.’³³

Six priority areas for the PRS were identified:

- Rural development and agricultural transformation.
- Human development (including health, family planning, education, skills development, water and settlement).
- Infrastructure (the development of roads, energy and communications to support economic development both in rural and urban areas).

³² Government of Rwanda (2002: 29)

³³ Government of Rwanda (2002: 8)

- Governance (including security, constitutional reform, reform of the justice system and decentralisation as key areas).
- Private sector development (promotion of investments, reduction of the costs and risks of doing business and promotion of exports).
- Institutional capacity-building (which was perceived as a cross-cutting issue including the design of institutional structures and incentives to encourage the development and retention of the relevant skills in public and private sectors).

A second five year strategy for economic development and poverty reduction (EDPRS) was developed in 2007 and came into effect in 2008.³⁴ Taking stock of the development since the launching of the first PRS in 2002, it concludes that the picture is mixed. The main concerns are that economic growth had slowed down while population growth continues unabated and the environment is under stress.³⁵ Although poverty has fallen, the rate of reduction had been too modest. Progress in primary education had been strong, but access to secondary education lags behind and quality problems in primary education remain.

Four priorities are singled out in the EDPRS: (i) increased economic growth, (ii) a reduction of the rate of population growth, (iii) tackling extreme poverty, and (iv) ensuring greater efficiency in poverty reduction.³⁶

The EDPRS not only redefined the medium-term priorities, but also the mode of implementation. Based on a principle of subsidiarity, fiscal resources, decision making, implementation and accountability for results were to be decentralised to the extent possible. The EDPRS also sharpened the focus compared to the previous PRS, as the previous six priority areas were transformed into three main pillars: (i) A 'growth for jobs and exports programme', (ii) the 'Vision 2020 Umurenge programme', and (iii) a governance programme.

The Growth for Jobs and Exports flagship programme aims to make the Rwandan business environment the most competitive in the region by (i) systematically reducing the operational costs of business, (ii) increasing the private sector's capacity to innovate, and (iii) widening and strengthening the financial sector. The programme will focus on eliminating constraints identified through a growth diagnostic and investment climate analysis, which has identified low returns on economic activity due to weak infrastructure and lack of skilled labour as main constraints. Other, lesser constraints that will need to be tackled include low domestic savings, underutilisation of the science, technology and innovation potential regulatory and administrative barriers. The main opportunities for private sector development are perceived to be export of high value agricultural products (coffee, tea, and flowers), eco-tourism, development of Rwanda as a service hub for the region, and production for the domestic and regional markets.

The Vision Umurenge Programme focuses on creating opportunities for people living in poverty to take part in and benefit from economic growth. It is a highly decentralised

³⁴ Government of Rwanda (2007a)

³⁵ Government of Rwanda (2007a: 5)

³⁶ Government of Rwanda (2007a: 28)

programme, where Umurenge (sectors, i.e. the middle administrative level) are called upon to coordinate the operationalisation and management of central level policies and programmes, while the actual projects and activities are implemented at the Umudugudu, i.e. the lowest local administrative level. Operationalisation will take place through combining national level policies with local needs and priorities identified through participatory processes at the Umudugudu level. Thus, the programme aims to exploit the advantages of a local integrated development approach while at the same time ensuring that local initiatives are in a symbiosis with national strategies and policies. The Programme will be implemented using three main instruments: public works, credit packages and direct supports. It is starting on a pilot scale focussing on 30 of the poorest Imirenge,³⁷ with a view to gradually scale it up to cover increasing numbers of Imirenge.³⁸

The Governance programme takes a broad approach, seeking to improve governance in a number of areas. Its main objectives are to:

- Maintain security and cooperation.
- Pursue reforms of the justice system to uphold human rights and the rule of law.
- Continue to promote unity and reconciliation among Rwandans.
- Further and consolidate decentralisation, promoting citizen's participation and empowerment and strengthening transparency and accountability.
- Further institution building and strengthening of the public sector capacity.
- Create centres of excellence in soft infrastructure.

1.3.2 The magnitude of the challenge ahead

Rwanda's Vision 2020 has set the aim very high; to transform Rwanda into a middle income country by 2020, cutting in poverty by half and reducing income inequality substantially in the process.³⁹ If this ambition is achieved, Rwanda will join the small and exclusive group of countries that have managed to achieve an economic and societal transformation from a state of impoverished underdevelopment to a position of relative well-being within a span of a generation. High rates of population growth, and an over-dependence on agriculture and on scarce resources of land that are subject to increasing environmental pressure makes development a race against time.

The population of Rwanda is expected to increase by some 300 thousand people per year over the coming fifteen years, reaching 13.7 million by 2020. The Rwandan labour force is expected to increase by well over 40 per cent, i.e. by almost two million over the same period. Apart from reducing the large backlog of working poor, in particular in agriculture, the Rwandan labour market will have to absorb an annual increment of some 120-125 thousand new labour market entrants per year.

³⁷ Imirenge is the plural of Umurenge. There are some 416 imirenge in the country

³⁸ See Government of Rwanda (2007a:75-80) and Government of Rwanda (2007b)

³⁹ The target is to reduce the Gini Coefficient of Consumption from 0.51 in 2006/7 to 0.35 by 2020 (Government of Rwanda (2007a: 30))

Table 1.22 Population and labour force forecasts. Thousands

	2005/06	2010	2020
Population	9 230	10 600	13 730
Labour force	4 380	4 810	6 220
- agricultural labour force	3 480		3 110
- non-agricultural labour force	900		3 110
Increase 2005/6 - 2020			
Labour force			1 840
- agricultural labour force			- 370
- non-agricultural labour force			2 210

Sources: Government of Rwanda (2007a); NISR (2007b); <http://unstat.un.org>.

Remarks: Population forecasts from unstat.un.org. Labour force estimates based on forecast population aged 15-65 and assuming unchanged labour force participation rate of 83.1 per cent within this age group. Forecasts of agricultural and non-agricultural labour force based on Vision 2020 targets.

The challenge of Vision 2020 becomes clear when seen through the prism of employment. The target for poverty reduction implies a need to increase the number of productive employment opportunities, defined as employment that provides incomes above the poverty line, by almost 2.5 million. These jobs will primarily need to be created in the non-farm sectors. The non-agricultural sectors of the economy will be expected to absorb the entire labour force increase until 2020, plus an additional 400 thousand from agriculture. As a consequence, the non-agricultural employment is expected to more than treble over a fifteen year period, reaching 50 per cent of the total labour force by 2020. Some 2.2 million productive employment opportunities will need to be created in the still infant and predominantly informal non-farm sectors of the Rwandan economy, achieving a fundamental restructuring of the economy in the process. Meanwhile, rapid intensification of agriculture combined with increasing exit possibilities to the non-farm sectors of surplus agricultural labour is expected to substantially reduce the number of working poor in agriculture.

These targets are not only very ambitious, but arguably essential to absorb the increase in the labour force *and* to begin to reduce the overpopulation in agriculture. If 0.3 hectares is taken as the lower limit for a viable farm, some 1.4 million Rwandans are presently working and deriving their living on farm holdings that are too small to allow them to escape from poverty. Assuming that land distribution does not become more unequal than at present – which is an important assumption – the Vision 2020 target to reduce the share of the labour force in agriculture to 50 per cent by 2020, i.e. by some 400 thousand in absolute terms, could potentially go a long way towards reducing agricultural poverty and might reduce the number of working poor subsisting on sub-viable holdings by more than a third, but probably not more than half.

Such an occupational transformation of the labour force, amidst rapid growth, will inevitably exert enormous demand on the educational sector. The broad base of the population pyramid and continued high birth rates imply an increasing number of school entrants and a quantitative challenge. However, the qualitative challenge is probably the more important one. The foreseen occupational transformation of the labour force, mirroring that of the economy, will inevitably require that the entrants into the labour force in the coming years are equipped with education and professional and vocational skills at a much higher level than has been the case with earlier generation. It also implies a large need for skill and educational up-grading of the existing labour force.

Yet, arguably the greatest challenge of all may well be to achieve this rapid development and transformation in a manner that creates new and better opportunities for all and not just for some. A development that created many winners, but also many losers in the past decades has brought economic inequality to dangerously high levels. Despite a strong political commitment to gender equality, gender-based differences in educational attainment and labour market access remain large. Achieving a truly inclusive development and economic transformation will require putting the goal of equal rights and opportunities for all at the very heart of the development agenda and to allow these considerations to actually shape the agenda.

1.4 Conclusions and key issues

Some basic factors auger well for the future. The picture that seems to emerge, looking only at the post-2000 period, is quite a positive one. Rwanda has achieved a clear break with the legacy of developmental regression and misrule.

- Agriculture is breaking out of its long standing stagnation. There are signs of an incipient structural shift in the mode of production away from low-productivity subsistence farming to a higher degree of market-orientation and more use of soil-enriching and yield-enhancing cash inputs. Such a transformation is fundamental for a dynamic and sustainable development of agriculture and will no doubt need to be complemented with specific measures to reverse the trend of environmental degradation and depletion of the natural resources base. This development will be a race against time. The pace of change will be important, as will measures to ensure that not only the large and medium sized farms, but also small-holders will be able take part in and benefit from this structural change.
- A development of the non-agricultural sectors of the economy has clearly begun. So far, this has been dominated by a proliferation of small-scale business and activities operating on an informal or semi-informal basis. Yet the magnitude of this phenomenon over the past few years has been large enough to make non-agricultural entrepreneurship a major source of new employment and income opportunities and to have quite a significant impact on the structural pattern and pace of economic growth. It is important that this development continues, and that the business climate evolves so that the many new small-scale businesses are able to grow and increase demand for non-farm labour.
- The impressive achievements in the field of education have no doubt played an important role in making this development possible. These achievements will need to be sustained and expanded to higher levels of education and to vocational and professional training in order to ensure that lack of education and skills does not become a constraint on the developing economy.
- There are still large gains in productivity to be had from a transfer of labour from agriculture to the non-agricultural sectors. The productivity gap between these two broad sectors remains large. For most, moving out of agriculture still implies moving out of poverty. This fundamental structural change still holds the potential of serving as a major source of overall growth, productivity growth and reduced poverty. It can also serve as a vehicle for demand-led growth, with increased incomes domestic demand for both agricultural and non-agricultural goods and services will increase. However, this source of growth is finite and attention needs to be paid already now on increasing productivity in the non-farm sectors.

However, there are also a number of challenges and potential threats. Arguably, one of the most important challenges facing Rwanda today is to make development inclusive; to reverse the trend of high and increasing income (and asset) inequality.

- The highly unequal land distribution and the existence of a very large number of near-landless agricultural households imply that a dynamic development of agriculture will not necessarily be particularly pro-poor and that may not offer sufficient improvements in employment and income opportunities for the large number of near-landless agricultural households to allow them to escape poverty. Some 40 per cent of the rural households have less than 0.3 hectares of land. For these, alternative (non-farm) sources of income are a must if they are to escape poverty. Even under the most optimistic scenario of agricultural development, they simply have too little land to become major beneficiaries of such a development. For these, acquiring the education, skills and knowledge needed to access productive non-farm employment probably offer the only way out of poverty.
- A rapid, broad-based and inclusive human resources development resulting in increased employability stands out as a key issue. It is primarily a question of formal education and of professional and vocational training, but there are also other important aspects such as health and nutrition. For the young, in particular, achieving sufficient and adequate education and training to be able to get a foothold and play an active role in the expanding non-agricultural sectors of the economy or in the development of a modern agriculture will be crucial for their prospects to escape poverty through productive employment. Skill shortages are already reported to be a constraint on the growth of the non-agricultural sectors and Rwanda currently imports skilled labour to remedy shortfalls in the domestic supply.
- While most people in Rwanda would seem to have benefitted from the past decade of developmental gains and a large number of young people have attained educational levels far beyond those achieved by the previous generation and have found employment offering them good prospects to escape poverty, large groups in society have not only fallen behind, but risk sliding into an increasingly marginalised and precarious existence. Young people from impoverished rural families with precious little access to land and with a history of food insecurity and malnutrition risk ending up as losers also in the field of education and in the labour market. With insufficient land to make a living from own account agriculture, they are forced to seek employment elsewhere. If their employability is impaired by poor educational achievements, the road to more lucrative employment opportunities in the non-agricultural sectors will be closed to them and they are likely to be forced into distress employment, typically as agricultural wage labourers, at such low levels of productivity and incomes that they have little chance of escaping poverty. The swelling ranks of agricultural wage labourers and the sharp fall in earnings for this category in the past decade is a clear indication of this phenomenon.
- Although the main pattern of structural changes of employment was the same for men and women, there were large differences in magnitude. Generally speaking, the shift from farm to non-agricultural employment was much more pronounced among the male than the female labour force (Table 1.11). The share of the male labour force working in the non-agricultural sectors increased by 12 percentage units to 29 per cent, as against an increase by 6 percentage units to 14 per cent for the female labour force. It would appear that the slower shift out of agriculture of the female labour force was largely due to a poorer ability of women to access non-agricultural wage employment. The gender dimensions of the labour force dynamics are also clearly reflected in a breakdown of employment by category, gender and age. Over 35 per cent of the male labour force aged 20-39 were working in the non-agricultural sectors in 2005/06, as against a mere 17 per cent of the female work force in the same age group.⁴⁰

⁴⁰ Strode, Wylde & Murangwa (n.d.: Table 4.9)

- Achieving food security and elimination of malnutrition remains a major challenge and necessity for poverty reduction and for achieving equal educational and employment opportunities for the young generation.

The rest of the study focuses on the key issues identified above. Chapter Two explores recent development in the agricultural sector with a view to: (i) ascertain, to the extent possible, the validity of the widespread belief that a structural transformation is underway, (ii) assess early indications of the nature and characteristics of this transformation, such as its speed, the driving forces behind the change and not least the degree of scale-neutrality, (iii) arrive at a prognosis of the potential for enhanced labour productivity and employment opportunities in the short to medium term future, and (iv) reflect on the likely impact of agricultural development and transformation on poverty, food security and income inequality.

Human capital accumulation plays a pivotal role in Rwanda's vision to become a middle-income knowledge-intensive country by 2020. For the vast majority of not least young Rwandans, access to high quality education and training is crucial for fulfilling their aspirations of a life free from poverty. Chapter Three addresses the two challenges for the educational system (broadly defined to include also vocational training); (i) expanding the number of graduates at increasingly higher levels while assuring high and uniform quality, (ii) serving as a vehicle for reducing inequality by fostering equal opportunities for all, irrespective of gender and background, to achieve levels of employability. The latter aspect is particularly important considering that for most of the youth coming from impoverished rural background their education and skills will be their main income earning asset.

Irrespective of the developments in agriculture, the non-agricultural sectors will need to play a major role in generating productive employment opportunities in the years ahead. For most of the young people growing up in impoverished rural households with little land, employment outside agriculture may well offer the only realistic chance of escaping poverty. The non-agricultural sectors will not only have to provide productive employment opportunities at a rapidly increasing pace, but will have to offer adequate earning opportunities for large numbers of people, in particular youth, who have a background in rural poverty. Hence, a business climate analysis from the perspective of poor people as economic actors is the focus of Chapter Four.

Chapter Five brings together the main conclusions of the study and discusses some of the policy implications resulting from these.

2. The scope for enhancing productive employment in agriculture

2.1 A Malthusian struggle with an environmental twist

By 2000 per capita food production had fallen to no more than half of the level achieved some twenty years earlier, as a result of population increase as well as falling yields (Table 1.2). With an average farm size of only 0.76 hectare and only 0.15 hectare of

land per agricultural person,⁴¹ agriculture would need to be highly intensive, yet yields have for a long time remained far below levels obtained in other developing countries with similarly high population pressure on land.

The reasons behind the stagnation of agricultural production have changed over time. Misrule in the 1980s and early 1990s, leading up to the genocide in 1994 no doubt account for the stagnation until the mid-1990s. Misguided, but well-intended policies, based on external advice and conditionalities, resulted in a dismantling of agricultural support infrastructure during the early years after the Genocide thus entrenching the subsistence-oriented mode of agriculture and making it all the more difficult to put it on a more viable path of intensification and production for the market. State-run systems for extension services and for supplying seeds, fertilizers and other inputs were perceived to be inefficient and scrapped, but the private actors expected to step in to fill the void left behind by the state failed by and large to come forward.⁴² As the backward and forward linkages to agriculture were dismantled, increased market-orientation of agriculture became a distinctly uphill struggle.

The unrelentingly increasing population pressure on land and a failure to fundamentally change the mode of production and to introduce soil-enriching practices has resulted in environmentally unsustainable cultivation practices. Cultivation has been extended to more and more marginal land, often with deforestation as a result, and fallow periods have become shorter and less frequent. As the soil has become increasingly depleted of nutrients, it has become increasingly difficult to raise yields. Studies suggest that soil nutrients are being lost at a rate of 77 kg/ha per year, i.e. at a higher rate than in almost any other country in Africa.⁴³ It has been estimated that some 40 to 50 per cent of the agricultural land is already moderately or severely degraded.⁴⁴

2.2 Breaking the vicious circle

There is mounting evidence that the downward spiral that characterised Rwandan agriculture at least until 2000 has been broken. Since 2000 production has not only steadily increased, but has increased at a faster pace than the population (Table 1.2). Value added in the agricultural sector (including forestry and fisheries) increased at an average rate of 4.8 per cent between 2001 and 2006, increasing to 6.5 per cent in 2008 and 7.6 per cent in 2009.⁴⁵ Export crops, mainly tea and coffee, registered the highest rates of growth, averaging 6.3 per cent per year, followed by food crop production at 5.1 per cent per year.⁴⁶ The two main sources of growth would appear to have been increases in yields and a shift to more high value crops, but there has also been some increase in the cultivated area. A

⁴¹ NISR (2010a). Thanks to multiple cropping the total harvested area in a year is estimated to be some 50 per cent higher than the total arable land. Put differently, about half of the land is harvested twice in the course of a year (Diao *et al.* [2007])

⁴² World Bank (2007: 22-32)

⁴³ World Bank (2007: 23)

⁴⁴ World Bank (2007: 14)

⁴⁵ Government of Rwanda (2007a: 6); NISR (2010b)

⁴⁶ Between 2000/01 and 2005/06

more detailed analysis of a few select crops reveals a shift towards more labour intensive and high value crops (Table 2.1). Production of vegetables and fruits has registered the most remarkable increase since 1999/2000, from a mere 144 thousand tonnes in 1999/2000 to over 900 thousand tonnes in 2007/08. By 2006 more than half of all agricultural households produced fruit and vegetables along with staple crops.⁴⁷ Production of maize and beans has also increased substantially; in the case of the maize mainly through an expansion of the cultivated area while the increased production of beans has largely been driven by increased yields.

Table 2.1 Development of agricultural production for selected crops.

	1990	1999-00	2001-02	2003-04	2005-06	2007-08
Maize						
Production	101.0	58.7	86.3	84.4	97.0	134.3
Area	98.5	80.9	105.1	104.9	112.1	n.d.
Yield	1 025	726	821	805	865	n.d.
Sorghum						
Production	142.6	131.3	180.1	166.9	207.7	154.4
Area	133.4	151.7	168.5	179.5	183.5	n.d.
Yield	1 069	865	1 069	930	1 132	n.d.
Beans (dry)						
Production	195.0	177.9	244.5	219.0	248.2	318.7
Area	262.6	280.7	351.0	337.9	334.7	n.d.
Yield	743	420.0	634	648	742	n.d.
Vegetables & fruit						
Production	n.a.	144.3	222.3	572.4	883.1	928.9
Area	18.4	31.3	45.7	61.2	83.3	n.d.
Yields	n.a.	4 610	4 864	9 353	10 601	n.d.

Sources: FAOSTAT (www.faostat.fao.org); NISR (www.statistics.gov.rw); Ministry of Finance and Economic Planning (2008: 7).

Remarks: Production measured in tonnes, area in hectares and yields in kg/ha. Area refers to cultivated area. The agricultural census registered somewhat lower production figures for 2008

Animal husbandry, too, has increased, although at a somewhat slower pace than vegetal production in terms of value added. Stocks of pigs, sheep and goats have increased considerably, while the number of cattle, which is also a main source of savings, has grown at a slower pace (Table 2.2).

⁴⁷ NISR (2007b: 16)

Table 2.2 Stocks of live animals (1,000).

	1990	1999	2000	2002	2004	2006	2008
Cattle	582	749	732	816	1 004	926	1 549
Pigs	117	160	178	208	327	256	311
Sheep	389	278	254	301	470	470	323
Goats	1 075	704	757	920	1 264	1 300	1 736

Source: FAOSTAT (www.faostat.fao.org). NISR (2010a: 63).

Remark: Figures for 2008 from agricultural census, figures for other years from FAO.

2.3 Moving from subsistence to market orientation

The increase in production has been accompanied by an increased use of cash inputs and production for the market, albeit from very low levels. The share of farm households using yield-enhancing cash inputs such as chemical fertilisers, bought seeds and insecticides has increased, albeit in most instances from very low levels. The percentage of households buying chemical fertilisers doubled from 6 to 12 per cent between 1999/2000 and 2005/06, while use of insecticides increased from 12 to 26 per cent and of purchased seeds from 51 to 71 per cent over the same period (Table 2.3).⁴⁸ By 2008 the share of farmers using chemical fertilisers during the main cultivation season (A) had increased to 18 per cent, while 75 per cent used some kind of fertilisers.⁴⁹ In addition, organic fertilisers are widely used.⁵⁰ However, the supply of organic fertilisers alone does not suffice to maintain soil fertility. Despite increased use in the past few years, application of fertilisers remains by any standards very low. By 2006 application of chemical fertilisers averaged a mere 11 kg/ha, which is below the average for Sub-Saharan Africa and less than a tenth of the levels used in countries with comparable population density in Asia.⁵¹ The share of cultivating households using different cash inputs increased for all income groups between 2000/01 and 2005/06 (Table 2.3). However, this increased use of cash inputs reflected the mere first steps of a transformation towards a more intensive and sustainable mode of cultivation. By 2006 the vast majority of cultivating households still did not apply any chemical fertilisers or insecticides and the average amount spent on all types of cash inputs (except labour) was a mere 11 US\$ per household.⁵²

The increased use of cash inputs was associated with an increased market-orientation. The percentage of households producing not only for own consumption, but also for the market, increased across all income quintiles and for all major crops between 2000/01 and 2005/06 (Table 2.4). Increased market-orientation would seem to have been associated with increased crop diversification rather than specialisation. It took two complementary forms: (i) sale of surplus production of food crops presumably after own consumption had been secured - viz. maize, sorghum, potatoes and beans – and, (ii) production of cash crops more

⁴⁸ NISR (2007b: 80)

⁴⁹ MIOSR (2010b: 47)

⁵⁰ World Bank (2007: 23-27). Approximately two thirds of all cultivating households use manure or other organic fertilisers

⁵¹ Government of Rwanda (2007a: 45); Ministry of Agriculture and Mineral Resources: 2008: 2)

⁵² NISR (2007b: 77-78)

or less exclusively for the market; coffee being the classic example, but increasingly also beer banana, avocado and other fruit. It would seem that intensification of agriculture has gone hand in hand with sound risk management. Sale of surplus food crops allows farmers to opt out of the market, by increasing their own consumption, if market conditions are perceived to be unfavourable and thus reduces their exposure to the risk of market failure considerably. Diversification of some of the land to cash crops, such as coffee or fruit, substantially increases the exposure to market risks, but presumably also the returns to land and the potential gains. Market orientation increased markedly even among the poorest income quintile (Table 2.4).⁵³ The largest increases in market-orientation were registered for high-yielding crops such as potatoes (sweet and Irish), beer banana and avocado. By 2008 almost half of the production of cereals were sold, as was 52 per cent of the production of fruit, 40 per cent of the production of vegetables, but also 9 per cent of the production of pulses.⁵⁴

Table 2.3 Percentage of cultivating households using key cash inputs by income quintiles.

	2000/2001			2005/06		
	Q1	Q5	All	Q1	Q5	All
Chemical fertilisers	1.8	11.8	6.0	6.6	17.4	11.9
Seeds	58.9	41.1	51.1	71.4	65.6	71.2
Insecticide	3.9	21.1	11.8	10.3	39.2	26.2
Sacks & packaging	10.0	28.1	17.8	21.5	46.2	38.6

Source: NISR (2007b: 77-78)

Table 2.4 Percentage of cultivating households selling selected crops by income quintiles.

	2000/2001			2005/06		
	Q1	Q5	All	Q1	Q5	All
Maize	3.9	9.8	8.0	6.4	14.1	11.9
Sorghum	18.2	17.1	21.7	22.2	21.1	26.1
Sweet potatoes	1.9	7.5	6.6	13.8	19.4	22.0
Irish potatoes	3.6	8.2	6.8	5.6	11.1	12.7
Beans	10.0	14.2	18.5	11.7	21.3	21.8
Beer banana	4.7	5.3	5.3	16.9	13.3	28.5
Sweet banana	0.8	3.5	2.7	6.9	11.3	10.8
Avocado	3.3	4.4	4.0	16.8	15.3	19.1
Coffee	8.2	8.9	10.3	7.6	10.1	11.1

Source: NISR (2007b: 77-78)

Poor market access stands out as a major constraint to increased market orientation of agriculture. Distribution channels and markets for agricultural produce are poorly developed and fragmented. The fragmented markets imply that producers are often in the

⁵³ As the figures are not based on cohort or panel data, comparisons over time for specific income groups are rather difficult to interpret and may be misleading. For instance, households in the lowest income quintile in 1999/2000 that opted for a more aggressive market-orientation may have advanced to higher income quintiles in 2005/06

⁵⁴ NISR (2010a: 56)

hands of monopsony buyers and agricultural products typically pass through the hands of a large number of middlemen before reaching the final consumer. As a consequence, the accumulated marketing mark-up tends to be high, resulting in depressed farm-gate prices and large differences between farm-gate and consumer prices.⁵⁵ Clearly, a great deal needs to be done to construct - in some instances reconstruct - a market infrastructure of backward and forward linkages to agriculture in order to create a conducive environment for increased market-orientation and intensification of the sector. Yet, for the many households with miniscule holdings, the marketable quantities of agricultural produce are likely to remain too modest to provide a major source of sustenance.

2.4 Strategy and policies for agriculture

An ambitious programme of modernisation and intensification of agriculture and for reversing the process of environmental degradation, thus putting agriculture on a more sustainable basis, is a main component in Rwanda's strategy for economic development and poverty reduction. The targets for the 2008-2012 strategy period include an increase in the use of mineral fertilisers from 11 to 40 kg/ha, an increase of the share of agricultural land protected against soil erosion from 40 to 100 percent, an increase in the proportion of rural households possessing livestock from 71 to 85 per cent, and an increase in the area under irrigation from 15 thousand to, a still modest, 24 thousand hectares.⁵⁶

The overall objective for the agricultural sector is stated to be '...to contribute, in a sustainable manner, to the increase and diversification of household incomes, while ensuring food security for all the population.'⁵⁷ Four programmes have been developed under the EDPRS to this end.⁵⁸

- A series of actions to intensify and develop sustainable production systems in agriculture and animal husbandry. These include soil conservation measures, terracing and promotion of agro-forestry technologies for sustainable land-use; extension of irrigation and the transformation of marshlands into paddy land; increased and informed use of organic and inorganic fertilisers;⁵⁹ and improvement of the genetic potential of livestock.
- Improving the technical and organisational capacity of farmers, through expansion and strengthening of farmers' cooperatives, a strengthening of agricultural research and an expansion of extension services in collaboration with the private sector.
- Promotion of commodity chains and the development of agro-business. This will be achieved through broad-based measures such as improving the investment climate and the rural physical infrastructure, not least rural feeder roads that secure market access, but also storage and transport facilities. There will also be a series of targeted initiatives and proactive policies. Each district will be encouraged to develop specialised commodity

⁵⁵ World Bank (2007: 32-33). See also Loveridge, Orr and Murekezi (2007)

⁵⁶ Government of Rwanda (2007a: 45-46)

⁵⁷ Government of Rwanda (2007a: 67-68)

⁵⁸ Government of Rwanda (2007a: 67-70)

⁵⁹ A strategy aimed at addressing both demand and supply constraints on increased use of chemical fertilisers has been developed (Ministry of Agriculture and Animal Resources [2007])

chains that make use of locally available resources in adding value to agricultural products. Targeted efforts will aim to improve and monitor the quality of selected export products, such as coffee.

- Strengthening of the institutional framework of the agricultural sector at the central and district level and the systems for data collection.

There is a focus on the most disadvantaged and vulnerable rural households. Food security for all is a priority and will be promoted through promotion of production of key food crops coupled with the introduction of special food security programmes and a ‘one cow per poor household programme’ aimed at increasing asset ownership and to promote animal husbandry among the poor. The *Vision 2020 Umurenge Flagship Programme*, which is one of the three pillars that form the basis of Rwanda’s long term development strategy⁶⁰ has an explicit focus on the poorest villages and areas in the country and relies on a highly decentralised mode of implementation.

The strategy sets the target of almost doubling the rate of growth of value added in the agricultural sector (the agricultural GDP) from 4.8 per year between 2001 and 2006, to an annual rate of 8 per cent between 2006 and 2010, subsequently falling to 6 per cent per year up to 2020. At the same time, the role of agriculture as a source of employment and livelihood will be reduced through a diversification. It is expected that the share of the active population that derive its main source of sustenance from agriculture will fall from 80 per cent in 2006 to 75 per cent in 2010 and 50 per cent in 2020.⁶¹

The efforts to intensify and modernise agriculture are paying off. Agricultural production increased by 31 per cent between 2005 and 2008.⁶² Reports of a bumper crop in 2009. The production of maize ostensibly increased by 74 per cent in 2009 over 2008, while production of other key crops, such as beans and potatoes, was up by well over ten per cent.⁶³

2.5 Employment, income and poverty implications of gearing up

The still very low levels of yields of most crops imply that the scope for increasing agricultural production remains large (Table 2.5). Research and domestic experimental cultivations, using improved seed and soil management practices, suggest that yields of basic food crops such as maize and beans could potentially increase fourfold, while yields of sorghum and potatoes could increase threefold.

⁶⁰ The other pillars being ‘The Growth for Export and Jobs Programme’ and ‘The Governance Programme’

⁶¹ Government of Rwanda (2007a: 30-32)

⁶² At constant national prices (<http://unstats.un.org>)

⁶³ Production increased from 167 to 290 thousand metric tonnes (<http://www.irinnews.org>)

Table 2.5 Estimated yield gap for main crops.

	Average yield 2000-05	Potential yield	Actual/potential, %
Maize	804	3 500	23
Sorghum	1 009	3 000	34
Beans (dry)	662	3 000	25
Irish potatoes	8 609	25 000	34
Sweet potatoes	5 968	20 000	30

Source: World Bank (2007: 45).

The continued extensive mode of production suggests that the returns to investments aimed at achieving a more intensive mode of production may be quite high and that the potential for increasing productive employment and income generation in agriculture is large. The record growth of value added in agriculture registered in 2008 also points to a large untapped scope for quick gains.⁶⁴ The target of almost doubling the rate of growth in agriculture to 6 to 8 per cent per year may well prove to be within reach.

⁶⁴ The value added produced in agriculture increased by 14.7 per cent in 2008. This high rate of growth would seem to result from the combined effect of higher food prices and subsidised and easier access to fertilisers and favourable climatic conditions. It followed after two years of rather poor harvests. (Ministry of Finance and Economic Planning [2008])

Table 2.6 Growth rates under base (A) and high (B) scenario. Percent per year

	Scenario A	Scenario B	B - A
GDP	3.88	6.24	2.36
Agricultural GDP	3.60	6.17	2.57
Non-agricultural GDP	4.08	6.28	2.21
GDP per capita	1.15	3.44	2.29
Agricultural GDP per capita	0.87	3.37	2.50
Non-agricultural GDP per capita	1.34	3.49	2.15
Incomes for rural HH with cash crops	3.39	6.33	2.44
Income for rural HH without cash crops	3.73	6.01	2.28
Income for rural male-headed HH	3.87	6.37	2.50
Income for rural female-headed HH	3.90	6.18	2.28
Income for rural HH with < 0.3 ha	3.70	6.21	2.51
Income for rural HH with 0.3-1 ha land	3.89	6.33	2.45
Income for rural HH with > 1 ha land	3.91	6.34	2.43
Staple production	3.76	6.21	2.45
Grain production	4.12	9.62	5.50
Root & tuber production	2.21	3.27	1.06
Pulse & oilseed production	1.44	3.69	2.25
Livestock production	4.28	7.82	3.54
Export crop production	1.21	9.93	8.72

Source: Diao *et.al.* (2007: 40)

Remarks: Baseline based on extrapolation of performance during past decade, with some arbitrary reductions. High scenario based on growth rates for individual commodities in official development plans (12 out of 30 commodities). For the remaining commodities, projected growth rates were set equal or slightly higher than the baseline growth rates.

A comprehensive modelling exercise undertaken by the International Food Policy Research Institute (IFPRI) casts light on the potential impact on employment, incomes and poverty of a gearing up of agricultural growth as envisaged in the EDPRS.⁶⁵ Assuming a 6.2 per cent growth of the agricultural sector and a marginally higher rate of growth of the non-agricultural sector (Table 2.6), per capita growth would reach 3.4 per cent per year while household incomes would increase by over 6 per cent per year, bringing down the incidence of rural headcount poverty from 64.5 per cent in 2005 to 46.6 per cent in 2015 (Table 2.7). It is believed that the impact of such a growth would be largely neutral to scale, implying more or less similar rates of income growth for households with less than 0.3 ha of land, households with 0.3-1 hectare and for households with more than 1 hectare of land. Poverty rates among agricultural households with less than 0.3 ha of land would fall by 16 percentage units over the decade from 73 per cent in 2005 to 57 per cent in 2015, while the poverty incidence among households with 0.3 - 1 hectare and among those with over one hectare would fall by 20 and 18 percentage units, respectively. However, the modelling exercise reveals that the crop composition matters greatly for the pro-poorness of the

⁶⁵ Diao *et.al.* (2007). See also World Bank (2007). An economy-wide multimarket model, including 30 agricultural commodities as well as two aggregated non-agricultural sectors (manufacturing and services) capturing both supply and demand functions was used. For details, see Diao *et.al.* (2007: 3-30)

growth. Generally speaking, an increase in the production of staple food crops is found to have a much stronger positive impact on poverty than an increase in traditional cash crops. Increases in the production of potatoes, pulses (beans) and maize are found to have the highest poverty elasticity.⁶⁶ The results of the modelling exercise also suggest that there would be no obvious demand constraint on such a rapid development of staple food crops, but that it could be absorbed on the domestic market.

Table 2.7 Poverty incidence scenarios following from growth scenarios in Table 2.6.

	Poverty rate in 2005	2015 Scenario A	2015 Scenario B	Change 2005-15 (A)	Change 2005-15 (B)
National	59.2	53.9	42.4	-5.3	-16.8
Rural	64.5	58.9	46.6	-5.6	-17.9
Rural with cash crops	62.2	52.3	43.6	-9.9	-18.7
Rural without cash crops	88.5	86.2	78.3	-2.3	-10.2
Rural female-headed HH	71.4	66.4	54.7	-5.0	-16.7
Rural male-headed HH	61.9	56.0	43.6	-5.9	-18.4
Rural with < 0.3 ha land	73.1	68.0	56.9	-5.1	-16.2
Rural with 0.3 – 1 ha land	66.0	60.1	46.2	-5.9	-19.8
Rural with > 1 ha land	52.5	45.8	34.4	-6.7	18.0

Source: Diao *et.al.* (2007: 40).

Remarks: See table 2.6.

2.6 Transformation of agriculture: Essential but no panacea

There would seem to be compelling evidence that there is ample scope for gearing up agricultural production to a much higher rate of growth than has been registered in the past, thus decisively breaking with the historic trend of agricultural stagnation and falling per capita production. It is also clear that such a development is a prerequisite for achieving the ambitious development goals outlined in Rwanda's Vision 2020 and that it would be instrumental for enhancing productive employment and reducing income poverty at a fast pace.

However, the highly unequal land holding pattern and the existence of a very large group of agricultural households with miniscule land holdings also imply that even if such an intensification of agriculture would prove to be neutral to scale, as is assumed, it would still not be particularly pro-poor and would by itself be incapable of bringing most of the households with the least land out of poverty. According to the 2008 agricultural census, 26 per cent of the agricultural holdings had less than 0.20 ha of land, an additional 31 per cent had between 0.2 and 0.5 hectares, 23 per cent had between 0.5 and 1 hectare and only 14 per cent had more than a hectare of land.⁶⁷ Yet, only 6 per cent of the agricultural labour had off-farm work as the main source of activity, while about a quarter of them had some income from off-farm secondary activities. Access to non-agricultural employment opportunities remains very limited. Less than 5 per cent of the labour force in agricultural

⁶⁶ Diao *et.al.* (2007: 42-43)

⁶⁷ NISR (2010a: 36)

households has non-farm employment as their main activity, while some 17 per cent complemented work on the farm with some non-agricultural employment.⁶⁸

Table 2.8 provides a sobering snapshot of the agrarian structure. Some 40 per cent of the rural households, with less than 0.3 hectares of land each, hold less than 6 per cent of all agricultural land, while at the other end of the spectrum a quarter of the rural households with more than one hectare of land each combined control 69 per cent of the land. The average size of holding among households in the below 0.3 hectare category is no more than 0.11 hectares, yielding a mere 200 square meters per capita. In 2006 these households produced a mere 19 kg of cereals, 183 kg of roots and tubers and 89 kg of bananas per capita, which was clearly inadequate to achieve basic food security, let alone produce a marketable surplus. For this category of households, given their very limited access to land, intensification of agriculture will at best offer a partial solution to the need to deploy their labour productively in order to escape from income poverty. Their best chances of escaping income poverty lie in a diversification of their sources of employment and income and through opportunities for the young to exit agriculture. One reason behind the continued small role of non-agricultural employment is likely to be generally low levels of education. According to the 2008 agricultural census, 36 per cent of the total agricultural population over the age of 15 were still illiterate. Some three quarters of the agricultural population had not completed primary education and a mere 8 per cent had any, completed or incomplete, post-primary education.⁶⁹

Table 2.8 Key features of the agrarian structure in 2006.

	< 0.3 ha	0.3 – 1.0 ha	> 1.0 ha	All groups
Share of rural households %	39.4	31.4	25.8	96.9
Share of total land holdings %	5.9	25.2	68.9	100
Avg. holding per household, ha	0.11	0.58	1.94	0.75
Avg. holding per capita, ha	0.02	0.12	0.35	0.15
Poverty rate	74	67	54	66
Avg. per capita production, kg.				
Cereals	19	35	75	41
Roots and tubers	183	384	804	455
Bananas	89	308	645	308
Pulses and oilseeds	15	34	77	40

Source: World Bank (2007: 11).

Remark: Data from EICV 2006. Households without any land apparently excluded.

⁶⁸ NISR (2010a: 26)

⁶⁹ NISR (2010a: 30)

Table 2.9 Main source of livelihood by size of land holding among rural households 2000/01 and 2005/06. Percentages

	Year	Cultivated land area, hectare				All size groups
		< 0.2 ha	0.2 – 0.7 ha	0.7 – 5 ha	>5 ha	
Own account agriculture	2000/01	73.4	80.7	81.2	67.0	78.5
	2005/06	56.0	73.2	75.9	64.6	69.7
Farm wage labour	2000/01	8.2	4.9	2.5	0.0	5.0
	2005/06	11.9	5.4	2.1	1.9	5.8
Own account & wage agr.	2000/01	1.0	1.1	0.9	0.0	1.0
	2005/06	2.1	1.6	0.9	0.0	1.4
Non-farm own account	2000/01	4.9	3.6	4.7	21.4	4.6
	2005/06	9.3	6.9	8.1	10.9	8.0
Non-farm wage labour	2000/01	6.3	4.0	5.2	3.9	5.1
	2005/06	11.4	5.4	4.9	9.3	6.8
Other	2000/01	6.2	5.6	5.5	7.7	5.8
	2005/06	9.3	7.5	8.1	13.1	8.3
Total	2000/01	100.0	100.0	100.0	100.0	100.0
	2005/06	100.0	100.0	100.0	100.0	100.0

Source: NISR (2007b: 75)

Remark: Others include 'non-labour income'.

As discussed in the previous chapter, such a diversification is already in progress. Overall, the share of rural households deriving their main source of employment and income from own account agriculture fell from 79 per cent in 2000/01 to 70 per cent in 2005/06 (Table 2.9). For the households with the least land (below 0.2 hectare) the share fell even faster, from 73 to 56 per cent. In practice, the importance of non-farm economic activities as a source of employment and income is even larger than the figures in Table 2.9 would suggest, as many of the households that primarily rely on own account agriculture also have other secondary sources of employment and income.⁷⁰ Still, looking at the picture from another angle, the fact that some 56 per cent of the rural households with less than 0.2 hectare of land still depend on own account farming as a main source of livelihood should be a major cause of concern. Indeed, it would appear that some 70 per cent of the rural households with less than 0.3 hectare of land are still trapped in own account agriculture and /or as agricultural wage labour, neither of which offers any realistic prospects of escaping poverty. A dynamic development of the non-agricultural sectors of the economy in a manner that offers employment opportunities for the rural poor must be an indispensable complement to an intensification of agriculture. This, in its turn will require strong efforts to enhance the employability of the young generation, with a particular focus on those originating in poor rural households.

⁷⁰ See discussion in Chapter 1 above

3. A better educated and more skilled labour force

3.1 The importance of education

It is clear that employability and productivity of the workforce stands out as a key issue for Rwanda going forward. The demand for well educated and skilled labour will increase rapidly in both quantitative and qualitative terms in the years to come as the economy grows, and the relative role of subsistence agriculture as source of income, employment and engine of growth diminishes. The target to increase non-farm jobs from 20 to 30 per cent by 2012 (which would imply about 600,000 new jobs)⁷¹ will require the existence of an increasingly well educated work force. Also within agriculture, the need for basic skills in reading, writing and math will increase as the use of modern agricultural techniques expands.

According to the EDPRS the overall development target is to transform Rwanda into a knowledge based and technology driven economy.⁷² The EDPRS goes on to identify low human capital and lack of skills as very high obstacles to economic growth. Even though literacy rates in the country have increased, with about two-thirds of the population, and more than three-fourths of those aged between 15-24, declaring themselves to be literate⁷³, there is still a significant part of the population lacking basic skills in reading and writing. It is also estimated that around 170,000 young people without significant qualifications or skills enter the labour market each year⁷⁴. Furthermore, evidence indicates that skills shortages are already a constraint on the growth of the non-agricultural sectors. Only 60 per cent of estimated short-term human skills requirements are available in Rwanda today, and the shortages are most severe in the private sector.⁷⁵ Responding to these challenges will be imperative if the Rwandan economy is to continue to grow strongly.

The fact that a significant part of the existing labour force lack skills and education commensurate with the needs of the changing economy implies that new entrants into the labour market will, on average, have to be more skilled in order to satisfy an increasing demand. With about two million children currently enrolled in primary education, and with continued high fertility rates (6.1 children per woman in 2005) combined with decreasing infant and under-five mortality rates⁷⁶, the number of entrants in the school system, as well as the labour market, will remain high in the foreseeable future. Thus, the pressure on the school system to provide quality education and ensure an increasingly well educated labour force will continue to be one of the primary challenges for Rwanda going forward.

Rapid, broad-based and inclusive human resources development resulting in increased skills and employability of the workforce is however not only key for achieving and

⁷¹ Government of Rwanda (2007a: 34)

⁷² Government of Rwanda (2007a: 1)

⁷³ Government of Rwanda (2007a); NISR (2007b: Table 7.8)

⁷⁴ Ministry of Education (2008)

⁷⁵ SPU/HIDA (2009)

⁷⁶ Government of Rwanda (2007a: 19-20)

sustaining high growth rates. It is also a crucial building block for more broad-based and inclusive development. For growth to become more pro-poor and in order to enable larger segments of society to contribute to and benefit from economic development, broad segments of the population need education and skills commensurate with the demands of a structurally transforming economy and the long-term vision of the country.

As noted in the chapter on development dynamics (Chapter 1) above, access to education beyond the primary level appears to serve as a watershed, separating those destined for agriculture from those who can aspire to employment in the non-agricultural sectors (Table 1.15). Over 80 per cent of those in the labour force with no more than five years of formal education are working in agriculture, while well over half of those with some form of education beyond the primary level (whether vocational or general), and over three quarters of those with at least four years of post-primary education, have found work in the non-agricultural sectors.

There is also a clear correlation between employment status and welfare level. The highest incidences of poverty are found among households whose main source of income is agricultural wage labour (over 90 per cent live below the poverty line), but households who combine agricultural wage labour and self-employment in agriculture are not much better off (82 per cent below poverty line).⁷⁷ At the same time, a majority of those in the fourth and fifth income quintiles find employment in non-farm sectors, indicating a clear dichotomy between farm and non-farm employment.⁷⁸ It should also be noted that the share of women working in agriculture is substantially higher than men with 86 per cent of the female labour force finding some form of employment in farm work compared to 71 per cent of the male labour force.⁷⁹

Thus, addressing the delineation between those who find work outside of agriculture and those who remain in the farm sector where poverty is much more prevalent appears to a substantial extent to be a question of expanding formal education and professional and vocational training. For the young, and in particular young women, achieving sufficient and adequate education and training to be able to get a foothold and play an active role in the expanding non-agricultural sectors of the economy or in the development of a modern agriculture will be crucial for their prospects to escape poverty through productive employment. In particular for the young generation growing up in farm households with little land, achieving post-primary education seems to be a main determinant of their prospects to leave agriculture and escape from poverty.

The educational system (broadly defined to include also vocational training) will need to respond to two substantial challenges:

1. Expanding the number of graduates at increasingly higher levels while assuring high and uniform quality at primary level. It must do so in an environment of rapidly increasing population and continued high number of children entering the school system.
2. Serve as a vehicle for reducing inequality by fostering equal opportunities for all, irrespective of gender and background, to achieve levels of employability. This latter

⁷⁷ 82% of those combining agricultural wage labour with self-employment in agriculture are found beneath the poverty line Government of Rwanda (2007a: 17)

⁷⁸ Strode, Wylde & Murangwa (n.d.: 55)

⁷⁹ Strode, Wylde & Murangwa (n.d.: 24)

aspect is particularly important considering that for most of the youth coming from impoverished rural background their education and skills will be their only income earning asset.

3.2 Primary education

Considerable achievements have been made in terms of increasing primary school enrolment in Rwanda. Net enrolment in primary education has increased from 72 per cent in 1999/2000 to 94 per cent in 2005 (Table 3.1).⁸⁰ The net enrolment of girls in primary education is at par or even slightly over than that of boys. Income poverty is no longer the same significant barrier preventing access to primary education that it used to be. Primary school enrolment among children coming from households at the bottom income quintile increased from 65 to 79 per cent between 2000/01 and 2005/06. Although this is significantly lower than net enrolment rate for those from the highest quintile (at 92 per cent), the 13 percentage points gap is considerably smaller than the 19-point gap observed in 2000/01. The difference between enrolment rates in rural and urban areas does not appear to be a significant factor either, with about 90 per cent net enrolment for urban areas compared to 85 per cent for rural.⁸¹

Table 3.1 Primary education characteristics. Percentages

	1999/2000	2005	2008
Net enrolment, girls	71.8	94.7	n.d.
Net enrolment, boys	72.5	92.2	n.d.
Net enrolment, both sexes	72.2	93.5	94.2
Transition rate from primary to secondary	42.0	58.3	54.6*
Repetition rate	37.6	15.8	17.7*
Drop out rate	12.6	14.6	13.9
Pupil / teacher ratio	54	69	66
% qualified teachers	53.2	93.7	n.d.
Pupils per qualified teacher	102	73.6	n.d.
Pupils per class	42.5	62.5	n.d.

Source: NISR (<http://statistics.gov.rw>); NISR (2009a: 55).

Remark: Transition rate to next class: Percentage of those completing primary education who move on to secondary education.

However, the expansion of primary education displays signs of growth pains. The 1999/2000 to 2008 period saw an increase in the pupil per teacher ratio from an already high level of 54 to 66 by the latter school year (Table 3.1). This is among the highest rates in Africa. A key benchmark for the government is to have at least 20 per cent of students scoring above 50 per cent on the grade 6 leaving exam. At present, less than 10 per cent of

⁸⁰ It should be noted that these figures from the Ministry for Education (www.mineduc.gov.rw) are higher than those found in the EICV II (where net enrolment rate is estimated at 86% in 2005/06). The difference is due to different estimates of the denominator. The trend increase is however similar in both sources.

⁸¹ NISR (2007b: Table 7.1)

students currently achieve this, and on average girls get lower scores than boys. This pattern is repeated on the exam at the end of lower secondary education in grade 9.⁸²

At the same time, there are also indications that quality has not necessarily deteriorated despite the rapid expansion of primary education. Repetition rates declined from an exceedingly high level to below 18 per cent by 2008 (Table 3.1). Graduation rates from primary to secondary education have improved and stood at 55 per cent in 2008. One probable reason behind these improvements is that the extreme lack of qualified teachers in the aftermath of the genocide is gradually being remedied. By 2004/05 more than nine out of ten teachers in primary education were qualified, as against little more than half five years earlier (Table 3.1).

3.3 Malnourishment and cognitive skills

As pointed out above, primary school enrolment has increased substantially, and the target of universal enrolment is well within reach. While this is no doubt crucial, cognitive deficiencies among disadvantaged children may continue to hamper development and poverty reduction prospects. It has been clearly shown that malnutrition hampers educational outcomes.⁸³ Unsurprisingly, hungry children have difficulties learning, but more importantly cognitive development and capacity for learning is significantly affected by nutritional status of the mother during pregnancy, and incidence of malnutrition during early childhood, particularly the first three years. The ability of school-age children to acquire basic skills in primary education is therefore significantly affected by health status, primarily nutrition, in the very early years. This is also confirmed by evidence from international studies finding lower educational attainment for malnourished children.⁸⁴ There is furthermore evidence indicating that investments in early years to counter malnutrition give greater returns than when investments are made at later stage to remedy cognitive disadvantages.⁸⁵

Given the prevalence of food insecurity and malnourishment among the population (presented in section 1 above), the rather high figures for stunting, indicating chronic malnourishment, and underweight are in light of the impact of malnourishment on cognitive abilities and educational outcomes worrisome. Particularly worrisome is the high incidence of stunting among children up to five years (Table 1.20). Data for Rwanda on the impact of malnourishment on educational attainment is not available. The evidence above does however clearly indicate that malnourishment among infants and toddlers is potentially a significant obstacle to improved educational outcomes among poorer segments of the population, and a better educated and skilled work force. Indeed, the World Development Report 2006 states that:

Poor cognitive and social abilities are associated with weaker future academic performance and lower adult economic and social outcomes, including poor health, antisocial behaviour and violence. These underachieving adults influence the cognitive

⁸² World Bank (2009)

⁸³ World Bank (2005: 132-133). TNFC, World Bank and UNICEF, Advancing nutrition for long-term equitable growth

⁸⁴ Ibid

⁸⁵ World Bank (2005: 133)

abilities of the next generation of children, creating an intergenerational cycle of poverty and unequal opportunities.

3.4 Post-primary education

3.4.1 Secondary education

As the target of achieving universal primary education is coming well in sight, the focus is shifting to increasing access to secondary education. Fee-free education has been extended to lower secondary education (*tronc commun*), making the first nine years of formal education free from fees. This change has however been enacted rather recently and its effects are not visible in data currently available.

Net enrolment in secondary education registered a modest increase from 7 per cent in 2000/2001 to 14 per cent in 2008, but remains far below the levels for primary education (Table 3.2). While gender differences appear to be insignificant in terms of enrolment at the primary level, they do appear at the secondary level. Girls lag behind boys in transitioning to secondary and higher education. Girls are underrepresented in public and subsidised private secondary schools, but over represented in the fee-based private secondary schools (Table 3.2). It may be linked to findings in studies based on earlier data which suggest that girls do not perform as well as boys in exams (Table 3.2).⁸⁶

⁸⁶ World Bank (2004: 90)

Table 3.2 Secondary education characteristics.

	1999/2000	2001/2002	2004/2005	2008
Total no of students	105 300	157 200	218 600	288 000
Students aged 13-18			118 400	n.d.
Gross enrolment rate	n.a.	11.2	16.6	22.0
Net enrolment rate		6.5	9.9	13.9
% of students in public and subsidised secondary education	57.5	56.4	58.8	62.9.
% of students in private sec. schools	42.5	43.6	41.2	37.1.
% girls all types of sec. schools	41.6	49.5	47.2	n.d.
% girls in public in public and subsidised secondary schools	48.4	44.0	42.5	n.d.
% girls in private sec. schools	54.0	56.6	53.9	n.d.
Pupils per teacher public and subsidised secondary schools	21.1	26.7	29.6	n.d.
Pupils per teacher private secondary schools	24.8	22.8	27.6	n.d.
Pupils per qualified teacher all sec schools	23	25	29	18

Source: NISR (<http://www.statistics.gov.rw>); NISR (2009a: 55-56).

Remarks: There are three types of secondary schools: (i) Public schools, (ii) subsidised private schools (usually run by churches), and (iii) private non-subsidised schools. The former two categories are reported together in the table.

Access to secondary education remains a privilege for the relatively better-off. Net enrolment in secondary education stood at 22 per cent for children from households in the highest income quintile in 2005/2006, as against a mere 2.6 per cent for children from households in the lowest income quintile.⁸⁷ As might be expected, access to secondary education was much higher among urban households than among rural. The cost of sending children to secondary education clearly remains an inhibiting factor preventing equal access. Median expenditure by households per pupil in secondary education in 2005/06 was over 68,000 RwF (123 US\$), which was 37 times as much as average household expenditure per student in primary education.⁸⁸ However, this average hides very large variations. Attending a private secondary school is a great deal more costly than attending a public or confessional school and attending upper secondary education is three to four times more costly than attending lower secondary education. Differences in costs between female and male students are however low and hence probably not a decisive factor in causing under-representation of girls in secondary education.

⁸⁷ NISR (2007b: Table 7.3)

⁸⁸ NISR (2007b: 56)

Table 3.3 Percentage of pupils exceeding cut-off mark for promotion to next level in final exams in 2002. Percentages

	Girls	Boys
Primary (to secondary)	17.8	28.5
Lower secondary (to higher secondary)	29.3	55.6
Upper secondary (pass mark for graduation)	62.8	76.0

Source: World Bank (2004: 90).

The relatively high graduation rate from primary to secondary education (58 per cent) compared to the very low net enrolment rate in secondary education (10 per cent of children in that age cohort) indicate clearly that a vast majority of those not able to progress to secondary education do so because they drop out of school before finishing primary education. Unfortunately, data on termination of studies at various levels of primary school is not available. Given the much lower rates of enrolment in secondary school for children from families in the lowest income quintiles, it is likely that drop-out rates are significantly higher for the poor than non-poor. Barriers that limit the ability of especially children from poor households to finish their primary education are likely to include factors such as distance to schools (poverty incidence is higher among those who have longer distance to schools⁸⁹), insufficient quality of schooling, direct costs related to schooling such as uniforms and books, indirect costs such as foregone domestic and agricultural work, perceptions on the value of schooling and so forth. The primary reason cited by primary-aged children for prematurely terminating studies is costs (cited by 29 per cent).⁹⁰ The second most common reason is lack of interest (24 per cent) and health is third at 22 per cent. The fact that lack of interest comes in second is possibly due to attitudinal reasons where pursuing studies beyond a few basic years is not considered valuable due to insufficient quality of schooling. If such attitudes exist and prevail, they might constitute a considerable constraint on expanding education beyond the most basic levels. However, before any conclusions can be drawn on this issue, further investigations are necessary. Further studies are needed to identify, and guide interventions on, which the most important factors are among those that limit completion rates for children, and especially girls, from poor households.

3.4.2 Technical and vocational education and training

The need to expand the system of technical and vocational education and training (TVET), is an important complement to efforts to scale up primary and secondary education, and the government has identified TVET as a priority in the EDPRS. Properly designed, technical and vocational training and practical skills improvement can arguably offer the large numbers of, in particular rural youth, a viable alternative to employment in agriculture and a chance to get a foothold in the dynamic and more productive non-farm sectors of the economy. Anecdotal evidence also indicate that practical vocational training at the post-primary level greatly enhances the employability of young people, most of whom would probably have little prospects to aspire to higher education in any case. It should however be noted that international comparative studies indicate that the value of pre-employment technical and vocational training is likely to be marginal when labour

⁸⁹ Gov. of Rwanda, 2007, EICV poverty analysis for Rwanda's EDPRS, table. 8.5

⁹⁰ Government of Rwanda (2007a: Annex G, Table G3)

supply greatly exceeds demand, and TVET tends to be more effective when combined with general education.⁹¹

It is clear that the extent of technical and vocational training available today in Rwanda is too limited. With the total number of students in primary education totalling about two million and a gross enrolment rate in secondary education of only 22 per cent in 2008 there is clearly a huge group of young people that could potentially benefit from some form of technical and/or vocational training. Presently however, existing TVET schools only accommodate about 40,000 students⁹² and as already mentioned about 170,000 young people are estimated to annually leave the school system without any vocational training.⁹³ One survey indicates that only 15 per cent of young people have received some form of technical and business and entrepreneurship training.⁹⁴ The technical and vocational training available is dominated by industrial technical courses, accountancy and office management, agriculture and veterinary training and initial vocational training schools (offered to primary school leavers). In some areas there are wide gender disparities, with only slightly more than 22 per cent of students enrolled in technical course being girls. In initial vocational training schools however, females account for 45 per cent. Such patterns, where females are underrepresented in more advanced technical training institutions risk reinforcing a structure where women continue to dominate among more low-paying jobs and services.

An additional challenge for Rwanda is that vocational training appears to be insufficiently coordinated and linked to the needs of the economy.⁹⁵ Efforts in the field suffer from a detachment from the needs of the economy. Some estimates indicate that as much as 40 per cent of the vocational training is provided by various international and national NGOs and is on the whole supply-oriented. Furthermore, the training centres and institutions that exist appear to be primarily located in urban areas, whereas the rural areas to a large extent lack such facilities.

The TVET strategy of the Government of Rwanda adopted in 2008 does address many of the challenges for technical and vocational training. The objective is to more than double the number of students enrolled in TVET already by 2011/2012.⁹⁶ Targeted sectors, including ICT, tourism, construction and building and agriculture, do also appear to overall be in line with EDPRS priorities.

⁹¹ Middleton J, Zideman A and Adams v A, 1993, *Skills for Productivity: Vocational Training and Education in Developing Countries*, Oxford University Press

⁹² It should be noted that there is also some overlap between secondary education and TVET since some of the technical training is done in secondary schools with this profile

⁹³ Gov. of Rwanda, Ministry of Education, 2008, *Technical and Vocational Education and Training Policy in Rwanda*

⁹⁴ YES Rwanda situational analysis of youth livelihoods and entrepreneurship

⁹⁵ Gov. of Rwanda, Ministry of Education, 2008, *Technical and Vocational Education and Training Policy in Rwanda*

⁹⁶ Presentation of Integrated TVET System in Rwanda Through The Proposed Rwanda Workforce Development Authority – WDA, 2008 07 15

3.4.3 Higher education

There is no doubt that the massive scaling up of non-farm jobs foreseen in the EDPRS will require an increasing number of people in the labour force with secondary education or technical and vocational training. At the same time, it will also require a significant increase in the number of university graduates. Thus, an expanding system of higher education complements secondary education and TVET, and ensures that the entire chain from pre-primary to university education contributes to reduce skills shortages and strengthen growth prospects.

In sub-Saharan Africa the average percentage of young people going to higher education is about five per cent. In Rwanda this figure presently stands at about one per cent.⁹⁷ The EDPRS-target is to increase entry rates to the average in East Africa (four to four and a half per cent). There are currently 18 institutions providing higher education in Rwanda, 6 public and 12 private. In 2006 the total number of students at these institutions was 45,100, with girls making up slightly over 40 per cent of the students.⁹⁸ The biggest institution is the National University of Rwanda (established in 1963, and re-established after the genocide in 1994), with more than 8,000 students in 2007 spread out over seven faculties and two schools.⁹⁹ The university is foreseeing a near doubling of students to more than 14,000 to 2012. The foreseen scaling up of students will take place against a backdrop of already existing capacity problems. In all higher learning institutions in the country, only 25 per cent of staff hold a PhD, and 35.6 per cent have a master's degree.¹⁰⁰ Thus almost 40 per cent of teachers and trainers lack education beyond the level they are teaching at. Furthermore, the National University reportedly experience problems retaining qualified staff given the very high demand for skilled labour.

3.5 Challenges ahead

As Rwanda continues to transform from an economy almost solely comprised of subsistence agriculture the demands for more skilled and well educated labour will increase. If the ambition to increase non-farm jobs in the economy to 30 per cent is reached, this alone will imply an increase of non-farm jobs of around half a million or more. A large share of these will most likely require increasingly skilled labour. The increase in demands for skills will be reinforced by use of more modern production technologies within agriculture as a consequence of increasing market orientation. Responding to these challenges is crucial for Rwanda to be able to continue to grow strongly. New entrants into the labour market will have to make up a significant part of a necessary upgrading of skills in the labour force. With a school age population of more than two million, in a country with less than ten million inhabitants, and continued high population growth, the challenges faced by the education system in Rwanda in terms of both quality and quantity are, and will continue to be very large.

Education is arguably the single most important factor determining future employability. As access to basic education and the possibility of achieving at least literacy

⁹⁷ NUR, (2009), Report for a Stakeholders' Conference, p. 7

⁹⁸ NISR (2009a: 62); Government of Rwanda (2009)

⁹⁹ NUR, (2009), Report for a Stakeholders' Conference

¹⁰⁰ SPU/HIDA (2009)

have become almost universal, the focus needs to shift to differences and inequalities in completion and performance rates and in access to middle and higher levels of education. An increase in the number of students continuing in, and completing, primary school must be achieved without reduced quality in the education system. The cursory review above suggests that there are still large differences regarding completion of primary education and enrolment at secondary level. These differences may well go a long way to explain subsequent differences in employment outcomes. An important challenge for Rwanda is therefore to ensure remove those barriers that limit the ability of especially children from poor households to finish their primary education.

Any efforts to address unequal educational outcomes between poor and rich households are most likely to a significant extent cancel out if the issue of malnutrition and its impact on cognitive abilities is not tackled as well. As malnutrition is an issue that is most significant for the very poorest and food insecure segment of the population, the issue has a clear relevance from an equity perspective, and in creating more equal opportunities for the poorest

There is also a need for expanded TVET geared towards the needs of the growing private sector, and with a focus on basic and practical skills of a generic nature and expansion in, particularly, rural areas where a large number of the poor reside. Furthermore, attention must also be given to the need to expand higher education, and increase the number of qualified teachers at tertiary level.

A well educated and skilful workforce is indeed necessary for Rwanda to be able to transform itself to a knowledge based economy in accordance with its vision. A lack of human capital and skills is already a barrier to growth of non-farm sectors, and the demand for well educated labour will increase. As has been argued above, it is also important to ensure broad-based and inclusive education and training at increasingly higher levels in order to address increasing inequality and widening income gaps in the population. However, a more well educated and skilled workforce will not by itself be sufficient to enable the necessary transformation and ensure broad-based and inclusive growth. An increased supply of qualified labour must be met by an increase in demand for this labour. Therefore, efforts to improve access to quality, equitable and effective education must be matched by continued attention to improving the business climate and to removing the obstacles confronted by a growing private sector.

4. The non-agricultural sectors – a golden opportunity

The Rwandan economy is on the verge of a structural transformation from a mainly agrarian society into a semi-industrialised economy. The number of non-agricultural wage workers doubled and the number of those working in non-farm family enterprises quadrupled during the five-year period between 2000/01 and 2005/06.¹⁰¹ By 2005/2006 there were some 350,000 people running independent businesses as their main job, while an almost equal number of businesses were run on a part time basis.¹⁰² While the number of own account farmers has remained stable in recent years, the increase in rural labour force

¹⁰¹ Of the increase in waged non-farm jobs, three quarters of the additional jobs have been captured by men while only one quarter going to women (Strode, Wylde & Murangwa (n.d.)

¹⁰² NISR (2007b: 36)

of some half a million has largely been absorbed in waged farm work and non-farm employment.¹⁰³

Even though the absolute number of people working in the non-farm sector is still small, the importance of this sector is rapidly increasing. Quick and sustainable expansion in the years to come is a prerequisite for achieving the ambitious targets of poverty reduction set by the government of Rwanda. As stated in the Vision 2020, the Rwandan labour force is expected to grow by 40 per cent (almost two million workers) in a fifteen year period while the structure of the economy is simultaneously expected to transform from agricultural dependence towards non-agricultural sectors. This implies that non-agricultural employment would need to more than treble from its current size employing 50 per cent of the labour force by 2020.

4.1 Characteristics of the non-agricultural sector

Despite its high population density (estimated at 349 people per square km), Rwanda is one of the least urbanised countries in Africa. The non-farm sector of the economy is currently small, but is growing both as a share of GDP and as a provider of an exit from agriculture for the rural population. The manufacturing sector is mainly based on agro-industrial activities, which account for 80 percent of total manufacturing output.¹⁰⁴ This allows for a strengthening the backward links to the agriculture sector, and assists in expanding market opportunities for farmers. Also the service sector has been growing at a fast rate during the past decade currently contributing to close to half of the GDP, as shown in table 4.1. Even though small in size, the impressive growth of 22 percent in the transport, storage and communication sector and 15 percent in the industrial sector spearheaded by construction,¹⁰⁵ signal untapped economic potential in the non-farm sector at large. In particular, new operational investments in the construction sector have already proven to lead to a substantial increase in employment opportunities (on average 448 jobs per licensed investment) which creates potential for increasing employment in the non-farm sector during the ongoing economic boom in Rwanda. A word of warning is warranted, though, as most jobs created in the construction sector were observed to be low productive in terms of returns, compared to for instance the ability of the tourism sector to create more productive jobs.¹⁰⁶ High hopes being placed on the rapid expansion of the tourism sector might still prove difficult to achieve in the near future as the sector is sensitive to the ongoing global recession especially as Rwanda is targeting the high-end niche of the tourist market in its development strategy.

¹⁰³ Strode, Wylde & Murangwa (n.d.)

¹⁰⁴ Temesgen *et al.* (2008: 3)

¹⁰⁵ Ministry of Finance and Economic Planning (2008: 9-10)

¹⁰⁶ YES Rwanda (2006)

Table 4.1 Sector distribution of real GDP. Percentages of GDP.

	1999	2001	2003	2005	2007	2009
Agriculture	40	40	41	41	38	36
Industry	15	15	14	15	15	15
Services	45	45	45	44	47	49

Source: NISR (2010b).

4.1.1 Internal migration follows in the footpath of economic diversification

Most of the industrial sector activities are located in or around Kigali, and the development of industrial activities in locations outside the capital is still a recent phenomenon.¹⁰⁷ The emerging new employment opportunities in the capital and other economic centra are a powerful driver of internal migration in Rwanda (Table 4.2). Eastern province, which has shown the largest growth in jobs mainly within agriculture, has experienced an increase in adult migrants, and the region has been rather successful in balancing the employment and population growth. Kigali, on the other hand, has attracted immigrants that have moved to the capital in hope of capturing lucrative employment opportunities in the non-farm sector. The other provinces have not succeeded in matching their internal population growth with job growth, and especially in Northern Province this has led to out-migration to the other regions. However, the possibility of seizing the emerging opportunities is not equally distributed among the population: the least well-off households are least likely to move while 45 percent of the migrants are found in the wealthiest households.¹⁰⁸ The chain of causality, however, is still unclear as being better-off can be a result of migrating to more attractive job opportunities as such rather than a prerequisite for migrating. In any case, the income difference between the migrant households and others is clear evidence on existing barriers for mobility in the labour market, be it initial income or education that will enhance employability in the new region. Enabling further mobility would allow greater dynamism in the market and allow more households to grasp the emerging opportunities.

Table 4.2 Percentage increase in employment between 2000/01 and 2005/06 by province.

	Males	Females	Total	Farming	Non-farm	All
City of Kigali	26.9	24.2	25.6	0.4	39.0	25.5
Southern Province	21.5	14.2	17.3	7.2	127.8	17.3
Western Province	23.1	17.3	19.8	6.2	249.4	19.8
Northern Province	0.1	4.8	2.7	-5.8	110.4	2.7
Eastern Province	43.4	26.5	33.7	20.4	331.1	33.7
All Rwanda	22.1	16.3	18.8	6.7	112.2	18.8

Source: Strode, Wylde & Murangwa (n.d.: Table 3.5)

¹⁰⁷ Temesgen et al. (2008 : 5)

¹⁰⁸ Strode, Wylde & Murangwa (n.d.)

4.1.2 The non-agricultural sectors and poverty

Finding employment outside of agriculture pays off (Table 4.3). In 2005/06 About 75 per cent of the permanent personnel in the micro, small and medium-sized companies earned more than 500 RwF per day, which is more than the average 300 RwF earned by a worker in subsistence agriculture.¹⁰⁹ A further improvement in the incomes and profits can be achieved once the companies mature and become more productive. Indeed, the median value added per worker in manufacturing is ten times greater in large companies compared to micro enterprises, while the medium-sized companies seem to have reached the height of productivity per worker.¹¹⁰ The success of Rwandan poverty reduction efforts is thus closely linked to the ability of the poor being able to move from the low-productive sectors, currently mainly agriculture, into the sectors with higher value added.

Table 4.3 Poverty status by sector. Percentages

Sector	Share of workers	Poverty status	
		Poor	Not poor
Agriculture, fishing, forestry	79	61	39
Mining and quarrying	0	56	44
Manufacturing	2	45	55
Construction	2	45	55
Trade	7	32	68
Transport and communications	1	25	75
Financial services	0	6	94
Government	3	17	83
Recreation and tourism	0	48	52
Other services	5	26	74
Other	1	58	42
All working adults	100	55	45

Source: Strode, Wylde & Murangwa (n.d.: Table 8.7).

An increase in productive employment is also recognised by the Rwandan government as being the main transmission mechanism linking economic growth to reduced poverty.¹¹¹ The expansion of productive job opportunities in the non-farm is only getting started from a very low base and the current job creation by the formal private sector is much lower than the growth of employment seekers.¹¹² Yet, an estimated 694,000 new jobs were created in Rwanda between 2000/01 and 2005/06, out of which an estimated 200,000 were in non-farm paid employment.¹¹³ Thus, removing formal and informal barriers for employment and improving the employability of the job seekers would benefit the growth of the non-

¹⁰⁹ FIAS & NISR (2006)

¹¹⁰ Temesgen et al. (2008: 8)

¹¹¹ NISR (2007b: 16)

¹¹² YES Rwanda (2006)

¹¹³ NISR (2007b: 16)

farm private sector while at the same time contributing to poverty reduction and alleviating the existing pressure on the agricultural sector. However, the reforms cannot wait: in order to meet the poverty reduction goal set by the government, the government envisages increasing off-farm employment to 30 per cent by 2012, which would imply that an estimated 600,000 new non-farm jobs would need to be created in the immediate future.¹¹⁴

4.1.3 A large informal sector

The vast majority of the non-farm economic activities are carried out in the informal sector. Official estimates suggest that the informal sectors in the economy account for three quarters of GDP and all of the production in agriculture (Table 4.4)¹¹⁵ The degree of informality, however, varies widely and in fact less than 10 per cent of the firms do not comply with any sort of business regulation. The most common form of formality is paying the so-called *Patente*, i.e. a right to operate that 86 per cent of the firms comply with while on the other extreme only 1.4 per cent of the firms pay social security contributions (even some public agencies avoid paying these fees). The majority of the small firms are in the twilight zone of partial formality in different forms. The degree of informality varies by sector (Table 4.5). While most waged agricultural work is done in the informal sector (91 per cent), a significantly higher proportion of the non-agricultural employees work in the formal sector (40 per cent). This is mainly due to the large number of public sector employees, including those in para-statal enterprises and organisations. Although most of the partially formal businesses are run by men, the more informal ones are commonly run by women, which is likely to be linked to the fact that women are more restricted in their mobility and the local nature of the informal enterprises provide them with an opportunity to operate from their homes or close environment.¹¹⁶

Table 4.4 Informal monetised and non-monetised production as share of GDP and value added by main sectors. Percentages

	Formal	Informal, monetised	Non-monetised
Whole economy*	25	53	22
Agriculture	0	63	37
Industry	25	66	9
Services	34	48	18

* Excluding government and NGOs.

Source: NISR (2010b)

More than 90 per cent of the informal firms were formed after the Genocide. During the conflict, a lot of physical capital, supply chains, infrastructure and social networks were destroyed. During the years immediately after the Genocide, the economy was still in chaos and the people were struggling to meet their basic needs. At this time, enforcing formal business legislation was understandably not the main priority. Once the formal institutions

¹¹⁴ NISR (2007b: 36)

¹¹⁵ Excluding the share of the GDP attributable to Government and NGOs

¹¹⁶ FIAS & NISR (2006)

started to recover, Rwanda carried out several economic reforms. These included, among other measures, privatisation of many public enterprises, the reform of the public service, and demobilisation of soldiers, all resulting in large-scale reductions in public sector employment. The majority of the retrenched staff received a severance package and were encouraged to start their own business. International experience from, for instance, Vietnam shows that such stimulus from the government can play an important part in the establishment and growth of SMEs, as turned out to be the case also in Rwanda. Still, given the lacking experience of the new entrepreneurs combined with the unreformed business regulation and insecure business environment, these changes resulted in an expansion of the informal economy rather in the formal one.¹¹⁷

Table 4.5 Employment by formal and informal sector in 2005/06. (In 000's and percentages)

	Workers	%
Formal sector		
Waged non-farm	199	4.5
Waged farm	32	0.7
Independent non-farm	40	0.9
Total formal	271	6.2
Informal sector		
Waged non-farm	279	6.4
Waged farm	328	7.5
Independent non-farm	308	7.0
Family non-farm	72	1.6
Subsistence farmers	3 119	71.3
Total informal	4 106	93.8
Total employment	4 377	100.0

Source: NISR (www.statistics.gov.rw).

The informal businesses are still very small in size (almost 90 per cent have less than two workers), they have very limited assets and they operate at a very local level¹¹⁸. The informal firms are geographically dispersed, with the majority of the businesses being located outside the capital. The informal businesses are predominantly headed by men, even though the informal sector provides valuable employment opportunities also for many women (Table 4.6).

¹¹⁷ FIAS & NISR (2006)

¹¹⁸ FIAS & NISR (2006)

Table 4.6 Regional distribution of the employed in the informal sector by province.

Percentage/Province	Kigali	South	West	North	East	Total
Men	13.5	9.9	18.9	14.8	14.2	71.3
Women	5.2	6.2	8.5	5.0	3.8	28.7
Total	18.8	16.1	27.4	19.8	17.9	100.0

Source: NISR (2007a: 32).

Most of these entrepreneurs are relatively young and lack higher formal education (80 per cent have at most completed primary school). The informal businesses are very diverse. At the one extreme, they may serve as a source of employment of last resort – as a kind of distress employment - for those who are unable to find alternative means of making a living, but there are also those who choose informality as it is the most profitable way of doing business for them and who have a viable and profitable business idea. A large subgroup in the informal sector, namely young people, are still overrepresented in the distress employment category. In one survey 72 per cent of the informally employed aged 15-29 cited lack of employment as the main reason for informal economic activity rather than being drawn to the sector by entrepreneurship.¹¹⁹ The older entrepreneurs, especially men, seemed to be more able to make profit even in the informal sector presumably due to superior skills, experience as well as accumulated capital considering the credit constraint plaguing the informal sector. According to a survey, 85 per cent of the Rwandese youth have not received training in any technical skills or business or entrepreneurship training¹²⁰. Improving the skills and access to business development services (including finance) targeted towards the youth could improve the productivity of the informal firms and help to address the issue of large numbers of unprofitable small businesses.

The potential for employment generation in the informal sector is large, and full-time and part-time employment in micro, small and medium sized enterprises is rising.¹²¹ Still, 80 per cent of the companies have only one employee¹²² and seemingly sluggish growth of already existing companies must be considered a constraint for the development of the economy. Large informality is a consequence of the cost of following the cumbersome regulatory system, but also a constraint for growth as such. When such a large proportion of business activity takes place in the informal sector, resources are channelled away from the formal structures. This impedes growth, the rule of law is compromised, and business practices adapt to an un-regulated environment.¹²³

Most firms find it more simple and cost-effective to stay in the informal sector than having to comply with formal regulations for licensing, taxes and other business regulations. However, being informal creates barriers to growth for the individual firms. The potential market for informal businesses is restricted as they, by definition, cannot compete for government contracts, and their markets tend to be geographically confined as economic interaction needs to be based on personal trust rather than on formal contracts in

¹¹⁹ YES Rwanda (2006)

¹²⁰ YES Rwanda (2006)

¹²¹ YES Rwanda (2006)

¹²² FIAS & NISR (2006)

¹²³ FIAS (2005)

absence of a contract enforcement mechanism. Furthermore, expanding the business to new, unexplored markets is constrained by the difficulties in marketing the business while simultaneously trying to stay below the radar. In addition, informal businesses can only access finance on the informal market, and their access to official projects or capacity-building programmes is limited.¹²⁴

Still, there is reason to assume that the large proportion of young informal firms is a characteristic of the early formation of a more diversified and dynamic economy. Widely spread informality could thus be expected to be a transitory but necessary phenomenon in this development. Even though formalisation process is often perceived as costly and cumbersome, the firms that have gone through the process state that the burden of formality was in fact less than expected. This would imply that the real problem is not the formalisation procedure as such, but the weak capacity of the informal firms combined with ineffective information on the rules of the game. In order to ease the transformation towards a more vital business structure with eventually higher degree of formalisation, effective information campaigns of the business service support provided as well as practical information on the procedures and the true tax burden may be an effective way to increase formality in the system. In an environment where many of the informal entrepreneurs have low levels of education and lack formal training in business skills, further emphasis on this type of accustomed competence development is a necessary complement to the changes in the formal procedures.

Secondly, the current anomalies in the regulatory system should be rectified in the ongoing process of business environment reform in order to guarantee a fast and smooth transformation from informality to formality. For instance, with only 1.4 per cent of enterprises paying the social security fees, the system is considered an expensive hinder for formalisation while at the same time it is failing to provide social security to the majority of the labour force. Finally, in addition to lowering the cost of formalisation, increasing the benefits is also a way to bring more firms into the official economy. Currently the informal firms are many but most of them are young and even the ones that have existed for a longer time experience difficulties in expanding their operations, which in its turn limits the growth of the private sector as well as the generation of employment opportunities. In order to achieve the goal of higher endogenous growth in present informal SMEs, improving access to business development services in general and finance in particular can serve to improve the profitability and attractiveness of formal economic activity and enhance business growth.¹²⁵ A large base of entrepreneurs, although many informal should thus be considered as a strength in the economy that can, if taken well care of, result in a promising base for sustained growth.

4.2 Creating and exploiting market opportunities

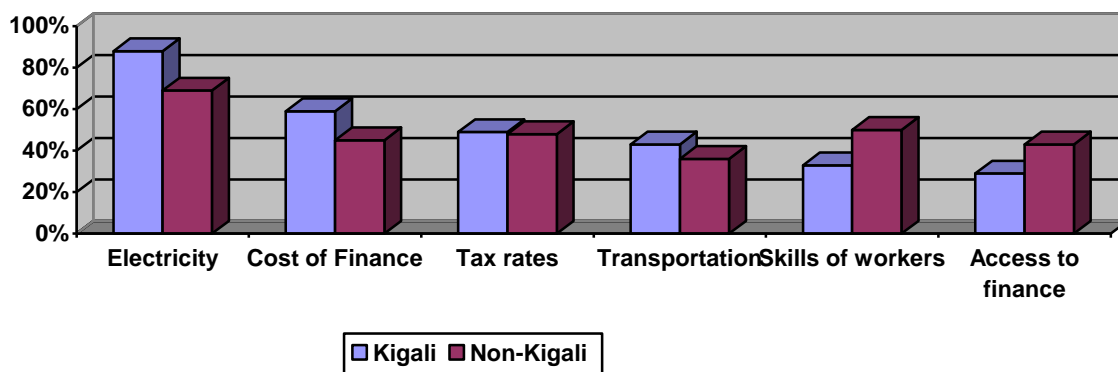
In order for the private sector to grow and for the non-farm sector to expand, there needs to be lucrative economic opportunities to exploit, and a possibility to grasp these opportunities where they emerge. Making use of the opportunities might be difficult for many of the potential actors in the market. The barriers for entering and growing in the non-farm sector differ by location, by the size of the firm, as well as the legal status of the enterprise (Table 4.7).

¹²⁴ FIAS (2005)

¹²⁵ FIAS & NISR (2006)

However, a few key constraints stand unopposed no matter which actor is in question. Unreliable and costly supply of energy, insufficient transport infrastructure, cost of and access to finance, lack of educated labour force as well as cumbersome business regulation mainly related to taxes top the list of constraints in a variety of surveys conducted in recent years.

Table 4.7 Major obstacles for doing business by location.



Source: Temesgen et al. (2008: 16).

4.2.1 Infrastructure

Transport infrastructure in Rwanda is an important ingredient in creating further growth through international trade as well as in ensuring inclusiveness of growth domestically. Rwanda's unfortunate geographical location as a land-locked country with long distance to the closest port re-emphasise the importance of well-functioning transport infrastructure. The main transport channel for Rwandan export and import is the 1,500 km road network through Uganda. Even though the Rwandan main roads are in a reasonably good shape compared to those of its neighbours, the need for improved feeder road infrastructure becomes clear when it comes to linking the majority of the poorer economic actors living in the country side to the main national markets, and connecting national economic centres to each other, to Kigali and to the international market. An alternative way of transporting exports and imports would be via railway through Tanzania, but there is currently no railway on the Rwandan side connecting to the Tanzanian railways. In order to remedy this shortcoming, the governments of Burundi, Rwanda and Tanzania have recently signed a memorandum of understanding between the three countries to embark on a joined railway project that would provide Rwanda with a direct access to the port in Dar es Salaam and help to boost Rwanda's status as a regional hub for trade. This agreement indicates the willingness and ambition to address the issue in the future development efforts, but it is likely to take years before these ambitions are turned into reality.

The demand for electricity is rising fast as the growth of the non-farm sector picks up, but the available supply constitutes a significant constraint to economic growth. At the moment, Rwanda is unable to cover its domestic demand for electricity and the power supplied is produced in an inefficient way. Even though the energy production has been limited in scale, the production decreased even further by 23 percent in 2004. The department of electricity and water production have recorded sizable losses during the recent years due to obsolete technology for transportation of energy by old distribution infrastructures and occasionally by thefts. The government response to the acute lack of energy was to promote the use of power generators, and the electricity sector became

dominated by the energy parastatal Electrogaz is renting generators in order to alleviate the often occurring power cuts. Indeed the use of generators rose by 28 percent and 45 percent, respectively, in 2005 and 2006. By the end of 2006, 78 percent of the national production was provided by the power generators.¹²⁶

Not only is the electricity produced by the generators expensive due to high production costs, it is also insufficient to meet the existing demand. In 2007, Rwanda was importing around a third of the electricity used in the country.¹²⁷ Across the non-agricultural sector, 81 percent of the firms surveyed in 2005 said that electricity was their single biggest obstacle for growth; for export firms the figure was as high as 85 percent. Losses due to unreliable power supply averaged 10 percent of the value of outputs for all firms, while some reported losses up to 85 percent.¹²⁸

The cumbersome access to electricity is one of the key factors constraining raising productivity generally and it is particularly limiting for the manufacturing sector. Unreliable access and high cost of electricity will make it exceedingly difficult for the larger companies to compete in the regional market. For the smaller companies the erratic and cumbersome access to electricity can hinder them from accessing the market altogether. Buying a generator implies a large up-front cost that can serve as a sever barrier for the smaller businesses to enter the market. Among the existing firms, fewer generators are owned by smaller firms, domestically owned firms and firms that do not participate in international markets.¹²⁹ Operating without electricity will confine the companies to the low-productivity end of production and constrain the size of their market possibilities. This is not only a constraint on economic growth per se, but it has also a negative effect on pro-poor development as it hits the weakest actors the hardest, and demonstrates the inequality of opportunities faced by different actors in the economy.

Table 4.8 Infrastructure costs in Rwanda compared to the neighbouring countries.

Country	Transport costs (% of boarder price of imports, cif)	Energy costs (US\$/Kwh)
Rwanda	48	0.22
Uganda	35	
Burundi	23	
Kenya	17	0.08-0.10
Tanzania	17	

Source: NISR (2007b: 54).

The national Poverty Reduction Strategy has the ambition to develop Rwanda into a knowledge economy with improved access to information and communication technology (ICT). Rwanda's national spending on ICT as a share in GDP is already at the same level as the OECD countries, high above the African average and specific projects have been launched to match the human resources with the developing infrastructure. As an example,

¹²⁶ NISR (www.statistics.gov.rw)

¹²⁷ NISR (www.statistics.gov.rw)

¹²⁸ Temesgen et al. (2008: 1)

¹²⁹ Temesgen et al. (2008: 1)

Rwanda has been sending IT students to Bangalore in India as well as established the Kigali Institute of Science and Technology in 1997.¹³⁰ However, the current level of technical infrastructure does not match this level of ambition (Table 4.9). Thus, it would be far-fetched to expect the ICT sector to have a large impact on growth in the near future even though the long-term ambition of strengthening the sector is desirable.

Table 4.9 ICT infrastructure coverage.

	2002	2003	2004	2005	2006
Telephone lines per 100 inhabitants	0.37	0.31	0.30	0.29	0.29
Mobile phone subscribers per 100 inhabitants	1.12	1.53	2.00	2.46	2.93

Source: NISR (<http://www.statistics.gov.rw>).

On the whole, poor infrastructure in general and the limited supply of electricity in particular constitutes a real barrier to growth, affecting all sectors across the board. On the other hand, investing in infrastructure is likely to have higher pay-offs in Rwanda than in other African countries. The relatively modest geographical area makes investing in rural infrastructure both more affordable as well as more attractive in Rwanda considering the high population density throughout the country. Expanding the electricity grid and feeder roads to the rural areas would provide an opportunity to enhance productivity in the non-farm sector also outside the capital and link a large part of the population into the main markets. Given the short distances within the country, increasing the size of the domestic market would multiply the return on infrastructure investment. The pro-poor potential of such investment is close at hand as, once in place, a more elaborate infrastructure network would provide the farmers easier access to a larger market, non-agricultural economic actors would gain access to enhanced production methods through the use of electricity, and ICT would increase the employment opportunities in the non-farm sector even outside the capital. Currently, most of the economic activity and growth in the non-farm sectors is taking place in Kigali, but improved access to nearby areas could also spread the positive trend into a wider area in the country.

4.2.2 Human capital

Improvement of human capital is already a top priority on the Rwandan development agenda, as discussed in the previous section. Basic education is on its way to transform from being a binding constraint into a strong point of the economy as the enrolment rates improve nation-wide and the gap-filling programmes continue to pick up individuals who have missed out on education previously. In the meantime, however, lack of educated labour remains a severe restriction for business growth. It has been estimated that Rwanda has currently a 40 percent skills deficit, which will undermine the economic performance and growth potential also in the medium term. The skills gap is most severe in the private sector, where a 60 percent deficit on the short-term needs is reported. In the public sector, the deficit is most serious in the professional occupations, while in the private sector the shortage is more pronounced among the artisans.¹³¹ In the case of manufacturing firms, the lack of skilled labour force hampers their competitiveness compared to neighbouring countries, while in the case of micro companies; it restricts their access to information and

¹³⁰ <http://www.nisir.gov.rw> "Development in ICT sector"

¹³¹ SPU/HIDA (2009)

know-how for business development and keeps them from getting formalised.¹³² Regional labour migration alleviates the lack of white-collar workers in the short and medium term, but the lack of a domestic educated workforce especially in the blue-collar jobs is a constraint for all companies,¹³³ especially outside Kigali. Indeed, availability of skilled labour has been reported to be a major constraint by 40 percent of the non-agricultural firms.¹³⁴

It is not only a matter of increasing the number of educated in the work force, but also of access to relevant education that is in line with the needs of the private sector. There seems to be a general perception that students are generally focused on getting a university diploma without any correlation to the needs of the economy. It has been reported that 40 percent of the graduates are today working in a domain not corresponding to their original qualification. The challenge is thus to educate more people to support the implementation of the growth strategy and construct educational programmes that combine theoretical knowledge with practical work. Thus, adjusted vocational training that would respond to the needs of the growing non-farm sector is still a weak point in the development agenda.

Returns to education are high not least due to the relative scarcity of the skilled labour force. The benefits would seem to be particularly high for women.¹³⁵ In the mid- to long-term perspective the massive investment in basic education that the government of Rwanda is engaged in provides a possibility of shifting the country's status from that of an importer of skilled labour from neighbouring countries to having an upper hand in providing qualified workers into the labour market both domestically and regionally. The road to making this scenario a reality is still long, as, compared to other African countries, Rwanda is starting from a low level. Compared to Kenya, for instance, Rwanda would need to double the share of the labour force with secondary and university education merely to catch up.¹³⁶ Furthermore, providing education in large numbers at all levels is currently inhibited by the lack of sufficiently many qualified teachers.¹³⁷ Still, Rwanda is investing heavily on bridging the gap in education both as a way to promote growth as well as a means to reconcile the inequalities causing possible conflict risk in the society. Higher levels of education would provide possibilities for Rwanda to expand its production into new modern sectors requiring semi-skilled labour as a way of diversifying its economy away from the dependence on agriculture. This scenario requires, however, continuous high government spending on the educational sector for years to come, but might gain Rwanda a competitive advantage.

4.2.3 Macroeconomic policy

The Rwandan decision makers have been pursuing a controlled and balanced macroeconomic policy which has stabilised the economy and provided a suitable environment for growth. The government also remains dedicated to social spending and

¹³² World Bank (2007)

¹³³ IMF (2008b: 12)

¹³⁴ Temesgen et al. (2008: 23)

¹³⁵ Temesgen et al. (2008: 2)

¹³⁶ Temesgen et al. (2008: 22)

¹³⁷ SPU/HIDA (2009)

creating conditions for rapid growth has been part of a strategy towards this goal. The macroeconomic policy is mainly committed to non-interventionism, but the authorities have not shied away from interventions where the private actors have not performed satisfactorily. The government's economic policy has indeed been very successful in promoting economic development during the recent past and the country has been able to boast impressive growth figures for the last decade. The prognoses for future growth also seem promising; although the optimistic scenarios have been adjusted somewhat downwards due to the impact of the global economic crisis.

Despite the pursuit of policies aimed at macroeconomic stability, inflation has during the recent years been causing concern. The sources of inflation include the recent increase in government spending, the rising inflows of foreign aid as well as the record high prices of food and fuel in the international markets.¹³⁸ Additional factors impacting the inflation were the modest performance of the agricultural sector in 2007 bidding up the price of food items, the ongoing global economic crises, as well as, to a lesser extent, political unrest in Kenya increasing the price of imports. However, as imports account for only one third of the total goods and services in the consumption basket, domestic price rise still contribute more to the total inflation figures.¹³⁹ This development presents the issue of appreciation pressure on the domestic currency, which can be seen as the downside of recent large inflows of foreign aid. High domestic inflation combined with relatively stable nominal exchange rate has resulted in a real appreciation of the local currency in recent years.¹⁴⁰ which in its turn is undermining the competitiveness of the Rwandan exports.

Table 4.10 Inflation rates (year on year).

	2005	2006	2007	2008	2009
Consumer price index (eop)	5.6	12.2	6.6	22.0	6.0

Source: IMF (2009: 21).

The authorities in Rwanda are committed to returning inflation to a single digit by the end of 2009, and the medium term inflation target in Rwanda is 5 per cent¹⁴¹. Furthermore, the global recession is assisting the process of bringing the inflation rates down also in Rwanda, and thus high inflation is unlikely to be a serious issue in the near future. On the contrary, the government efforts to fuel the economy and fight the recession might present other types of problems for the long-term growth path as the fiscal deficit is set to increase from 0.8 per cent of GDP in 2008 to 4.4 per cent in 2009.¹⁴²

The high transportation costs make it difficult for Rwanda to build on export-led growth. The export sector remain undiversified and the earnings from the main two export items, tea and coffee, have failed to keep up with the increasing cost of imports leading to imbalances in the current account and a trade deficit equal to 14.1 percent of GDP in

¹³⁸ EIU (2008: 17)

¹³⁹ Ministry of Finance and Economic Planning (2008: 11)

¹⁴⁰ IMF (2008a), pp. 75-76

¹⁴¹ Ministry of Finance and Economic Planning (2008:32)

¹⁴² IMF (2008a: 62)

2008.¹⁴³ However, a large part of the cross-border trade with the neighbouring countries is unrecorded, but more diversified than the official exports of coffee and tea. In order to cover the deficit in the current account, Rwanda has used capital account surplus to earn foreign exchange. The major source of foreign capital is international development assistance, as Rwanda is one of the largest recipients of aid, in per capita terms, in Africa. In addition, Rwanda has recently been granted a 100 per cent debt relief by the IMF and the World Bank, which has been improving the national accounts and balance of payment substantially¹⁴⁴

Consequently, the main challenges to the Rwandan macroeconomic policy will be to mitigate the impact of the global economic crises on the local economy, continue to pursue responsible macroeconomic policy while striving to increase the room for pro-poor government spending without fuelling inflation, and cope with balance of payments pressures without jeopardizing economic growth.¹⁴⁵ Despite occasional macroeconomic imbalances, macroeconomic instability does not constitute a serious constraint to inclusive growth in Rwanda.

4.2.4 Business environment

The ability of the Rwandan economy to create productive employment opportunities and absorb the ever-growing labour force depends on an enabling business environment. The easier and the less costly it is for the economic actors to grasp the opportunities provided in the economy, the more the economy will grow and the more employment will be created. Recognising this fact, the government has implemented an impressive range of economic reforms.¹⁴⁶ Trade and financial reforms, and the programmes aimed at development of human capital implemented during 1993-2003 have already led to a substantial and lasting impact on growth of total factor productivity attributable to the economic reforms over and above the expected recovery growth after the conflict.¹⁴⁷ The government flagship programme for growth aims to make Rwandan business environment the most competitive in the region, and thereby laying the foundations for strong private sector growth in the future.¹⁴⁸

However, the road ahead towards an enabling business climate is still long.¹⁴⁹ Even though the Rwandan economy provides ample opportunities for profitable business, the general business environment imposes a constraint on entrepreneurship. Indeed, according to the World Bank indicators, Rwanda ranks worse than the regional and income group

¹⁴³ IMF (2008a: 71)

¹⁴⁴ EIU (2008: 21-23)

¹⁴⁵ IMF (2009)

¹⁴⁶ Rusuhuzwa Kigabo (2008)

¹⁴⁷ Coulibaly *et al.* (2008)

¹⁴⁸ NISR (2007b: 49)

¹⁴⁹ In the annual Doing Business study comparing regulation in 181 economies Rwanda received an overall ranking of 139 (World Bank [2008])

averages for all indicators, apart from corruption.¹⁵⁰ Electricity (discussed above), tax rates and access to finance rank as the most serious constraints on investments among the small and medium-sized businesses.¹⁵¹ Despite vigorous efforts in improving the business environment and stabilising the market economy in Rwanda, the business environment still leaves a lot of scope for improvement.¹⁵²

The business environment has several weaknesses and the regulatory framework varies in quality. Procedures to start a business are well-designed and it takes only about two weeks to register a business.¹⁵³ However, the costs related to registration, amounting to 109 percent of income per capita in 2008, are still considered substantial and contribute to the high number of informal businesses in the country. By contrast, regulations related to closing a business place Rwanda at the very bottom in an international comparison. Indeed, according to the World Bank (2008) analysis of the investment climate, there are no established practices for closing a business, which creates major insecurity around the business registries, hampers their use for obtaining credit, limit the possibility to enforce business transactions and is likely to lock productive resources in unviable companies. All in all, the cumbersome regulations combined with poor infrastructure led to high business transaction costs that result in very low profit margins, which especially affect the small businesses.¹⁵⁴

A low level of corruption, on the other hand, is a merit to Rwanda.¹⁵⁵ Very few firms (less than 5 per cent) identify corruption as a major constraint for their business in Rwanda compared to the African or the low-income country average of over 20 percent.¹⁵⁶ Firms are rarely expected to pay bribes when dealing with officials when it comes to taxes, operating and import licences. The overall faith in the justice system is high, even though the use of the court procedures is rather limited due to the long time it takes to enforce matters through courts.¹⁵⁷ Low level of corruption is a characteristic that makes Rwanda stand out from its neighbours in the region and could be turned into a comparative advantage especially when it comes to attracting international investors and new business partners. Uprooting corruption is difficult and this comparative advantage is therefore hard for others to copy. In order to make full advantage of this strength, Rwanda should address other issues in the business environment that are currently limiting the inflow of foreign capital, such as the fact that the business environment is still considered relatively risky and conflict sensitive.

¹⁵⁰ World Bank (2008)

¹⁵¹ World Bank (2006)

¹⁵² FIAS (2005)

¹⁵³ World Bank (2008)

¹⁵⁴ YES Rwanda (2006)

¹⁵⁵ The World Bank Control of Corruption index places Rwanda on the 82nd place out of a total of 201 countries in 2008, which is higher than the regional average

¹⁵⁶ World Bank (2006)

¹⁵⁷ World Bank (2006)

Improving the investment climate as a whole can be considered an imperative for Rwanda as it aims for higher levels of inclusive growth, a more diversified economy, and better employment opportunities.

4.2.5 International trade as a source of growth?

The domestic markets in Rwanda are currently unable to provide the growing demand needed for a sustainable and rapid growth process due to low purchasing power, which in turn implies that the profit margins of many locally operating businesses are low.¹⁵⁸ Given the limited size of the domestic market, the government's development plan is aiming to complement the domestic markets by expanding the currently limited access to international trade, which would open up lucrative prospects for enhanced economic growth.¹⁵⁹ Still, being a landlocked country with very high transportation and other trade related costs hampers Rwanda's possibilities for export-led growth and disfavours the country as a business location compared to its neighbouring countries. Annual exports per capita in Rwanda amount to merely US\$ 22, which is much below the Sub-Sahara African average. On the other hand, the high costs of trading provide implicit protection for the domestic producers who should find it lucrative to replace imports through domestic production. Still, Rwanda is mainly importing capital goods that are not produced domestically, and thus import-substitution with the existing production technology might be rather damaging for growth.

A large part of the explanation for the high cost of trade are indeed the high transportation costs, but they do not account for the whole picture. Even though Rwanda has made significant improvements in lowering the time and cost of import and export handling lifting, trade related procedures and formalities remain cumbersome. However, reforms have begun. Last year Rwanda facilitated trade e.g. by extending the opening hours of the customs boarder offices, implementing an electronic data interchange system, and introducing risk-based inspections. Together with growth in the transport sector, this reduced the time to export by five days and time to import by 27 days constituting a 40 percent reduction.¹⁶⁰

As a first step in the expansion of the international trade, regional trade provides opportunities that can be exploited even in the short and medium term. Statistics on the regional trade are poor as many of the transactions are informal, but anecdotal evidence suggests that the regional trade is growing in value.¹⁶¹ The landlocked location is obviously less of a hindrance to regional trade and many types of interactions between the neighbouring countries tie them ever closer together. In particular, the accession of Rwanda into the East African Community in 2006 opens up the regional markets with Burundi, Uganda, Kenya and Tanzania. The efforts to facilitate regional trade should, however, be linked to the infrastructure investment in Rwanda both when it comes to main roads connecting to the transport routes in neighbouring countries as well as feeder roads in the rural areas of Rwanda. Expanding the size of the national market and access to the regional

¹⁵⁸ YES Rwanda (2006)

¹⁵⁹ NISR (2007a: 38)

¹⁶⁰ World Bank (2008)

¹⁶¹ EIU (2008: 21)

market might well provide a solid basis for economic diversification and increased competitiveness.

Another possibility for expansion is trade in services, where the high transportation costs will pay a more minor role. The EDPRS clearly states that Rwanda is aspiring to become a knowledge based economy and the government is willing to promote investment in, and the growth of, the ICT industry. Yet, the transformation into a regional hub for service delivery requires both a skilled labour force as well as further investments in infrastructure.

4.2.6 Tense international relations impact the business environment

Rwandan political relations with foreign nations play a significant role in the economic prospects of the country. Uganda is the main economic partner of Rwanda being the main source of imports and the main channel for transporting export products. The two countries have a long historical link to each other, but the relationship has during the recent years been tested during open warfare between the Ugandan and Rwandan armed forces in the DRC in 1999-2000.¹⁶² However, Rwandan recent accession to the East African Community has contributed to reconstruct the close ties.

The main tumbling block of the foreign relations that constraints the business environment is still the relationship with DRC, where Rwanda is alleged to support Congolese Tutsi militia in Eastern part of the country. This situation has strained the relationship between the neighbouring countries, contributed to uncertainty regarding Rwanda as a target for international investments, and put a strain on the generally good relations with the donors, who are becoming hesitant in their support to the Government. However, the dynamics of this situation is developing on daily basis, and thanks to the recent military cooperation between Rwanda and DRC previous tensions can hopefully be reduced. Achieving a more peaceful, stable and secure regional environment is key for ensuring long-term development and poverty reduction in the region.

4.2.7 Access to finance

Registered private sector credit in Rwanda is currently around 10 per cent of GDP. This falls badly behind the investment levels required to live up to the Vision 2020 targets of growth that would require total investments between 20-30 per cent of GDP and the Poverty Reduction Strategy envisaging an increase in the national investment rates from 16 per cent to 24 per cent of GDP by 2012.¹⁶³ In order for the plans to materialise, the private sector credit is expected to expand from 10 per cent to 15 per cent and broad money as a share of GDP is scheduled to rise from 20 per cent to 22.5 per cent by 2012.¹⁶⁴ Still, a lot of work remains to be done if the economy is even to approach these optimistic scenarios.

Investments are inhibited by the cumbersome and costly access to credit. Access to finance through intermediation of domestic savings can be considered as limited due to the restricted savings. The recent high inflation rates coupled with low interest rates on

¹⁶² EIU (2008: 10)

¹⁶³ NISR (2007b: 45)

¹⁶⁴ NISR (2007b: 36)

National Bank of Rwanda policy instruments have turned real interest rates on deposits negative.¹⁶⁵ Statistics suggest that the overall domestic savings rate in recent years has remained alarmingly modest,¹⁶⁶ but as a lot of the investments is going into informal businesses and thus never registered either as savings or investments, the registered figures are likely to underestimate the true volume of economic activity.

There are large geographic variations in access to finance. Firms located in Kigali find it least cumbersome to access credit while entrepreneurs from the Northern Province face particular problems accessing finance, despite having a relatively high rate of formal enterprises.¹⁶⁷ The geographical coverage of the financial sector intermediates poses a constraint for business development in more remote areas. There are still very few banks in the rural districts, and even the growing micro-finance network is still concentrated to a few areas. The banking sector in the main urban areas is dominated by foreign owned banks (70 per cent of the banks are foreign owned).¹⁶⁸ The deepening of the financial sector services in the near future might thus be further hampered by the ongoing financial crisis which the foreign banks are particularly exposed to.

Furthermore, large informality makes intermediation difficult and increases the risk premium. Because of the high operating costs and limited customer base, many banks and micro-finance institutions tend to increase the service charges and interest rates to an extent that makes financial services less affordable especially for the smaller actors. Indeed, even in regions where financial services were available, the utilisation of commercial credit is low due to unfavourable credit terms (mainly short repayment periods of maximum 12 months and high interest rates), fear of misusing the loans in the unstable environment, lack of technical capacity to design viable business projects to be funded by the loan, as well as complex conditions attached to the loan.¹⁶⁹

The majority of the business loans in Rwanda require collateral, mostly land, buildings, immovable plant and machinery.¹⁷⁰ Firms that do not have such types of assets have a hard time obtaining finance even if they would have other types of assets or good balance sheets. In particular, a large number of informal enterprises face difficulties in accessing finance due to their inability to provide collateral. Hence, the informal enterprises are forced to rely on personal savings and loans from family and friends, which limits their scope of operation and growth prospects. Household savings (65 per cent) and parents (10 per cent) are the most frequent sources of credit and together they accounted for two thirds of all borrowing by small businesses in 2006.¹⁷¹ The main disadvantage of informality cited by local firms in Rwanda is indeed connected to lack of access to finance, and hence improved access to finance has been cited by partially formal firms as a reason for

¹⁶⁵ IMF (2009: 15); Ministry of Finance and Economic Planning (2008: 18)

¹⁶⁶ IMF (2008a: 61)

¹⁶⁷ FIAS & NISR (2006)

¹⁶⁸ Massa & te Velde (2008: 22)

¹⁶⁹ YES Rwanda (2006)

¹⁷⁰ Temesgen et al. (2008: 25)

¹⁷¹ Strode, Wylde & Murangwa (n.d.)

formalising their activities. However, despite formalisation, a sizable minority still face problems in accessing finance.¹⁷²

The true status of the financial services in Rwanda is not easily analysed due to conflicting information. On the one hand, small businesses rank access to finance as their main concern in several independent studies. On the other hand, several business representatives report that there are many funds intended to support businesses operating in the country. Several donor agencies have established funds to encourage business in Rwanda, but the information about the available services does not seem to have reached the relevant actors in the market.¹⁷³ This problem is a serious obstacle for entrepreneurship, but is more likely to be due to growth pains than to structural imbalances in the system. The majority of businesses in Rwanda are very young without credible track-records or collateral and the survival rate of small informal enterprises through the first five years of operation is low in any country. Thus, the risk premium attached to lending to these firms will be high even without the prevailing difficulties in the financial sector service delivery. This implies that the risk capital to finance growth of SMEs in the early years of existence almost inevitably needs to be based on own savings, and the focus of activities will need to be concentrated on niches where it is possible to reap high rates of profits with small capital input. Microcredit institutions may help in bridging the gap in the initial phases, achieving further maturity in lending to businesses will go hand in hand with further formalisation and growth of the private sector as a whole. In the interim period, disseminating knowledge on the available financing opportunities combined with business training that would improve the creditworthiness of the applicants and lower the risk premium required can assist in alleviating the problem. However, the low domestic saving rate remains a problem.

4.3 Informal barriers for productive employment in the non-agricultural sectors

4.3.1 Attitudes

For many Rwandans employment in the private sector is not the desired career choice. Even though the attitudes are slowly changing, the private sector is still dominated by non-educated people whom society tends to look upon as failures. There are currently very few successful entrepreneurs with higher education, as most of those who attain higher education prefer a career as public servants as a way of achieving influential positions in the society. The majority of those with higher education find it rather easy to find a job and will thus not try the riskier, but often more profitable career choice of becoming an entrepreneur. The youth are still influenced by this mind-set that is shaped by what they see, hear and learn in school and in the society as a whole. Having more positive role models and exposing the young to success stories may help to change these attitudes. High level leadership is also needed in order to change the attitudes, and an explicit order from the President to “get the private sector on board” is a clear indication of the political leadership the government is showing to change the status quo.¹⁷⁴

¹⁷² FIAS & NISR (2006)

¹⁷³ YES Rwanda (2006)

¹⁷⁴ YES Rwanda (2006)

4.3.2 Gender

The Rwandan authorities have emphasised the importance of allowing the same economic rights to both men and women, and legislative action has been taken towards ensuring a gender-neutral business environment. Rwandan women and men have equal formal access and control over productive resources such as land (see e.g. 1998 Property Law, 1999 Law on Succession, 2005 Land Law Section 4 Articles 33-37)¹⁷⁵. President Paul Kagame has on several occasions publicly promoted women's entrepreneurship and acknowledged their contribution to the economic development.¹⁷⁶ Furthermore, women entrepreneurs are granted access to financing through Popular Bank for Women, credit union institutions, micro-credit institutions, and commercial banks.

Still, despite the gender neutral policies and attention to women's rights, women are often still stuck in the low-wage end of the non-farm jobs. Women have lower education and literacy rates than men, which reduces their ability to manage credit and to write sustainable business plans to access commercial loans. Also, enterprise supporting institutions designed to address these capacity gaps are not reaching women entrepreneurs in rural areas, which further isolates this group of economic actors from the dynamic markets. Finally, women commonly lack access to domestic and international networks that are essential to obtain information, technology and raw material needed by expansive businesses.¹⁷⁷

Due to informal barriers, women are more restricted in their geographical and occupational mobility and thus in an inferior position to grasp the economic opportunities in the rapidly growing non-agricultural sectors. While three quarters of young women in rural households work on the family farm, only half of the young men do so.¹⁷⁸ Young women in particular are likely to accept low paying domestic work or work on other people's farms for a minimum compensation. This is not their outspoken preference but a consequence of limited access to land that could allow them to move into farming or the inability for young women to move to urban areas, which is an option that is commonly utilised by young men.¹⁷⁹

A lot of the variation in the incidence of non-farm employment between the sexes and between different locations can be explained by differences in educational status, differences in access to a growing labour market in Kigali, and lack of diversification in the rural areas, but informal constraints and selection processes can still play a non-negligible role in explaining the substantial variations. While young men have more than twice the chance of finding gainful employment than young women,¹⁸⁰ the variation in observable productive characteristics such as educational status does not suffice as an explanation. While women have, on average, comparable years of experience in the labour market and work the same number of hours per week, across all education levels, their average

¹⁷⁵ FIAS (2005)

¹⁷⁶ Tzemach (2006)

¹⁷⁷ FIAS (2005)

¹⁷⁸ Strode, Wylde & Murangwa (n.d.)

¹⁷⁹ YES Rwanda (2006)

¹⁸⁰ YES Rwanda (2006)

earnings are well below the average for men, and women tend to be concentrated in low-paying occupational categories.¹⁸¹ Even within the industrial sector, women get, on average, only a little more than half (52 per cent) of the average weekly earnings of their male counterparts,¹⁸² which can only to a limited extent be explained by differences in the type of work and the level of education.

4.3.3 Discrimination

During the civil war a lot of human, physical and social capital was destroyed. A climate of uncertainty became prevalent and the few surviving businesses were reluctant to invest in long-term projects.¹⁸³ Even though a lot has happened in favour of a more enabling business environment since then, the prevailing tension and poor legislative environment combined with lack of access to capital hinders Rwanda from achieving its growth potential. Rebuilding the social capital that was destroyed will take time among the citizens until the unwritten rules of social commitment regain their status. According to the Poverty Reduction Strategy “the key challenge is the prevalence of a genocide ideology in the country.”¹⁸⁴

Although ethnicity is often cited as a major factor in Rwandan society even today, the evidence from a recent survey suggests it is not a major cause of inequitable access to employment.¹⁸⁵ Instead, differences in education, residence status and gender are felt to be more decisive factors especially for the young people on the job market.

4.4 Priorities for promoting the non-agricultural sectors

Enlarging the scope and improving the functioning of the non-farm sector is a central building block for Rwanda’s way to a rapid, sustained and inclusive growth. Based on the discussion above, the following policy implications emerge.

The primary objective of active economic policy should be raising the productivity and creating employment opportunities in the non-farm sector so that all the actors in the economy can find productive employment that will promote economic growth and poverty alleviation. Solving the most binding constraints in this area requires heavy investing in infrastructure in general, and electricity in particular, not least outside the capital. The inability to use affordable electricity is currently holding the businesses in low-productivity end of production and blocking the market access of new small businesses. Relaxing this constraint will give an immediate effect in terms of economic growth, productivity, employment as well as poverty reduction. Another high priority action is to enhance the employability of the currently non-skilled mainly agricultural workforce so that the shift from agricultural occupations into more productive non-farm activities can take place, and to ensure that the growth of the existing businesses is no longer constrained by limited access to trained workforce. This will require improved service delivery in the educational

¹⁸¹ Temesgen et al. (2008: 2)

¹⁸² Temesgen et al. (2008: 36)

¹⁸³ Coulibaly *et al.* (2008)

¹⁸⁴ NISR (2007b: 86)

¹⁸⁵ YES Rwanda (2006)

sector, with a special focus on demand driven vocational training in areas where the skill shortage is the largest in the private non-farm sector.

As a secondary policy priority to be implemented in parallel to or subsequent to the primary activities includes increasing the productivity of economic activities by lowering the transaction costs for existing firms and entry barriers for the newcomers. This implies improved investment climate mainly in the areas of trade procedures, simplified and better-communicated tax regulations, as well as allowing the market actors to grasp the emerging opportunities through improved access to credit services in all parts of the country.

A sound economic policy that ensures continued macroeconomic stability is a prerequisite for sustainable economic growth. Further emphasis on the reform efforts in other areas does not diminish the importance of sound macroeconomic fundamentals. However, Rwanda is in this respect already on the right track and economic imbalances do not present an immediate constraint for economic activity. Providing a solid base for future growth requires keeping this course and creating room for the reforms discussed above.

5. Constraints, opportunities and challenges to pro-poor growth in Rwanda

Rwanda aims to be a very different country in 10-15 years time, just as it today is a very different country from what it was fifteen years ago. It has escaped from a cataclysm, culminating in genocide in 1994, and a situation of extreme human insecurity and suffering to become a society where its population enjoys basic human security and political stability as well as economic improvement. Fear and despair, pervasive aspects of life in Rwanda in the past, has faded as developmental retrogression has been replaced by progress. Building on the achievements made so far and the momentum of development that these have created, the transformation of the Rwandan society envisioned in the coming 10-15 years is no less dramatic. The aim is to develop Rwanda into a middle-income country by 2020, halving income poverty and substantially reducing inequality in the process. This development will entail a major structural transformation of the Rwandan economy and society; from an essentially agrarian economy and society to a diversified, semi-industrialised economy and a much more urbanised society where manufacturing and services have become the main areas of employment and income generation.

In broad terms the main components of this transformation are well-known and straightforward. It rests on the twin axes of an intensification and market-orientation of agriculture on the one hand and a diversification of the economy through a proliferation of the non-agricultural sectors on the other hand. These two processes are mutually supportive and dependant. An intensification of agriculture will require as well as foster a development of backward and forward linkages to other sectors of the economy, provide a source of demand-led growth through broad-based increases in incomes, as well as much needed food security. A development of the non-agricultural sectors is a prerequisite for successful intensification of agriculture. It will also provide much needed productive employment opportunities for surplus labour in agriculture - thus further contributing to increases in productivity and incomes in agriculture – and result in a diversification of the economy which is a *sine qua non* for sustainable economic development. Large differences in productivity between agriculture and the non-agricultural sectors imply that the transition of labour from the former to the latter can yield substantial productivity gains.

It is clear that the combined effects of productivity gains from shifting human resources from agriculture to economic sectors with much higher levels of productivity and of intra-industry productivity gains (mainly in agriculture) is potentially very large indeed in Rwanda, and that they would be capable of serving as a main driver of economic growth, productive employment and poverty reduction over a considerable period of time.

At present yields for main crops, such as maize, beans and potatoes are a mere 25 to 30 per cent of their potential (Table 2.5), implying a large potential for increasing returns to land - which apart from being finite is a very scarce resource in Rwanda – as well as returns to labour. The target of achieving an annual growth rate of value added in agriculture of 6 to 8 per cent seems well within reach and could result in reduction of rural income poverty of some 17 percentage units by 2015 (Table 2.7), substantially increasing growth generating domestic demand in the process. Furthermore, detailed analysis suggests that such an increase in food production could by and large be absorbed by the domestic market.¹⁸⁶ Thus, there would not seem to be any demand constraint to rapid agricultural growth.

Although narrowing, the productivity gap between agriculture and the non-farm sectors remain very large.¹⁸⁷ By 2006 average labour productivity in the non-agricultural sectors was still seven times higher than in agriculture. Hence, the scope for productivity driven growth and increase in productive employment from shifting labour from agriculture to the non-agricultural sectors as part of a structural transformation of the economy remains very large. However, one should remember that this source of growth is finite and that to ensure the sustainability of high rates of growth, much attention needs to be given already at an early stage of the structural transformation to increasing total factor productivity in the non-agricultural sectors in order to gradually shift the engine of growth of these sectors from adding more factors of production, to making better use of the available factors of production.

Lastly, there are signs of an incipient fertility decline. Improved access to education and productive employment opportunities outside the household, together with better health facilities, falling infant mortality and access to family planning support make a continued fall in fertility likely. Given the age structure of the population, such a decline could translate into a significant improvement of dependency ratios and, by extension, per capita incomes.

Rwanda is not unique in embarking on this path of economic development and societal transformation. Other countries have done it successfully in the past, and more countries will no doubt follow in the path of Rwanda. What makes the Rwandan case special is the envisaged speed of this transformation. It endeavours to achieve within the span of a generation a development and transformation that most other countries have taken twice as long or more to achieve. This ambitious time table is derived from necessity as well as high ambitions. High rates of population growth and a very high population and environmental pressure on land imply that economic development and diversification has become a race against time.

At a general level there is today a broad consensus on the main prerequisites for achieving sustainable rates of high growth. Based on an analysis of some thirteen economies that have grown by an annual average of more than 7 per cent over at least 25 years, *The Growth Report* by the Commission on Growth and Development¹⁸⁸ provides an authoritative synthesis of this knowledge. Key common characteristics of the sustained high growth economies were found to be:

¹⁸⁶ Diao *et.al.* (2007).

¹⁸⁷ The difference in labour productivity in agriculture and in the non-agricultural sectors decreased from 1:11 to 1:7 between 2001 and 2006 (Table 1.9)

¹⁸⁸ The Growth Report (2008)

- Engagement with the global economy – using the global economy as a source of demand and knowledge.
- Macroeconomic stability.
- High levels of savings and public and private investments.
- Well-functioning markets and a reliance on market-based principles of resource allocation, incentives and for decentralised economic decision-making.
- Continuing structural transformation.
- High levels of resource mobility, in particularly of labour, across sectors and over space.
- A high quality of leadership and governance – stable and functional investment in environment, political leadership and effective, pragmatic and when needed activist government.
- A focus on inclusive growth and a government that acts in the interests of all the citizens.

The Commission also included that inclusiveness – defined as equity, equality of opportunity and protection in market and employment transitions – is an essential ingredient of any successful growth strategy.¹⁸⁹

In addition to these general guidelines, the development context in Rwanda has a number of specific features calling for strategies and interventions. A rapid pace of economic development and structural transformation and a high initial rate of asset and income inequality are among the features that deserve particular attention in an analysis of the specific constraints, challenges and opportunities facing Rwanda.

The present study results in the identification of a number of constraints on achieving sustainable and inclusive growth and productive employment creation as well as in the identification of some specific challenges and opportunities. The nature of the constraints varies. Two constraints – *human capital accumulation and physical infrastructure* – are arguably binding in an absolute sense of the word. That is, if they are not adequately addressed they risk derailing the development process already in the short term and unless they are addressed policy interventions in other areas are likely to have reduced effectiveness. Two other constraints – *environment and inequality* – are equally binding, but will primarily undermine the sustainability of development, while probably being less of constraints on short term development gains. Lastly, two other constraints – *poorly functioning financial markets and shortcomings in the overall business environment* – may not be binding in the sense that they are likely to derail the development process, if not addressed, but are likely to substantially slow down the pace of economic development and structural transformation as well as having a detrimental impact on the equity aspects of its outcome.

¹⁸⁹ The Growth Report (2008); Spence (2008)

5.1 Immediate binding constraints on growth

5.1.1 *Human capital accumulation*

Starting from a very low level of human capital accumulation, aggravated by a destruction of much of the scarce educated human resources during the Genocide, Rwanda has made impressive achievements in the field of education and human capital formation over the past decade. The expansion of primary education to a situation of virtually complete coverage has been particularly laudable. Impressive as this is, primary education is still to be considered as only one step on the road to a wider and deeper improvement in human capital.

The low education level of the work force is currently hampering the swift growth of the non-agricultural sectors thereby limiting growth and also hampering the ability of poor people to access more productive and high-paying jobs. Increasing completion and transition rates from primary schools is central in order to address this. This should be accompanied by work to ensure broad based access to secondary education and vocational training. In particular, efforts should be made to increase the number of children from poor and rural households enrolling in secondary education from the very low levels found today. Special attention should be given to gender differences in enrolment at secondary education.

Parallel to this, TVET should be expanded significantly. Available evidence indicate that there is a need, not only to expand vocational training, but also to decrease fragmentation and improve relevance by ensuring that skills taught are demanded by potential employers. Access to vocational training appears to be especially limited in rural areas. Ensuring access in rural areas is, arguably, particularly important if vocational training is to contribute to counteract increasing inequality, and offer the large numbers of rural youth a viable alternative to employment in agriculture and a chance to get a foothold in the dynamic and more productive non-agricultural sectors of the economy. Addressing gender disparities should be an integral part of all efforts to increase TVET. Furthermore, attention must also be given to the need to expand higher education, and increase the number of qualified teachers at tertiary level to ensure that the entire chain from pre-primary to university education contributes to reduce skills shortages and strengthen growth prospects.

5.1.2 *Physical infrastructure*

Currently, Rwanda is unable to meet even the existing, rather modest demand for electricity and is forced to rely on heavy use of power generators. Not only is this an expensive way of energy provision, but it is also an unreliable and highly exclusive form of energy supply that effectively excludes the poorer and weaker actors from the market and decreases the profit margins for the larger actors that are able to use the existing facilities. Restructuring the economy, expanding the manufacturing sector and modernising agriculture poses a sizable challenge on the energy supply in Rwanda, which will have to be faced if the ambitious plans for growth are to materialise. The state of the current infrastructure poses an immediate constraint to economic activity at present, as well as a hindrance for growth in the future.

Not only is the improvement of electricity supply high on the agenda for releasing immediate constraints for growth. The outreach of road infrastructure outside the main trunk roads is also rather limited and a constraint on inclusive growth. Despite the high population density, large parts of the population face difficulties in reaching markets and there are constraints on their mobility. Lowering the transportation costs by improving the physical infrastructure will not only improve the profitability of the current economic activities, but it will also expand the market size, facilitate market integration and bring in

new actors into the enhanced domestic and regional market network creating new opportunities for all.

5.2 Binding constraints for the sustainability of the growth process

5.2.1 Unsustainable use of the ecosystem

Decades of overexploitation and mismanagement of the country's environmental and natural resources have taken a heavy toll. Increasing population pressure on land, which has reached a precariously high level in many parts of the country, and until recently a failure to fundamentally change the mode of production has resulted in environmentally unsustainable cultivation practices. Extension of cultivation to marginal land, an overreliance on wood as a source of fuel and energy and cultivation of steep slopes on hilly land without proper terracing and use of other soil preserving methods have resulted in deforestation and increasing problems of erosion. A shortening of fallow periods and failure to introduce soil-enriching inputs and practices have resulted in a depletion of soil nutrients. The Government is well aware that the overexploitation of the environmental and natural resources needs to be reversed in order to ensure the sustainability of the country's fragile ecosystem, and efforts in this direction have been given a central place in the EDPRS. The on-going transformation of the mode of agriculture away from subsistence cultivation with little or no use of soil-enriching cash inputs is a prerequisite for moving towards an environmentally sustainable development, but may in itself not be enough to ensure such sustainability. Proactive measures are needed to restore and rehabilitate environmental resources damaged or depleted in the past and to ensure that safeguards are introduced against new environmental threats following from increasingly rapid industrialisation and urbanisation. The EDPRS includes an embryo of an environmental policy as well as a number of important environmentally related targets, some of which are very ambitious.¹⁹⁰ There may be a need to develop this into a comprehensive strategy for environmental protection and sustainable use of the ecosystem.

5.2.2 Inequality

To state that inequality is a constraint on achieving inclusive growth may be stating the obvious. The Commission on Growth and Development goes beyond this to conclude that inclusiveness is also essential for the sustainability of economic growth as such. In Rwanda, equality has a deeper dimension as a key aspect for sustainable peace, unity and social cohesion. It is a question of creating and safeguarding equality of opportunity and containing inequality of outcome. Failure to address inequality of opportunity and to take measures to ensure that the inequality of outcome remains within socially acceptable limits will undermine the social cohesion and broad-based popular support that is needed to pursue a coherent strategy for long term growth, thus increasing the likelihood that the growth process will be derailed through political channels or conflict. If large sections of the population are outside the development process, unable to contribute to it and from enjoying its fruits, they will sooner or later find ways of derailing it. A conceptual distinction should be made between equality of opportunity and equality of outcome.

¹⁹⁰ These targets include: Expanding the share of the land resources protected against soil erosion from 20 to 100 per cent, increasing the forest cover from 20 to 30 per cent and reducing the dependence on wood as a source of energy from 94 to 50 per cent (Government of Rwanda [2007a: 33-34])

Inequality of opportunities is invariably harmful and addressing the sources of such inequality involves no trade-offs, but must be seen as an essential aspect of any strategy for growth. Even in situations of equal opportunity, outcomes will differ. People will make different use of their resources and opportunities, with different outcomes as a result. This is inevitable and generally acceptable within certain limits. The Government needs to ensure that the degree of inequality remains within socially acceptable limits through redistributive policies and social safety nets. In contrast to policies addressing inequality of opportunity, policies aimed at reducing inequality of outcome may involve trade-offs as, if excessive, they may have a detrimental impact on incentives.

In Rwanda, there can be little doubt that the very high inequality of outcome, in the form of high inequality of income and assets and reflected in the Gini coefficient of consumption, to a large extent is the result of a high inequality of opportunities. The inequality of opportunities is largely structural; boys and men have on average better opportunities than girls and women, those growing up in Kigali have better opportunities than those growing up in rural areas and, most importantly, boys and girls growing up in poverty get a considerably worse start in life than those growing up in relatively more affluent circumstances. Poverty tends to be intergenerational, transmitted from one generation to the next. The sources of inequality are several fold, but three main sources can easily be identified; health and nutrition, education, and employment and economic opportunities. They would all require further in-depth analysis and they all require to be forcefully addressed.

Inequality starts in the womb. Poor nutrition during pregnancy and poor nutrition during the first years of life have proven to result in lifelong handicaps in the form of impaired cognitive abilities. Poor nutrition and health during childhood further impair learning abilities at school. Poor health is linked to poverty and impairs, chronically or periodically, the ability to participate in working life. Chronic undernourishment of children remains a widespread and severe problem that needs to be addressed as part of a commitment to create equal opportunities for all. Nutritional support to pregnant women and young children, which could take a variety of forms, and a free meal at school, at least at the primary level, stand out as measures that would warrant consideration to address this problem. As shown in the present study, access to education or vocational training beyond the primary level appears to serve as a watershed, separating those destined for agriculture from those who can aspire to more remunerative employment in the non-agricultural sectors. While entry to primary education has become near-universal, the number of students gets rapidly smaller as they advance up the educational ladder; dropout and retention rates remain high and the numbers who graduate from one level of education to the next is still rather small. The factors determining this selection process are still poorly known. Individual capabilities and ambitions clearly matter, but as does, no doubt, also structural factors, such as poverty, gender and location. Girls consistently fare worse than boys in the educational system for reasons that are far from obvious. As discussed above, the educational system, broadly interpreted to include TVET, must face the dual objectives of (i) supplying the Rwandan economy and society with human resources at increasingly high levels of education and skills to meet the requirements of an increasingly diversified and sophisticated economy, and (ii) ensure equal opportunities for all to attain high levels of quality education and training. Some steps have been taken to achieve the latter objective, viz. preferential treatment of orphans, but a great deal more will obviously need to be done. To this end an in-depth analysis of the causes and sources of inequality of opportunities in the field of education and professional / vocational training would be required.

Even in situations of equal levels of education and skills, labour market outcomes differ as does opportunities for entrepreneurship. For instance, women tend to end up at the lower end of the labour market. They have poorer access than men to formal sector wage employment and are far more likely to end up in precarious employment in the informal economy. They also often face discriminating barriers and constraints as own account

workers and entrepreneurs. Location also creates unequal opportunities. At present Kigali is the only city offering a reasonably diversified labour market, putting people in other parts of the country at a distinct disadvantage. Inadequate physical infrastructure outside the capital clearly exacerbates this disadvantage. Systematic efforts will be required to eliminate, as far as possible, existing causes of inequality in employment and economic opportunities. Gender-based inequality deserves particular attention in this context.

5.3 Constraints on rapid pace and inclusive pattern of growth

5.3.1 Poor financial intermediation

The majority of the small businesses in Rwanda have limited access to credit and have to rely on their own savings or on borrowing from family members. These constraints can only partially be explained by the informality and high risk attached to the economic activity of these businesses. The financial system in Rwanda is underdeveloped and shallow as most banking transactions take place in Kigali and loans go mainly to a limited number of businesses operating in the service and manufacturing sectors. Despite the fact that the majority of the economically active population is working within agriculture, this sector received only 2 per cent of direct banking credit in 2003.¹⁹¹ The thin coverage of the financial system in different parts of the country is not only problematic to the inclusiveness of the financial services, but an indication of the fragility of the system itself. There is a lack of human capital in the financial sector and related services, such as auditing and accounting, which hinders the roll-out of such services outside the in Kigali. The weak institutional setup also makes the financial system more vulnerable to shocks, in particular in relation to credit risk related to the narrow base of a few large borrowers, but also to exposure to changes in the external environment. Rwanda is heavily reliant on foreign aid inflows to cover the financing gap left by one of the lowest domestic savings rates in Africa, and as the main commercial banks are foreign owned the present financial turbulence in the world economy poses a real threat to financial service delivery. Being able to grasp the existing opportunities in the economy and allocating the scarce resources in an optimal way, requires smooth intermediation of financial services. The weakly and poorly functioning financial sector results in slower growth and lower profits than could be achieved if the real economy would be able to respond to the incentives facilitated by well-functioning financial systems. The ambitious economic growth targets will require substantially higher rates of domestic savings and investments in the years to come. This, in its turn requires a well functioning financial system providing efficient financial intermediation and accessible savings and borrowing facilities.

5.3.2 Improving profitability by creating an enabling environment

Relaxing the immediate constraints on running a business in Rwanda by making essential production factors, such as capital, educated labour, and electricity available for entrepreneurs would promote economic activity by reducing the cost of production. Currently most of the economic actors choose to stay in the informal economy, despite the cost that comes with being informal, such as higher transaction costs with unknown parties and limited size of the potential market. This is a clear indication that the overall business

¹⁹¹ IMF (2005)

environment in Rwanda is not particularly conducive. Indeed, a global comparison suggests that Rwanda ranks worse than its regional and income group averages for a vast majority of business environment indicators, with the important exception of corruption.¹⁹² Especially trade cost across borders are several times higher than in other comparable countries, and once these administrative difficulties are added to the geographical constraints of cross-border trade even the most lucrative business opportunities start to lose their edge. Lowering the unnecessarily high cost of administration and business regulation would be an important complement to the investments on infrastructure and education.

In addition to removing barriers, more pro-active measures could be considered to strengthen the private sector actors in their efforts to navigate through the regulatory system. Improved supply of business development services and targeted training in business skills for the poorer and weaker economic actors will be important in order to level the playing field for all entrepreneurs. Strengthening the entrepreneurial resource base in terms of basic business skills as well as improved availability of information on the existing regulation and services provided would be important building blocks towards a stronger and more productive private sector-led growth.

5.4 Challenges and opportunities for enhanced inclusiveness

Rwanda is a small country with large regional differences in the levels of economic development and prosperity. These differences are *inter alia* reflected in very large regional differences in headcount poverty (Table 1.17).¹⁹³ As discussed above, poor physical infrastructure continues to result in a 'high friction of distance'. Rural areas are poorly linked with neighbouring towns, and the economic integration of different parts of the country remains underdeveloped. Yet, unlike the situation in most other African countries, the high population density and small size of the country offer Rwanda an, as yet unexploited, comparative advantage, which might be termed proximity. High population density and small distances makes expansion of physical infrastructure and the development of financial and other business services as well as various public services across the whole country feasible. A determined effort to achieve a geographically dispersed economic development, which would involve special attention to diversify and strengthen the economy and the role of provincial towns, would have several obvious advantages. A more geographically dispersed economic development would greatly facilitate the development of the linkages between agriculture and the non-agricultural sectors, which is an indispensable cornerstone in the country's economic development strategy. It would greatly facilitate domestic market integration and the creation of a functionally well-integrated economy and society, at the same time as it would be of pivotal importance in reducing inequalities in opportunities between people living in rural and urban areas and in different parts of the country. By creating economic opportunities and diversified labour markets in different parts of the country it would also stem an uncontrolled, rapid, migration-driven growth of the capital, which would otherwise almost certainly follow from rapid economic development and structural transformation. While such an emphasis on the regional and geographic dimensions of the economic development would entail some additional initial costs in the form of investments in physical, economic

¹⁹² World Bank (2008)

¹⁹³ For instance, headcount poverty in the Southern Province is more than three times higher than in the capital Kigali, although the two are a mere 100 – 150 kilometres apart

and social infrastructure, the pay-offs in terms of a more inclusive and sustainable, and arguably faster, economic development would no doubt be well-worth the effort.

The rapid transformation of Rwanda from a predominantly agrarian and rural country to a middle-income country with a diversified economy and, by implication, a much more urbanised population will inevitably require an inordinate amount and level of mobility. It is envisaged that over two million new employment opportunities will be created in the non-agricultural sectors, most of them no doubt in urban areas, within the span of little more than a decade. This will require very high rates of factor mobility, primarily of labour, but also of capital. Removing constraints on occupational, geographic and social mobility will be crucial. If well-managed, such an economic and social transformation may serve a vehicle for achieving greater economic and social equality and cohesion, creating social dynamics that contribute to leaving the past behind and to creating a society with new social patterns and links across old ethnic, social and economic divides. However, left on its own, there is also a risk that a rapid structural transformation could deepen economic and social divides if parts of the population are deprived of opportunities to actively participate and benefit from the transformation. High rates of migration and occupational mobility in the past decade provide an indication of people's willingness to move to new areas with more attractive employment opportunities and auger well for the future.

An inclusive, high quality educational system is an indispensable basis for achieving a rapid and inclusive structural transformation. Well functioning factor markets is another necessary pillar. A well-functioning labour market, that offers equal and easy access to all and which fulfils the functions of providing information and intermediation efficiently is indispensable. Similarly needed is a well-functioning financial market, providing efficient and reliable intermediation of capital between savers and borrowers, that is capable of channelling capital to the sectors and areas of the economy where the needs and expected returns are highest and, not least, which offers financial intermediation also to the small and economically weaker actors in the economy. The creation of basic social safety nets is a third essential pillar for enabling high and inclusive mobility. Such safety nets are needed to enable people living in poverty to take the calculated risks that are part and parcel of occupational and geographic mobility as well as entrepreneurship, while at the same time protecting those who fall by the wayside from destitution. Tackling identified barriers for occupational mobility (such as inadequate and unequal access to TVET), geographical mobility (poor infrastructure) and informal barriers that keep women and poorer households in the pursuit of low productivity activities at the bottom of the labour market will be crucial for making the development vision codified in Vision 2020 more than a pipedream. Beyond this, a proactive strategy for high and inclusive mobility may be required to ensure that policies and interventions aimed at facilitating and removing constraints on mobility receive adequate priority and are part of a coherent and comprehensive approach.

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