

Faces of rural poverty in contemporary Rwanda :
Linking livelihood profiles and institutional processes

Gezichten van armoede in hedendaags Rwanda

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Universiteit Antwerpen
Faculteit Toegepaste Economische Wetenschappen

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Door: An Ansoms

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Abstract:

This PhD sketches the faces of rural poverty in contemporary Rwanda, linking livelihood profiles to the wider institutional processes. It reflects on how dynamics of rural change relate to differentiation and increasing polarisation in livelihoods of Rwandan peasants. The introductory chapter sets the stage by analysing “**Evolutions of growth, poverty and inequality**” in post-1994 Rwanda. The two following chapters consider the policy makers’ perspective with regards to rural development. The first chapter, “**Striving for growth, bypassing the poor?**” provides a critical review of Rwanda’s rural sector policies, which aim to modernize and ‘professionalize’ the rural sector. The chapter points to the risks this involves for the large mass of small-scale peasants. A second chapter, “**Reengineering rural society: The visions and ambitions of Rwandan elites**”, illuminates a general trend of the Rwandan government’s misplaced belief in the potential to socially engineer rural development. The third chapter offers “**A quantitative analysis of rural livelihood profiles**” that prevail in the Rwandan rural post-conflict context. The fourth chapter focuses particularly upon the land resource, to conclude to an “**inverse relationship between farm size and productivity**”. This finding is of particular relevance in the current context, given that policy makers aim to depart from small-scale farming. The fifth chapter considers the “**Views from below on the pro-poor growth challenge**”. It adopts a qualitative approach to focus on local livelihoods and rural class differentiation at the micro-level. It points to peasants’ perceptions on the (potential) impact of specific policy measures included in the Rwandan government’s ‘pro-poor’ rural strategies. Overall, the five papers illustrate how the ongoing institutional processes stimulate a path of rural change that leads to increasing polarisation between rural classes and their livelihood profiles. On the basis of these findings, the conclusion of the PhD pleads for an alternative rural policy that promotes broad-based agricultural growth with a key role for small-scale peasants, in combination with an activation of the potential of (nearly) landless rural agents in the local off-farm sector. Only in this way will economic growth be sufficiently pro-poor.

Members of the Jury:

Promotor:	Prof. Dr. Stefaan Marysse
Other members:	Prof. Dr. Johan Bastiaensen
	Prof. Dr. Alison Des Forges
	Prof. Dr. Guido Erreygers
	Prof. Dr. Andy McKay
	Prof. Dr. Filip Reyntjens
	Prof. Dr. Erik Tollens

**To the children of Rwanda and to my son Thibo:
May they find the spirit to enjoy life,
and the courage to make a difference.**

Acknowledgements

Six years ago, I remember asking to a “graduating” PhD student what he considered to be the most important thing when choosing a field research setting. He enumerated some scientifically sound principles, adding “but in the end, you should make sure that you chose a ‘fun’ place to be in”.

Rwanda is not a ‘fun’ place on earth. The year 1994 will collectively be remembered as one of the most tragic episodes of human history. The survivors continue to struggle through life today. Rwanda hosts generations of people, born there or returning after years, decades and lifetimes of exile. It has to give a place to live, an identity and a livelihood to all of them; so many in such a small place. It is an intriguing spot on the world map where you may find the best and the worst of what human mankind is capable of. The people in this country of a thousand hills, embedded in the beautiful Great Lakes region, have become a passion of mine that goes much further than professional interest.

So the advice I would give to a fresh PhD student, is to choose a place that you can be passionate about, a place that will never stop intriguing you. I found this in the Rwandan hills where the majority of Rwandan people live; far from the centre, the capital city, and the attention of the international community. I studied peasants’ lives from different angles. Sometimes it took a long time to understand, sometimes it was all too obvious. And now after more than six years of research and over six months of field work, it is time for this project to be born.

It is often said that writing a PhD is a lonely experience, but this is not at all the impression I had. On the contrary, there are many people who joined me in my journey. A few lines are too short to fully express my gratitude to my promoter, Stefaan Marysse. Always readily available, he has been my mentor and guide, both for my PhD as for many other projects that I have been able to undertake as an assistant at the Institute of Development Policy and Management (IOB – University of Antwerp). His constant encouragements, support and belief in me pushed me forward. Indeed, for him, there was no question that I would not reach this day. But moreover, he is a person I greatly admire, not only for his professional expertise, but even far more for a great aspect of his personality. He is the living example of the fact that it is possible to remain idealistic, optimistic and deeply passionate about Africa after a lifetime of experience, personal and professional dedication to what is too often called the ‘lost’ continent.

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Besides my direct colleagues, there are many others, both from inside and outside the academic world, that have contributed to the ideas, commented on early drafts, or reviewed some of the papers in this work, among others: Luc Christiaensen, Danielle De Lame, Lee Ann Fujii, Peter Goos, Catharine Newbury, Elisabeth Levy Paluck, Anja Struyf. Their comments and inputs helped and encouraged me. I am especially grateful to Ann Verdoodt and the team surrounding her for providing the soil quality data that are used in chapter 4.

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List of abbreviations

AAA	Agro-Action Allemande
CSO	Civil Society Organisation
DR Congo	Democratic Republic of Congo
EDPRS	Economic Development and Poverty Reduction Strategy
EICV	Household Living Conditions Survey
GDP	Gross Domestic Product
GoR	Government of Rwanda
FAO	Food and Agriculture Organisation
FRSP	Food Security Research Project
Ha	Hectare(s)
HH	Household
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
ICC	Intra-class correlation coefficient
ICT	Information and Communication Technology
IFI	International Financial Institutions
IMF	International Monetary Fund
ISAR	Rwanda Agricultural Research Institute
KSW	Kabuye Sugar Works
MINAGRI	Ministry of Agriculture and Animal Resources
MINALOC	Ministry of Local Government, Community Development & Social Affairs
MINECOFIN	Ministry of Finance and Economic Planning
MINITERE	Ministry of Land, Environment, Forests, Water and Mines
MLAR	Market-led Agrarian Reform
NAP	National Agricultural Policy
NGO	Non-governmental Organisation
OLS	Ordinary Least Squares
PPA	Participatory Poverty Assessment
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper
REML	Restricted Maximum Likelihood
RPF	Rwandan Patriotic Front
Rwf	Rwandan Francs
SAP	Structural Adjustment Programme
SPAT	Strategic Plan for the Transformation of Agriculture
SSA	Subsaharan Africa
TLU	Tropical Livestock Unit
WDR	World Development Report
WFP	World Food Programme

Introduction

Evolutions of growth, poverty and inequality: Challenges for the Poverty Reduction Strategy

By An Ansoms

Note: The first part of this chapter is based upon: Ansoms, A. (2007) “How successful is the Rwandan PRSP? Recent evolutions of growth, poverty and inequality: Briefing”, *Review of African Political Economy* 111: 371-379. The second part of this chapter is based upon Ansoms, A. (2008) “The Rwandan Economic Development and Poverty Reduction Strategy (2008-2012): Opportunities and challenges for rural development”, unpublished paper.

Key words: economic growth, poverty, inequality, PRSP, Rwanda, Central-Africa

Abstract

This introductory chapter examines the recent evolutions of growth, poverty and inequality to assess the extent to which the first Rwandan Poverty Reduction Strategy (PRSP - implemented between 2001-2005) has been truly pro-poor. It further analyses the new Economic Development and Poverty Reduction Strategy (EDPRS), elaborated by the Rwandan government in 2007 and to be implemented over the period 2008-2012. It looks at whether and how the new EDPRS strategy provides an answer to the five challenges to which the first Poverty Reduction Strategy (PRSP) fell short: (1) Does the EDPRS give priority to sectors and strategies with maximal poverty reducing impact? (2) Is the budget directed to ‘true’ pro-poor sectors and strategies? (3) Does the EDPRS tackle the problem of increasing inequality? (4) Does it include an analysis of the opportunities and constraints of different socio-economic groups in different localities, and of how policies may impact upon those? (5) Can poor population groups participate in the elaboration of national and local policies; and are national and local authorities accountable towards the local population when implementing those policies? The chapter finally gives a full overview of the contents of the PhD, and outlines how these chapters may contribute to the overall understanding of poverty and inequality in rural Rwanda.

0. Introduction

In 2000, the member states of the United Nations committed themselves to the realisation of the ‘millennium development goals’, placing the fight against poverty as the priority for both donors and recipient countries. At the same time, the International Financial Institutions (IFIs) launched the Poverty Reduction Strategy (PRSP), presented as a country-led and comprehensive strategic plan to fight poverty. With about fifty countries at the implementation phase of the PRSP, this program became the basic framework for development strategies.

Rwanda entered the PRSP process in 2000, first with the elaboration of an interim PRSP, then transformed into a final PRSP-1 document that was endorsed by the IFIs in 2002. The PRSP policy built upon the government’s ‘Vision 2020’ (2000), and was implemented from 2002 until 2005. The joint staff assessments of the IMF largely praised the Rwandan policy document as well as the PRS progress reports describing the policy’s implementation process (IMF, 2004, 2005A, 2006A). In early 2006, the Rwandan government started to elaborate a follow-up PRSP policy, which became the Economic Development and Poverty Reduction Strategy (EDPRS), finalised in 2007, and to be implemented from 2008-2012 (see GoR, 2007A).

At the end of the implementation period of the first PRSP, the Rwandan experience allows us to propose preliminary conclusions regarding the results of this strategy. To what extent has Rwanda met the three main challenges it faced over the previous years, 2001-2006 (see Ansoms, 2005).

- 1) Has economic growth been sustainable and self-reliant?
- 2) Has growth led to substantial and sustainable poverty reduction?
- 3) Has the country been able to escape the vicious circle of increasing inequality?

This chapter uses recent data to analyse the progress made in all three areas. Based on this, it then assesses the extent to which PRSP policies were pro-poor.

Secondly, this chapter analyses the new Economic Development and Poverty Reduction Strategy (EDPRS), elaborated by the Rwandan government in 2007, and to be implemented over the period 2008-2012. It looks at whether and how the new EDPRS strategy provides an answer to the five challenges to which the first Poverty Reduction Strategy (PRSP) fell short.

- 1) Does the EDPRS give priority to sectors and strategies with maximal poverty reducing impact?
- 2) Is the budget directed to ‘true’ pro-poor sectors and strategies?

- 3) Does the EDPRS tackle the problem of increasing inequality?
- 4) Does it include an analysis of the opportunities and constraints of different socio-economic groups in different localities, and of how policies may impact upon those?
- 5) Can poor population groups participate in the elaboration of national and local policies; and are national and local authorities accountable towards the local population when implementing those policies?

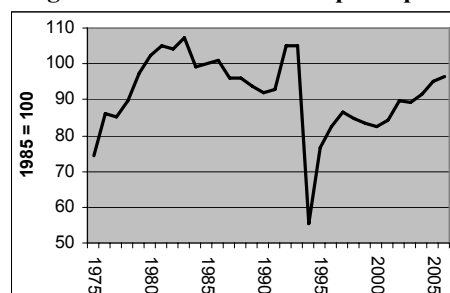
In its analysis, this chapter refers at several occasions to the various chapters included in the PhD. A final part of the chapter however, gives a full overview of the chapters included in the PhD, and outlines how these chapters may contribute to the overall understanding of poverty and inequality in rural Rwanda.

1. The achievements of the first Rwandan Poverty Reduction Strategy

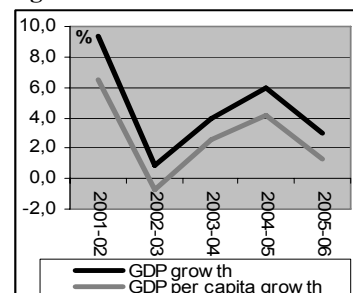
1.1 Has growth been sustainable and self-reliant?

Rwanda's PRSP identified economic growth as the essential condition for poverty reduction. Growth projections aimed for in the PRSP policy were ambitious: ideal percentages of around 4 to 5% per capita growth were set as a target over the next 15 to 20 years. They imply a 7 to 8% overall real growth (GoR, 2000), and have been slightly lowered towards growth projections between 6 and 7% for the PRSP-1 implementation period 2002-2005 (GoR, 2002). Also in subsequent PRS progress reports and IMF statistical documents, growth projections were typically set at around 6%.

Such ambitions seemed realistic given the positive image of Rwanda's post-war economic recovery. After an initial post-war boom, average annual growth between 1996 and 2001 remained high at 8,56%. However, this average reflects exceptional growth figures in the first years, moderated a few years later. Looking at the larger picture, it took until 2000 to reach GDP per head levels comparable with the pre-genocide period, and the economy has still not reached its performance of the early 1980s. Moreover, Rwanda has benefited from substantial aid funds, largely exceeding the sub-Saharan average. It seems likely that the aid-factor and resulting capital inflows partly explain Rwanda's economic recovery (Ansoms, 2005).

Figure 1: Evolution of GDP per capita

Source: World Bank, 2006B.

Figure 2: Growth rates 2001-2006

The major issue is whether growth has been self-reliant and sustainable over the 2001-2006 period – the PRSP policy implementation phase. With respect to self-reliance, Rwanda is still extremely dependent upon aid money: in 2004, aid funds represented 53\$ per head, almost 50% more than the Sub-Saharan average (World Bank, 2006B). To answer the second question, growth has indeed been sustained, but clearly failed to comply with projections of around 6%. Average annual growth between 2001 and 2006 only amounts to 4,6%, which represents 2,7% in per capita terms (IMF, 2005B, 2006B). And for several years, economic performance fell far below the target set at 6% (2002-03, 2005-06) (see Figure 2). This illustrates the vulnerability of Rwanda's economy to structural limitations: a combination of overpopulation, resource scarcity and a limited potential for economic diversification away from subsistence agriculture.

1.2 Has growth led to poverty reduction?

A second main issue is then to determine how growth has been translated into poverty reduction. Incidence of poverty, based on the national poverty line (1,22\$ PPP, current 2006 exchange rate), decreased from 60,3% to 56,8% between 2001 and 2006. When looking at trends in rural versus urban terms, Table 1a indicates how the decrease in percentage of overall and extreme poverty was most pronounced in urban Kigali and least marked in the rural areas (GoR, 2006A).

The strength of the growth - poverty connection can be roughly determined by comparing the Rwandan growth elasticity of poverty with cross-country averages. The average growth elasticity of poverty is estimated to be within the interval -2 and -3. This means that a positive economic growth rate of 1% leads to a 2% to 3% decrease of poverty, measured as the percentage of poor living below the poverty line of 1\$

PPP per head (Ravallion and Chen, 1997; World Bank, 2000; Ravallion, 2001; Adams, 2004).

Table 1a: Incidence of poverty and extreme poverty for Rwanda

In percentage	Poverty incidence ¹		Change	Extreme poverty incidence ²		Change
	2001	2006		2001	2006	
Kigali urban	12,3%	10,4%	-15,1%	4,5%	3,7%	-17,8%
Other towns	19,4%	17,8%	-8,2%	9,8%	8,8%	-10,5%
Rural areas	65,7%	61,7%	-6,1%	45,8%	41,3%	-9,7%
National	60,3%	56,8%	-5,8%	41,6%	37,8%	-9,2%

Source: Government of Rwanda 2002 (for 2001 data); UNDP 2007 (for 2006 data).

Table 1b: Incidence of poverty and extreme poverty for Rwanda

In absolute numbers (mio)	Poverty incidence		Change	Extreme poverty incidence		Change
	2001	2006		2001	2006	
Kigali urban	0,11	0,09	-18,2%	0,06	0,04	-33,3%
Other towns	0,29	0,36	24,1%	0,18	0,22	22,2%
Rural areas	4,43	4,93	11,3%	3,06	3,23	5,6%
National	4,82	5,38	11,6%	3,30	3,49	5,8%

Source: Government of Rwanda 2007A.

In comparison with those cross-country averages, the growth elasticity of poverty for Rwanda's post-conflict period was $-0,37$ during 1994-2000³, indicating that each percentage of economic growth only led to a 0,37% decrease in poverty incidence (Ansoms, 2005). These calculations were based on a poverty line of 1\$ PPP per head per day. For Rwanda, however, to compare poverty incidence for 2001 and 2006, we use a different poverty line⁴, equivalent to 175 Rwf per adult equivalent per day for 2001 prices, and 250 Rwf per adult equivalent per day for 2006 prices (equal to 1,22\$ PPP, current 2006 exchange rate). With a growth elasticity of poverty of $-0,40$ for the 2001-2006 period, we can conclude that the pro-poor character of Rwandan economic growth remained exceptionally low, despite the implementation of PRSP policies. Moreover, poverty incidence is measured in percentage terms and hides the evolutions in absolute numbers. Given the high population growth of 3,5% per year, the absolute number of people living in poverty has increased from 4,8 to 5,4 million over the period 2001-2006 (GoR, 2006A; see table 1b). Poverty largely increased in rural

¹ The national poverty line represents 64.000 Rwf per adult equivalent per year for 2001 prices, and 90.000 Rwf per adult equivalent per year for 2006 prices.

² The national poverty line represents 45.000 Rwf per adult equivalent per year for 2001 prices, and 63.500 Rwf per adult equivalent per year for 2006 prices.

³ The poverty headcount data should be approached with caution. They are based upon a series included in GoR 2002, based upon crude estimates of the World Bank.

⁴ The incidence of poverty, using the poverty line of 1\$ PPP per head per day is not yet available for 2006.

areas, with an additional 500.000 people living in poverty and 170.000 more confronted with extreme poverty. Equally remarkable is that absolute numbers of poor also strongly increased in non-Kigali urban areas where a lot more poor people reside today in comparison with 2001. These data show the importance to look beyond relative figures.

A second approach to measure the impact of growth on poverty reduction is to look at the elasticity of connection between the income of the poor and the mean income. Generally, writers situate this elasticity at around 1 which implies that the incomes of the poor rise or fall at the same speed as the average revenue. (Roemer and Gugerty, 1997; Gallup *et alii*, 1998; Dollar and Kraay, 2002; Foster and Szekely, 2002). Ansoms (2005) could only estimate the elasticity for the period 1985-2001, due to a lack of data on the distribution of consumption in between those years. Overall, income decreased during this period, but disproportionately affected the poor, who saw their incomes decline with 4,6% for each average income loss of 1%. This implies that as people generally experienced a fall in income, the poorest suffered the greatest fall.

As highlighted by Ravallion (2001), there is an important difference between distributions evaluated in relative and absolute terms. With an elasticity of 1, the relative distribution between rich and poor is assumed to remain constant (distribution neutral growth) but the absolute gap between rich and poor increases in a phase of growth. This means that if the relative distribution of consumption had remained equal in Rwanda between 2001 and 2006, the absolute gap between the poorest and richest quintile would have widened. More concretely, the additional amount for each percentage of growth would have been almost ten times higher for the richest quintile in comparison with the poorest quintile. A first examination of the Lorenz curve (displayed in GoR, 2006A) indicates that the elasticity of connection is below 1, for all quintiles except for the richest. This implies that the poor have profited far less from growth in comparison with the richest quintile, both in relative and in absolute terms.

We could conclude that the impact of economic growth on poverty reduction has been extremely weak in comparison with cross-country evidence. The period 2001-2006 thus perfectly illustrates the limitations of a growth-reliant strategy in Rwanda: growth is a necessary but not a sufficient condition for poverty reduction.

1.3 Has inequality fallen?

The impact of growth on poverty depends largely upon initial inequality levels: Adams (2004) found for example lower growth-poverty elasticity rates for countries with initially higher inequality ($Gini > 40,0$). Rwanda seems to be a perfect illustration of this. In the mid-1980s, it qualified as a low-inequality country with a Gini coefficient of 0,29. However, the Gini coefficient by 2001 had risen to a considerable 0,47; representing a situation where the richest 20% enjoyed the same consumption level as the poorest 80%. Due to a lack of nationally representative data for the interim years, no Gini coefficient is available for the period in between 1985 and 2000⁵.

Inequality even further increased over the period 2001-2006 as the Gini coefficient reached 0,51. A preliminary report of the Rwandan government that discusses changes over 2001-2006 acknowledges, *“because growth over this period has been accompanied by increasing inequality, this has reduced its impact on the reduction of poverty levels”* (GoR, 2006A: 7). The UNDP’s Human Development Report on Rwanda mentions how *“Rwanda’s high growth rates are deceptive in that they hide large and growing inequalities between social classes, geographic regions and gender”* (UNDP, 2007: 5).

The rising levels of inequality are mainly due to an increasing gap between poor and rich in the rural setting, while urban inequality decreased. The reduction of urban inequality can be explained by several policy measures that prevent or discourage the poor to live in the capital city. Durand-Lasserve (2005) for example illustrates how current formalised urban land and housing policies create a bias against poorer groups, and result in an increase of expropriations and evictions. He states: *“At present, restrictive planning and development standards are directly responsible for the exclusion of 75 to 80% of households from legal access to land and housing. Evictions of these households can be deemed necessary both for public and private needs. The city itself displaces households to engage in urban renewal projects and*

⁵ Already during the eighties, inequality in the rural areas was reported to be rising combined with an increasing rural-urban gap. In 1982 the ten percent richest consumed 20% of the total rural revenue, while in 1992 their share had risen up to 41% (Maton, 1994). The rural-urban terms of trade index with 1980 as the basis year, evolved from 104,2 in 1985 to 81,1 in 1989. If this index decreases, this reflects a negative relative trend in the added value per active head of the agricultural compared to the non-agricultural sector. By the end of the eighties, the economic crisis thus more severely affected the agricultural sector (Marysse *et alii*, 1995). For the years of civil war from 1990 onwards up to the end of the genocide in 1994, almost no data exist. In 1992, the 10% richest consumed 41% of the total rural revenue. This percentage rose to 45% in 1993 and to about 51% at the beginning of 1994 (Maton, 1994).

infrastructure works. But also private investors can take the initiative to develop a particular site occupied by informal settlements with an approval of the City Hall.” (Durand-Lasserve, 2005: 10) Moreover, the arrangements for compensation are limited (for the 42,7% dwelling owners) or non-existing (for the 47,2% tenants), while resettlement alternatives are scarce. Therefore, households tend to move out of Kigali to smaller centres. As a result, the average wealth of inhabitants of Kigali increases and the gap between rich and poor narrows in the capital city.

The increase in rural inequality may be explained through two currently ongoing dynamics. A first tendency, linked to the decentralisation policy, is for educated civil servants at lower levels to move to local centres in the countryside and occupy a post in the local administration that has become more elaborate and has received increased decision power. This migration has introduced new better-off categories in the rural setting. A second, more weighting factor is the tendency for the land and agricultural policy (see GoR, 2004A, 2004B, 2004C) to enhance the opportunities for larger-scale farmers to become active entrepreneurs in a professionalised and modernised agricultural sector. These measures go at the expense of small-scale subsistence farmers and tend to increase the gap between the rural rich and poor. (Ansoms, 2007) Indeed, income disparities within the countryside worsened with an increase of the Gini coefficient from 0,37 to 0,44 over a period of only five years (see table 2).

Table 2: Gini coefficients for Rwanda

	2001	2006
Kigali urban	0,49	0,47
Other towns	0,52	0,52
Rural areas	0,37	0,44
National	0,47	0,51

Source: GoR, 2006A.

Regional income disparities lessened between 1990 and 2000. While the better-off provinces⁶ before the war (i.e. Kibungo, Rural Kigali, Ruhengeri and Byumba) experienced very low or negative growth rates over the decade, the poorest provinces (i.e. Gikongoro, Kibuye and Cyangugu) had positive growth rates. Justino and Verwimp point to the impact of the civil war and genocide on capital stock as an important factor. The Northern provinces and the surroundings of Kigali city were the heaviest affected by fighting during the 1990-1994 civil war. Further, Rural Kigali and Kibungo faced the mass resettlement of former refugees after 1994. The Southern

⁶ Before the recent administrative reform (2006), Rwanda was divided into 12 provinces (Ruhengeri, Byumba, Umutara, Kibungo, Kigali Ngali, Butare, Gitarama, Gikongoro, Cyangugu, Kibuye, Gisenyi, Ruhengeri). After the reform, there are 4 provinces (Northern Eastern, Southern and Western provinces), next to Kigali City.

provinces, on the other hand, suffered the greatest loss of human life during the 1994 genocide (linked to the high proportion of Tutsi inhabitants), but the regions' capital stock remained largely intact and there was less resettlement of former refugees in those regions (Justino and Verwimp, 2006).

When comparing 2001 and 2006, the regional picture looks different. The decrease in the poverty headcount has been the most impressive in Rural Kigali (-24% for the poverty line of 1,22\$ PPP, current 2006 exchange rate). It was also considerable in Kibuye, Umutara (a province that did not exist before the war), Kibungo and Ruhengeri (cfr. some of the provinces that had low or negative growth during the war decade). Poverty rates increased in the Southern provinces (f.e. Gisenyi, Gikongoro and Gitarama - GoR, 2006A).

Data on *ethnic income disparities* are currently unavailable, as ethnicity has become a taboo subject in the post-1994 Rwandan society. Within the rural setting, ethnic disparities are probably not as large as one might assume from historical studies that interpret the genocide mainly in ethnic terms. Already in the mid-50s, Leurquin challenged the traditional view regarding ethnicity by showing that there were no significant income and food access differences between rural Hutu and Tutsi. He found a slight difference in access to off-farm resources and access to cattle, given the more intense ties of Tutsi with urban settings (Leurquin, cited in Newbury and Newbury 2000). André and Platteau advance grievances and resentment as factors in the escalation of the 1994 violence, but they point out that these feelings could be directed towards any person (regardless of ethnic identity) resented for his pre-war success. They do not reject ethnicity as an important factor, but also seek to explain how the civil war provided desperate, young people with an opportunity to settle scores and reshuffle land property (André and Platteau, 1998).

There is no data, whatsoever, on ethnic disparities within the rural environment for the post-1994 period. Various field visits by the author to peasant communities suggested that Tutsi survivors have somewhat larger per capita land holdings, due, perhaps, to the death of many family members. In numerous local settings, the author observed both hidden and more open resentment towards (Tutsi) genocide survivors who profited from the FARG programme (Fonds National pour l'Assistance aux Rescapés du Génocide / Victims of Genocide Fund) that provides housing, health benefits and/or school fees. On the other hand, the socio-economic condition of these survivor families was often poor given their loss of assets and human capital during the war. Ethnic disparities within the rural setting are much more prominent in certain regions in the north of Rwanda (cfr. ex-Umutara province) where members of the new

political and military elite have been able to acquire land to raise cattle. But the greatest ethnic disparities in post-1994 Rwanda relate to the urban-rural divide, where a Tutsi-dominated political elite in Kigali appropriates the benefits of economic growth while very little trickles down towards Rwanda's peasant and rural world.

2. How pro-poor were PRSP policies really?

Taking all into consideration for the period 2001-2006, growth has fluctuated and on average not met the target of 6%, the translation of growth into poverty reduction has been low, and Rwanda is confronted with ever further increasing inequality. Overall, the success rate of the first Rwandan Poverty Reduction Strategy is thus limited.

A first question is whether the priorities in the first PRSP were wrongly defined. The six priority areas, ranked in order of importance, were identified as 'rural development and agricultural transformation, human development, economic infrastructure, governance, private sector development, and institutional capacity building' (GoR, 2002: 6). These choices were largely encouraged by the international community, for example, in the Joint Staff Assessments of the International Monetary Fund.

In reality however, large parts of the first PRSP were just not implemented. The focus lied on the education and health sectors. And improvements have been made in these areas. Over the 2000-2005 period, infant and under-5 mortality decreased from 107 down to 86 and from 196 down to 152 children per 1000 live births respectively. Maternal mortality also decreased with almost 30%. In the education sector, progress in terms of primary education was considerable with a net enrolment rate raising from 74% up to 86% over the 2000/01 – 2005/06 period (GoR, 2007A). However, within the productive sectors, the prioritisation of strategies according to their poverty-reducing impact has been weak. Strategies generally focused on achieving economic growth but paid little attention to the distribution of this growth. In their independent evaluation of the PRSP, Evans *et alii* (2006) touch upon this problem, stating that: "while the poverty analysis is clearly value-adding, relatively little analysis is provided of the specific risks and vulnerabilities facing different groups in different localities in Rwanda" (Evans *et alii*, 2006: 5).

When looking at budgetary commitments (see table 3), overall priority spending has strongly increased over the last six years from 25 up to 50% between 2001 and 2006. However, the pro-poor character of several of those spending items can indeed be

questioned. Tertiary education for example received over half of the priority budget spent in education. Similarly, tertiary health received 1 billion Rwf extra in 2004, while primary health care came 1,5 billion Rwf short (Evans *et alii*, 2006). Even more striking is the comparison of the share destined for tertiary education (over 12%) with the share for the entire agricultural sector (less than 5%).

Table 3: Priority expenditures

%	Act. 2001	Budg. 2002	Act. 2002	Budg. 2003	Act. 2003	Budg. 2004
Tot Priority expenditures	100,0	100,0	100,0	100,0	100,0	100,0
- Of which Education	62,9	22,9	21,5	21,4	24,8	22,2
-> Of which tertiary education	19,7	15,5	14,2	13,3	13,8	12,8
- Of which Health	13,0	7,1	6,8	7,6	8,9	8,9
- Of which Internal affairs (police, prisons)	8,8	8,2	8,0	7,9	9,1	7,1
- Of which Infrastructure	1,7	9,1	8,9	12,1	10,4	11,6
- Of which Local Government *	4,4	44,2	46,1	43,0	42,1	34,9
- Of which Agriculture	4,6	4,6	5,2	4,7	2,3	3,4
- Of which commerce / export promotion	1,1	1,5	1,3	1,3	0,9	9,7
- Of which energy**	0,0	0,0	0,0	0,0	0,0	0,0
- Of which others	3,5	2,4	2,2	2,0	1,4	2,2
Priority expenditures as % of total exp.	25,3	32,1	35,8	28,4	30,5	35,6

%	Act. 2004	Budg. 2005	Act. 2005	Budg. 2006	Act. 2006	Budg. 2007
Tot Priority expenditures	100,0	100,0	100,0	100,0	100,0	100,0
- Of which Education	24,1	23,8	38,2	39,7	41,3	36,9
-> Of which tertiary education	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- Of which Health	8,7	10,6	12,9	12,3	12,8	12,3
- Of which Internal affairs (police, prisons)	6,1	6,9	6,8	6,3	6,4	5,4
- Of which Infrastructure	6,6	8,3	17,0	10,6	13,8	17,7
- Of which Local Government *	33,1	32,5	4,8	6,3	9,2	10,0
- Of which Agriculture	2,2	3,4	4,9	4,7	6,4	11,5
- Of which commerce / export promotion	5,2	4,2	6,0	4,7	4,6	3,1
- Of which energy**	12,8	6,3	0,0	2,6	*	*
- Of which others	1,1	4,1	9,5	12,8	5,5	3,8
Priority expenditures as % of total exp.	35,7	32,5	35,9	42,0	49,8	54,2

* For actual 2005, budget 2006, actual 2006 and budget 2007, no data are available on provincial programmes and these funds are not included in this post.

** For Actual 2006 and Budgeted 2007, energy expenditures are included in infrastructure expenditures.

Sources: Purcell *et alii*, 2005; GoR, 2006B and GoR, 2007B.

Overall, we conclude that the success rate of the first Rwandan Poverty Reduction Strategy is limited. The reason for this lies in several shortcomings: (1) the lack of prioritisation among strategies according to their impact upon poverty; (2) the lack of budgetary commitments to 'true' pro-poor sectors and strategies; (3) the lacking attention to the inequality problem that Rwanda is facing; and (4) the lack of analysis on the specific opportunities and constraints of different socio-economic groups in different localities, and of how policies may impact upon those. A major issue is then (5) to improve the voice, representation and participation of poor population groups in

the elaboration of national and local policies; and to increase the accountability of the national and local authorities towards the local population.

3. The priorities of the new EDPRS strategy

In comparison with the first PRSP strategy (2002-2005), the EDPRS (2008-2012) claims to be innovative in two ways. First of all, the EDPRS has developed new priorities. The first PRSP placed its emphasis on managing the transitional period of rehabilitation and reconstruction, with the education and health sectors as priorities. The new EDPRS policy focuses more prominently upon the growth potential of the productive sectors. This also explains the name change to “Economic Development and Poverty Reduction Strategy”.

The EDPRS identifies four challenges: (i) increasing economic growth by investing in infrastructure, promoting modernised agriculture, focussing upon service sector development, and mainstreaming private sector development; (ii) slowing down population growth through family planning; (iii) tackling extreme poverty by ensuring food security and focusing upon job creation and social protection; and (iv) ensuring greater efficiency in poverty reduction by better coordinating and prioritising among sectors and between levels of government, in addition to using monitoring and evaluation mechanisms more effectively. A second innovation in comparison to the first PRSP strategy is ‘the way of doing things’: the EDPRS emphasizes the increased responsabilisation of decentralized authorities in policy implementation and accentuates the key role of the private sector in creating pro-poor growth.

To achieve these objectives, the EDPRS puts forward three flagship programs that “propose a comprehensive agenda of economic growth favouring the poor, underpinned by good governance, [...] and foster[ing] synergies between productive and social sectors” (GoR, 2007A: 47). The first flagship program, ‘Sustainable Growth for Jobs and Exports’ aims to increase the competitiveness of the Rwandan business environment through a public investment program that reduces operational costs of business, enhances innovation, and strengthens the financial sector. The major aim is to strongly involve the private sector in the growth process.

A second flagship program, ‘Vision 2020 Umurenge’, aims to ‘release the productive capacities of the poor and extreme poor’ by reviving public works through high labour-intensive projects; by promoting cooperatives, small and medium-sized enterprise development, and credit packages; and by providing direct support to

improve the accessibility to social services such as health and education. With this program, the Rwandan government hopes to enhance off-farm employment creation, to accelerate the monetarisation and formalisation of the economy, and to improve the effectiveness of social protection aid. At this point, this program finds itself in a pilot phase, implemented in only 30 out of 416 sectors (referring to administrative level) countrywide.

The third flagship program underpins the two previous ones by focusing upon good governance. It builds upon the Rwandan reputation of zero tolerance for corruption, and emphasizes the importance of conflict resolution, unity and reconciliation. But most importantly, it provides a guideline for a wide range of public sector reforms that should improve the accountability at all levels of government. And it accentuates the importance of ‘soft infrastructure’ development through improving the protection and incentives for private sector investment (f.e. by providing tenure security through the land registration program, by enhancing the efficiency of the public administration, by promoting business-friendly regulations, etc.).

One of the main flaws of the first PRSP (as identified in the EDPRS) was the lack of results-focused objectives and targets, and the weak monitoring and evaluation system. Therefore, the EDPRS sets stringent targets for all relevant sectors. First, it plans to accelerate growth to 8,1% in 2012, while reducing poverty from 57 to 46% and extreme poverty from 37 to 24%. A ‘big push’ in off-farm employment should allow 30% of the Rwandan population to generate its livelihoods, representing 600.000 additional jobs. Second, the EDPRS plans to widen and strengthen the financial sector, f.e. by expanding private sector credit. Further, the strategy aims to develop skills for a knowledge-based society by increasing adult literacy, improving school enrolment and quality of education, and expanding access to technical and vocational training. In addition, targets are set in terms of promotion of science, technology and innovation for economic growth. For example, 50% of the primary school children should have access to one laptop per child in 2012.

To continue, stringent targets are also set in terms of agricultural productivity and food security. Policy measures in this area will focus upon soil erosion protection, irrigation, marshland development, agricultural intensification, livestock promotion, fertilizer distribution, agricultural credit availability, promotion of collective forms of organisation, development of new exportable products, and increased availability of technical and research-based support in the agrarian sector. Another target is to diversify the economy by increasing the share of the manufacturing and service sectors in overall growth. Tourism is a major priority here. The EDPRS also focuses

upon environmental management and biodiversity preservation. It further aims to build up infrastructure in five sub-sectors: transport, energy, habitat, ICT and meteorology. In addition, it hopes to improve the health status of the Rwandan population, to slow down population growth, and to improve water management and accessibility. The EDPRS sets targets to extend the social protection programs. And finally, it develops priorities to strengthen governance, security, and the rule of law by setting targets in terms of decentralisation, citizen participation and empowerment, transparency and accountability, and by activating public and private media in this domain.

4. Does the EDPRS strategy provide an answer to the five challenges where PRSP1 fell short?

An important question is now whether and up to which extent priorities, programs and targets, identified within the EDPRS framework, provide an answer to the five challenges where PRSP1 fell short. We do in this chapter not aim to give a comprehensive analysis; instead, we only point to some essential elements. We focus particularly upon the primary sector and the rural economy.

4.1 Does the EDPRS give priority to strategies with maximal poverty reducing impact? (Challenge 1)

Considering the first challenge, a lot of work remains to be done to give priority to strategies with maximal poverty reducing impact. Let us consider the example of the primary sector. The contents of the Strategic Plan for the Transformation of Agriculture (SPAT) provide the operational framework for agricultural sector development within the EDPRS. The document focuses upon agricultural modernisation, intensification, professionalisation and enterprise development. Ansoms (2008A, PhD chapter 1) illustrates how “the SPAT strategies seem to be tailor-made for larger farmers whose farm structure and risk-coping abilities allow them to invest in new high-potential production systems. However, access to these modernised and professionalised techniques seems less straightforward for risk-averse small peasants” (Ansons, 2008A: 13). This choice is not straightforward given that there is an inverse relationship between farm size and land productivity (Ansons *et alii*, 2008C, PhD chapter 4).

There are two viable alternatives to the large farmer biased model. These have to take into account the low opportunity cost of labour and the high opportunity cost of

capital that small-scale peasants face. A first pro-peasant policy initiative could be to focus research and policies on techniques that lower the capital-to-labour ratio (f.e. by introducing new land/financial capital-saving techniques that allow them to increase their productivity; by introducing labour-intensive crops which small-scale farmers have a comparative advantage in, etc.). Another solution would be to identify and remove the institutional constraints that prevent peasants from accessing capital at a relatively low cost. Providing access at the (most) local level to credit and risk-insurance mechanisms, could enhance peasants' capacities to cope with risk and uncertainty related to new types of agriculture. The ambition of the Rwandan policy makers to strongly involve the private sector in local credit mechanisms may restrict accessibility of this credit for many small-scale peasants with an unfavourable risk profile (no collateral as guarantee). Therefore, the Rwandan state has an important role to play here.

4.2 Is the budget directed to 'true' pro-poor sectors and strategies? (Challenge 2)

The EDPRS, as did the PRSP, differentiates among priority and non-priority expenditures. The EDPRS document recognises – in a footnote - that “the present definition of priority expenditure is too broad and that a new classification of expenditures thought to be more directly poverty-reducing should be instituted” (GoR, 2007A: 7). Indeed, it is questionable whether ‘defence and cooperation’ expenses should be listed among pro-poor sectors. Equally uncertain is the extent up to which investments in ‘science, technology and innovation’ will directly target the poor. This sector’s targets - such as increasing the number of scientists, engineers and researchers – are indeed important in terms of enhancing growth. But the pro-poor trickle-down effect will be limited, at least in the five to ten years to come. Another target in this sector, increasing accessibility to one laptop per child for 50% of primary school children, seems little realistic in a country where a large majority of the rural population lacks access to electricity, in addition to all other non-guaranteed basic needs.

Further, the distribution of the available budget over sectors is questionable. The education and health sectors were major priorities for the first PRSP, whereas the pattern of public spending within the EDPRS framework should “benefit those sectors and sub-sectors most closely linked to the EDPRS priorities of accelerating skill-driven growth and increasing employment” with the ambition to reduce poverty. This ambition is however not clearly translated in terms of budgetary commitments. The top-five priorities are education (19,8% of total priority budget), health (9,2%), transport and ICT (7,2%), agriculture (6,9%) and energy (6,1%). Indeed, the

agricultural sector receives relatively more than in the implementation period of the first PRSP (between 2,2 - 6,4%). However, its budget is barely more than that of the energy sector, in which the immediate pro-poor effect of ensuring electricity accessibility for 200.000 households (main target for the energy sector) is likely to be limited.

The increased budget available for decentralised local levels of authority is a positive evolution. 10% of the central government revenue is earmarked to finance investment projects selected by the districts. The pro-poor effect of these investments however depends upon the incentives for district authorities to target development programs with maximal poverty-reducing impact (see challenge 5).

The financing of the required EDPRS budget, finally, depends considerably upon private investment. One third of the total EDPRS budget is projected to be financed by the private sector. However, it seems unlikely that poverty reduction will be among the prior concerns of this sector (see f.e. the case study of the Madhivani business group involved in swampland cultivation in Ansoms, 2008D, PhD chapter 5). It is crucial to assess the private investment critically, by judging upon the net positive or negative impact on overall output and on poverty reduction.

4.3 Does the EDPRS tackle the problem of increasing inequality? (Challenge 3)

The attention of the EDPRS document to the inequality issue is marginal. One single paragraph (GoR, 2007A: 15-16) recognises the problematic increase of the Gini coefficient and situates Rwanda among the high-inequality countries in the African continent. But the problem is only superficially analysed, and the document lacks specific strategies and targets that address the issue. Nonetheless, rising inequality is a core problem, given that *“the effectiveness of future economic growth in reducing absolute income poverty declines with initial income inequality”* (World Bank 2006A: 84).

Also the pro-poor character of agricultural growth depends upon inequality levels, particularly in the area of land distribution (Ravallion and Datt, 2002; Deininger and Squire, 1998; de Janvry and Sadoulet, 1996). The EDPRS policy sees the ongoing land tenure and land use management reform as a crucial policy in improving the ‘soft infrastructure’ that should attract private investors. Indeed within the registration policy, the Rwandan rural policy makers aim for the consolidation of small parts of land into larger plots, and for the consolidation of land into the hands of fewer, more efficient farmers (Ansoms, 2009, PhD chapter 2). Ansoms (2008A, PhD chapter 1)

points to the way how such policy measures introduce or reinforce institutional barriers for many, while facilitating access and enhancing opportunities for the few.

The increasing inequality problem imposes itself as a major challenge to Rwandan policy makers. Setting targets in terms of inequality reduction would require a shift in attention from a purely output-led logic towards more integrating, distribution-oriented development policies. However, this would have important socio-political consequences (cfr. elite-peasant bias in Ansoms, 2009, PhD chapter 2). At this point, policy makers largely ignore the inequality problem.

4.4 Does the EDPRS include an analysis of the opportunities and constraints of different socio-economic groups in different localities, and of how policies may impact upon those? (Challenge 4)

With regards to the fourth challenge, the EDPRS identifies in a rather intuitive way the diverse socio-economic categories by referring to their livelihood strategies. This is enlightening as it allows analysing the strengths and weaknesses of these categories, and the opportunities and threats they are facing to participate in economic growth. Only, this analysis is not provided within the EDPRS document.

The first flagship program for example assigns a large role to the private sector in creating employment and enhancing economic growth, while ignoring the role that various socio-economic peasant categories could play in this domain. The EDPRS document recognizes that private firms are primarily accountable towards their shareholders, and aim for maximal profits while paying little attention towards poverty reducing effects. At the same time, it remains entirely unclear how and up to which extent the involvement of the private sector in economic growth would result in a trickle-down effect reaching the poorer layers of society. Capital-intensive businessmen might very well accelerate the transition towards a knowledge-based economy; but these new opportunities will in the current economic climate most likely be beyond the reach of the poorly trained agricultural labour force. Therefore, the Rwandan authorities should evaluate the productive and entrepreneurial potential of diverse socio-economic peasant categories, and analyse how this potential might be activated through private sector investment. Specific attention should be paid to smallholder peasants that are a large majority of the Rwandan population.

Indeed, the second flagship program does tackle ‘the productive capacities of the poor and extremely poor’ by promoting cooperatives, small or medium-sized enterprise development, and credit packages. The focus to target an entire community is a major

step into the direction of a comprehensive anti-poverty policy. But on the other hand, the program lacks a profound analysis of how policy makers can differentiate among the highly divergent groups of ‘poor and extremely poor’ within that community. It therefore risks enhancing local elite-capture of the opportunities provided by the Vision 2020 Umurenge program.

Crucial to meet this fourth challenge, is a profound analysis of the livelihoods of the various socio-economic groups in the rural setting and the potential impact of envisaged policies upon their livelihoods, both within the agricultural and the non-agricultural sector. This may be done on the basis of an analysis of quantitative, nationally representative data (see Ansoms, 2008B, PhD chapter 3); or on the basis of an in-depth qualitative analysis of some specific case studies (see Ansoms, 2008D, PhD chapter 5). Both approaches are complementary as they bring up different dynamics.

4.5 Can poor population groups participate in the elaboration of national and local policies; and are national and local authorities accountable towards the local population when implementing those policies? (Challenge 5)

To improve the accountability of the national and local authorities towards the population, and the representation of the population in policy formulation, the EDPRS strategy foresees in several mechanisms. The link between citizens and national policy makers should be ensured by parliamentary elections, opinion polls and town meetings. The accountability link between local and national policy makers is assumed to be guaranteed by inspections, audits and ‘imihigo’ performance contracts. These imihigo contracts were launched in 2006 as a signed agreement between the District authorities (the Mayor specifically) and the President of the Republic, Paul Kagame. It sets targets in those areas that are key in national priorities. In addition, local level authorities have been working on District Development Plans and Sector Strategic Plans that translate national EDPRS objectives to the local level.

Indeed, the responsabilisation of the local authorities in the implementation of national policies could improve the translation process of national targets towards the local context, adapting them to the needs of the population. But this depends upon the link between citizens and local policy makers. According to the EDPRS, this link is guaranteed through a variety of consulting organs, such as umudugudu meetings etc. In the field however, the decentralisation process has not increased the voice of the rural poor in policy making. On the contrary, it has allowed the central level to impose its social engineering ambitions more rigorously upon the local level. Local peasants

see the district and sector authorities as the implementing body of national strategies. By no means do local peasants consider the local authorities at district and sector levels as representatives of their concerns (for illustrations, see Ansoms, 2008D, PhD chapter 5). It is thus highly uncertain up to which extent local needs and concerns are taken into account by local authorities when designing District Development Plans and Sector Strategic Plans.

The following example may illustrate this. An EDPRS target in the habitat sector is to construct 5.700 additional imidugudu sites (planned settlements) by 2012, next to the 5.486 existing imidugudu. By 2020, the aim is to have grouped 70% of the population in rural grouped settlements and the remaining 30% in urban areas. This priority is translated into District Development Plans (see quote in Ansoms, 2009, PhD chapter 2). However, past experiences with this policy were assessed to be very negative, both by the peasant population itself, as by human rights organisations (cfr. Human Rights Watch document “*Uprooting the Rural Poor in Rwanda*”, 2001). No analysis whatsoever is provided in the EDPRS to answer to the concerns raised in the past.

Another illustration of this is the way the nation-wide government’s policy to valorise the swamplands is implemented in the field (elaborated in Ansoms, 2008D, PhD chapter 5). The swampland valorisation policy fits within the larger rural development strategy, inspired by the goal to maximize national production output and contribute to poverty reduction. However, when implemented at the local level – in most cases with a crucial role for decentralised levels of authority - the externally-induced policy contributes to the reproduction of structural forms of poverty and inequality. The lack of voice of the poorer segments in the decentrally organised implementation process limits their potential to secure access or challenge their exclusion from marshland plots

The lack of public voice in policy implementation, and the lack of accountability of local and national authorities towards the local peasant population entail a high risk that national EDPRS targets will be unsuitable for the highly diversified rural environment.

5. Wrapping up – A lot remains to be done to meet the EDPRS challenges

The EDPRS hopes to contribute to significant and sustainable growth (8,1% by 2012). It aims for agricultural modernisation and professionalisation, in line with the SPAT

strategy. Next to agricultural growth, it strives for a ‘big push’ in off-farm employment with 600.000 additional jobs. Poverty should reduce from 57 to 46%; in absolute numbers this represents 500.000 additional people that move to living standards above the national poverty line. The success rate in achieving these targets depends in great extent upon the way the EDPRS will respond to the five challenges where the first PRSP fell short (see table 4).

The analysis provided in this chapter illustrates that a lot remains to be done. (1) The EDPRS policy could more efficiently target sectors (agricultural sector) and strategies (agricultural policies that focus upon the potential of small-scale peasants instead of being tailor-made for larger farmers) with a maximal poverty reducing impact. (2) Priority expenditures should be more narrowly defined, only including expenditures with a direct poverty-reducing effect. In addition, the distribution of the budget over various sectors could improve with more budget for pro-poor policies in the agricultural sector. (3) The EDPRS should analyse the inequality problem in depth and should have the ambition to set clear targets in terms of inequality reduction by 2012. (4) The EDPRS flagship programs do not sufficiently take note of the productive and entrepreneurial potential of different socio-economic peasant categories, and the constraints these peasants are facing in fully exploiting their potential. (5) Finally, pro-poor growth is highly dependent upon the way the poor are involved in the elaboration and implementation of growth strategies. The current pressure upon local authorities to comply with national priorities, and the lack of accountability of these authorities towards the local population risk resulting in a limited pro-poor impact of growth strategies. If these challenges are ignored, the risk is considerable that - even if the EDPRS succeeds in enhancing investment-led growth with an increasing export orientation – the pro-poor effect of such growth will be limited.

Table 4: Dealing with challenges for the EDPRS

5 challenges for EDPRS	How does EDPRS document deals with these ...	
	Positively	negatively
1. Give priority to sector strategies with maximal poverty reducing impact	EDPRS emphasises the importance of agricultural productivity and food security (sector with greatest importance for mass of rural poor).	Proposed policy measures focus upon modernisation of the agricultural sector and pay no attention to potential of small-scale peasants (inverse relationship) and constraints these peasants face to engage in new policy priorities.
2. Budgetary commitments to true pro-poor sectors and strategies	EDPRS recognises that there might be a problem with present definition of priority expenditures (in a footnote)	There are still ‘non-poor sectors and strategies’ enlisted among pro-poor priority expenditures, while the budget share of the agricultural sector remains relatively low
3. Attention to inequality problem	EDPRS recognises that increasing inequality is problematic.	- No targets are formulated with regards to inequality measures. - Inequality in land distribution is not considered to be an issue to look at in land policies, despite its influence upon the pro-poor character of agricultural growth.
4. Analysis of opportunities constraints for different socio-economic categories	EDPRS identifies problematically poor categories by referring to livelihood strategies (f.e. agricultural wage labour) although more in-depth analysis is required on opportunities and constraints of those categories.	- First flagship program focuses upon the role of the private sector in employment creation and economic growth instead of analysing the productive and entrepreneurial potential of the peasant population. - Second flagship program does tackle ‘the productive capacities of the poor and extremely poor’ but lacks the analysis to differentiate among and target the diverse livelihood categories.
5. Improve accountability of policy makers to local population and the representation of the population in policy formulation	The EDPRS has developed a third flagship program that should tackle these issues.	- At the most important local administrative levels (district, sector and cellule), the main decision making power lies with an administrative person who is appointed by the central administration. - The legitimacy of the appointed person, to a great degree, depends upon compliance with national policy priorities, regardless of the burden on the local population

6. The focus of this PhD

In our previous analysis of the EDPRS challenges, we have at some occasions referred to the insights and relevance of the various chapters of this PhD. Indeed, a study of the macro-level indicators for development, poverty and inequality – as

provided in this chapter - allows to mark worrying trends and to determine the pro-poor character of current economic growth. It does however not provide in-depth insights into the underlying dynamics, the ongoing political economy process of **agrarian change and rural differentiation**.

Rural differentiation is defined by White (1989) as “a dynamic process involving the emergence or sharpening of ‘differences’ within the rural population; [...] it involves a cumulative and permanent process of change in the ways in which different groups in rural society – and some outside it – gain access to the products of their own or others’ labor, based on their differential control over production resources” (White, 1989: 19-20). White (1989) warns for the danger of easy generalisations about agrarian change and rural class formation that form the foundation for rural differentiation processes. He pleads for careful empirical research instead of drawing conclusions by comparing on-the-surface phenomena with standard general models (referring in his work to those of Lenin, Kautsky and Chayanov). He adds: “The empirical analysis and interpretation of agrarian changes in specific situations demand a degree of flexibility on the part of researchers rather different from the kind of thinking involved at a high level of abstraction on the general tendencies or ‘laws of motion’ of capitalist development” (White, 1989: 18). White pleads for a flexible approach with regards to the *focus, level and techniques* of investigation when researchers undertake a study of rural differentiation processes.

This is exactly what we try to do in this PhD. The chapters all reflect on the (potential) impact of the dynamics of change in rural structures upon the differentiation in livelihood profiles at the national and local level. The diversity in focus, level and techniques (see table 5) allows us to look at the overarching theme of this PhD from very different angles, linking livelihood profiles to the wider institutional processes.

We do not claim to give a full comprehensive picture of the differentiation process ongoing. Indeed, White points to the contradictory results of studies in a similar context, depending upon which part of the population distribution is considered. He mentions that “most individual studies can at best hope to illuminate some aspects of differentiation processes, and many such studies need to be available before any fruitful attempt at synthesis can be made” (White, 19989: 29). Indeed this is also what we see in our PhD chapters.

Table 5: An overview of the focus, level and techniques of the PhD chapters

PhD Chapters	Focus of analysis	Level of analysis	Techniques
1. Striving for growth, bypassing the poor? A critical review of Rwanda's rural sector policies	Official policy documents	Macro-level	Analysis of contents of policy documents and reflection upon potential impact
2. 'Reengineering rural society?' The visions and ambitions of the Rwandan elites	Rural policy makers' perspectives	Macro-level	Analysis of discourse of policy makers
3. Rural poverty and livelihood profiles in post-genocide Rwanda	Peasants' livelihoods based upon 'objective' measures	Meso-level (based upon micro-level data but findings are relevant for the meso-level and cannot capture complexity at micro-level)	Quantitative analysis based upon nationally-representative sample
4. The inverse relationship between farm size and productivity in rural Rwanda	Peasants' potential to use land as a productive resource based upon 'objective' measures	Meso-level (based upon micro-level data but findings are relevant for the meso-level and cannot capture complexity at micro-level)	Quantitative analysis based upon nationally-representative sample
5. Views from below on the pro-poor growth challenge: The case of rural Rwanda	Peasants' livelihoods based upon subjective perceptions, potential for social mobility, and capacity to participate in so called pro-poor growth strategies	Micro-level, case study approach focusing upon 6 local settings	Qualitative analysis based upon focus group interviews

The first two chapters provide an analysis of the policy makers' perspective with regards to rural development. The first chapter is titled: **“Striving for growth, bypassing the poor? A critical review of Rwanda's rural sector policies”**. It studies Rwanda's current rural policies, which aim to modernise and ‘professionalise’ the rural sector. The chapter points to the risk for currently formulated rural policy measures to be at the expense of the large mass of small-scale peasants. A second chapter, **“Reengineering rural society: The visions and ambitions of Rwandan elites”** illuminates a general trend of policy makers misplaced belief in the potential to socially engineer rural development. Based upon interviews conducted by the author in mid-2007, the chapter focuses upon three engineering ambitions: 1) policy makers aim to transform the agricultural sector into a professionalised motor for economic growth, with little place left for traditional smallholder agriculture; 2) policy makers have a vision on how to upgrade the portrait of rural life by inserting ‘modern’ tools and concepts into the local realities, while hiding true poverty and inequality; 3) policy makers hope to transform Rwanda into a target-driven society from the highest up to the lowest level. The chapter takes the necessity of rural development and

poverty reduction as the bench mark to point to the (potential) dangers, flaws and shortcomings of the reengineering mission of Rwandan policy makers.

Both first two chapters thus largely focus on policy issues. We should however acknowledge the limitations of our policy analysis. The sample of relevant policy makers for our discourse analysis in the second PhD chapter includes authorities at the national and district levels. Indeed, at this point, the district level is the main decentralised level responsible for policy implementation. But in the near future, the sector level's importance will increase. Including local authorities of sector and cellule levels would have enriched the analysis.

The next two chapters study the livelihoods of rural peasants on the basis of a quantitative approach. The third chapter, "**Rural poverty and livelihood profiles in post-genocide Rwanda**", identifies different livelihood profiles that prevail in the Rwandan rural post-conflict context. By means of exploratory tools such as principal component and cluster analysis, it combines variables that capture natural, physical, human, financial and social resources in combination with environmental factors to identify household groups with different asset portfolios and varying livelihoods. The chapter also explores how household groups differ with regards to the intra-cluster incidence of poverty. Finally, for a subsample, it looks in detail at how the identified household clusters perceive changes in their living conditions between 2001 and 2004. The data were gathered at the micro-level; however, the analysis captures only aggregate trends in its identification of relevant peasant types. The analysis allows to identify policies for poverty alleviation that take into account the different livelihood profiles and pathways in the rural setting. But the quantitative analysis does not perform well in capturing class differentiation processes at the local level.

The fourth chapter focuses particularly upon the land resource, using a nationally representative database to analyse "**The inverse relationship between farm size and productivity in rural Rwanda**". Policies aiming for agricultural modernisation concentrate on promoting regional crop specialisation and monocropping. This chapter, however, identifies the strong inverse relationship between farm size and land productivity under the current land management system; also when taking into account farm fragmentation, crop diversification, frequency of multicropping and household size. In addition, increased farm fragmentation and a higher frequency of multicropping seem to have a positive (although modest) impact upon productivity. This seems to suggest that small-scale peasants' risk-cooping strategies not only protect them against risks but also pay off in terms of productivity. The chapter's findings are formulated at an aggregated meso level and are relevant for national rural

policies. But the methodology can not capture the complex patterns of land use and land distribution within local settings.

For these quantitative chapters, an important remark has to be made with regards to their external validity. Indeed, both chapters base their quantitative analysis upon a sample that is nationally-representative for the rural setting. The sampling procedure was based on a random selection within the administrative listings of households in the cellules (pre-2005 administrative system); and weights were used to counter remaining imbalances. But although most households have some kind of shelter (however poor the quality, and regardless whether it is their own property), the sample excludes an extremely poor category of homeless households. In addition, the sample also excludes actors relevant to the rural setting at the other side of the population distribution. It does not take into account those urban entrepreneurs that occupy large plots of land in the countryside. The maximum surface of land available to the households included in the sample is around 10 hectares. Indeed, such farms are massive in comparison to the average farm size in Rwanda of 0,71 hectares (2000 figures). But we should consider that such farms are still small when compared with the cattle farms in Umutara of 30 up to 100 hectares, with large farms in the surroundings of Kigali, or with private investors who may occupy several thousands of hectares. The owners of such large-scale professional farms typically do not live in the rural setting, but manage their properties from their urban residence⁷. This sample flaw is problematic from a political economy perspective as it excludes a group of actors that – although small in absolute numbers – is relevant for the Rwandan rural economy. Given that the richest ‘rural’ actors are not included as a reference base, this may give a false image of the relative position of the poor in comparison to the “better-off”. We are fully aware of this problem, although we marginally try to compensate for their absence in the quantitative sample, by selecting a case study where some large-scale farms are present in the final chapter of the PhD.

Indeed, the final chapter, **“Views from below on the pro-poor growth challenge: The case of rural Rwanda”**, is complementary to the previous two through its qualitative approach to focus on peasants’ livelihoods and rural class differentiation at the micro-level. Based on micro level field data, we analyse local peasants’ perceptions of the characteristics and degree of poverty for different locally-present socio-economic categories. This results in classifications that are based upon livelihood strategies (self-subsistent versus market-oriented peasants, agricultural and non-agricultural wage labour, ...), and that relate much closer to local level dynamics

⁷ We have some examples of this in PhD paper 5 where in setting A, professional farmers own property while living in Kigali.

(in comparison to the third and fourth chapter). We look at the opportunities and constraints of those categories, which are crucial determinants for their capacity to participate in growth strategies and for their social mobility potential. Further, we look at how the peasant categories perceive specific policy measures included in the Rwandan government's 'pro-poor' agricultural strategies, devoting a lot of attention to land-related policies .

Whereas the two quantitative chapters capture trends in rural livelihoods and land productivity, and can claim representativity and external validity (although remarks on this follow below), they fail to capture local-level dynamics. The final chapter does provide insights into class (trans)formation processes at the local level, but can by no means claim validity beyond these local settings. We consider both approaches as crucial for a comprehensive understanding of the process of rural change. The flaws of one methodology are outweighed by the strengths of the other.

The **concluding chapter** of the PhD is a reflection on the insights of the various PhD chapters with regards to the process of rural change and class (trans)formations in contemporary Rwanda. It looks at the causes, processes, mechanisms, contexts and symptoms of the rural differentiation process. It pleads for an alternative rural policy that promotes broad-based agricultural growth with a key role for small-scale peasants, in combination with an activation of the potential of (nearly) landless rural agents in the local off-farm sector.

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Annex: A short methodological note

The PhD is written in paper form: each chapter is connected to the overarching theme of the PhD, but also stands on its own. As a result, the chapters in this PhD do not have one overarching conceptual framework. They each refer to the literature, relevant for the particular topic looked at in the chapter. Various parts of the document draw concepts and approaches from development economics and institutional economics. But chapters also borrow concepts from other disciplines such as sociology, anthropology, and political sciences.

Likewise, the PhD chapters do not share a single methodology. Various parts of the PhD engage in a quantitative analysis of nationally representative data. Other parts draw conclusions from in-depth qualitative field research in particular local settings. Some of the chapters analyse macro-level tendencies; others look with a micro-lens at particular case studies. We consider both approaches as relevant and complementary for a more comprehensive understanding of the process of rural change. The flaws of one methodology are outweighed by the strengths of the other. Indeed, as mentioned by Scoones *et alii* (1996: 10), “models of change that over-simplify, standardise and aggregate in order to ease computation can be highly misleading; instead a methodological pluralism that includes qualitative and quantitative methods is seen to be most appropriate for increasing our understanding of complex, diverse and risk-prone agricultural systems”. This quote illustrates the complementarity of macro- and local-level analysis, a mix of quantitative and qualitative information, of nationally representative data and very particular case studies, of policy makers’ and peasants’ perspectives upon rural development; all to understand the various aspects of the process of agrarian change and rural class (trans)formation in rural Rwanda.

A short overview of the various data sources used in the chapters of this PhD:

Household Living Conditions Survey (2001) – secondary information

The Household Living Conditions Survey (EICV) (1999-2001) was organized by the Statistics department of the Rwandan government. For the sampling procedure, 3 main strata were identified: urban Kigali, other prefecture’s urban centres, and prefecture’s rural sites. This last stratum was further stratified into 11 sub-strata corresponding to each rural prefecture. For urban Kigali, 80 clusters were selected; for other urban centres, 50 clusters were taken all together. In each urban cluster, 9

households were randomly selected. For each of the 11 rural strata, 40 cellules⁸ were selected with probability proportional to size (measured by the number of households in administrative records). In each cellule, 12 households were randomly selected to be included in the sample. In total, the EICV sample counts **6450 households** of which 1170 live in urban neighbourhoods and 5280 households live in rural areas. The survey gathered data on various themes, such as education, health, time use, migration, housing, agricultural production, incomes, expenses, non-agricultural activities, money transfers, and credit facilities. The results were used to compose a descriptive national poverty profile, serving as a research background to Rwanda's first PRSP.

Food Security Research Project agricultural survey in 6 rounds (from season A in 2000 until season B in 2002) – secondary information

The Food Security Research Project, a joint initiative of Michigan State University, the Ministry of Agriculture and USAID, used a sub sample of the EICV survey that included 12 out of 40 EICV-sampled rural villages for each of the 11 prefectures, in total **1584 households**. In general, the FSRP sample retained the same households as included in the EICV sample, and replaced those non-available with households from the EICV's reserve list. The FSRP survey focused on the collection of data on agricultural production for 6 seasons between 2000 and 2002, next to information on household history (death, members that left, ...). Compared to the EICV data, the FSRP data are more reliable for variables regarding land and livestock ownership, given the effort put into correct measurement and follow-up on these data.

Livelihoods survey (2004) – primary information

In the frame of a BVO (Beleidsvoorbereidend onderzoek), we have done a survey in a sub sample of the combined EICV – FSRP sample in 2004 (June – September). From the FSRP sample, a subsample was identified, including **292 households** of two provinces (based upon the administrative system before 2005), Gikongoro and Gitarama to gather data on 'livelihood strategies and social relations' of rural households. This survey included questions from the EICV and FSRP surveys, gathering information on the evolution of household's living conditions over the 2001-2004 period. But in addition it focused on livelihood assets and strategies, the

⁸Since the administrative reform (2005), there are six administrative levels: the national level, the province level (4 + City of Kigali), the district level (30), the sector level (*imirenge*) (416), the cell / cellule level (*akagari*) (2.150), and the village level (*umudugudu*, plural: *imidugudu*) (14975). The *umudugudu* is the administrative level that corresponds with one or a few hills. In many cases in the rural setting, the *umudugudu* boundaries correspond with what was called 'cellule' before the administrative reform in 2005.

household head's perceptions on the living conditions of his/her household, and the household's social networks within their social environment.

Exploratory research (2004) – primary information – semi-structured interviews with household heads

Next to quantitative data for 292 households, we gathered qualitative data from semi-structured interviews for a sub-sample of the livelihoods survey, including 68 household heads. The interviews focused on the difficulties that household heads reported in securing their livelihoods and on how they are organised in local associations. In several of these interviews, including both male and female household heads, interviewees made reference to land related conflicts. A second topic that was widely discussed is the way local associations are organised, who gets access, who is excluded, ... These interviews provided us with crucial information to further refine the settings later included in further qualitative research (see below).

Exploratory marshlands research (2006) – primary information – semi-structured interviews with key informants

In February 2006, we conducted field research in five rural cellules (1 in Gikongoro, 4 in Gitarama), each of them located nearby a swamp. The cellules were chosen based upon information gathered through the exploratory research in 2004. The main goal of the 2006 research was on the one hand to get a view on the Ubudehe development projects⁹ in each cellule. On the other hand we aimed to gather insights on the diversity in (potential) impact of the swampland valorisation policy at the local level. For each setting, we interviewed two to four key persons appointed as Ubudehe coordinators at the cellule level. In nearly all cases, these were somewhat better-off persons, able to read and write, and some even speak a bit of French. The selection of interviewees certainly inserted a bias in our data collection, given that the information provided by the better-off farmers differed from 'realities' as perceived by poorer categories. Our interviewees were for example often among those profiting from the marshland valorisation process. Nonetheless, the information provided a good exploratory basis to prepare the in-depth livelihoods and swampland research one year later.

⁹ The Ubudehe project is a method for community action planning at the cellule level (meaning the previous administrative system defining cellules – in the new administrative system cellules have become larger). The local population was asked to rank the problems resulting in poverty, and the survival strategies to deal with them. As part of the exercise, the local communities defined socio-economic categories according to degrees of poverty, and then ranked all households according to their status. They received funds for a local development project defined at the community level.

In-depth livelihoods and swampland research (2007) – primary information – semi-structured focus group interviews with relevant socio-economic categories in 6 settings

Between May and July 2007, we did intensive field research in six local settings (of which 5 were the same as those included in the qualitative research of 2006) in the Southern province of rural Rwanda. The selection of the six imidugudu¹⁰ was based on the aim to have variation both in terms of “average wealth” (very poor to quite well-off), as in terms of location (very remote to very central). The research focussed upon two topics:

Topic 1: We gathered qualitative data to analyse *the poverty and inequality problem from a local perspective*. The main aim of this research was to be able to enrich/nuance/complement the quantitative data already available, with qualitative observations related to the perceptions of the local population on different forms and degrees of poverty. We departed from the Participatory Poverty Mapping conducted by the Rwandan government in all Rwandan cellules. The research aimed to determine how people perceive poverty, up to which extent mobility between categories is possible or likely, and up to which extent perceptions on characteristics of poverty and mobility differ between different categories. Also, the research aimed to identify the institutional constraints that the different social categories are facing in improving their living conditions. Finally, it considered the opinions of different categories of peasants with regards to rural policies: the adoption of monocropping, regional specialisation of crop types, consolidation of plots to obtain larger land areas on which more modern techniques can be adopted, registration of land titles, the stabilisation of livestock, the privatisation of markets, and the involvement of the private sector as investors in primary activities.

Topic 2: Further, we researched *the impact of new policy initiatives on the local level, focusing on the case of the swampland commercialisation policy of the Rwandan government*. Each of the selected imidugudu was located close to a swampland area, where the Rwandan government implemented its new policy to make swamplands more productive. The research aimed to capture the redistribution process of swampland soils among local and less local actors. Such process had a direct impact upon the living conditions and the inequality between different farmer groups. Overall, we explored ‘the case of the swamplands’ to get a better image of the impact of external policy decisions on local power structures, on local institutions, and on the distribution of wealth.

¹⁰ By then the administrative level, previously referred to as ‘cellule’ had been renamed to ‘umudugudu’.

Policy-oriented research (2007) primary information – semi-structured interviews with key persons involved in rural policy making

In the same May – July 2007 period, we also interviewed key persons closely involved in the elaboration of poverty reduction, agricultural and land policies. A first objective was to get an update on rural development policies and new initiatives. Secondly, we wanted to get a clear view on who the key persons in rural development are, both within the government, within donor agencies and within civil society agencies. A third objective was to get an idea of how they perceive the new agricultural and land policy, and how they assess the likely impact of those policies upon agricultural growth and overall poverty reduction (which is not the same thing). A fourth objective was to get an impression of how the rural economy would be embedded in the new EDPRS. The interviews conducted with Rwandan policy makers, provided a rather complete picture of the rural development discourse within the Rwandan government. Interviewed individuals included high and lower ranking officials of the three ministries centrally engaged in rural development: the EDPRS department (Economic Development and Poverty Reduction Strategy) within the Ministry of Finance and Economic Planning, the Ministry of Agriculture and Animal Resources, and the Ministry of Land, Environment, Forests, Water and Mines.

Land quality dataset developed by E. Van Ranst and A. Verdoodt from the Laboratory of Soil Science, Department of Geology and Soil Science, Ghent University – secondary information

In one particular chapter (PhD chapter 5), we analyse (and confirm) the inverse relationship between farm size and productivity. In this analysis, we include a variable accounting for soil quality. The soil quality index has been calculated for 125 settings (cellules) included in the EICV-FSRP datasets, based on the soil profile database and soil map of Rwanda at a scale of 1 : 50.000 (Imerzoukene and Van Ranst, 2001). We also included this variable in the quantitative analysis of rural livelihood profiles (PhD chapter 3). We thank Prof. Van Ranst and Dr. Verdoodt to make these data available for the particular settings in which we did research.

Chapter 1

Striving for growth, bypassing the poor?

A critical review of Rwanda's rural sector policies

By An Ansoms

Note: This chapter is based upon: Ansoms, A. (2008A) "Striving for growth, bypassing the poor? A critical review of Rwanda's rural sector policies", *Journal of Modern African Studies* 46 (1): 1-32.

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Key words: pro-poor growth, agriculture, land rights, poverty, inequality, post-war reconstruction, Rwanda, Central Africa

Abstract

This chapter studies the Rwandan case to address some of the challenges and pitfalls in defining pro-poor strategies. The chapter first evaluates the extent to which the agricultural sector has been a pro-poor growth engine. It then studies Rwanda's current rural policies, which aim to modernise and 'professionalise' the rural sector. There is a high risk that these rural policy measures will be at the expense of the large mass of small-scale peasants. This chapter stresses that the real challenge to transform the rural sector into a true pro-poor growth engine will be to value and incorporate the capacity and potential of small-scale 'non-professional' peasants into the core strategies for rural development. The lessons drawn from the Rwandan case should inspire policy makers and international donors worldwide to shift their focus away from a purely output-led logic towards distribution-oriented rural development policies. In other words, the challenge is to reconcile efficiency in creating economic growth with equity, and perhaps, to put equity first.

0. Introduction

At the dawn of the new millennium, the commitment of the international community to the millennium development goals has placed the fight against poverty as the top priority on the respective agendas of international donor and recipient countries. Concurrently, international financial institutions (IFIs) have launched the “Poverty Reduction Strategy” program (PRSP). This new, country-led, poverty-alleviating framework replaced the previous system of Structural Adjustment Programs (SAPs). With over fifty countries having reached the PRSP implementation phase, the strategy has become the standard framework for development strategies. It also functions as an access gate to international financial aid (f.e. Poverty Reduction and Growth Facilities, and debt alleviation under the HIPC¹¹ initiative).

Rwanda entered the PRSP process in 2000. The government first elaborated an interim PRSP that was later transformed into the final PRSP-1 document. The strategy was endorsed by the IFIs in 2002, and implemented from 2002 until 2005. IMF joint staff assessments largely appraised the Rwandan policy document as well as PRSP progress reports describing the program’s implementation process (IMF, 2004A; IMF, 2005; IMF, 2006). In early 2006, the Rwandan government began to elaborate a second PRSP policy. This strategy, the “Economic Development and Poverty Reduction Strategy” (in this chapter referred to as EDPRS or PRSP-2) was finalised in 2007 and will be implemented over the period 2008-2012.

The agricultural sector is considered crucial in all of Rwanda’s strategic documents on poverty reduction. One of the “six pillars” in the Vision 2020 document was defined as the “transformation of agriculture into a productive, high-value, market-oriented sector with forward linkages to other sectors” (GoR, 2000). PRSP-1 also identified rural development and agricultural transformation as one of the six pillars for poverty reduction (i.e. “actions that most directly affect poor peoples’ ability to raise their incomes”- GoR, 2002: 35). Further, each PRSP progress report has devoted a special section to progress in this sector.

This is hardly surprising given that agriculture employs almost 90% of Rwanda’s active working population and represents about 45% of its GDP. Moreover, it is in the rural environment, rather than in urban areas, that poverty is more prominent and severe. Based on a national poverty line of 250 Rwandan Francs (1,22\$ PPP, current 2006 exchange rate) per adult per day, 61,7% of the rural population is considered

¹¹ HIPC stands for heavily-indebted poor countries.

poor (2006 figures). The incidence of urban poverty is considerably lower, i.e. 10,4% in Kigali city and 17,8% in other towns) (UNDP, 2007). In absolute numbers, about 4,93 million of the 5,38 million poor live in rural areas (GoR, 2007A).

In the first part of this chapter, we evaluate up to which extent the agricultural sector has been a pro-poor engine in PRSP policy¹². In the second part, we analyse the current agricultural and land policies that support rural development. These policies should serve as a blueprint for the EDPRS program in which the rural sector will be at the fore. A third part looks at how rural policies will affect the welfare and bargaining positions of different types of farmers. In the concluding part of the chapter, we question whether there is, indeed, an unavoidable trade-off between output growth and equity considerations.

1. The agricultural sector as a growth engine in PRSP policy

Over decades, development theory has been influenced by the presumption of the need for the structural transformation of an economy to achieve modern economic growth. As stated by Kuznets¹³, “(these) major aspects of structural change include the shift away from agriculture to non-agricultural pursuits ... with a corresponding change in the occupation status of labour” (i.e. “changes in the distribution of the labor force between agriculture and the non-agricultural production sectors” – Kuznets, 1973: 248). Based on Western experience, less-developed countries were pushed to strive for economic emancipation through the modernisation of their own economies with a decreased reliance on the primary sector (i.e. agricultural activities).

However, the African experience has been characterized by decades of unfruitful attempts to shift away from the agricultural sector¹⁴. More recently, with the “fight against poverty” at the forefront of the international agenda and due to high rural poverty rates, the need for rural-led development and economic growth has resurfaced in popular development theory (see Mwabu and Thorbecke, 2004). As a result, appreciation of the agriculture sector’s importance has returned, though the continued

¹² For a broader evaluation of Rwanda’s PRSP strategy, see Evans *et alii* (2006).

¹³ Simon Kuznets (1901-1985) was a renowned economist whose study on the evolution of inequality over time resulted in the defining of the “Kuznets curve”. Kuznets’ theory state that inequality increases over time up to a point where a critical income level is reached. From then onwards inequality decreases with rising income levels. The Kuznets curve has the shape of an inverted U with economic development on the X axis and inequality on the Y axis.

¹⁴ In the early 1970s, agriculture represented around 20,9% of GDP in sub-Saharan Africa; by 2002 this has decreased slightly but the relative importance of primary activities still amounts to 17,7%. Moreover, the primary sector counts for 40% or more of total GDP in over ten sub-Saharan African countries, and it is the most important sector in terms of employment in many more sub-Saharan African countries (World Bank, 2006).

need for households to diversify their incomes by shifting away from pure subsistence agriculture towards other activities, both in the farm and non-farm economy, is still recognized (see for example Yaro, 2006; Abdulai and CroleRees, 2001¹⁵).

Indeed also Rwanda's PRSP highlights the crucial importance of the rural sector for the country's economic future. The agriculture and livestock sector are presented as "the primary engine of growth", though the document also stresses the importance of finding other new growth engines (GoR, 2002: 30). PRSP-1 projections for agricultural performance were ambitious as "primary growth is predicted to start at 5.2% and accelerate over the period" (GoR, 2002: 75). This estimate corresponded with projections made by Mellor who foresaw 75% of this growth will be due to improved fertiliser use, 16% to more intensive farming, and 9% to the swamp reclamation program (Mellor, 2002A).

However, between 2002 and 2004 agricultural activity stagnated and even contracted (Table 1). These statistics probably underestimate the sector's poor performance, given that estimates provided by the Minagri / Food Security Research Project (FSRP - available only for 2000 – 2002) are significantly lower. The FSRP's statistics seem to be more appropriate for measuring food production than national account data¹⁶ (IMF, 2004B). The most straightforward explanation for contractions in agricultural activities is the impact of poor weather on food production. As mentioned in the PRSP progress report, growth in agricultural output is largely "at the mercy of good weather" (GoR, 2004A: 17). Agricultural growth between 2004 – 2005 again met the PRSP target; however Rwanda was once again affected by bad weather in 2006.

These figures clearly illustrate the failure of the first PRSP strategy to transform the agricultural sector into a stable engine for growth. The (poor) performance might also be due, in part, to weak budgetary commitments to the rural economy, see table 2, where two dominant problems emerge. First, agriculture-related spending represents

¹⁵ Studying northern Ghana, Yaro (2006) opposes the de-agrarianisation thesis by arguing that livelihood adaptation can take the form of both a shift from farm to non-farm activities, as well as an intensification of purely agricultural activities. Abdulai and CroleRees (2001) also study diversification strategies, both in and outside the agrarian sector (f.e. livestock raising and non-farm jobs next to crop raising). They conclude that, in the context of southern Mali, it is mostly the lack of capital, the remoteness index and the lack of education that limit a household's options for diversifying their income portfolio.

¹⁶ Using Minagri / FSRP (Food Security Research Project) data to compute national accounts would have a large influence on overall figures. GDP would, for example, be 13% lower than what is reported by the national account data in the IMF reports for 2000. The agricultural sector would then represent only 35% instead of 44% of total GDP. The IMF report, analyzing discrepancies between both data sources, considers the FSRP data to be more reliable and even suggests that "these differences [between original national account data and FSRP data] are substantial enough to influence the assessment of food security in Rwanda" (IMF, 2004B: 12).

only 2-5% of the priority budget (actual figures) between 2002-2005¹⁷. The share of agriculture-related spending is small in comparison to the financial commitments directed, for example, to tertiary education (around 14% of the 2002-2003 priority budget). These figures indicate how the Rwandan government presents spending posts targeting at the urban elite as pro-poor priority expenditures. A second major problem lies in the low absorptive capacity of the agricultural sector, illustrated by the discrepancy between budgeted and actual spending in 2003 and 2004. It is not surprising therefore that the rural economy did not meet PRSP forecasts.

Table 1: Agricultural growth

	% of total GDP Av. 2001-2004	% growth			
		2001-2002	2002-2003	2003-2004	2004-2005
Agriculture	44,5	15,0	-4,5	1,4	5,8
Of which food crop	37,7	17,3	-4,9	-0,7	7,3
Of which export crop	1,2	4,2	-26,1	48,8	-20,6
Of which livestock	4,0	3,0	3,0	10,3	3,0
Of which fisheries	0,3	1,0	1,0	0,0	0,0
Of which forestry	1,3	3,1	3,0	-0,6	3,0
Total GDP	100,0	9,6	0,7	4,4	6,3

Source: GoR, 2005A: 113. For a recent update, see Ruzindaza, 2006.

Table 2: Agriculture-related priority expenditures

	Act 2001	Budg 2002	Act 2002	Budg 2003	Act 2003	Budg 2004	Act 2004	Budg 2005	Act 2005	Budg 2006	Act 2006	Budg 2007
Priority expenditures as % of total exp.	25,3	32,1	35,8	28,4	30,5	35,6	35,7	32,5	35,9	42,0	49,8	54,2
Tot Priority expenditures (%)	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
- Of which education (%)	62,9	22,9	21,5	21,4	24,8	22,2	24,1	23,8	38,2	39,7	41,3	36,9
-> Of which tertiary (%)	19,7	15,5	14,2	13,3	13,8	12,8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- Of which agriculture (%)	4,6	4,6	5,2	4,7	2,3	3,4	2,2	3,4	4,9	4,7	6,4	11,5

Remark: "Act" stands for actual expenditures, "budg" stands for budgeted expenditures

Sources: Purcell *et alii*, 2005; GoR, 2006B; GoR, 2007B.

There seems to be increased awareness in rural development policies of agriculture's importance as "the pillar for rural development". But is it naïve to assume that growth, *per se*, even when sought in the rural economy would be pro-poor? Growth in the agricultural sector does have a greater impact upon poverty reduction than growth in other sectors (Gallup *et alii*, 2008; Christiaensen and Demery, 2006). Moreover, agricultural growth spills over to other activities in the rural economy (Thirtle *et alii*,

¹⁷ The decreasing relative importance of agricultural expenditures, in comparison to 2002, is the result of a considerable reduction in agricultural spending in absolute terms; but it is also due to an enlargement of the definition of "priority expenditures", with the inclusion of new spending categories unrelated to the rural economy.

2001; Irz *et alii*, 2001). But the impact of agricultural growth on poverty reduction depends upon the extent to which the poor participate in this growth.

One World Bank study (2005) found that the participation of poor rural households in agricultural growth could differ greatly depending upon the local context. They identify several policies that can improve the pro-poor character of agricultural growth, all relating to improving the institutional environment of smaller and poorer producers (f.e. access to markets, technology, risk-coping mechanisms - World Bank, 2005). Other studies emphasize the importance of a relatively equal distribution of assets, particularly land, to achieve an optimal pro-poor growth effect (Ravallion and Datt, 2002; Deininger and Squire, 1998; de Janvry and Sadoulet, 1996). A recent (2006) OECD report highlights the importance of small-scale agriculture, with its potential to create a win-win outcome for economic growth and poverty reduction.

The potential of the economy's sectors to reduce poverty through growth can be measured by comparing the growth elasticity of poverty for each sector. The sector's elasticity multiplied by the sectoral share of GDP gives the participation effect for each sector to overall poverty reduction. Christiaensen and Demery (2006) have estimated both effects for sub-Sahara African (SSA) low-income countries (Table 3, SSA-low income results) from the following equation:

$$\Delta \ln P = \pi_0 + \pi_I s_I \Delta \ln Y_I + \pi_{II} s_{II} \Delta \ln Y_{II} + \pi_{III} s_{III} \Delta \ln Y_{III}$$

where π is the elasticity of poverty of sector I (agricultural sector), II (Industry sector), and III (service sector)¹⁸, s is the share of the sectors in GDP, and $\pi * s$ is the participation effect of the respective sectors.

Similar calculations for Rwanda (Table 3) show that the growth elasticity of poverty for the agricultural sector is low; this means that the correlation between agricultural growth and poverty reduction is limited. For the period 1994-2000, the elasticity is much lower than that of the average SSA, low-income country. Nonetheless, Rwandan statistics for this period are consistent with cross-country findings, to the extent that agricultural growth is correlated with considerably more poverty reduction than growth in the other two sectors (i.e. the secondary and tertiary sectors). However, for the period 2001-2006, the situation seems to have worsened. Though these figures cannot be compared with other Rwandan and SSA statistics (as a different poverty line has been used for the calculations), we can nonetheless observe that the elasticity and participation effect of the Rwandan agricultural sector are very low, even below

¹⁸ The growth elasticity of poverty of the agricultural sector is measured as the ratio between the log average annual change in poverty and the log average annual change in primary GDP per capita.

the levels of the industry and service sectors. The overall correlation of agricultural growth with poverty reduction is extremely weak.

Table 3: Growth elasticity of poverty and participation effect for different sectors

	GDP share (%) (1)*			Growth elasticity of poverty (2)**			Participation effect (1) x (2)**		
	Agr	Ind	Ser	Agr	Ind	Ser	Agr	Ind	Ser
SSA, low-income	32	23	45	-6,22	1,31	-1,09	-1,99	0,30	-0,49
Rwanda 1994-2000 ¹⁹	46	21	34	-0,92	-0,54	-0,29	-0,42	-0,11	-0,10
Rwanda 2001-2006	41	21	38	-0,33	-0,91	-0,46	-0,14	-0,19	-0,17

Remark: "Agr" stands for the agricultural sector, "Ind" stands for the industrial sector, "Ser" stands for the service sector. * GDP shares for Rwanda are based on the average between 1994 and 2000, and the average between 2001 and 2005²⁰. ** The growth elasticity of poverty and the participation effect for Rwanda 2001-2006 are not comparable with the other figures, given that a different poverty line has been used to calculate these figures.

Sources: for SSA data - Christiaensen and Demery, 2006; For Rwandan data: own calculations based on World Bank, 2006; GoR, 2002 and GoR, 2006A.

Overall, the pro-poor impact of agricultural growth over the PRSP-1 implementation period is thus problematic. This can be explained by a low participation of the poorer rural categories in agricultural growth. As we show later in this chapter, there are many institutional constraints that Rwandan small-scale peasants face (f.e. the lack of access to markets, credit and risk-insurance opportunities, fertilisers, etc.). Further, Rwanda is characterised by a high degree of land inequality (Table 4). Moreover, small-scale peasants have been increasingly marginalized in terms of land ownership over the past decades. According to Jayne *et alii* (2003), average land availability has strongly declined for all quartiles between 1990 and 2000, except for the richest. In line with cross-country evidence (f.e. Ravallion and Datt, 2002; Deininger and Squire, 1998; de Janvry and Sadoulet, 1996), the Rwandan example thus illustrates how highly unequal distribution of land holdings contributes to the weakening of the linkage of land-poorer groups to agricultural growth.

Table 4: Land distribution

	Av. land access per hh	Household per capita land access					Inequality		
		Quart 1	Quart 2	Quart 3	Quart 4	Av.	Gini 1	Gini 2	Gini 3
1984	1,20	0,07	0,15	0,26	0,62	0,28	-	-	-
1990	0,94	0,05	0,10	0,16	0,39	0,17	0,43	0,43	0,41
2000	0,71	0,02	0,06	0,13	0,43	0,16	0,52	0,54	0,54

Remark: Gini 1 is defined in terms of land per household, Gini 2 in terms of land per capita and Gini 3 in terms of land per adult.

Source: Jayne *et alii*, 2003: 262.

¹⁹ The poverty headcount data should be approached with caution. They are based upon a series included in GoR 2002, based upon crude estimates of the World Bank.

²⁰ Data on the GDP division over primary, secondary and tertiary sectors – necessary to calculate the total value added of the agricultural sector – were not available for 2006.

2. Transforming the rural sector: New policies for achieving agricultural growth

The previous analysis highlights the importance of evaluating poverty combating and particularly rural sector policies on both their growth-enhancing and poverty-reducing character. In this section, we therefore look at the most recent Rwandan rural policy documents.

2.1 The agricultural policy

Current Rwandan agricultural policy (the National Agricultural Policy or NAP) was elaborated and then operationalized in the 2004 Strategic Plan for Agricultural Transformation (SPAT). Both documents serve as blueprints for the elaboration of EDPRS policy.

The NAP's global objective is "to create conditions favourable to sustainable development and promotion of agricultural and livestock produces, in order to ensure national food security, integration of agriculture and livestock in a market-oriented economy and to generate increasing incomes to the producers." (GoR, 2004A: 11). This policy outline has been translated into action plans in the SPAT document, which are to be realised over a 4-year period, starting with a pilot phase in 2005 and then followed by a 3-year implementation period. It aims to transform the agricultural sector from a subsistence production orientation towards a professional, commercial and competitive economic activity. The SPAT document (Table 5) focuses on 4 priority programs subdivided into seventeen sub-programs (GoR, 2004B).

On different occasions, SPAT refers to its mission to improve the living conditions of the rural poor by guaranteeing that "different categories of agricultural farmers, especially the most vulnerable, benefit from the economic growth that is being advocated" (GoR, 2004B: 7). However, of the seventeen sub-programs only one (SP16 – food security, management of risks and vulnerability) has a clear pro-poor character. This sub-program focuses on reducing food and nutritional deficits, reducing vulnerability in food deficit zones and of population groups affected by this, and on creating massive employment through labour intensive works targeting vulnerable categories.

There seems to be a clear ambition to satisfy the population's food needs with national production. However, the approach advocated focuses on the supply side by striving for maximum output growth, instead of concentrating on how vulnerable

groups will take part in creating this growth and will thus acquire the necessary purchasing power to access food supplies. Little attention is given to preventing those processes or events that increase the economic vulnerability of these peoples' lives.

Table 5: SPAT strategy and budgetary priorities

<i>As % of total SPAT budget</i>	2006	2007 est.	2008 est.
TOTAL	100,0	100,0	100,0
P1: The intensification and development of sustainable production systems	39,3	38,8	38,3
SP11: Sustainable management of nat. resources - conservation of water and soils	0,7	0,6	0,5
SP12: Development of integrated livestock systems, agro-sylvo-pastoral production	8,8	7,7	7,0
SP13: Marshland development	0,8	0,7	0,6
SP14: Irrigation development	0,2	0,2	0,2
SP15: Supply and use of fertilizers and mechanisation	28,8	28,6	29,1
SP16: Food security, management of risks and vulnerability	1,2	1,1	1,0
P2: Support to professionalisation of producers	21,1	21,9	23,6
SP21: Promotion of farmers organizations and strengthening of producers capacities	3,3	2,9	2,6
SP22: Reform of proximity services to producers and rural innovation	0,8	0,7	0,6
SP23: Promotion of research for agriculture and livestock development	16,9	18,3	20,3
SP24: Rural financial systems and agriculture credit development	0,1	0,1	0,1
P3: Promotion of commodity chains horticulture - development of agribusiness	9,1	11,3	11,6
SP31: Creation of a conducive business environment and enterprise promotion	0,8	0,7	0,6
SP32: Promotion and development of commodity chains and horticulture	0,7	0,6	0,6
SP33: Transformation and competitiveness of agricultural products	7,6	10,0	10,4
SP34: Rural support infrastructures	0,0	0,0	0,0
P4: Institutional development	30,6	27,9	26,5
SP41: Management support	27,0	24,9	23,8
SP42: ICT development and coordination in the agricultural sector	2,6	2,1	1,9
SP43: Planning, coordination, monitoring and evaluation of the agricultural sector	1,0	0,9	0,8

Source: Rutagwenda, 2006 (an earlier indicative budget was published in GoR 2004B).

Also problematic is the conceptualisation of the term 'vulnerable groups'. This term appears in both SPAT and the PRSP to relate to female or child-headed households, genocide survivors, and demobilised / resettled households (GoR, 2002; GoR,

2004B). This interpretation, based on gender or war-related identities, is unidimensional and disregards the multiple dimensions of vulnerability in the rural context. As a result, there is no effort to identify other vulnerable groups (f.e. nearly landless peasants), their current challenges and needs, and how rural development strategy might impact or improve their living conditions.

The remainder of the SPAT document focuses on agricultural modernisation, intensification, professionalisation and enterprise development. Indeed, several of these strategies could potentially have a pro-poor impact, but all depends upon how they are implemented. Unless small-scale peasants are directly targeted to facilitate their participation in these strategies, they will be unable to play a pronounced role in the Rwandan government's aim to transform the primary sector into a growth engine. Growth is expected to emerge from two sources, "those which are linked to export potential within the commodity chains and those which are related to internal market development" (GoR, 2004B: vii). The commodity chains to be promoted include maize, rice, and traditional export crops such as tea and coffee, exactly the crops where SPAT foresees a major private sector role (GoR, 2004B: 20-21). SPAT also puts effort into developing integrated livestock systems and exploiting opportunities for agribusiness (f.e. fruit processing enterprise) (GoR, 2004B: 39).

The SPAT strategies seem to be tailor-made for larger farmers whose farm structure and risk-coping abilities allow them to invest in new, high-potential production systems. However, access to these modernised and professionalised techniques seems less straightforward for risk-averse small peasants. The SPAT document reflects two somewhat different views of smallholders' capacities to transform their agricultural production systems. Some parts recognise the constraints that small peasants face. The document, for example, refers to the lack of credit²¹, and the inability of smallholders to insure themselves against shocks and setbacks. However, it does not develop a strategic plan to assure access of these small-scale peasants to the modernised production techniques that rural policy makers promote. Other parts of the document mention the ignorance and resistance of peasants to adopting recommended productivity-enhancing measures that go beyond traditional subsistence farming (f.e. see GoR, 2004B: 6,17). As such, their lack of capacity to embrace 'modernised' farming is attributed to a 'wrong mentality' problem, a view that disregards the institutional barriers these peasants face.

²¹ Less than 2% of total credits allocated in 2003 go to the agricultural sector. Only 8% of those loans concern amounts less than 20.000 Rwf (US\$ 25). Small farmers are unlikely to borrow more than this amount (GoR 2004B).

In fact, Rwanda's rural policy has the ambition to reduce the agriculture-dependent population to 50% by 2020, considerably less than today's 87% (GoR, 2004A; GoR, 2004B). The plan foresees that a growing primary sector will then "create progressive development of secondary and tertiary sectors in rural areas, which could help create employment outside agriculture" (GoR, 2004B: 59). The land policy takes it further, "... the Rwandan family farm unit is no longer viable. ... The re-organization of the available space and technological innovations are necessary in order to ensure food security for a steadily and rapidly increasing population" (GoR, 2004C: 16). This process is described by Alison Des Forges as the government's ambition to "winnow out the chaff" (Des Forges, 2006).

SPAT, in terms of budgetary commitments, also mentions how "allocation of government financial resources will be done with priority towards most competitive actions and productions" (GoR, 2004B: viii). This objective is translated into budgetary planning (Table 5). The 'pro-poor' sub-program (SP16) represents only 1% of the total SPAT budget, clearly not the first priority in financial terms. Next to one-quarter of the budget allocated to management costs, the top priorities for the coming years are the promotion of fertilisers and mechanisation, and the promotion of research for agriculture and livestock development. The main objective of the fertiliser strategy is to increase chemical fertilizer use from 10 to 42 kg per hectare per annum over the next five years, which could, indeed, also reach small-scale peasants. However, a further in-depth analysis of constraints on fertiliser use is necessary. By putting the blame on peasants' supposed ignorance regarding the profitability of fertiliser use, other institutional barriers are ignored (f.e. their lack of purchasing power, the limited or non-availability of access to credit and insurance mechanisms to overcome setbacks, etc.).

2.2 The land policy and land law

The recently-adopted land policy and law show a similar commitment in favour of competitive and commercial farmers. The land law (GoR, 2005B) was adopted in 2005²² after a long process of drafting and negotiation, and seeks to formalize land rights through official titling. During the elaboration phase of the land law, the PRSP stated that "the design of the land policy to encourage security of tenure is central" (GoR, 2002: 36). The new land law aims to break with a past of informal land

²² Its full name is the *Organic Law determining the use and management of land in Rwanda* (N° 08/2005 of 14/07/2005, GoR, 2005B). It was published on 15 September 2005 in the Official Gazette of the Republic of Rwanda. A previous version of the land law and policy was also summarised in Rwanda's Poverty Reduction Strategy Paper (GoR, 2002).

arrangements and transfers built upon customary traditions. Although customary land rights are recognized as a basis for acquiring official rights, land registration is made compulsory; and in the future, land arrangements are to be regulated through formal legal procedures (article 26). The Rwandan government hopes that secure official land titles will encourage increased investment in land conservation and quality improvements (GoR, 2004C: 24). However, in line with the new law, official titles can only be acquired through a formal procedure of registration with proof in the form of a certificate. More privileged groups have a clear advantage to use this as an additional tool in their "struggle for land". Studies that largely praise the beneficial effects of official land registration recognize the problem of unequal access to information in the registration process, "the introduction of a modern registration system to replace a customary (and typically less formal) system may provide opportunities for 'land grabbing' by those who are better informed, are more familiar with formal processes, and have better access to officials and financial means to undertake procedures for registration" (Feder and Nishio, 1998: 38).

The land law further aims at solving the problems of land fragmentation and unproductive use. Fragmentation of land holdings has since long been conceived as a major problem by Rwandan policy makers. The previous land policy (dating from March 1976) aimed to counter this by only allowing land transfers (with specific permission) when the seller's property remained at a minimum of two hectares, and when the buyer had no more than two hectares²³ (article 2-3 of the Décret-Loi n°09/76, March 1976). Given that average land holdings in the 1970's were around 1.4 hectares per household, this policy aimed at a redistribution of land by restricting transfers from the land-poor to the (relatively) land-rich. The question is, however, to what extent this policy was followed. The informal land market, which emerged during the period to arrange the transfer of land titles, even with written documents used as validation, almost never followed formal policy prescriptions (Platteau, 2000).

The new land policy tackles the problem of land fragmentation in a very different way. Article 20 prohibits dividing land parcels of one hectare or less. This rule, if implemented, is a major constraint for the majority of peasant households given that average landholdings are only 0,71 hectares (2000 figures, see Jayne *et alii*, 2003). For the division of plots between one and five hectares, the owner has to apply to the

²³ The law (Décret-Loi n°09/76, March 1976) states, " nul ne peut céder ses droits par la vente, si ce n'est par une autorisation préalable et écrite du Ministre ... " (article 2), and, "le Ministre ayant les terres dans ses attributions ne peut accorder l'autorisation prévue ... que pour autant que: (1) le vendeur justifie garder à sa disposition une superficie minimum de deux hectares; (2) l'acheteur présente un motif valable d'acquisition, notamment n'être pas en possession d'un terrain d'une superficie de plus de deux hectares ... " (article 3).

land commission for authorization. However, this rule does not apply to cases where authorities “approve the consolidation²⁴ of small plots of land in order to improve land management and productivity” (article 20).

The Rwandan government thus aims for the consolidation of small parts of land into larger plots, and for the consolidation of land into the hands of fewer, more efficient farmers. The land law, for example, sets no upper limits on the maximum size of landholdings. A ceiling of 50 hectares foreseen in an earlier version of the new land law did not appear in the final approved version. The objective behind this choice appears clear: create economies-of-scale. Larger plots would become suitable for more modern intensive techniques. Larger farms could be managed more productively and become professional partners with agribusiness concerns. (In section 3, we will question these assumptions.)

A major question is whether land fragmentation is indeed a problematic issue in the Rwandan context. Pre-war evidence for Rwanda showed that land fragmentation could be advantageous for farmer’s risk management. Based on this finding, Blarel *et alii* questioned the beneficial impact of consolidation on land productivity and even concluded that concentration-promoting programs could have a negative impact on farmer’s well-being (Blarel *et alii*, 1992)²⁵. Likewise, Pottier challenges the usefulness of consolidation strategies, which he sees as a potential source for future land conflict (Pottier, 2006).

Taking this into consideration, will the prohibition to divide plots of less than one hectare have serious consequences for the majority of Rwandan peasants? The average total land surface occupied by rural households is well below one hectare (in 2000, an average of 2,44 plots). By 2002, land holdings had become even more fragmented (calculations based on Food Security Research Project agricultural dataset, 2000-2002). By the letter of the law, small-scale landholders in times of setbacks would only be allowed to sell their integral plot so as to avoid further land

²⁴ Land consolidation is defined by the land law as, “a procedure of putting together small plots of land in order to manage the land and use it in an efficient uniform manner so that the land may give more productivity” (Organic Law N° 08/2005 of 14/07/2005, article 2).

²⁵ The findings of Blarel *et alii* (1992), applied to the cases of Ghana and Rwanda, were countered by other empirical evidence on South Asia (see f.e. Niroula and Thapa, 2005). Wu *et alii* advanced three main sources for productivity improvements from land consolidations. First, concentration of plots should facilitate land quality management (through irrigation and use of machinery). Further, concentration should counter a lot of secondary costs related to cultivation, for example: labour time, fencing costs, transportation, supervision, ... Finally, land concentration might also allow for a change in crop choice allowed by land improvements (Wu *et alii*, 2005). These same mechanisms might be applicable to Rwanda if consolidation policies will set root. However, the benefits will mostly go to the better farmers who are less risk-averse (reliance on fewer plots entails less risk spreading) and better able to invest in the available technology appropriate for larger land holdings.

fragmentation. Further, their chances of buying back land would be diminished, as they would either have to buy an adjacent plot or a plot of one hectare in total.

The new land law includes another ‘guarantee’ for sound land management by giving the authorities the right to “impose sanctions ... against the landlord or any other person allowed to lease the land who fails to respect the obligation of efficiently conserving the land and productively exploiting it” (article 73). Productive land use, appropriate protection and sustainable productivity mean, “to protect it (i.e the land) from erosion, safeguard its fertility and ensure its production in a sustainable way” (article 62), and “shall be based on the area’s master plan and the general structure on land allocation, organization and use and [the adoption of] specific plants certified by relevant authorities” (article 63).

The goal would be for each region to specialize in certain specific crops based on agro-bio-climatic conditions and in accordance with market needs. This is in fact a return of the 1970’s argument to consider the comparative agro-climatic advantage of each region as a main element in agricultural planning (see Pottier and Nkundabashaka, 1992). In accordance with current policy the local authorities, in the name of the local peasants, will determine which crop(s) the region has a comparative advantage in. In SPAT, a pilot exercise with a few districts resulted in the identification of three agricultural products per district. The document mentions the need to guide producers in their choice towards commercial production systems and away from subsistence agriculture (GoR, 2004A). This seems to be a first indication that the participation of peasants in the choice of those crops would be limited.

The strategy of specialization could however indeed result in economies of scale in terms of production and could increase the commercial bargaining position of local farmers on regional markets. On the other hand, the strategy should regard possible variations in soil types and climatic conditions within a local setting(s). Forcefully restricting farmers to a few crops at an aggregate scale might thus make little sense. An additional concern is whether small-scale, non-commercial peasants will be able to confine themselves (even partly) to the prescribed crops, as they usually opt for a diversification in crop types based on risk-averse considerations. If the new policy does not offer them any additional risk-insurance, they will not be inclined to go for crop specialization. Another important question is whether small-scale peasants will be able to defend their interests on the regional markets, or whether power positions in the bargaining process over food prices will be occupied by intermediary traders.

In some regions, peasants are already obliged by the authorities to abandon and even destroy certain food crops. For example, in early January 2007 the Governor of the Eastern Province, Mr. Mutsindashyaka, initiated a ban on sweet potatoes. Although the Minister of State for Agriculture later withdrew this declaration (New Times, 2007), such campaigns can and generally do cause a lot of uncertainty and fear among local peasants.

When land is not effectively conserved and productively used, or in more specific terms when it is degraded or has not been used for 3 consecutive years, the land law provides for sanctions. These typically take the form of requisitioning the land for a period of 3 years (article 74). Local authorities are delegated extensive powers over managing, requisitioning and even reallocating land, “The requisitioned land may be entrusted to another person who so requests and who demonstrates ability to efficiently conserve the land and productively exploit it” (article 74). Further, in cases of dispossession, the owner can only request for repossession in writing, explaining how he or she will commit him/herself to the productive exploitation of the plot in question. When rejected, the only further option is to appeal to court. The formality of these procedures typically leaves little room for illiterate peasants with limited means to pursue their cases.

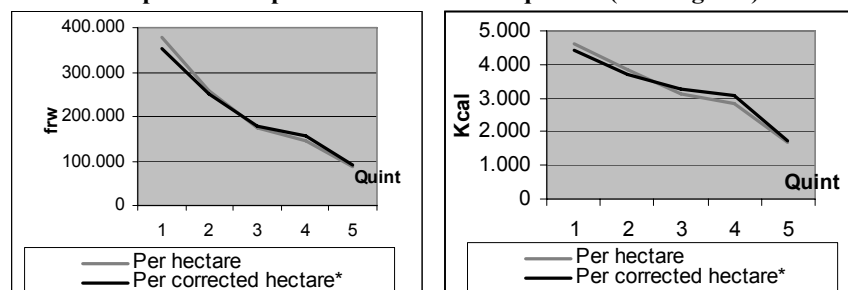
This legislation gives local authorities considerable freedom in interpreting specific situations according to their own agenda(s). Pottier (2006) points out that this might turn out positively for the population when local government agents use their power and discretion to honour people’s rights. However, it may also result in the abuse of local power to favour the rights of well-placed individuals.

3. Transforming the rural sector: the poor at the forefront or remaining offstage?

The preceding analysis suggests that current ‘agricultural transformation policies’ tend to enhance the opportunities of high-potential larger farmers at the expense of smaller-scale peasants. The principal issue is whether small-scale peasants are indeed less productive in output terms when compared to larger farmers. In fact, this is not the case in the current Rwandan context when considering productivity in terms of output per land unit. This is even recognised by SPAT which states, “small production units perform better per land unit than larger ones” (GoR, 2004B: 10). The following graph (Figure 1) illustrates the inverse relationship between farm size and productivity given that the land-poorest quintiles are the most productive, both in terms of

kilocalories produced per hectare, as well as in terms of added value (Rwandan Francs - Rwf) of production per hectare. This can partly be explained by the fact that smaller farmers tend to have soils of better quality than larger farmers. But even when this factor is considered (looking at corrected hectare data), the land-poor quintiles are still more efficient per land unit²⁶.

Figure 1: Median added value (Rwf) and median caloric value (Kcal) of production per land unit for each quintile (2001 figures)



* Accounting for differences in soil quality: land surface is multiplied by a soil quality index (above one for households with higher than average soil quality, and below one for households with lower than average soil quality).

Sources: Calculations for median added value of production per hectare are based on the combined EICV – FSRP dataset (2001). Calculations for median caloric value of production per hectare are based on FSRP (2001) and FAO (2007) datasets.

However, Rwandan policy makers count on the high growth potential of larger farms to significantly upgrade their productivity, which should have a strong positive effect on aggregate output growth. Conversely, we found that before the implementation of these policies the participation effect of agricultural growth in poverty reduction has been disappointingly low for the post-war period. The main question is thus how rural policy, by focussing upon these high-potential larger farmers, will affect the well-being of the majority of non-competitive, non-professional, subsistence-oriented rural agents. The rural sector is predominantly populated by “small family farms (over 90% of all production units) ... with an average of less than one hectare in size, integrating polyculture – animal production systems” (GoR, 2004B: 10). Most of these families depend, to a large extent, upon subsistence production and are found among the 66% group of ‘rural poor’. The nationwide Participatory Poverty Assessment (PPA) exercise (GoR, 2001) provides further details on the different categories of peasants in Rwanda (Table 6).

²⁶ Small-scale farmers are more productive in terms of output per land unit, but not in terms of output per unit of labour. The Rwandan countryside is characterised by high underemployment, certainly in small-scale farms. For those households, the marginal increase in output when adding additional labour is extremely limited due to a lack of land.

There are no aggregated country-level data on the proportion of each farmer type in the total household population. However, SPAT mentions that about 11.5% of all households are landless (GoR, 2004B: 10), and thus would normally fall in the “umutindi” category. During own field research in six imidugudu²⁷ in the Southern province²⁸ (May-July 2007), we counted the frequency of each category. In five out of six, the majority of the households were classified in the “umukene” categories²⁹. The “umukungu” and “umukire” categories together accounted for a very small part of the total population.

Table 6: Population groups defined by PPA methodology

Category	Characteristics
1. Umutindi nyakujya	Destitute, beg for their livelihood, no land, no animals, live from working on other peoples' lands, but not very capable in terms of labour, ignorant, not respected, discriminated, look like “fools” ³⁰ .
2. Umutindi	Very poor, live from working on other peoples' lands, very little land with low harvests, no animals, no access to health care or schooling.
3. Umukene ³¹	Poor, land to produce food for their family but no surplus for the market, often work for others, have no savings.
4. Umukene wifashiye	Poor with a bit more land, few animals, besides subsistence production they have a small income to satisfy a few other needs, (f.e. school fees for children).
5. Umukungu	Rich in terms of food security, large farms (often with banana or coffee groves and/or forest), rich soils, some animals, enough food, employ others on own farms, at times get access to paid employment (higher-skilled jobs), have savings.
6. Umkire	Rich in terms of revenue, land, animals, monetary revenue (coming from paid employment as civil servants or in trades), savings at official banks, their prosperity often pushes them to migrate to urban centres.

Government of Rwanda 2004A; Government of Rwanda 2001.

Our main goal is now to analyse how agricultural growth has/will affect the well-being of these different categories of peasants. When growth results from increased efficiency and productivity - central objectives in Rwandan rural policies - then its impact on household incomes is twofold. On the one hand, there is a **direct effect** on

²⁷ Rwandan households are typically scattered over the hills. The umudugudu (plural: imidugudu) is the administrative division that corresponds with one or a few hills. The boundaries of the umudugudu after the administrative reform often concur with the boundaries of what was called the cellule before the administrative reform (2005), at least in the rural setting.

²⁸ Before the recent administrative reform (2005), Rwanda was divided into 11 provinces. After the reform, there are 4 provinces. The previous provinces Gitarama and Gikongoro, where the research is undertaken, now fall largely within the boundaries of the Southern Province.

²⁹ In the poorest of the six imidugudu, the majority of the households were classified in the umutindi category.

³⁰ The tone of this description is based on the Summary Document (GoR, 2004B), not on the author's own opinion. The description of this category as described in the document, was reproduced by several interviewees during field work undertaken by the author in 2006. However, in one of the cellules the author visited, the interviewees stressed on the fact that in their village there are no “umutindi”. Due to the negative connotation of this word, they invented a category of ‘umukene nyakujya’ (very poor).

³¹ Umukene is the Kinyarwanda word for “poor”, the plural is “abakene”.

agricultural output (i.e. a first-order effect) combined with induced changes in prices, wages and employment (i.e. second-order effects - Christiaensen and Demery, 2006). Although these second-order effects receive little attention in the literature, they may be very important in helping to measure the pro-poor effects of agricultural growth, as shown by Minten and Barrett (2006). On the other hand, growth in the agricultural sector might also induce growth in rural non-farm sectors by increasing demand for non-agricultural products and services, and by facilitating the supply of such products and services due to lower nominal wages (i.e. an **indirect effect**, see Christiaensen and Demery, 2006; Delgado *et alii*, 1998; Byerlee *et alii*, 2005). A second type of indirect effects, omitted in the literature, is the impact of rural policies on the bargaining position of different farmer types. Changes in power relations may have a strong effect on their on-farm activities, off-farm employment, and overall well-being. Each of these effects requires further examination.

The direct first-order effect of increased crop productivity positively affects those farmers with landholdings. However, as highlighted in several studies, the impact of this effect depends upon the initial distribution of land (Ravallion and Datt, 2002; Deininger and Squire, 1998; de Janvry and Sadoulet, 1996), and upon the participation of the poorer farmer categories in productivity gains (World Bank, 2005). Given Rwanda's policy focus on larger farmers, with their greater (presumed) potential for professionalisation, productivity gains will not be equally distributed over all farmer groups.

Increased agricultural output will further result in downward pressure on food prices. The impact of lower food prices on a farmer's welfare depends upon whether the farmer is a net food seller or a net food buyer and is dependent upon the price elasticity of demand. However, little is known about the price elasticity of food in the Rwandan context. Inflation or deflation of food prices mostly affects those households that are active on the monetary food market. The majority of small-scale peasants are not, however, among that group. For them, food price changes may have an indirect effect upon exchanges in the non-monetised barter economy, a sector that is, until now, poorly understood (GoR, 2002).

Declines in food prices, in turn, allow nominal wage rates for unskilled labourers to fall. As a result, the demand for such labour may increase; certainly when agricultural growth is reinvested into the expansion of agricultural activities. For Rwanda, Mellor (2002A) estimates that a projected 5,3% agricultural growth in output would result in a direct 3,2% increase in on-farm employment. On the other hand, the supply of unskilled labour is already extremely high in rural areas, and will only increase when

a growing number of peasants become (near)-landless. Further, employment in the agricultural sector is mostly limited to daily wage labour (typically paid in cash, though sometimes only with food). Only extremely poor households generally undertake these informal food-for-work jobs. The availability of informal money-for-work jobs is highly volatile and uncertain. People in less-skilled agricultural jobs most often do this work on a temporary basis for low wages. Moreover, “having to work on someone else’s field” strongly diminishes a person’s perceived social status in Rwanda. Agricultural jobs are linked with “being poor” and one’s inability to “take care of oneself” (GoR, 2001). Table 7 illustrates this: the percentage of extreme poor (22,4%) involved in these jobs is higher than the percentage of non-poor (10,1%). Table 8 illustrates that the hourly wage rate of informal, less-skilled agricultural jobs is much lower than informal jobs in the non-farm sector.

Table 7: Percentage of rural households involved in different income-generating activities (2001 data)

% of households with revenue from:	Extreme poor	Poor	Non- poor	Total
Revenue from agr. sales	57,1	69,8	76,4	67,1
Revenue from livestock	18,8	23,1	32,5	25,0
Revenue from non-farm enterprise	7,0	11,6	12,4	10,2
Revenue from skilled jobs	0,6	2,3	7,6	3,6
Revenue from less- skilled non-agr. jobs	6,0	8,3	9,8	7,9
Revenue from less- skilled agr. jobs ³²	22,4	14,6	10,1	16,1
-> Of which permanent employment	5,2	4,1	4,3	4,7
-> Of which temporary employment	18,1	10,9	6,0	12,0

Remarks: The extreme poor are defined as those living with less than 175 Rwandan Francs or Rwf per adult equivalent per day; the poor as those living with 175 – 250 Rwf per adult equivalent per day, the non-poor as those living with more than 250 Rwf per adult equivalent per day. Amounts in Rwf are based on 2006 prices, and would correspond with 123 Rwf (instead of 175 Rwf) and 175 Rwf (instead of 250 Rwf) in 2001 prices.

Source: McKay income estimates based on EICV dataset (2001).

Table 8: Income per hour for different types of jobs (2001 data)

Median payment per hour	Rwf / hour
Formal job, skilled	129
Informal job, skilled	58
Informal job, less-skilled, non- agricultural, permanent	39
Informal job, less-skilled, non- agricultural, temporary	46
Informal job, less-skilled, agricultural, permanent	31
Informal job, less-skilled, agricultural, temporary	31

Source: Calculations based on EICV dataset (2001).

Taken together, the main question relevant to the Rwandan peasant is whether the direct impact of the second-order effects (i.e. price and wage changes) in combination with the first-order effect (i.e. increased output) is positive or negative (Christiaensen and Demery, 2006). To determine this requires first to differentiate between various

³² Some households have incomes both from permanent and temporary less-skilled agricultural jobs.

types of farmers. We adapt the typology of Christiaensen and Demery (2006) to the Rwandan context (Table 9) and combine it with the PPA categories.

Table 9: The direct impact of increased productivity in the agricultural sector (as outlined in current rural policy) on different types of farmers in Rwanda

PPA category	Umutindi	Umukene	Umukene wifashiye	Umukungu	Umukire
<i>Land</i>	<i>Landless or marginal landowners</i>	<i>Land owners (S)</i>	<i>Land owners (S)</i>	<i>Land owners (M)</i>	<i>Land owners (L)</i>
1 st order effect (output increase)	0	0	0	+	+
<i>Food</i>	<i>Net food buyers</i>	<i>(Almost) self-sufficient</i>	<i>Self-sufficient /net food sellers</i>	<i>Net food sellers</i>	<i>Net food sellers</i>
2 nd order effect (price changes)	+ ?	(Almost) 0	0 / -	-	-
<i>Employment in off-farm agricultural sector</i>	<i>Employed (often temporarily - paid in kind)</i>	<i>Full time / temporary - paid in money</i>	<i>Not full time / temporary - paid in money</i>	<i>Not, but they may be employers</i>	<i>Not, but they may be employers</i>
2 nd order effect (wage change)	-	-	-	+	+
Likely overall direct impact	+ / -	-	-	+	+

Symbols: (S) = small-scale, (M) = medium-scale, (L) = large-scale.

Source: Reinterpretation from Christiaensen and Demery, 2006.

For the Umutindi categories (no or little land, working as agricultural labour force), the picture is somewhat complex. Given their landless status, they are unaffected by the first-order effects of increasing productivity. Whether they gain or lose depends upon whether the positive effect of decreased food expenditures is greater or smaller than their loss in wage income³³. The overall direct effect of agricultural growth on this category is therefore unclear.

For both Umukene categories (land but no surplus or savings), the first-order effects of increased productivity could be positive if these peasants would directly participate in agricultural growth. However, it is unlikely that these groups will play an important role in commercialised and professionalised agriculture. The potential for the rapid

³³ Over the last few years, food prices have highly increased. Wages for unskilled agricultural labour have also gone up, but relatively much less than food prices. One might expect that when food prices decrease (due to increased productivity), a similar relationship would hold; meaning that the wage rate would decrease but proportionally less than food prices. This evolution would turn out positively for the umutindi category. However, in field research interviews (May-July 2007), the umutindi categories in several of the six imidugudu mentioned the lack of bargaining power as one of the main reasons why their wages had not increased with approximately the same percentage as food price inflation. Therefore, it is highly unsure whether a decrease in food prices would turn out positively for this category, given that the supply of labour will further increase as more people get of land (see later). This would negatively affect the already limited bargaining power of the umutindi category in wage negotiations.

spread of new agricultural techniques (f.e. fertiliser use) to smaller peasants is extremely limited. The financial capacity of the ‘abakene’ (i.e. the plural of umukene) to invest in such technologies is also limited due to other expenditures that are considered more urgent (f.e. education of children). Rural credit and insurance systems could compensate for such a lack of financial capital, but they are not open to poorer groups (GoR, 2002). The second-order effects of price and wage changes, on the other hand, negatively affect the well-being of these households. In instances of occasional production surpluses, the abakene will have more problems to compete with the lower-priced food of more professional farmers. As a result, market access for this category will deteriorate, which will further push these peasants into a “subsistence-agriculture trap”, and limit their potential to diversify towards more commercially-oriented crops.

Finally, the Umukungu (larger farms and savings) and Umukire (monetary income) categories of farmers have the highest chance of profiting from both the land and agricultural policies. In most cases, these households have the means to increase their landholdings and invest in new production techniques. Moreover, they are less bound by risk-averse considerations than the other categories. This gives them the opportunity to follow the new commercial orientations promoted by the government. As a result, their output should increase, thus protecting their share on a more competitive food market with reduced prices. As potential employers, they will likely face lower wage costs, which should allow them to further expand their agricultural activities by hiring additional labour.

Overall, the direct impact of the new rural policies seems rather positive for more prosperous farmers, while discriminating against the poorer categories. However, there is also an indirect impact of agricultural growth on the well-being of different categories. Christiaensen and Demery (2006) divide this trickle-down effect into three sub-groups: the inter-sectoral linkages (i.e. forward linkages to agro-processing and backward linkages to supply sectors); the final demand effects (i.e. increased agricultural incomes lead to increased demand for local non-farm products); and the wage effects (i.e. wage decreases in non-agricultural sectors).

Mellor (2002A) focuses on one of these indirect effects, highlighting the derived impact of agricultural growth on the non-agricultural sector. He argues that a major increase in production, and thus in the incomes of more prosperous farmers, should have a considerable and favourable indirect impact upon employment and poverty reduction for small-scale farmers, through increased demand in the non-farm sectors. He quantifies this indirect impact; estimating that projected agricultural growth of

5.3% would produce (substantial) employment growth of 6% in the labour-intensive, rural non-farm sector (Mellor, 2002A).

In the current economic environment, however, jobs are much scarcer than what Mellor estimates³⁴. Nonetheless, Mellor expects this off-farm sector to boom as a derived effect of increased agricultural growth. He states, “Although increased incomes may commence in the hands of the already more prosperous, that does not decrease the efficacy of the employment impact. That is because even those with large holdings by Rwandan standards are still small farmers who are fully integrated into their rural communities” (Mellor, 2002A: 17). He stresses that for agricultural growth to deliver increased employment and poverty reduction, a crucial assumption must be met: growth should be realised mainly by farmers³⁵ who reinvest their profits in the local non-farm market; which in turn increases the overall demand for labour and the wage rates of the so-called ‘labouring class’. However, the increased well-being of more prosperous farmers may reduce their embeddedness in the local rural community. One of the characteristics of the Umukire category, mentioned in the Participatory Poverty Assessment and by many respondents in field research (May-July 2007), is that households in this category tend to migrate to urban centres. It is thus unclear whether these richer farmers will spend their additional incomes on rural goods and services, or, instead, on ‘urban status symbols’.

Overall, it is thus doubtful whether agricultural growth will rapidly flow down to poorer farmers. Moreover, there will be other indirect effects, such as changes to bargaining positions between different groups of farmers. When larger farms receive the main benefits from agricultural growth and are transformed into highly-productive units, they will tend to drive less commercial and market-oriented farmers out of the market. Thus, as already mentioned, abakene categories might become trapped in self-subsistence farming; unable to surmount barriers towards commercially-oriented farming. Moreover, in a nation of extreme land scarcity, richer high-potential farmers, with their financial power, will be able to block the necessary expansion of small-scale subsistence-oriented farms and, in the long-run, may render them unprofitable.

³⁴ In Mellor (2002B), 46% of the labour force (equal to 41,4% of the rural labour force) is assumed to be employed in the rural non-tradable sector. In Mellor (2002C), 15% of the labour force is assumed to be unemployed, resulting in an employment rate of 31% of the labour force in the rural non-tradable sector (equal to 27,9% of the rural labour force). These figures are very different from the data in Table 7, indicating that 7,9 % of all households are involved in less-skilled non-agricultural jobs and 10,2% generate revenues from non-farm enterprises.

³⁵ “Prospering farmers in low-income countries spend about 20 percent of incremental income on labor-intensive, livestock and horticultural products and 40 percent on rural non-farm goods and services. Rich landowners, on the other hand, typically spend incremental income on imports and capital-intensive manufactures. It is the peasant farmers’ purchases of locally-produced, labor-intensive items that generate employment” (Mellor, 2002A: vii).

The danger exists that current rural policies will increasingly enfeeble small-scale peasants. Many may, at some time, be forced into distressed land sales and, without realistic prospects for re-purchase, will lose their self-subsistence productive capacities and livelihoods. As a result, the number of employment seekers would grow, thus even further depressing wage rates. Overall, these processes will result in a ‘survival of the fittest’; or more accurately a ‘survival of the largest’ within the agricultural sector, with alternative employment unsure for those disregarded by these new rural policies.

4. Conclusion: output growth versus equity considerations: an unavoidable trade-off?

The concluding action plan of the SPAT identifies, “the conciliation of the commercial orientation with the development orientation” as a major challenge for agricultural policy making. But based on the observations made in this chapter, we conclude that the pro-poor ambition of the current agricultural policy remains largely rhetoric. It lacks strategic plans and budgetary commitments to counter those undesirable processes that weaken or threaten peoples’ livelihoods and lives. The recently adopted land policy and law show a similar discrepancy between pro-poor rhetoric on one hand and actual commitments in favour of competitive and commercial farmers on the other. Rwanda’s rural policies focus on maximum output and growth, without taking into consideration which role small-scale peasants could play in such growth, and without regard for equitable wealth distribution. This chapter has illustrated how so-called pro-poor policies can introduce or reinforce institutional barriers for many, while facilitating access and enhancing opportunities for the few. This might render vulnerable those who are not so yet; it might also force existing vulnerable groups into a poverty trap; and finally it might even increase conflict-risk by enlarging the mass of rural poor with few if any employment chances outside the agricultural sector.

This brings us to our concluding question: is there, indeed, an unavoidable trade-off between output growth and equity considerations, or are there alternatives that combine both? Rural policies might have aimed for empowering and actively involving the large community of small-scale peasants in agricultural development strategies. Many have a high productive capacity but are confronted with institutional constraints in diversifying their activities away from subsistence production. This would, however, require a complete reversal of the current rural policy logic. A

crucial step then lies in defining institutional barriers for divergent farmer groups; and in analysing how specific policies could remove those barriers. It would, perhaps, result in more modest growth projections for the agricultural sector, and should still, indeed, be combined with ‘charity measures’ for marginalized groups without much productive potential (f.e. due to lack of physical capacity). But it would certainly result in a more equitable distribution of agricultural growth and could pro-actively prevent households from falling into the vulnerability trap. By removing institutional barriers for many instead of for the few, rural policy would acknowledge the ability of the large number of rural peasants to seize the opportunities at their disposal.

Striving for equitable growth is equally a main challenges for many other African countries. The Rwandan case has elaborately illustrated that striving for pro-poor growth, however, cannot be restricted to “looking for growth in the sector where the poor are located”. The major challenge for policy makers and international donors worldwide is to shift their attention away from a purely output-led logic of agricultural transformation towards more integrating, distribution-oriented rural development policies. In other words, the challenge is to reconcile efficiency in creating economic growth with equity, and perhaps, to put equity first.

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Chapter 2

Reengineering rural society: The visions and ambitions of the Rwandan elite

By An Ansoms

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Key words: social engineering, political economy, agrarian policy, poverty policies, small scale peasants, elite-peasant relationship, Rwanda, Central-Africa

Abstract

This article analyses the Rwandan elite's visions and ambitions for a wide-ranging reengineering of rural society. The post-1994 political elite have few links to rural society and the peasant way of life, and see little room for small-scale peasant agriculture in Rwanda's economic future. The article shows how current Rwandan policymakers aim to realize three social engineering ambitions: First, to transform the agricultural sector into a professionalised motor for economic growth, centred on competitive and commercial farm units; second, to artificially upgrade rural life by inserting 'modern' techniques and strategies into local realities, while hiding true poverty and inequality; and finally, to transform Rwanda into a target-driven society from the highest to the lowest level. The article points to the (potential) dangers, flaws and shortcomings of this rural reengineering mission, and illustrates how the state as the engineer 'hovers' above the local without consulting those affected. It concludes that contemporary policies are unlikely to be conducive to poverty reduction.

0. Introduction: Rwanda's post-1994 reconstruction: a success story?

After a devastating four-year civil war and an apocalyptic genocide in 1994, Rwanda's post-conflict reconstruction process certainly has its merits. The state was rebuilt at surprising speed, taking up responsibilities in terms of service delivery in education, health, and infrastructure. Rwanda is today cited as a country with relatively low levels of corruption, and according to the World Bank's Governance Indicators, both political stability and government effectiveness have improved from 2002 to 2007 (World Bank, 2008). The *gacaca* courts, used to try those accused of acts of genocide, were initially seen as an inventive, locally-embedded form of restorative justice that would allow for the peaceful resolution of discord (see f.e. Wierzyńska, 2004). Economically, donors have invested massively in the reconstruction and development of the Rwandan economy, whereas Burundi and DR Congo were largely left at the sideline (see Marysse *et alii*, 2007)³⁶. Indeed, recovery of the Rwandan economy has been exceptional, and after a spectacular post-genocide economic boom, national income has continued to steadily rise (Ansoms, 2005).

At the same time, criticism has mounted, pointing to the weak points of the reconstruction process. Political liberties have been constrained (see f.e. Reyntjens, 2006; Reyntjens, 2004), the *gacaca* process has been far from a uniformly positive experience (Ingelaere, 2008; Waldorf, 2006)³⁷, and economic growth has not been accompanied by commensurate poverty reduction. While in percentage terms poverty decreased from 60,3 percent of the population in 2001 to 56,9 percent in 2006, in absolute terms poverty increased from 4,82 to 5,38 million people (based on the national poverty line). Moreover, inequality increased, from a Gini coefficient of 0,47 in 2001 to 0,51 in 2006 (GoR, 2007; UNDP, 2007; GoR, 2002). Certainly in rural areas, progress has been limited and remained concentrated in the hands of a small class of agricultural entrepreneurs while the majority of Rwandan peasants are confronted with increasingly difficult living conditions.

Despite the fact that the current Rwandan political elite is inadequately self-critical in its evaluation of political governance (see f.e. Jordaan, 2006), Rwandan policymakers are aware that poverty is a mounting problem. A preliminary government report

³⁶ Rwanda has profited from very high aid inflows in the immediate post-war period (on average 113\$ per capita, per annum during 1994 -1996). They are maintained, in more recent years, at levels far above Sub-Saharan standards (World Bank, 2006).

³⁷ Ingelaere argues that the Gacaca courts are no straightforward success due to the fact that, among other things, they suffer from "a too extensive social and legal engineering campaign" (Ingelaere, 2008: 57).

reviewing progress in living conditions from 2001 to 2006 acknowledges that ‘because growth over this period has been accompanied by increasing inequality, this has reduced its impact on the reduction of poverty levels’ (GoR, 2006: 7)³⁸. The government’s vision on how to achieve economic progress and poverty reduction is set out in the *Vision 2020* document (GoR, 2000), and has been further elaborated and operationalised in the first Poverty Reduction Strategy Paper, implemented from 2002-2005 (GoR, 2002), and in the new Economic Development and Poverty Reduction Strategy, finalized in 2007 and to be implemented between 2008 and 2012 (GoR, 2007).

The overall aim of the current government is to transform Rwanda from ‘low’ to ‘medium’ human development, as defined by the UNDP’s Human Development Index. This is to be done through a radical modernisation of the overall social structure, particularly by moving the agricultural sector away from subsistence and towards more commercial and diversified economy. In this radical vision of transformation, Rwandan policymakers can be seen to conform to what Pound (1968) has defined as the engineering mission of law and policies. According to this view, social arrangements can be manipulated and managed through conscious human control using law as an instrument. As Ellerman describes it, ‘If we use the metaphor of the doers as trying to work their way through a maze, then the helpers [development agents] as social engineers see themselves as helicoptering over the maze, seeing the path to the goal, and supplying directions (knowledge) along with carrots and sticks (incentives) to override the doers’ own motivation and push the doers in the right direction’ (Ellerman, 2005: 9)³⁹. In other words, the social engineers ‘hover’ above the local, providing strategies and knowledge, laying claim to the ‘whole picture’ without consulting those affected.

In the Rwandan context, the engineering mission appears in many different domains. Reyntjens (2007), for example, cites the rather picturesque, but nonetheless intrusive prohibition of the use of plastic bags, as well as the enforcement of massive

³⁸ While Rwandan policymakers recognize the poverty problem and the fact that poverty in absolute terms did not decline, they are extremely sensitive to criticism. A recent UNDP report (2007) expressed strong concerns about Rwanda’s limited achievements over the last years in terms of poverty reduction. This report was signed by Finance Minister Musoni, who was also the chairman of the steering committee overseeing the report’s formulation. However, two weeks after the launch of the report, Musoni expressed public regret that he had not read the final edited version of the report, accusing the Swedish editor of adding unfounded and misleading interpretations to the figures. He stated that the government had blacklisted the editor and a Rwandan researcher involved in the report’s formulation (New Times 24/08/2007). This incident indicates the sensitiveness of the Rwandan government to criticism on poverty and inequality-related policy performance.

³⁹ Ellerman pleads for an alternative, decentralized social learning model in which local experiments and self-learning can flourish and peer-to-peer exchange through local networks is encouraged.

consecration of marriages according to state law, and the implementation of an ambitious modernisation policy. This modernisation exercise has been most apparent in Kigali, where skyscrapers and massive buildings have arisen with great rapidity, but increasingly, the ambition to reengineer Rwanda also touches the rural setting. Ingelaere in particular, points out the importance and dimensions of the social engineering aspect of the post-genocide Rwandan regime in multiple domains of rural life (Ingelaere, 2006)⁴⁰.

Overall, the elite's reengineering mission within the rural setting is characterised by three main objectives. First, policymakers aim to transform the agricultural sector into a professionalised motor for economic growth, with little place left for traditional smallholder agriculture. Second, policy makers seek to upgrade rural life by inserting 'modern' techniques and strategies into the local realities, while hiding the extent of poverty and inequality. Finally, they hope to transform Rwanda into a target-driven society from the highest to the lowest level. Taken together, these three social engineering ambitions amount to a top-down developmentalist agenda with a central role for the state as the engineer that shapes and reshapes the rural environment.

In this chapter, we first explore how political developments – with special reference to 1994 – have brought to power a political elite whose identity (both ethnic and spatial) differs profoundly from that of the overall majority of the population. We also show how this elite differs from the pre-1994 elite, both in terms of their profile and in terms of their attitudes and ambitions for rural development. The main part of the chapter analyses how Rwandan policymakers aim to realize their engineering ambitions for rural society, before concluding on some of the (potential) dangers, flaws and shortcomings of the current reengineering mission.

To capture the discourse of Rwandan policymakers, we draw on 26 interviews conducted between May and July 2007 with persons closely involved in poverty reduction, agricultural and land policies (see Annex). The interviewees included high and lower ranking officials of the three ministries centrally engaged in rural development: the EDPRS department (Economic Development and Poverty Reduction Strategy) within the Ministry of Finance and Economic Planning; the Ministry of Agriculture and Animal Resources; and the Ministry of Land, Environment, Forests, Water and Mines. Alongside secondary data, these interviews

⁴⁰ Ingelaere's study, based on in-depth research on a particular hill, documents detailed illustrations of how the engineering ambition is instrumentalised through actual policy.

provide a comprehensive picture of the present rural development discourse within government circles⁴¹.

1. What is old, what is new? Characteristics of pre- and post-1994 elites

Rural development is not a purely technical issue. As Bebbington argues, ‘Neither patterns of asset distribution nor institutional conditions in rural areas are accidental. Indeed, they each derive from the broader relationships between politics, economy, and society that drive and undergird the overall patterns of rural development’ (Bebbington *et alii*, 2006: 1963). The World Development Report of 2008 similarly suggests that agricultural policy making results from a political bargaining process driven by the power dynamics between citizens and politicians (World Bank, 2007). In other words, the elite-peasant relationship is crucial to an understanding of the political elite’s rural development discourse and policy.

1.1 The profile of pre- and post-1994 elites in terms of “identity”

The elite-peasant relationship in Rwanda is rooted within various layers of identity, and although historical research has focused principally on ethnicity, other factors such as regional background, kin, social class, occupation, and gender have profoundly influenced these identities. The relative importance of each factor has also been subject to change over time within Rwandan historiography (see Newbury and Newbury, 2000).

Many studies have elaborated extensively on **ethnic cleavages**, focusing on the strong animosity between Hutu and Tutsi, and often expose very divergent and contradictory theories on the origins of ethnic differentiation (for an overview, see De Lame, 2005; Newbury and Newbury, 2000; Vansina, 2001). It is clear, however, that the Hutu-Tutsi rift evolved over time from a flexible social class indicator towards an increasingly institutionalised division. Belgian colonial policy also used ethnicity to accomplish its own political agenda. Just prior to independence in 1962, ethnic Tutsi

⁴¹ The majority of interviewees (17) worked for the Rwandan government. The author interviewed both English and French speaking-government officials, born in Rwanda or in neighbouring countries. Interviews with donors (4) and civil society representatives (5) reiterate some points made in the paper, but cannot be considered representative of the entire donor community and civil society. In addition to the interviews, the author conducted research in six different rural localities in the Southern Province on local people’s perceptions of their own poverty. Although the data from these qualitative focus group interviews (at least 12 per setting) are not core information in this paper, they are sometimes referred to when illustrating particular points.

dominance in the political centre was reversed, and for the subsequent 30 years, a Hutu president ruled Rwanda. During this period, several episodes of inter-ethnic tension and violence led to significant Tutsi emigration (Newbury, 2005).

Geographic origin(s), along with ethnicity, equally underlie disparities. The ruling Hutu elite, though often urban-based, retained important links with their rural areas of origin, and tried, not surprisingly, to unduly advance their interests. The first Hutu president, Grégoire Kayibanda, favoured the central region. After a military coup in 1973, the new president, Maj. Gen. Juvénal Habyarimana (a Hutu, native of the north-west province of Gisenyi), began to grossly favour the country's north (De Lame, 2005). By the same token, Newbury and Newbury (2000) documented regional disparities in the distribution of government development funds during this period, while De Lame (2005) pointed to the importance of the Kigali political elites' ties with their specific hill of origin.

The new Rwandan political elite differ from that of the preceding period, both in terms of ethnicity and in terms of its relationship to peasants and the countryside. After the genocide in 1994, the Tutsi-based Rwandan Patriotic Front (RPF) seized power, and the previously ruling (Hutu) elite disappeared from the political power centre. Although the leaders of RPF typically portray themselves as the main force behind the 'liberation' of Rwanda⁴², post-1994 Rwanda has in fact been ruled by an elite whose identity, in terms of ethnicity and origin, differs markedly from the majority of the population.

The rebel army was transformed into the RPF political party, including both Tutsi and Hutu. For the top positions, however, ethnic background has come to play an important role. Table 1 illustrates the ethnic bias in the composition of the presidency and the government. Although 85% of the Rwandan population are Hutu, they occupy about 50% of presidential and government positions, an equal share to the Tutsi. The majority of the new Tutsi elite are ex-refugees, and most returned from Uganda (including President Kagame) and the Democratic Republic of the Congo after having lived outside Rwanda for decades, or even generations. Following the RPF's military

⁴² In a speech on 1 October 2000, referring to the date the RPF started its military campaign, Kagame stated, "I would like us to remember the great and heroic deeds of ten years ago when the struggle for the liberation of our country began." See: Official website of the president of Rwanda 2000, 'Address to the Nation on 10th Anniversary of the commencement of the liberation struggle', 1 October 2000, <www.gov.rw/government/president/speeches>. In the post-1994 period, celebrations are held on the anniversary of liberation day (i.e. 4 July) rather than independence day (i.e. 1 July). On TV and radio broadcasts on 1 July 2007, several government officials maintained that 'real' independence only began in 1994. They argued that bad political leadership before 1994 had deprived the Rwandan people from true independence from the colonial powers.

victory, the new elite installed themselves in the capital. While this was partly for security reasons, (the countryside was still unstable in the immediate post-1994 period), it also reflected the fact that a considerable part of the returnees had lost their ties with the ‘hill of origin’ and had little incentive to go to the rural areas⁴³.

Table 1: Constituency of the Presidency and the Government

	Ethnicity				RPF / non-RPF		
	Tutsi ex-refugee	Tutsi (non)ex-refugee	Hutu	N.a.	RPF	Non-RPF	N.a.
10/01/1998*	14	8	18		20	15	5
08/02/1999*	18	9	19		26	17	3
20/03/2000*	12	9	11		19	11	2
31/05/2001*	15	7	12		21	11	2
10/08/2002*	18	3	14		21	10	4
20/06/2003*	16	3	15		23	10	1
24/06/2004*	15	1	17	3	23	9	4
22/06/2005*	15	3	15	3	23	8	5
23/05/2006**	6	2	12		15	5	
01/06/2007**	7	2	11		15	5	

* Ethnicity of president, ministers, secretary of state and secretary general (of all names available);

** Ethnicity of president and ministers only.

Source: Reyntjens and Marysse (over several years).

The over-representation of Tutsi ex-refugees in official posts and their detachment from the rural setting was frequently raised during interviews, especially by non-government interviewees. A representative of a European donor country highlighted that the characteristics of the current elite explain, to a considerable extent, their relation with the countryside, *“Many of the government officials have never known the Rwandan countryside. They came from refugee camps, and when they took over power, they often left their parents behind in Umutara [province in the Northeast of Rwanda with many large cattle farms]. Moreover, in the past, there was still a lot of insecurity in the countryside, so people preferred to live in the city of Kigali. That is where they are concentrated now, and it explains why they have limited knowledge and understandings of how peasants live”* (interview - T, May 2007).

In addition to the ethnic and refugee dimensions that shape the identity of the current political elite, there is a clear language dimension. Before 1994, the second language after Kinyarwanda was French. In the post-1994 period, under the influence of the Ugandan Diaspora, English is gradually becoming the dominant language within governmental circles. This favours the promotional chances of former exiles. As a

⁴³ On the conceptualisation of the meaning of “coming home” for old caseload Tutsi refugees returning in 1994, see Newbury, 2005.

representative of civil society put it, *“The government really adopts a policy to exit ‘Francophony’ and to enter ‘Anglophony.’ One may perceive this at the economic and political level, but also in the friendship ties with other countries [referring to the USA, the Commonwealth, and Uganda]. Within the government, we see the same trend. Those who speak French and have the right competences are not taken into consideration [when assigning someone to a post]; and when they are, they keep quiet because they do not want to create any problems. It is nonetheless mostly the French speaking who master the rural setting”* (interview X, May 2007). The interviewee referred to the fact that those with more experience in rural development are often Francophones who were present in Rwanda before 1994. They have a longer and more in-depth experience with the problems of the rural environment, and often have direct ties with the countryside where their families still reside. Accordingly, they are more familiar with the logic of subsistence farming, but in the current context their lack of English is a barrier to a government post.

According to several interviewees, even if Francophones do learn English (as many now do), their chances of promotion are still lower due to a lack of political connections. As a representative from a European donor country mentioned, this is not merely an issue of English versus French-speaking; *“It is not that much about bilingualism, it is clear that people with Ugandan roots are favoured. The language issue is simply the consequence of the fact that more people from Uganda are pushed forward. This is not so positive for the future; it will most likely create tensions.”* He added that favouritism towards Anglophones is also seen in other areas such as in education (*“in tertiary education, there is a lot of investment in new English-language initiatives”*) and in the media (*“in the New Times [government-related journal]”, in general, mostly French-speaking ministers receive more criticism*) (interview U, May 2007).

Overall, we can conclude that the characteristics of Rwanda’s current political elite contrast strongly with those of the majority of Rwandans. The former are mainly Tutsi, nearly always urban based, and often born and raised in a neighbouring country. The latter are mostly Hutu, rural peasants, and born and raised in Rwanda. Likewise, the identity of the new elite also differs from that of the pre-1994 era, when many were Hutu and still had personal connections with the countryside, with their hill of origin.

1.2 Visions and attitudes towards the peasantry

A key question accordingly becomes whether this difference in identity translates into a different attitude towards the peasantry. At the level of political discourse, the contrast between past and present opinions about the potential of the peasantry in the development of the economy is dramatic. The Habyarimana administration (1973 – 1994) relentlessly championed the culture of an agrarian society. Verwimp shows how Habyarimana in his speeches often *“glorified the peasantry and pictured himself as a peasant”* (Verwimp, 2000: 3). An intriguing example can be found in his speech at the 25th Anniversary of the Republic of Rwanda, (1 July 1987), *“If in the 25 years of our independence Rwanda has known a lot of success in its struggle for progress, if it has been able to take a number of important steps, it is in the first place our farmers who made this happen (...) it is their total devotion to the work, every day (...) their fabulous capacity to adapt, their pragmatism, their genius, their profound knowledge of our eco-systems that allowed them to extract an amazing degree of resources from their plots of land...”* (Verwimp, 2000: 16).

While the rhetorical language of the Habyarimana administration referred to the peasantry as the ‘Rwandan ideal’, this has profoundly changed under the Kagame administration. The influential *Vision 2020* document outlines the main challenges and policy priorities of the Rwandan government up to 2020, and states with in a strikingly different tone: *“Rwanda’s economic policies since independence are said to have targeted agriculture as the main engine of economic growth. However, the agricultural sector has continued to perform poorly, with consistently declining productivity. It will be necessary to formulate and implement realistic developmental policies that move beyond past delusions of viable subsistence-based agriculture”* (GoR, 2000: 17).

The *Strategic Plan for Agricultural Transformation* identifies as a main challenge the *“transformation of subsistence agriculture into commercial agriculture with all its involvements in terms of institutional, social changes of behaviour and distribution of roles and responsibilities between different stakeholders”* (GoR, 2004A: 33). The land policy takes this even further, arguing that *“the Rwandan family farm unit is no longer viable. ... The re-organization of the available space and technological innovations are necessary in order to ensure food security for a steadily and rapidly increasing population”* (GoR, 2004B: 16). Alison Des Forges refers to this process as the government’s ambition to “winnow out the chaff” in the agricultural sector (Des Forges, 2006).

While there is clearly some awareness among current policy makers of the many institutional constraints that small-scale peasants face and that serve to keep them in subsistence agriculture, the solution to the poverty problem is often reduced to adopting a ‘good mentality’. In his inaugural speech in 2000, for example, President Kagame referred to the many development challenges facing Rwanda, and continued, *“I do not believe that we should lose hope and surrender ourselves to lives of poverty. If we can utilize the resources that God has given us to good effect, we can eradicate poverty. [...] We would like to urgently appeal to the Rwandese people to work. As the Bible says, ‘he who does not work should not eat’. I would like to request every Rwandese in whatever trade they are involved in, to work with dedication and diligence. If we adopt this culture of working diligently, we will be able to create more jobs for our people.”*⁴⁴ In subsequent years, President Kagame has frequently spoken of the burdens of the past, while emphasizing the responsibility of each citizen to overcome his/her own poverty.

Similar sentiments were expressed by some interviewees, referring to an ‘awareness problem’ among Rwandans. One official for example maintained that *“[We have to convince the people] to change radically and to become part of a society that can take care of itself, that can survive on its own, and that does not have to beg. In Africa, the people are too dependent; one should not wait until one comes to help you as if you are a little baby. The head of state [referring to President Kagame] is angry with this spirit. Instead of depending upon others, one has to do things on his own. There are times that one may think that it is impossible to succeed, but one will do it nonetheless. We really have to convince everyone to be with this national slogan that everyone has to go forward in life”* (interview C, June 2007). The tone of this quote suggests an underlying assumption that poverty is, in fact, a state of mental dependence, somehow a deliberate choice. Getting out of poverty accordingly becomes a question of adopting the right strategy and ‘putting one’s mind to it’.

Thus, a district official in Southern province highlighted the mentality of the people in the region as one of the major explanations for the province’s limited performance in relation to key indicators of well-being: *“You talk to them and you think they listen, but the people do nothing with the good advice you give them. They say ‘yes’ because they are tired of you and your speeches, but they are never convinced. It is not like in the North; in the South they are resistant, they are really difficult”* (interview Q, June

⁴⁴ Official website of the President of Rwanda (2000), “Address to the Nation by H.E. Paul Kagame on his inauguration as President of the Republic of Rwanda”, 22 April 2000, online at <www.gov.rw/government/president/speeches>.

2007). By no means the general sentiment among the interviewees, this statement is nonetheless symptomatic of the current elite's view that poverty is partly due to the 'wrong peasant mentality'.

A further illustration is found in the *Strategic Plan for Agricultural Transformation*, which refers to the problem of peasants' ignorance and resistance to adopt recommended productivity-enhancing measures that go beyond traditional subsistence farming (GoR, 2004A: 6-17). As such, peasants' perceived lack of capacity to embrace 'modernised' farming is at least partly attributed to a 'lack of vision', a view that totally disregards the institutional barriers they face.

These examples illustrate that there is indeed a difference in discourse between the pre- and post-1994 elites with regards to the potential of the peasantry in overall national development. However, the picture deserves more nuance. Despite its pro-peasant rhetoric, Habyarimana's policies also displayed at times a strong anti-rural bias.

Marysse (1982) for example refers to the anti-rural bias by linking it to three mechanisms. First, the disintegration of the lineage structure in an increasingly cash-based economy lead to the breakdown of traditional solidarity ties that had previously enhanced a relative redistribution of national wealth. Second, changes in the normative system caused by the country's dependency on development aid had intensified this process. Lastly, the political elites used financial surpluses (f.e. taxes, foreign aid and private investment) more in line with their personal needs (f.e. security) than in line with the proclaimed pro-peasant rhetoric.

Verwimp has illustrated how Habyarimana's regime failed to respond to early warnings after crop failures in 1989. In addition, the price crisis in the coffee market during the second half of the eighties had a profoundly negative impact upon rural living conditions (Verwimp, 2002). Rumiya (1985; cited in Newbury and Newbury, 2000) criticises the ideology of 'planned liberalism' adopted by the Habyarimana regime. He acknowledges the achievements in terms of the development of Kigali, the quality of the road system, the accessibility of modern tools, etc.; but he also points to the (problematically) low economic trickle-down effect vis-à-vis the rural masses.

Similarly, Pottier has shown how agricultural officers in the pre-1994 period, who functioned as brokers between the central state and local peasants, often served as 'imposers' of state policies. He points to the excessive formality of public meetings that gathered together Rwandan cultivators and agronomists, and argues that this

stood in the way of true dialogue and that interaction boiled down “to a one-way, dogmatic delivery of textbook instructions” (Pottier, 1992: 151). In an earlier article based upon a specific case study of a ‘small gardens project’ near Butare, Pottier showed how the power dynamics between the agronomist and local peasants resulted in the neglect of useful traditional knowledge and techniques in favour of imposed and standardised techniques that did not seem suitable for the local micro-environment (Pottier, 1989). According to Newbury and Newbury, agricultural officers were chosen on the basis of their educational profile rather than actual experience. They conclude that, “*not only does ‘state agriculture’ become a coercive field, but much local knowledge (f.e. local variations of crops, soils, pests, labour practices, etc.) is lost, in the name of standardizing and ‘rationalizing’ agriculture*” (Newbury and Newbury, 2000: 856). Indeed, the disparity between rural and urban settings deteriorated under the Habyarimana period, and by 1990, about one out of six people in urban areas lived below the national poverty line, while in rural areas this applied to over 50% of the population (UNDP, 2007).

In short, a top-down, state-centred governance structure is not new to Rwanda, nor is the rural-urban gap, the anti-rural bias in policy making, or the state-society cleavage specific to the post-1994 period. Instead they appear to be structural features of elite-peasant relationships in Rwanda, and beyond (see f.e. Mamdani, 1996; focusing upon the South-African case). That said, the argument of this article is that the current vision and ambition of the Rwandan elite to socially engineer rural society goes further than these previous attempts at reform and that the potential implications are more problematic given that policy makers see no role for small-scale peasants. The social engineering ambitions of the Rwandan elite are analysed in more detail below.

2. What place for small-scale peasants and the unskilled labour force?

Overall, Rwandan policymakers see very little role for small-scale peasants in economic development, despite the fact that small family farms make up over 90 percent of all production units, with an average of less than one hectare in size (GoR 2004A: 10). Instead policymakers favour drastic transformation of the economic structure of Rwanda, where peasant agriculture plays a minor role. Musing over the valid development options for Rwanda, there are two main schools of thought within our sample of government interviewees. On one hand, there are the interviewees who adhere to a rather naive view on the developmental potential of their country. When asked how the country would look in ten years, one answered, “*What will change is*

the way of doing things. The people of Rwanda will be educated, the large majority will be able to read and write. They will also be bilingual, speaking French and English. [...] There will be a big airport, a railway from the east to the west, and maybe from north to south, there will be asphalt roads everywhere. There will also be a pipeline for petrol. [...] Rwanda will become a medium human development country. The lack of resources does not have to hold the country back, we can really transform. In fact, these are the large projects, it will take time, but this is certainly on the current agenda” (interview C, July 2007).

Other examples can be found in the first PRSP, where ICT (information and communication technology) development is identified as a main priority in poverty reduction. This should allow for a jump from a subsistence-based economy into a “service-sector driven, high-value added information and knowledge based economy that can compete on the global market” (GoR, 2002: 69). The EDPRS formulates ambitions in the same trend through its aim that by 2012 “50% of primary school children will have access to one laptop per child” (GoR, 2007: 37).

According a donor representative, during the EDPRS discussions, there was even considerable debate over whether agricultural development should still be a core issue; “*There has been quite a battle on this issue. At one stage, people in Minecofin [i.e. Ministry of Finance and Economic Planning] had the opinion that after trying out agriculture and failing in this, it was time for something new. This argument was taken up to a level where Rwanda should become a service-driven high-tech economy. However, a degree of realism returned, certainly for the plans in the short and medium term”* (interview S, May 2007).

The majority of government officials interviewed, indeed, adhered to more modest development plans. In their line of thought, the focus in an early stage should lie on agricultural growth and development, in addition to the extension of the service-sector driven by local demand. Only in later stages, would there be room for more far-reaching modernisation. As an interviewee mentioned, “... *first we have to do a lot in the area of agricultural productivity that is extremely low in Rwanda. The goal is to evolve from an agricultural economy towards a service-based economy. But in a first stage, this means a service sector based on local needs*” (interview A, June 2007). All interviewees, both within government, donor and civil society circles confirmed that the agricultural sector would be at the forefront of the new EDPRS policy. Indeed, the topic of agricultural growth receives a lot of attention in the finalised version (GoR, 2007).

The question remains what type of agricultural transformation should be aimed for. A considerable number of the interviewed policymakers supported investing in rapid modernisation and professionalisation of the agricultural sector, with a strong focus on maximum productivity and output growth. One government official remarked, *“The agricultural sector really has to orient itself towards the market. And this cannot be done with the traditional cash crops as coffee and tea. We have to try out new cultures as macadamia, patchouli, moringa and vanilla. And we strongly have to encourage the initiative of the private sector in these new speculations”* (interview C, June 2007).

Ansoms (2008A) analyses how the government’s focus on professionalisation and modernisation favour competitive and commercial farmers; and how this disregard for equitable wealth distribution threatens further to enfeeble small-scale farmers. In fact, the structure of subsistence peasants’ farms often prohibits the necessary risk-taking that would allow them to invest in new high-potential production systems (for more general literature on the topic, see Ellis, 1988). In the words of one human rights activist, *“I agree totally with the need to conserve the land, but the policies have to be adapted to the small peasants. How will a peasant exploit his land in a ‘professional’ manner with the little he has and without the support of the government? In fact, they need training, specifically oriented towards the exploitation of small surfaces, because this is the reality of agriculture in Rwanda”* (interview X, May 2007).

Most government officials interviewed, however, linked the professionalisation and commercialisation of the primary sector to the necessity for larger farm units. Some see this happening by consolidating current farms through collective ownership, as expressed by this high-ranked government official of the Ministry of Land: *“We will not take someone’s land. The consolidation objective has the aim to intensify productivity; this is not equal to taking away land from people. When minagri [Ministry of Agriculture] is talking about large farms, they do not mean that these farms would belong to one person. [...] Households will consolidate in terms of land use, not in terms of land ownership. [...] We will teach them methods for soil conservation, ecosystem rehabilitation etc. And if we teach them terracing techniques, it is better to do this on larger surfaces. This does not mean one big farm of one person, but a conglomeration of farmers”* (interview I, July 2007). Another interviewee confirms, *“... people will exploit their land together with neighbours following the advice of minagri. Minagri has to provide them with a crop type that is profitable”* (interview J, July 2007).

However, a high-ranked government official in the Ministry of Agriculture stated, *“They say that agriculture is the productive sector, but it isn’t in Rwanda. [...] In fact, we should stop calling it the productive sector; it is at this point the survival sector. [...] At this point, most people are not earning because their pieces of land they have access to are too small. [...] We have to get more people off the land, as we cannot continue a system with small pieces of land. [...] When people get off the land, there will be more land in the hands of fewer people, which will allow a better planning of the system.”* The person interviewed even compared the Rwandan case with the USA where, *“they first evolved to a system where only those who were profitable remained in the agricultural sector, and then further evolving to only big farms remaining.”* The person added that this might not be the exact evolution in Rwanda, but that in any case, the country would have to go into that direction (interview E, June 2007).

Government officials regularly referred to the aim and need to set into motion a ‘green revolution’ within the agricultural sector, but most saw no role for smallholders in this process. By comparison, the recent World Development Report stresses the importance of smallholders in a green revolution for Sub-Saharan Africa. The report recognizes that modern agricultural evolutions can reverse the superiority of smallholder farming, but points to the potential of policy instruments to enhance smallholders’ competitiveness (World Bank, 2007).

Rather than increasing the competitiveness of peasants, one of *Vision 2020*’s principal goals is to decrease the population dependent upon agricultural activities from 85 to 50 percent, that is, a decrease of 35 percent by the year 2020. The Secretary of State of the Ministry of Land stated, *“In fact, this vision came from this ministry. It is a vision based on the land perspective, not on the agricultural perspective. If the population will continue to increase with 3% per year, we will have a huge population while the surface of land is not increasing. [...] It is crucial for people to get another livelihood”* (interview I, July 2007). Many of the other interviewees shared this analysis.

While it is clear that a decrease of the population dependent on agriculture might be necessary due to resource constraints, none of the interviewed policymakers had a clear vision of the employment alternatives available to the foreseen ‘surplus’ population about to enter the economy as off-farm wage labourers. As a representative of an international donor organization remarked, *“employment in other sectors will appear, but the question remains at which pace, which scale, and which support this will get”* (interview R, July 2007).

Some government officials had a rather fanciful view on the potential of off-farm employment: *“We will build factories that work twenty-four hours. And this is not only in Kigali, also in other centres of economic interest”* (interview C, June 2007). The first Rwandan PRSP even explores the opportunity, *“... to leap-frog the stage of industrialisation and transform her [Rwanda’s] subsistence economy into a service-sector driven, high value-added information and knowledge-based economy that can compete on the global market”* (GoR, 2002: 69). Also the EDPRS document accentuates the key role of the private sector in creating pro-poor growth at several occasions, (GoR, 2007).

Many interviewees highlighted the importance of the private sector in creating non-farm employment, sometimes presented as an almost miraculous solution to absorb the labour surplus. One mentioned, *“The private sector will have a very important role in the development strategy: it will create jobs, which leads to incomes, which leads to improved living conditions, which leads to decreased poverty. This means that the private sector will play a very big role in poverty reduction”* (interview B, May 2007). Another went into detail on how to attract private investment, allotting a major role for both foreign and domestic investors. As a prerequisite for rural investment, he accentuated the need for registered land titles and guaranteed land rights, which would give urban investors more security on land in rural areas. In addition, he stressed the need to solve energy and water problems that currently constrain investment in rural areas. Increased investment in the rural setting would, in his opinion, generate employment that in turn would make people move off the land (interview M, July 2007).

Interviewee M (see above) raised in the same line, *“We should invest in making the Rwandan environment more suitable for foreign investment, because, we should admit, having a lot of local investment is a dream.”* Those locals who do invest within Rwandan boundaries, mostly turn to the real estate market: this is less risky than investing in entrepreneurial activities but on the other hand, the trickle-down effect of real estate investments towards other sectors and towards poor population groups is limited. Indeed, Rwanda has a long way to go before becoming an attractive climate for investing in entrepreneurial activities. But in the “Doing Business” Report of 2009, the country obtains the 139th rank (out of 181 countries), which represents an improvement of nine places in comparison to 2008. On the other hand, the level of private investment remains low, representing between 12 and 13 of GDP over the last four years and projected to remain at that level for the coming years (IMF, 2008). It is

questionable whether employment absorption by private actors will be considerable in the near future.

In addition, one should take into account that the net effect of private investment upon the local living conditions of the poor may be negative. Rural investment (often correlated with land accumulation) by the urban and/or foreign private actors may have perverse effects upon the local economic system. To cite an example: in 1997, the Madhvani group bought the Kabuye Sugar Works Company for 1.5 million \$. It was the only sugar manufacturer in Rwanda, and the first post-conflict company to be privatised. Indeed, the company did create employment. However, the net effect for the local population in the nearby regions was negative (Ansoms, 2008B).

Most interviewees were more realistic with regards to the immense challenge for the growing labour force to be absorbed within the off-farm sector. A high-ranking official in the Ministry of Agriculture pleaded for fewer people in agriculture, while highlighting the importance to develop smaller-scale industries and services. (interview E, June 2007). Several interviewees mentioned the importance of adequate training. A high-ranking official of the Ministry of Agriculture argued that, *“People cultivate because they did not have the chance to be educated. We have to give the people a formation. They should not leave the agricultural sector without alternatives”* (interview F, July 2007). Quoting a representative from a European donor country, *“The result of the land reform process will be that there will be a lot of people who currently have small land holdings, that will become agricultural labour force or that will look for other occupations. But the big problem in Rwanda is that there is almost no professional education for plumbers, electricians, and other small professions. The government should invest in this. And people could also be redirected to the commercial sphere. The government declares having the ambition to create one million jobs between 2000 and 2015. But it is highly doubtful whether enough jobs will be created to absorb the labour surplus”* (interview T, May 2007). In drafts of the District Development Program for two districts, Kamonyi and Muhanga (Southern province), we find, indeed, reference to increasing facilities for training masons, carpenters, weavers, dressmakers and embroiderers, cooks, sculpture makers, decoration artisans, transporters, etc. In Kamonyi, there are currently five professional training centres with 452 enrolled students (District of Kamonyi, 2007). In Muhanga, there are currently 513 students in technical schools and 378 in other types of youth training (District of Muhanga, 2007). The district agronomist of Muhanga explained, *“... we plan to create additional professional training centres in each sector. If they can educate between 50 and 200 people per year, this could be a first step in pushing people towards the non-agricultural sectors”* (interview P, June

2007). These numbers, however, are insignificant in comparison to the overall population (265,365 in Kamonyi and 297,997 in Muhanga).

Next to the need for skilled a labour force there is also a need for local demand for the goods and services produced in non-farm sector. At the present time, the limited purchasing power of subsistence farmers means that there are already unemployed carpenters and masons in the countryside. In the words of a human rights activist, “... *for those who fall out of the agricultural sector, some will find other things to do. But the large mass will stay behind unemployed. One should really try to see the reality in the field and not stay at the level of sectoral analysis. Even without doing all these studies, if you walk in the hills, and even in the city, you see people outside of the agricultural sector who have nothing else to do*” (interview Z, May 2007). The reason behind the lack of local demand is the limited purchasing power of subsistence farmers. A European donor representative mentioned that the strategy to move people out of agriculture depends upon creating a dynamic system in which many people participate in growth, “*When everyone earns a little more money, then this money will be spent in the local economy and as such people improve their living conditions through each others’ increased consumption. Important prerequisites are professional technical education, access to energy, improved infrastructure, and maybe even most important: access to micro-credit up to the most local level*” (interview U, May 2007).

An independent consultant similarly reflected: “*We should not dream. Where will we put all these people? If we would find something that could employ 40 to 60% of the population, at that moment we could count on a trickle-down effect. But with a range of activities that can give revenue to 2-5% of the population, we will never be able to create a trickle-down effect of which the benefits will reach the other 85%*” (interview H, July 2007). A human rights activist mentioned in the same way: “*[If the government wants to reduce the population dependent upon agriculture from 85 to 50%], what will the 35% do? It would be really great if there was less dependence upon agriculture. Even if there would be only 10% in agriculture, and the 90% others working for them or in other economic sectors. But the important thing is that people have viable livelihood strategies and that they can be satisfied with their lives. I do not see this happening in a context where rural policies allow for the rich to walk away with the gains of the agricultural sector, while others are increasingly excluded. I believe that the essential thing is the redistribution of the gains of growth. [...] Rural policies may strive for increased productivity and conservation of soils. But they have to be appropriate and adapted to the capacity of small peasants*” (interview X, May 2007).

The danger is that by focusing on output maximization and concentrating on highly productive farm units, the rural policies of the Rwandan government may do little to alleviate poverty, and may in fact aggravate destitution among some groups. If the population dependent on agriculture is to be reduced from 85 to 50 percent, the question of alternative livelihoods for this group becomes crucial. At present, there are few signs that off-farm employment and economic opportunities will be readily available at such a scale, nor does past experience suggest that any economic growth effects would trickle down quickly enough to assist the remaining population (see also Ansoms, 2008A).

3. An artificial upgrade of rural life

A second ambition of the Rwandan elite is to upgrade rural life by inserting ‘modern’ techniques and strategies into local realities, while hiding the extent of poverty and inequality. Ingelaere for example refers to a system of fines, imposing certain “measures improving general wellbeing”⁴⁵. Quite some of the interviewed Rwandan government officials align to a theory of culture contact. Migdal (1974) identifies three assumptions underlying this view: 1) the benefits of the modern, by definition, outweigh the benefits of the traditional; 2) the peasant is not constrained by an institutional environment that could prevent him from making certain choices; and 3) rejecting modern alternatives can only be explained by wrong or non-rational values (Migdal, 1974: 7). Indeed, in the interviews (both quoted above and not), officials often stated, “*we have to learn farmers, we have to show farmers, we have to bring farmers in contact with modern techniques*” while referring to poverty as “*at least partially a problem of mentality*”.

The most striking expression of this social engineering ambition is the government’s villagisation policy. Though this policy was originally designed to resettle Tutsi refugee households in compound villages, it has also been more widely adopted as a measure to increase the efficiency of land use. Quoting President Kagame in his speech of 23 November 2001, “*[There is a] lack of understanding of the resettlement policy. Some critics say that it’s a way of dividing people and oppressing others. This is not the case, of course. This policy aims to change the settlement system of Rwandan people; which will set apart settlement sites and sufficient land for enough production; hence ending disorderly land use. Some people mislead the population*

⁴⁵ Ingelaere localizes the upgrade of rural life and the mechanisms (performance contracts and fines) to achieve this through a detailed description of one hill in central Rwanda (Ingelaere, 2007). These findings informed the fieldwork undertaken by the author in rural Rwanda in 2007.

about this land use policy fuelling their reluctance; hence derailing them from development” (National Unity and Reconciliation Commission, 2002).

However, the overall results of the policy have been disappointing. According to Human Rights Watch (see *“Uprooting the Rural Poor in Rwanda”*, 2001), people have been obliged to destroy their homesteads – traditionally scattered on the hills – to live in compact villages (imidugudu). Many households are now worse off both in terms of housing quality and land possession. The policy also failed to decrease pressure on available land holdings, and in many cases even created or deepened land conflicts (see also Pottier, 2002; Van Hoyweghen, 1999).

Despite these negative experiences, the policy has not been annulled. On the contrary, it plays an important role in a new wave of ‘anti-poverty’ measures. A highly-ranked government official advanced villagisation as a way to stimulate activities in the off-farm sector, adding that *“making people live communally in a village, could increase trade and exchange which is more difficult if people live scattered on the hills. It will also facilitate access to school infrastructure, health centres, etc. [...] Very important is the interaction between people, and this is not optimal when people live scattered on the hills”* (interview I, July 2007). Another government official raised this as a crucial issue in the environmental debate, *“A big exercise will be to design the land use master plan. At this point, people cultivate everywhere and live everywhere. But the goal is to determine in great detail the purpose of each plot of land. We will plan for imidugudu, grouping people around centres with infrastructure. This will allow us to recover the land that is best for agriculture. It will allow us to cultivate large land surfaces with specific crops, and most importantly to implement anti-erosive measures on those surfaces.”* In addition, he added that grouping people would be a way to withdraw them from the agricultural sector (without specifying how). This would on its turn increase the available space for environmental rehabilitation (interview D, June 2007).

The continuing relevance of the villagisation policy (since the administrative reforms of 2005) is manifest in the terminology that refers to the lowest administrative units. The term ‘umudugudu’ (plural: imidugudu) was originally reserved for ‘villages’ created by the villagisation policy, but the term is now separate from this policy and has replaced the more neutral term ‘cellule’, previously used for this administrative level. In drafts of District Development Programmes (set up by the district officials in mid-2007), there are references to the ambition to go forward with the villagisation policy as the *“The liberation of space will enable the recuperation of arable land and an intensive and industrial exploitation of the areas, the regrouping of the population*

in cooperatives active in production, transformation, distribution, savings and credit”
(quote from a preliminary draft, July 2007).

Another way in which Rwanda policy makers seek to upgrade the rural setting is through environmental policies that ban polluting activities. While defensible in principle, the way such policies are imposed is astonishing. The Rwandan government has for example banned the traditional brick-baking activity, and the self-made ovens that required quite a lot of wood are no longer allowed to operate. In numerous local settings, this has had a huge impact on living conditions, particularly for the non-agricultural labour force. In addition, the price of bricks, as well as tiles, has increased dramatically as a result of this policy. The government has now re-allowed brick-baking, but only with modern ovens, significantly increasing the cost of production. As a result, hardly any of the local entrepreneurs have the necessary means; they are surpassed by external actors who are much less embedded within the local context (see also Ansoms, 2008B).

Social engineering ambitions can also be seen in the attempt to change rural life by introducing certain social obligations or prohibitions. In 2006, Twizeyimana mentioned the obligation to wear shoes, to be clean, use mosquito nets, adhere to the health insurance guidelines, wear school uniforms, construct toilets, make compost pits, and dry dishes on a table instead of on the grass. In the six field research settings visited by the author in June-August 2007, local inhabitants mentioned an obligation to ‘walk with shoes’. Initially this policy was enforced in urban settings, but increasingly it has become common in rural areas. In several locations, people were not allowed to attend public meetings or gatherings (f.e. go to the market) without wearing shoes or flip-flops. Several people reported that when arriving at the market without shoes, their food money was taken from them forcibly by the local authorities to buy them shoes. A similar but less enforced policy is for people to wear ‘decent clothes’.

In several of the imidugudu, respondents also complained about the obligation to build stables for their livestock, and the prohibition to let cattle graze outside of the homestead. In order to comply with this policy, farmers need sufficient space for a stable and as well as for grazing, something that only the better-off farmers can afford. An unintended effect of this modernisation policy may be the disappearance of a solidarity mechanism, through which better-off households lend a cow to somewhat poorer households who then occupy themselves with raising and guarding the cow.

In two settings, better-off people were building modern toilets, and some constructed modern ovens, mentioning that they had to comply with official policy. Some mentioned specifically that while they had the money to invest, the poorer people of their hill would not be able to comply with these obligations. Taken together, these policies seem to be primarily concerned with the appearance of poverty, rather than alleviating the actual experience of poverty. It is, in other words, an ‘imposed modernity’ that seems to result in nothing more than the cosmetic upgrading of rural life while hiding the true image of poverty. In contemporary Rwanda, it seems to have become ‘prohibited by official policy’ to be poor.

4. Social engineering through performance targets

Finally, the engineering ambitions take a very concrete form in the policymakers’ eager race towards performance targets at all levels. In terms of management, the definition of targets may not be a bad idea. However, the risk is that in striving to reach predefined targets, policies are enforced without an eye to local implications. In other words, blind policy enforcement in the name of targets can produce perverse effects in local settings. As an international donor representative cautioned, *“indeed there is a danger to focus too much on targets and not on the process. The results are important, but as important are the processes to arrive to these results. In fact, a big challenge remains in terms of bringing in quality targets: how, for example, can you measure participation?”* (interview R, July 2007)

Ironically, however, the donor community strongly encourages target-driven development. Clear criteria provide donors with the necessary monitoring and evaluation tools to assess aid effectiveness. What is often omitted in Rwanda is a careful assessment of the impact of these targets on actual poverty reduction, which is more difficult to measure and to evaluate.

Target-drivenness takes very concrete forms within agricultural production, often with detrimental impact for poverty reduction. For example, I came across an umudugudu in the Southern Province where the district’s agronomist had put firm targets with respect to coffee plantation. If caught when uprooting coffee trees, local peasants had to pay 100 Rwandan francs per destroyed tree; and if they could not pay, they stated they would be imprisoned until the fine was paid.

There are other records of peasants being obliged by local authorities to adopt specific production techniques. In 2006, officials urged peasants in the Eastern Province to

plant their crops ‘in row’ and adopt mono-cropping. In the autumn of 2006, local administrators in certain districts pulled out crops when peasants had not followed the guidelines (i.e. they had planted beans in between banana trees, see Reyntjens, 2007, 2). In September 2006, the Mayor in charge of Muhanga (in the Southern Province) urged the population to replace their banana trees with other cash crops, flowers or pineapple. After a critical broadcast by the BBC, the recommendations were suspended (Cros, 2006). In early January 2007, the Governor of the Eastern Province, Mr. Mutsindashyaka, placed a ban on sweet potatoes. His decision was later revoked by the Minister of State for Agriculture (New Times 26/01/2007). In mid-2007, sector administrators of Gatsibo District in the Eastern Province compelled peasants to grow maize. According to the interviewee, it initially seemed that punishment might be used to oblige compliance, but he did not actually know of any such cases. However, in another sector (Rwamagana) in the same province, some maize crops had been uprooted during umuganda when not planted ‘in rows’ (Huggins 2007). In August, the governor of the Eastern Province added that peasants should concentrate on certain crops like maize, banana, rice, passion fruits, pineapples, soya beans and coffee (New Times 27/08/2007). In one of our own interviews with a district official (Southern province), he maintained that specialization will be a major goal in the rural development strategy of his district. He added that the people fear the risk but, *“they are obliged to obey: either they invest in this technique, either they will have to leave their land and work for someone who is willing to invest”* (interview Q, June 2007).

The issue of mono-cropping is controversial for several reasons. Authors have long pointed to mixed cropping patterns as a strategy of both risk minimization and profit-maximization in particular contexts (see f.e. Ruthenberg, 1971; Webster and Wilson, 1966). Indeed, the extreme variety in soil types – even within the same locality - and in climatic conditions makes it difficult for local administrators in Rwanda to assign the ‘right’ crops to administratively defined regions. Small-scale peasants will hardly be inclined to adopt monocropping in case of highly variable production outputs with no additional risk-insurance mechanisms that will protect them in the case of failure. As one civil society member put it, *“There are climatic instabilities. If people adopt monocropping and regional specialisation and if that particular crop type fails, what will the government offer? Policies have to be analysed in great detail to avoid that they lead to a humanitarian catastrophe”* (interview X, May 2007). Another crucial issue is what bargaining power the local peasants will have on the regional markets if entirely dependent upon those markets when specialising in particular crops (Ansoms, 2008A). The previous speaker remarked, *“In general, it is the rich that dominate the market. If the population will grow one crop that has to be traded for others on the market, will they have access to these other products”* (interview X, May 2007)?

Another civil society person involved in grouping peasants into cooperatives highlighted the importance for people to work within the framework of a cooperative as a way to communally defend their interests. Within the framework of the new agricultural policy, he saw this as the only alternative to having a market dominated by large agricultural entrepreneurs where small-scale peasants would totally lose their independence (interview W, May 2007).

Indeed, policy-imposed crop cultivation is not a recent idea. Both the Belgian colonial administrators and the Habyarimana government practiced ‘forced cultivation’ with little success. Pottier explains how agronomists and ‘vulgarisateurs’ in 1986 - the year of agricultural intensification - promoted monocropping (and combinations of beans and maize or soya and maize) as the only good gardening method. He points to the disastrous results of the ‘top-down’ approach in agricultural extension (Pottier 1992). Newbury and Newbury (referring to the same period) point to the danger of such state-induced practices, which often favour technical insights on climatological conditions and suitability of land over the knowledge and abilities of the peasants themselves. They also highlight the danger of elites redirecting policies to their own benefit (Newbury and Newbury, 2000). Given this history, the current scale of crop planning, the blind belief in technical solutions, and the degree of force used during the implementation are again major reasons for concern. The danger is that pre-defined targets are allowed to override such concerns, to the detriment of small-scale farmers.

Stringent targets are also formulated in the area of land registration. According to several interviewees in the Ministry of Land, the issue of land registration should not pose a major problem for the local population. One stated, *“Land is not a sensitive issue to Rwandans. People going into the field [referring to researchers] often expect a lot of disputes, but in fact this is not the case. Most disputes that exist are within families, and due to polygamy. Therefore, land dispute is not the most serious issue in land reform, the most serious thing to look at is the human capacity building. The essence of the organic land law is to start issuing rights. It is now that people get rights. [...] We start from fresh. It is easy to get the system running because you are not competing with something what existed before. As a result there can be no resistance from other things. In any case, people will be happy as we offer them a better option for their future”* (interview M, July 2007). A foreign consultant within the Ministry of Land opined, *“... the problem of land conflicts in Rwanda is overblown by the international aid community and the western embassies. Land is not the cause of a lot of war. Indeed there are problems related to polygamy and to struggling brothers. But in fact the formal registration could turn out to be an*

opportunity for solving conflicts by providing a simple clear and formal procedure” (interview K, May 2007).

A researcher, who had spent one and a half years studying gender relations and land disputes in relation to formal procedures, came to very different findings, *“When asking people about land registration or consolidation, they often agreed, but most probably because the authorities said they had to. Due to the culture of silence and adherence to hierarchy in the public sphere, people will not speak out. But after continuing the interview and coming back to the issue, they often say completely different things after a while. The main question in counting land disputes in the registration process is thus whether people will be pissed openly or behind closed doors. In any case the tensions do exist” (interview Y, May 2007).*

The view on land titles as a simple and clear solution to the ambiguity of informal rules totally bypasses a reality of land rights based on a combination of formal and informal rules that mutually interact, reinforce or compete with each other. New formalized only add a new dimension to the competition that exists between different prevailing institutional arrangements, which, in practice often results in a “plurality of norms” (Chauveau 1998). There is, moreover, considerable controversy over the usefulness and ‘pro-poorness’ of the land registration process. A clear picture of ‘who owns what’ protects people in a process of land consolidation either by clearly marking their boundaries, or by giving them a legal basis for compensation. On the other hand, the registers may be used to identify the owners of wrongly used soils and oblige them to adopt other techniques and fine them in case of non-compliance (interview U, May 2007).

The risk of running blindly to meet targets is equally high with the new Economic Development and Poverty Reduction Strategy (EDPRS) framework. The sector ‘logframes’ mention very detailed targets, some of which are extremely ambitious. By July 2007, these targets were already (partly) communicated to the district offices, who had to consider them when designing their District Development Plans. (interview A, June 2007). In addition, the district mayors have signed a performance contract (imihigo) with President Kagame, specifying the key targets that individual districts are to attain within one year, in line with the government’s national priorities (for the ‘traditional’ and ‘new’ interpretation of the imihigo concept, see Ingelaere, 2007). This makes the district the central unit in the decentralization policy, and the core level for national policies and targets to be re-stated into local plans (interview N, May 2007).

In principle, the responsabilisation of the local authorities in the implementation of national policies could improve the translation process of national targets towards the local context, making them more democratic and adapting them to the needs of the population. However, there are some major constraints. First, at the most important local administrative levels (district, sector and cellule), the main decision making power lies with an administrative person (the executive secretary) who is appointed by the central administration, and thus not elected by the population. In other words, this person is not directly accountable to the local population, which he/she is supposed to represent, but to the national government. The person's position depends, to a great degree, upon compliance with and implementation of national priorities, regardless of the burden on the local population (Ingelaere, 2007). Ingelaere describes this process as "the chain of accountability [going] upwards towards higher authorities and not downwards towards the population" (Ingelaere, 2007: 36). As a human rights spokesperson stated, *"Free expression is currently a utopia. Laws are implemented in an authoritarian way and the population cannot say 'no' to the authorities. In fact, the current leaders receive their instructions and have to implement. I do not believe in the district responsables, they are commissioners of the RPF. They are the link between the RPF and the population, not chosen but imposed. And they receive good salaries for it. They are not at all close to the population, often they are not even from the region they rule. The local population had to accept, but it created tensions. This is not a stable base for peace. And the same goes for the sector and cellule level. The executive secretary is appointed by the RPF. The person responsible for security is often an ex-military person. And the [elected] coordinator, say the 'conseiller' in the previous system, is not paid. Only the people appointed are paid. At the lowest level of the imidugudu, local authorities do not really have a decision capacity; their role is more symbolic"* (interview X, May 2007).

Surveying the six field research settings (visited by the author) at the lower sector and cellule levels, we found, indeed, that the executive secretary of the cellule was, in all cases, native to that cellule. However, in none of the settings was the sector level executive secretary native to that sector. In one case, he was from the same district in which his sector was located. In all other cases, he was from elsewhere (and often the population had no idea from where). In one setting, there was considerable speculation about the executive secretary's origins. When asked, he would only respond, *"know only that I am from Kamonyi [the district]."* His accent was Anglophone and people thought ('suspected' using the words of the local population) that he was from the Ugandan Diaspora. In an interview, a district official in Southern province mentioned that he had been 'sent' to the district when the Ministry of Agriculture was reorganized. He was clearly not satisfied with his new position

outside of Kigali, having to go out to work and return every day. He explained, *“I do not like to look at poor people and deal with them. In fact, when I worked in the ministry, I did not have to look at the poor. That was the level of policies and decisions. It is now in this new function that I am directly confronted with the poor”* (interview Q, June 2007).

It is clear then, that target setting has not brought the administration closer to the local population. The central administration, as well as the local peasants, regards local authorities as a pure implementing body of national strategies without much influence to translate or reinterpret these strategies to make them suitable for the local setting. When asking peasants about their opinion on specific policies, we got reactions like *“one can not discuss with the state,” “one can not refuse the law that is given by the state,” “a peasant can not neglect the ideas of the state,” “the government can not have bad ideas. Can I as a peasant neglect the idea of the state? The government thinks more than the peasant,” “generally, the peasant is always in favour of the authorities [referring to the fact that they have no choice].”* Going into more detail, someone mentioned, *“our own umudugudu coordinator has no power; and for the executive secretary (at the sector level), he might say that we are being disobedient towards the government if we protest.”* These remarks strongly suggest that the peasants interviewed by no means saw the local authorities as their representatives.

The central role of local administration in implementing national policy is also highlighted by central government officials. As an interviewee of the PRSP coordination committee (within the Ministry of Finance and Economic Planning) explained, *“The ministries will play a monitoring role, while the biggest part will happen at the district level. The key indicators are passed on to the districts. There the authorities have to be engaged to make sure that the national priorities are in line with the local priorities. The reactions of the districts are very good. They will be evaluated based on the key indicators. If they do not meet them, they need to explain the reasons. It is of course not a crime. But the national priorities have to be implemented at the local level”* (interview B, May 2007).

This view was reinforced by a Ministry of Agriculture consultant, who put it this way: *“while targets at the national level were already considered to be ambitious, the targets at the local district level are put even higher than the national targets”* in the framework of the agricultural strategy (interview G, May 2007). Indeed, in the preliminary drafts of some district development plans, we found extremely detailed references to crop production targets, to the percentage of soil that should be terraced, to the percentage of households that should be living in *imidugudu*. Such rigid targets

seem to ignore what popular support there is (if any) for planning targets at the local level. An independent consultant explained, *“We are going to loose a lot of time in things that will not improve the living conditions of the great mass of people. For example, the anti-erosive policies: the mayor of the district can reach that 90% of all soil is protected, but how long will this last? It asks a lot of maintenance, and quite often this is not possible”* (interview H, July 2007).

Next to the local administrative levels, the Rwandan government is also incorporating civil society organisations in the implementation of its agricultural and land policies. However, this ‘participatory process’ often comes down, in practice, to simply using civil society organisations in a public awareness campaign of what has already been decided. In the eyes of the policy makers, the role of the civil society organisations is to ‘inform’ the population, while ignoring the capacity of these organisations to give a voice to the population’s feedback upon national targets and policies (this can be concluded from examples given by two civil society spokespersons in interview W, May 2007 and interview V, May 2007). A major challenge for civil society will be to play an interactive broker role between government and local populations, both from top to bottom as from the bottom up.⁴⁶

The lack of grassroots participation and bottom-up reflection upon the usefulness and adequacy of targets will become all the more problematic with the government’s current ambition to expand the ‘performance contracts’ (*imihigo*) down to the household level. In these contracts, households should “make vows of the achievements that they will have attained in a period of one year”, which “will [be] base[d] on the government’s goals meant to uplift the country’s economy and the people’s welfare”, and which be assessed by the local authorities (New Times 19/11/2007).

⁴⁶ As one of the civil society representatives stated, *“The government is the ‘maître d’oeuvre’ but with a vision to reinforce the capacity of the population. The civil society can play a role to help the population understand the policies and to learn from them that they can speak out. We have to help them understand that they can express themselves, it is not because the Major [referring to official authorities at the district level] says something that one should accept.”* Later in the interview, the person gave an example of how this freedom of expression should look, *“With the district development plans, the Major has to be accountable based on which objectives he has reached, both towards the population as towards the President of the Republic. It is there that the population has to learn that they can protest when the Major has not reached the targets. The population has to be a counterweight. But objecting should be done with arguments, if not, you have to keep silent. Without arguments, objecting may seem like one is against those in power as such.”* As such, this person sees the role of civil society organisations as making the population a watchdog, to check whether the Majors have reached the objectives in the district development plans. At the same time, however, the civil society person did not mention the need for civil society to give a voice to the local population with regards to the contents of those plans.

5. Conclusion: implications for rural policy

The Rwandan case illustrates how rural development policies are not a purely technical issue, but closely related to the position of elites and their relationship(s) with the peasantry. The current Rwandan elite is mostly Tutsi, urban-based and often born outside Rwanda, while the Rwandan peasantry is mostly Hutu, rural-based and born in the country. The physical, ethnic and mental gap between their worlds profoundly shapes the chances for successful rural development.

The social engineering ambitions of the Rwandan government officials reveal a very top-down developmentalist agenda without much room for grassroots participation or for bottom-up feedback. Instead, the elite approaches law and policy as tools for 'shaping' society, and often neglects to consider the institutional and environmental conditions in which the new law(s) will operate. In addition, decentralization has not increased the voice of the rural poor in policy making. On the contrary, it has allowed the centre to extend its influence to the local level in a very authoritarian way. In such a context, target-based assessments to evaluate national policies are potentially dangerous monitoring and evaluation tools.

The elite believes in a rapid modernisation and professionalisation of the agricultural sector, and strongly rejects subsistence-based agriculture, although it remains the way of life for the majority of the rural population. The elite pleads for larger farm units and consolidation of landholdings, objectives that are to be achieved either by grouping farms in a type of collective ownership, or by transferring land into the hands of fewer people. Their goal is to reduce the proportion of the population that depends upon agricultural activities. There is, on the other hand, no clear public vision of what alternatives will be available to those who leave agriculture.

The image of a countryside consisting of amalgamated large-scale farms is not likely to be conducive to poverty reduction - at least in the immediate future. Moreover, there still is considerable unexplored productive potential in the group of small-scale farmers. They could not only play an important role in growth strategies, but growth created through their hand would be more broad-based and more easily trickle-down to the remainder of rural society. The main constraint for rural development is therefore not the lack of potential of small-scale farmers. It is the lack of political will among the Rwandan elite to orient rural policies directly towards the rural poor.

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Annex: List of interviewed persons

	<u>Date</u>	<u>Affiliation</u>	<u>Description</u>	<u>*</u>
A	June/2007	Minecofin	Involved in EDPRS – high rank	F
B	May/2007	Minecofin	Involved in EDPRS – high rank	E
C	June/2007	Minecofin	Involved in EDPRS	F
D	June/2007	Minecofin	Involved in EDPRS	F
E	June/2007	Minagri	High rank	E
F	July/2007	Minagri	High rank	F
G	May/2007	Minagri	Foreign consultant	
H	July/2007	Minagri	Local consultant	F
I	July/2007	Minitere	High rank	E
J	July/2007	Minitere	High rank	F
K	May/2007	Minitere	Foreign consultant	
L	July/2007	Minitere	Foreign consultant	
M	July/2007	Minitere	Local consultant	E
N	May/2007	Minaloc		F
O	May/2007	Minaloc		F
P	June/2007	Southern Prov. District		F
Q	May/2007	Southern Prov. District		F
R	July/2007	International donor		
S	May/2007	Bilateral donor (Eur)		
T	May/2007	Bilateral donor (Eur)		
U	May/2007	Bilateral donor (Eur)		
V	May/2007	CSO	Domain : Agriculture	F
W	May/2007	CSO	Domain : Agriculture	F
X	May/2007	CSO	Domain: Human rights	F
Y	May/2007	CSO	Domain: Human rights (foreign)	
Z	May/2007	CSO	Domain: Human rights	F

Minecofin: Ministry of Finance and Economic Planning

Minagri: Ministry of Agriculture and Animal Resources

Minitere: Ministry of Land, Environment, Forests, Water and Mines

Minaloc: Ministry of Local Government, Community Development and Social Affairs

* English or French as second language

Chapter 3

Rural poverty and livelihood profiles in post-genocide Rwanda

By An Ansoms

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Key words: rural poverty, livelihoods, cluster analysis, Rwanda, Central-Africa

Abstract

The chapter aims to identify the different livelihood profiles that prevail in post-conflict rural Rwanda. By means of exploratory tools such as principal component and cluster analysis, it combines variables that capture natural, physical, human, financial and social resources in combination with environmental factors to identify household groups with different asset portfolios and varying livelihoods. The chapter also explores how household groups differ with regards to the intra-cluster incidence of poverty. Finally, for a subsample, it looks in detail at how the identified household clusters perceive changes in their living conditions between 2001 and 2004. The chapter concludes that “fighting poverty” can take very different forms for groups with different livelihood profiles.

0. Introduction

The overall image of Rwanda’s post-war economic recovery is quite positive. After a spectacular post-war boom, national income has continued to rise steadily with an

average growth rate of over 10 % between 1996 and 2002. On the other hand, the actual translation of growth into poverty reduction has been disappointing (Ansoms, 2005, 2007) which diminishes the Government's hopes of a purely growth-led strategy for poverty reduction. However, the Rwandan government aims for a pro-poor effect by, "looking for growth in the sector where the poor are located" (GoR, 2002). The first PRSP (Poverty Reduction Strategy Paper) document recognized the rural sector to be of crucial importance for Rwanda's economic future by presenting the agriculture and livestock sector as "the primary engines of growth" (GoR, 2002: 30). This ambition reappears in the new EDPRS (PRSP-2) policy which aims for equitable growth, sustainable development, and poverty reduction with rural development as an important priorities (GoR, 2007).

This hardly seems surprising given that the primary sector employs almost 90% of Rwanda's active population and represents about 45% of its GDP. Moreover, rural poverty is more prominent and severe in comparison with urban conditions. Based on a poverty line of 250 Rwf (Rwandan francs) per adult equivalent per day (1,22\$ PPP, current 2006 exchange rate), 56,8% of the rural population are labelled poor, of whom 36,8% are considered extremely poor (i.e. living below the food poverty line of less than 175 Rwf per adult equivalent per day, GoR, 2007).

However, Rwandan 'poor' are not a uniform group, nor is the problem of rural poverty a homogeneous problem that can be solved with a uniform package of policy measures that enhance agricultural growth. The contribution of this chapter lies in the identification of different livelihood profiles for rural households in Rwanda. An understanding of the variations in the characteristics of different livelihood profiles, and the institutional constraints they face, is a prerequisite for effective rural policy making and is the aim of this chapter.

1. In search of a quantitative methodology to identify diverse livelihood profiles

The livelihood approach finds its main roots in a paper by Chambers and Conway (1991). They define sustainable rural livelihoods as, "the capabilities, assets (stores, resources, claims and access) and activities required for a means of living" (Chambers and Conway, 1991: 6). The approach has been taken up by many scholars as a framework for poverty and/or vulnerability analysis (Ellis *et alii*, 2003; Bird and Shepherd, 2003; Bebbington, 1999; Moser, 1998; Chambers, 1995). In addition, it has

been transformed into a more practical tool by and for development practitioners like UNDP, Oxfam, Care and DFID (Hoon *et alii*, 1997; DFID, 2001; Solesbury, 2003).

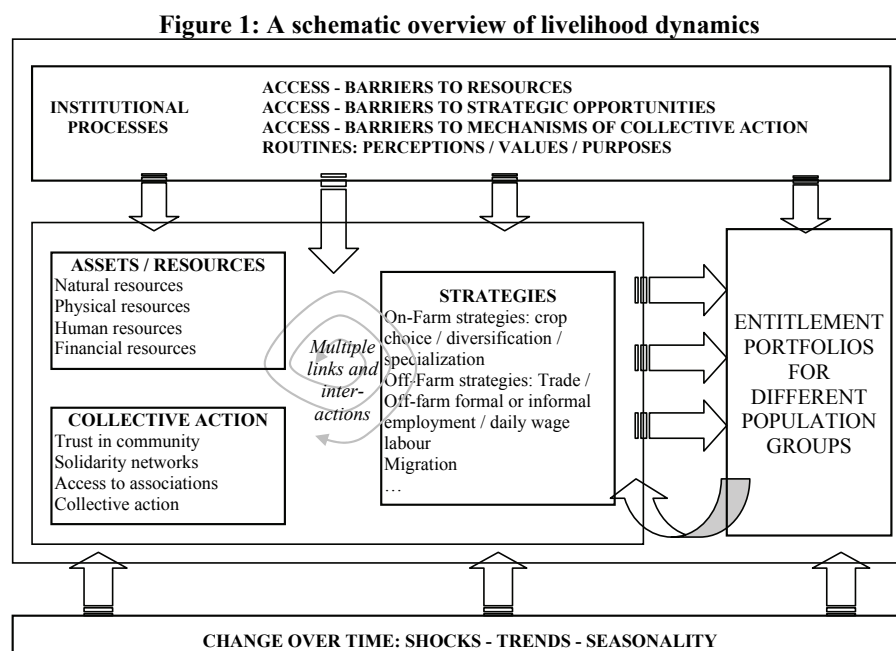
The livelihood approach has been innovative in several ways. First, the focus of analysis has shifted away from aggregate variables concentrating on approximations of overall well-being, often scaled down to income or consumption measures (De Haan and Zoomers, 2005). The framework also breaks with the tradition in rural development research to focus on natural resources as the crucial element in living conditions (Bebbington, 1999). Instead, the livelihood approach aims to capture the multiple interactions between people's resources and strategies which are dependent upon the social and institutional environment (see Figure 1). In this chapter, the combination of a household's resources and livelihood strategies will be referred to as the household's 'livelihood profile.'

Second, the livelihood approach accentuates the ability of social actors to make strategic choices, exploit opportunities and thus play an active role in shaping their livelihoods. It breaks with the rather pessimistic view of previous micro-level (household) studies which often nurtured an image of 'the poor' as passive marginalized victims (De Haan and Zoomers, 2005). Bebbington sees people's assets, "not simply [as] resources that people use in building livelihoods; [they] give them the capability to be and to act" (Bebbington, 1999: 2022). According to Moser (1998), "the poor are managers of complex asset portfolios". And social actors have different management styles and thus diverse strategies in dealing with their assets, even when departing from comparable starting positions (De Haan and Zoomers, 2005).

In contrast to the basic needs approach, the livelihood profile framework considers people to be the subjects of their own development and able to shape their own destinies. Although the more deprived and constrained they are in their options and strategies, they nonetheless remain active players who have different choices and are capable of making their own decisions. This idea approximates Sen's notion of agency, which he esteems as central in valuing human life. Sen introduced the concept of "agency freedom," defined as "what the person is free to do and achieve in pursuit of whatever goals or values he or she regards as important" (Sen, 1985)⁴⁷. The notion of agency is relevant in all social experiences, even in case of extreme coercion. Agency determines and is determined by the person's access to strategic resources; it is embodied in social relations, closely linked with power relations and shaped through institutional structures (Long, 2001).

⁴⁷ This stands next to a narrower concept of "well-being freedom" which refers to a person's capability to attain certain well-being achievements.

Both characteristics of the approach bring us to a third attribute: the livelihood approach inserts a dynamic dimension into the analysis of well-being and poverty. Indeed, the multiple links and interactions between resources and strategies occur within a timeframe in which livelihood profiles may evolve. The livelihood profiles box (Figure 1) is therefore nothing more than a snapshot at a certain point of time (in this case when the survey was done) that feeds back into the interaction between a household's resources and livelihood strategies. De Haan and Zoomers (2005) have developed the idea of 'livelihood pathways' that situate patterns of livelihood assets and activities in the negotiation process between social actors. These pathways change over time in a non-uniform, non-predefined way, but their course is embedded within an institutional and social context. The available institutional arrangements shape the interactions between social actors with diverse power bases and different livelihood pathways. However, this bargaining process determines how institutional arrangements evolve over time. Niehof refers to the idea of a livelihood system, defined as, "an open system, interfacing with other systems and using various resources and assets to produce livelihood, with the household as the locus of livelihood generation" (Niehof, 2004: 321). She points to the importance of a temporal perspective in livelihoods research.



These conceptual inputs clearly imply that 'the poor' cannot be defined as a homogeneous or fixed group; they are heterogeneous; both in terms of material well-

being and in terms of their agency that defines their living conditions. Bastiaensen *et alii* refer to the poor as, “those human beings who, for one reason or another, almost systematically end up at the losing end of the multiple bargains that are struck around available resources and opportunities” (Bastiaensen *et alii*, 2005: 981). But at the same time, there are different degrees in winning or losing that may account for different degrees of poverty. Certainly in populations where over half are classified as ‘poor’ according to aggregate well-being measures, it becomes crucial to look at the diversity hidden behind aggregate poverty figures and to link this with the diversity in livelihood profiles. Furthermore, one should analyse how particular forms of poverty predetermine people’s livelihood pathways.

Such analyses imply a high degree of complexity which is more traditional for in-depth qualitative research than research based upon quantitative data analysis. Traditionally, quantitative research on living conditions uses the tool of regression analysis in which a dependent variable (f.e. often income or consumption as proxies for overall well-being) is estimated, based on the value of one or more independent variables (i.e. different types of assets and strategies). Such a methodology has the advantage of establishing the relationship between variables. On the other hand, it gives little insight in the heterogeneity of livelihood profiles among a large population – even when dummy variables for specific sub-groups are used. In addition, aggregate income and consumption variables are highly variable from year to year and - when used as the sole dependent variable in the regression - do not reliably represent households’ long run livelihood strategies.

Other empirical quantitative research endeavours attempt to account for livelihood diversity by comparing different settings. Bouahom *et alii* (2004), for example, compare how nine different villages in Laos respond differently to the transition from subsistence farming towards more diversified livelihood strategies. Moser (1998) even enlarges her geographical scope to four urban settings spread over different continents, comparing the changes in asset portfolios (i.e. defined by labour, human capital, productive assets, household relations and social capital) over a longer time period characterised by deteriorating macroeconomic circumstances. This case-study approach allows one to make interesting comparisons between particular settings. On the other hand, the external validity of the research findings is limited.

Alternatively, one may look at livelihood heterogeneity at the household level. The external validity of research findings may be assured by departing from a regionally or nationally representative survey to identify and compare the profiles of different

household groups. A crucial question is, however, which variable(s) is (are) used to differentiate those groups.

Several research papers on livelihoods analyses use income as the discriminating variable. Highly acknowledged is Ellis' methodology which has been applied to several countries (f.e. Malawi, Tanzania, Uganda and Kenya). Land and livestock are placed in a pentagram next to household size, tools and education to illustrate the differences between income groups. Various papers look further at the diversity in income-generating portfolios for different groups (Ellis *et alii*, 2003; Ellis and Mdoe, 2003; Ellis and Bahiigwa, 2003; Freeman *et alii*, 2004). Bird and Shepherd (2003) link income groups to the likeliness of pursuing certain livelihood strategies (f.e. income from farming, off-farm activities, enterprises, etc). Applied to the Zimbabwean case, they conclude that, "no particular livelihood strategies were intrinsically any better than any others" given that "there was a considerable range of incomes derivable from most livelihood portfolios." Some strategies are, however, more likely to be successful than others (Bird and Shepherd, 2003: 602). McKay and Loveridge (2005), although not explicitly referring to the livelihood literature, have done a similar exercise for the Rwandan case. They compare the income strategies and nutritional status of different income groups between the early 1990s and 2000. Overall, the methodology used in these studies has the disadvantage that the differentiation between groups is still based upon one aggregate proxy for overall well-being. Groups are defined based upon income categories, after which the combination of assets and strategies, relevant for a person's livelihood profile, is inserted into the analysis.

An alternative approach combines survey data with insights from participatory poverty assessments (PPA) to identify the relevant criteria for differentiation between households with different livelihood profiles. Carter and May (1999), for example, divide the rural South-African population into eight livelihood strategy classes, based upon the diversity in their income-generating and survival strategies. It is not, however, straightforward to assign all households included in a quantitative survey to one specific qualitatively-defined PPA category, and certainly not when the household in question combines several livelihood strategies. This is illustrated in a paper by Howe and McKay who, referring to the Rwandan case, recognize that, "distinctions between the groups [identified by a PPA exercise] are not always clear at the margin, given some similarity in certain characteristics across groups" (Howe and McKay, 2007: 203). They link survey material to the combined characteristics of the three poorest PPA categories (out of six) to identify the chronically-poor households' livelihood profiles.

A third possibility to identify household groups with heterogeneous livelihood profiles – one that takes into account a wide variety of variables relevant to livelihood analysis – is to use the tool of cluster analysis. Orr and Jere (1999) identify five types of smallholder livelihood strategies in southern Malawi. Their cluster analysis includes several variables related to crop cultivation, food security and household characteristics. For a subsample of each of these clusters, Orr and Mwale (2001) analyse in detail the changes in livelihood strategies over time. This fits with the idea of inserting a temporal dimension into livelihood research. Jansen *et alii* (2006A; 2006B) identify groups with diverse livelihood profiles in Honduras and depart – in comparison to the previous authors – from a larger set of variables, all related to the use of labour and land, to be inserted into a factor and cluster analysis. Petrovici and Gorton (2005) finally use an even broader range of variables as a starting-point for a factor and cluster analysis. They identify sub-groups in the Romanian population based upon proxies accounting for different asset types⁴⁸, in addition to regional variables and income and expenditure-related measures. The meaningfulness of the clusters is validated by referring to the differences in food consumption patterns and poverty incidence figures among them (Petrovici and Gorton, 2005).

This chapter adopts a similar factor and cluster methodology to identify different livelihood profiles in rural Rwanda. The identification of the sub-groups (clusters) in the population is based upon proxies for the different asset types identified by the livelihoods framework, next to proxies for the regional context and aggregate well-being. Further validation of the clusters is provided by illustrating how the identified clusters differ with regards to their income-generating livelihood strategies and in terms of objective and subjective poverty incidence. A dynamic dimension is added by exploring, for a subsample, how the identified subgroups perceive changes in their living conditions over the period 2001-2004.

2. The data

This chapter combines data from complementary sources. The Household Living Conditions Survey (EICV) was done between July 2000 and June 2001 in a

⁴⁸ Petrovici and Gorton do not depart fully from the livelihoods framework but base themselves instead upon an alternative asset-based framework identified by de Janvry and Sadoulet (2000). The latter refers to natural assets (f.e. land, water, soil fertility, etc.), human assets (f.e. number of working adults, education, etc.), institutional assets (f.e. access to credit, information, government programs, etc.) and social assets (f.e. social capital, membership in corporate communities, etc.). In addition, they add the regional context (i.e. location) as an asset type. They conclude, “Household endowments in these assets have a strong explanatory power on household income” while highlighting the potential substitution effects between different asset types (de Janvry and Sadoulet, 2000:395).

nationally-representative sample of 5,280 rural households. The survey includes data on various themes such as: education; health; time use; migration; housing; agricultural production; incomes; expenses; non-agricultural activities; money transfers; and credit facilities. The results were used to compose a descriptive national poverty profile which served as a research background to Rwanda's first PRSP (GoR, 2002).

The Food Security Research Project (FSRP)⁴⁹ gathered agricultural production and land use data over 3 years (between 2000 and 2002), each time for both seasons (A: September – February, B: March – August). The survey was executed in a subsample of the EICV survey covering 1584 households. Compared to the EICV data regarding land and livestock ownership, the FSRP data is more reliable given the effort put into exact measurement and follow-up by the surveyors involved.

For the principal component and cluster analyses done in this chapter, we consider the overlapping sample of EICV 2001 and FSRP 2001A, counting a total of 1433 cases. We use weights that reflect the probability of being sampled. Multivariate outliers are identified based on the Mahalanobis distance⁵⁰. Outliers can profoundly distort the principal component analysis through their influence on correlations between variables. In addition, the presence of outliers can lead to cluster outcomes that fail to uncover the true structure in the data. Hair *et alii* (1998) advise excluding, “aberrant outliers” but they plead for cautiousness in case of “truthful outliers” which reveal the presence of an important group, underrepresented in the total sample. It is difficult to assess the difference between both. To avoid deletion of too many outliers of which many might be truthful, we opted for a very low p-value (critical value of 37,697; $p \leq 0,001$) in determining the critical Mahalanobis value. Based upon this criterion, a total of 55 identified outliers are excluded. Further, the remaining sample contains 158 cases for which no complete information is available. They are also excluded leaving 1200 cases in the analysis.

The combined EICV-FSRP sample is assumed to be representative for the rural inhabitants of Rwanda. However, two important remarks have to be made with regards the external validity of the research findings. First, the sampling procedure was based upon a random selection from the administrative listings of households within the “cellules”. Although most households have some kind of shelter (however poor the quality, and regardless of whether it is their own property or not), the sample

⁴⁹ A joint initiative of Michigan State University, the Ministry of Agriculture and USAID.

⁵⁰ The Mahalanobis distance was calculated based upon all variables included in the factor and cluster analysis. For an overview of these variables, see further.

still excludes the category of the extremely poor/homeless. Second, the sample does not include all the actors 'present' in the rural setting. For example, it does not include those urban entrepreneurs who own large plots of land in the countryside but do not occupy them. The average land surface available to the households included in the sample is around 0,73 hectares; the maximum 10 hectares. Although the latter farms are large in comparison to the average, they represent little when compared with the cattle farms of Umutara which measure between 30 and 100 hectares, or with private investors' farms which may occupy several thousands of hectares⁵¹. The owners of such large-scale professional farms typically do not live in the country, but manage their properties from the cities (GoR, 2003). This may give a false image of the poor in comparison to the better-off, given that the richest 'rural' actors are not included in the reference base.

The relevant variables for this analysis are related to the five asset types identified within the livelihood framework, in addition to variables accounting for regional differences and aggregate incomes and expenditures. We are aware that some of these variables are endogenous to the livelihood process; some can be considered inputs, others as outputs, others as both inputs and outputs. This is not problematic as we do not look for causal links between variables. Instead, we aim to identify clusters of characteristics that fit into particular livelihood profiles.

Natural capital: A first variable, accounting for natural assets, is the land surface cultivated by the household (FSRP, 2001, season A). A second proxy for this dimension, the livestock variable, accounts for all livestock and small husbandry the household owns (i.e. either kept at their own farm or lent out to other farmers) and borrows, measured in tropical livestock units (TLU) (FSRP 2001, season A)⁵².

Physical capital: Proxies for physical assets should account for affordable transport, secure shelter and buildings, adequate water supply and sanitation, clean affordable energy, and availability of information (DFID, 2001). In this analysis, an aggregate physical asset index was calculated as the sum of the household's scores (i.e. 0 = insufficient, 1 = OK, 2 = Good) on six variables: availability of transport, availability of rooms per adult equivalent, quality of outside walls, quality of roof,

⁵¹ Kabuye Sugar Works was the first company to be privatised in post-conflict Rwanda. At the time of its sale in 1997, the Rwandan government granted the company a lease on 2735 hectares for 50 years (Cherif, 2004). Thereafter, another 1500 hectares of land were promised to the company.

⁵² For the land and livestock variables, both FSRP and EICV survey data were available. We consider the FSRP data to be more reliable for agricultural assets, given that f.e. the land variable was measured by FSRP surveyors, while EICV data was based on estimates made by the household head him/herself.

quality of sanitation and of energy for lighting (EICV, 2001)⁵³. The range of the asset index lies between 0 and 12 and is normally distributed. Variables accounting for access to an adequate water supply and access to information were not included as no satisfactory proxies could be identified.

Human capital: Proxies for human assets⁵⁴ are the age of the household head, the gender of the household head⁵⁵, the number of adults aged between 14 and 60, and the maximum number of years of education of the most instructed household member (EICV, 2001)⁵⁶.

Social capital: Social asset proxies include a variable for the number of household members participating in tontines (rotating savings and credit associations, EICV, 2001)⁵⁷ and in diverse economic associations of other kinds (FSRP, 2000, season A)⁵⁸.

Financial capital: Turning to financial assets, there are two variables that could serve as proxies: having savings and having access to credit. The “participation in tontines” variable is an imperfect proxy for both. Other variables, accounting for the household’s savings or loans, were not included in the analysis as they are highly dependent upon the timing of the interview. Moreover, the rationale behind having

⁵³ Availability of transport: 0 = no transport expenses or owning means, 1 = transport expenses, 2 = owning means of transport. Availability of rooms per adult equivalent: 0 = less than 0.5 rooms per adult equivalent, 1 = 0.5 – 1 room per adult equivalent, 2 = over 1 room per adult equivalent. Quality of outside walls: 0 = walls of non- cemented laterite mud or stone, 1 = walls of cemented laterite mud, 2 = walls of bricks (any type) or boards. Quality of roof: 0 = roof of thatch or straw, 1 = roof of tile, 2 = roof of corrugated iron / concrete. Quality of sanitation: 0 = no toilet, 1 = open pit latrine, 2 = closed pit latrine / flushed toilet. Quality of energy for cooking: 0 = firewood, 1 = wick lantern/ candle, 2= oil or gas lamp/electricity.

⁵⁴ A potential proxy for “health”, measured by a variable as to whether a member of the household had been sick between February 2001 and March 2002, was not included. This period does not correspond well with the data from the EICV and FSRP 2001A. Moreover, the interpretation of “being sick” may differ widely for each respondent.

⁵⁵ The dummy variable “gender of household head” was corrected for the presence of male adults in the family. The analysis will highlight the specificities of living conditions of female-headed households in relation to gender-related institutional constraints. Female-headed households with male adults were reclassified into the male- headed household group as we expect these households to be less constrained by certain gender-induced mechanisms of exclusion (0=male household head or female household head with adult males in household, 1=female household head with no adult males in household).

⁵⁶ The “maximum level variable” as a measure of a household’s level of education has proved to be optimal for estimating total household income (Jolliffe, 2002) This paper does not focus uniquely on clarifying income but both the education and income variables are included the analysis.

⁵⁷ This variable can also serve as a proxy for access to credit.

⁵⁸ This variable generally captures membership in another type of association(s) than tontines. Associations are either cooperatives, syndicates or other types of economic associations of which over 85% of the members are engaged in agricultural or livestock-breeding activities.

debts might differ: some households may use these loans to invest in a productive activity whereas others may need credit mainly to survive.

Regional context: In addition to the asset variables, four variables are included as proxies accounting for the regional context. “Remoteness” is measured at cellule level and is defined as the approximate physical distance to the nearest registered road (either a district road or a national sand or asphalted road). “Public service proximity” is also measured at the cellule level, calculated as the sum of the Z scores of 3 variables accounting for the physical distances to the nearest market, school and health centre. Further, the analysis includes the average provincial cost of living index, based on prices from July 2000 until June 2001⁵⁹, and an index accounting for average soil quality at the cellule level.

Aggregate variables: Like Petrovici and Gorton (2005), we too include both income and expenditure variables on a per capita basis⁶⁰. Incomes are generally lower than expenditures, meaning that a lot of the ‘true’ income is not captured with the survey material. This phenomenon is not uncommon in survey data (Deaton, 1997).

3. Identifying livelihood clusters based upon asset portfolios

The tool of principal component analysis allows one to create a new set of variables (i.e. principal component scores) capturing the character of the original variables in a simplified way and reducing the number of variables (as the original variables can be replaced by component scores). The method of substitution also solves the problem of high correlations between the original variables (Hair *et alii*, 1998) which may distort further analysis.

⁵⁹ Taking provincial boundaries as a basis for the determination of living costs is a huge oversimplification of the complexity of local price levels and evolutions. Nonetheless, without more detailed data, the considerable differences in price levels between provinces calculated in this fashion are useful.

⁶⁰ The expenditure variable was calculated by the statistics department providing the EICV data. Income is defined as the value of consumption of self-produced food plus gross revenue from sales of agricultural products minus total expenditure on agricultural inputs plus revenue from net sales of livestock and livestock product, agricultural wage income, non-agricultural unskilled wage income, non-agricultural skilled wage income, non-farm enterprise income, income from rents, net income from remittances plus total miscellaneous income. Both income and expenditure variables are deflated by the cost of living to control for variations in the timing and location of the interview. McKay and Loveridge (2005) highlight the importance of excluding the most extreme income outliers (f.e. mainly the consequence of the short recall period for consumption of self-production in the EICV survey resulting in over- or underestimation). Consequentially, extremely large or small (even negative) income values have to be excluded from the analysis. Prior to analysis, negative income values were excluded. Other cases were excluded based on extreme values for the multivariate Mahalanobis distance.

Our sample size (1200 cases) is sufficiently large in terms of cases-per-variable ratio: the availability of over 80 cases per variable largely exceeds the most stringent margin of a 20-to-1 cases-per-variable ratio (Hair *et alii*, 1998). Principal component analysis further assumes the presence of a certain degree of interrelatedness between the variables considered. Bartlett's test of sphericity identifies the correlation matrix as significantly different from the identity matrix (696741,5; df = 105; $p < 0,001$). Further, the Kaiser-Meyer-Olkin measure of sampling adequacy (0,649) confirms the appropriateness of principal component analysis.

Using the latent root criterion that rejects all components with a value less than 1, we consider a 6-component solution. This solution accounts for 61.2% of the variance in the data set, acceptable for the social sciences (Hair *et alii*, 1998). Moreover, for the 6-component solution, the communalities of all but one variable surpass the 0,5 level. Therefore, a large part of the variation in the variables is explained: from 48% for the associational index up to 80% for the expenditure variable.

An orthogonal VARIMAX rotation is applied to this solution in order to simplify the interpretation of the component matrix. To identify the significant dimensions of each component, all variables with loadings of at least 0,30 are taken into consideration (Hair *et alii*, 1998). Two variables load on multiple principal components, but this does not complicate the interpretation of the 6-component solution (see Table 1).

Table 1: Rotated component matrix

Variable:	Com.	1	2	3	4	5	6
Cultivated land	0,51	0,17	0,09	<u>0,66</u>	0,14	0,11	0,07
Livestock owned or borrowed	0,50	0,23	0,21	<u>0,57</u>	0,12	0,09	0,24
Age of household head	0,61	-0,13	-0,21	<u>0,71</u>	-0,08	-0,12	-0,14
Gender of household head	0,60	0,03	<u>0,77</u>	-0,06	-0,04	-0,02	0,05
Adult work force (14-60 yrs.)	0,66	-0,26	<u>0,64</u>	<u>0,40</u>	0,01	-0,11	0,12
Maximum years of education	0,64	<u>0,32</u>	<u>0,73</u>	-0,03	0,06	-0,03	0,03
Participation in tontines?	0,71	0,05	0,02	0,06	-0,20	0,01	<u>0,81</u>
Participation in associations?	0,48	0,02	0,11	0,01	0,26	-0,09	<u>0,63</u>
Public service proximity	0,60	-0,03	0,03	0,00	0,03	<u>0,76</u>	-0,15
Remoteness index	0,62	-0,09	-0,11	0,05	-0,03	<u>0,77</u>	0,08
Regional living cost index	0,67	-0,06	0,07	0,23	<u>0,76</u>	0,08	-0,13
Soil quality in cellule	0,61	-0,04	0,05	0,06	<u>-0,76</u>	0,07	-0,14
Physical capital index	0,50	<u>0,65</u>	0,13	0,14	0,08	-0,18	-0,05
Income per adult equiv,	0,70	<u>0,82</u>	0,01	0,07	-0,03	0,04	0,09
Expenses per adult equiv,	0,80	<u>0,89</u>	0,03	-0,04	-0,06	-0,02	0,06

Source: Based on own calculations.

The first component can be regarded as the “household’s aggregate resources”, reporting high positive loadings for both the income and expense variables, together with the physical capital index. This principal component is also moderately

influenced by the education variable (loading positively). The second component is largely influenced by variables that measure the dimensions of “human capital”, with significant high positive loadings for the number of adults and the maximum education of the most educated household member. Further, this component’s scores are positively influenced if the household head is male. The third component accounts for “natural resources”. Households with high scores on this principal component have a relatively large area of cultivated land and considerable livestock holdings by Rwandan standards (not taking into account the large cattle farms of Umutara). The component is also positively associated with the age of the household head and is further moderately influenced by the adult working force variable. The fourth component accounts for “quality of location”. The regional living cost index (high value = high living cost index) loads positively and the soil quality index (high value = high soil quality) loads negatively on this component. The fifth component measures the “centrality of location” with high loadings for the remoteness index (high value = very remote) and the public service proximity index (high value = very remote). The final component may be called the “associational component” as it has high loadings for both “participation in tontines” and “participation in associations”.

The principal component scores accounting for various asset dimensions can be used as input variables in the cluster analysis. This offers the advantage of including fewer variables that are, moreover, mutually independent (guaranteed by the orthogonal varimax rotation). As such, the problem of multicollinearity that could distort the cluster analysis is avoided (Hair *et alii*, 1998). Moreover, this procedure reduces the problem of arbitrary scale effects by avoiding that directly-measured variables are inserted in the cluster analysis (Jansen *et alii*, 2006A).

Cluster analysis allows identifying different household groups, characterized by maximal within-group homogeneity and between-group heterogeneity. We use the methodology advocated by Punj and Steward (1983) for marketing research, applied by Petrovici and Gorton (2005) and by Jansen *et alii* (2006A, 2006B) for quantitative livelihood research. In a first step, Ward’s (hierarchical) clustering method, based on squared Euclidean distances, is used. This agglomerative method works stepwise to combine pairs of individual observations or clusters while minimizing the within-cluster variance (Aldenderfer and Balshfield, 1984)⁶¹. The dendrogram⁶² derived from

⁶¹ This method tends to detect spherical clusters (no huge size differences) in contrast to other hierarchical methods. In comparison with other hierarchical methods, Ward’s method seems most appropriate. It performs less well when outliers are present, but the most aberrant outliers were excluded prior to analysis. It performs well in comparison to other methodologies when the true cluster structure is masked by ‘noise’, which is a true risk in the large Rwandan dataset with many variables (Everitt *et alii*, 2001).

this algorithm allows for visual inspection to determine the optimal number of clusters. For our analysis, the seven cluster solution provides the optimal balance between parsimony and homogeneity. In a second step, the data are clustered through a K-means iterative partitioning analysis. While hierarchical clustering methods have the disadvantage of building upon previous steps without the possibility to revise previous decisions, the K-means algorithm reassigns cases to clusters through an iterative procedure. It allocates data points to the cluster with the nearest centroid, then computes the new cluster centroids, and alternates these steps until no data points change cluster. The statistical criterion it uses is to minimize the sum of the squared Euclidean distances between individuals and their group mean. The number of clusters and the initial cluster centroids are derived from Ward's (hierarchical) algorithm of step 1 (Aldenderfer and Balshfield, 1984; Everitt *et alii*, 2001). In the final result, a cross-tabulation between the results of the hierarchical and the iterative clustering methods indicates that 24% of all cases (294 out of 1220 cases) have been reassigned to another cluster with the K-means procedure. The final six-cluster solution is presented in Table 2.

Households (HHs) in **Cluster 1** are “**rural entrepreneurs**” who are doing very well in terms of income and consumption. Mean expenses lie far above the 2001 poverty line of 64.000 Rwf per adult equivalent per year (2001 prices). Households in this category are generally small in size and headed by a younger male household head. They have at least one very educated member (almost 6 years of education on average). Further, the land availability of this cluster lies close to the overall sample mean. Given the small household size, these households are quite well equipped with natural resources in adult equivalent (ae) terms (both in terms of land and livestock). In addition, rural entrepreneurs score extremely well in terms of physical capital (i.e. quality of housing and sanitation, availability of transport and energy). Access to this type of capital may be an important underlying condition to engage in on-farm and off-farm remunerative livelihood strategies besides subsistence farming. Rural entrepreneurs generally live in areas with average living costs and soil fertility. They reside in less remote areas which may be an advantage in their entrepreneurial undertakings.

⁶² The dendrogram is a cluster tree of which the first column of nodes represents each individual case. Cases are then joined by branches to form clusters and clusters are further joined to form larger clusters until finally all are joined into one big cluster. The branch that links cases/clusters to larger clusters represents the distance between the cases or clusters to be joined. The dendrogram should best be cut where there is a large distance between clusters to be joined in a next stage. In this study, this is the case when seven clusters are joined into six clusters. See Annex 1 at the end of the paper for a graphic representation.

Table 2: Cluster solution

CLUSTER:	1	2	3	4	5	6	7	Total
Number of cases	96 8.0%	152 12.6%	130 10.1%	263 23.0%	198 16.8%	189 13.8%	192 15.7%	1220 100.0%
Cultivated land (ha) (median)	0,58	0,47	<u>1,62</u>	<u>0,41</u>	<u>0,43</u>	0,52	0,52	0,52
Mean	0,72	0,62	<u>1,81</u>	<u>0,55</u>	<u>0,51</u>	0,70	0,66	0,73
St Dev	0,51 (2,3,4,5,7)	0,50 (all)	1,06 (all)	0,46 (all)	0,34 (all)	0,57 (2,3,4,5,7)	0,54 (all)	0,68
Cultivated land per ae (ha)	0,19	0,10	<u>0,23</u>	<u>0,09</u>	0,10	0,13	0,14	0,12
Mean	0,25	0,14	<u>0,34</u>	<u>0,12</u>	0,13	0,19	0,19	0,18
St Dev	0,20 (all)	0,13 (all)	0,30 (all)	0,11 (all)	0,11 (all)	0,18 (1,2,3,4,5)	0,17 (1,2,3,4,5)	0,18
Livestock (TLU) (median)	0,24	0,30	<u>1,28</u>	<u>0,10</u>	0,20	0,10	0,10	0,20
Mean	0,53	0,53	<u>1,49</u>	<u>0,26</u>	0,30	0,34	0,28	0,46
St Dev	0,80 (3,4,5,6,7)	0,74 (3,4,5,6,7)	1,36 (all)	0,39 (all)	0,38 (all)	0,53 (all)	0,48 (all)	0,76
Livestock per ae (TLU)	0,08	0,06	<u>0,20</u>	<u>0,02</u>	0,03	0,03	0,02	0,04
Mean	0,16	0,10	<u>0,25</u>	<u>0,05</u>	0,07	0,09	0,08	0,10
St Dev	0,26 (all)	0,13 (all)	0,25 (all)	0,09 (all)	0,09 (all)	0,14 (all)	0,14 (all)	0,16
Age of HH head (median)	<u>35,0</u>	38,0	<u>55,0</u>	44,0	38,0	38,0	50,0	42,0
Mean	<u>38,8</u>	38,9	<u>55,5</u>	43,8	39,8	39,0	52,7	44,0
St Dev	15,2 (3,4,5,7)	10,8 (3,4,5,7)	12,7 (all)	12,8 (all)	11,7 (all)	13,8 (3,4,5,7)	15,9 (all)	14,6
% female-headed HH	12,2%	14,7%	10,1%	2,7%	7,5%	17,4%	85,6%	21,6%
Adult working force (median)	2,00	2,00	<u>4,00</u>	3,00	2,00	2,00	<u>2,00</u>	2,00
Mean	2,10	2,78	<u>4,17</u>	2,97	2,81	2,35	<u>1,57</u>	2,67
St Dev	0,83 (all)	1,14 (all)	1,62 (all)	1,23 (all)	1,16 (all)	1,02 (all)	0,92 (all)	1,35
Max education (years)	<u>6,00</u>	5,00	<u>6,00</u>	5,00	5,00	5,00	<u>0,00</u>	5,00
Mean	<u>5,97</u>	4,49	<u>5,71</u>	4,77	4,70	4,05	<u>1,28</u>	4,26
St Dev	2,78 (all)	2,54 (all)	2,72 (all)	2,42 (all)	2,19 (all)	2,58 (all)	1,90 (all)	2,79
% in tontine	11,7%	<u>88,7%</u>	15,1%	3,4%	3,6%	2,4%	4,3%	16,1%
% in association	9,5%	<u>42,3%</u>	33,3%	6,7%	28,4%	17,0%	12,1%	20,0%
% in tontine or association	19,9%	<u>100,0%</u>	38,6%	10,1%	30,5%	18,5%	15,7%	30,6%
Public service proxy (index)	-0,85	-0,63	-0,67	-0,91	<u>-1,11</u>	<u>3,39</u>	-0,65	-0,65
Mean	0,21	-0,51	-0,28	-0,60	<u>-1,10</u>	<u>2,92</u>	-0,30	-0,04
St Dev	2,47 (all)	1,49 (all)	1,81 (1,2,4,5,6)	1,55 (all)	1,25 (all)	2,58 (all)	1,68 (1,2,4,5,6)	2,19
Remoteness index [28–6730]	736	991	1.077	973	<u>634</u>	<u>2,253</u>	991	991
Mean	1.067	1.320	1.239	1.059	<u>743</u>	<u>2,449</u>	1.282	1.284
St Dev	848 (2,3,5,6,7)	976 (all)	803 (all)	669 (2,3,5,6,7)	538 (all)	1,429 (all)	831 (all)	1,018
Regional living cost [74–121]	95,2	94,4	101,5	93,4	<u>101,8</u>	100,2	96,7	95,2
Mean	96,0	94,0	99,3	93,3	<u>99,8</u>	97,8	96,7	96,4
St Dev	4,5 (all)	4,2 (all)	3,5 (all)	3,7 (all)	3,8 (all)	4,0 (all)	4,7 (all)	4,7
Soil quality in cellule [0–1]	0,37	0,36	0,34	<u>0,45</u>	<u>0,25</u>	0,32	0,36	0,36
Mean	0,37	0,37	0,33	<u>0,45</u>	<u>0,28</u>	0,36	0,37	0,37
St Dev	0,11 (3,4,5,6,7)	0,09 (3,4,5,6,7)	0,10 (all)	0,11 (all)	0,07 (all)	0,09 (all)	0,09 (all)	0,11
Physical capital index [0–12]	<u>8,00</u>	5,00	7,00	6,00	6,00	<u>5,00</u>	6,00	6,00
Mean	<u>7,61</u>	5,51	6,52	5,38	5,68	<u>4,89</u>	5,53	5,70
St Dev	1,73 (all)	1,72 (1,3,4,5,6)	1,61 (all)	1,74 (all)	1,59 (all)	1,78 (all)	1,82 (1,3,4,5,6)	1,85
Income per ae (Rwf.)	<u>97,722</u>	33.868	33.908	25.846	22.945	23.456	24.796	29.130
Mean	<u>117,444</u>	40.557	41.470	29.514	27.488	30.872	29.268	38.975
St Dev	71.199 (all)	27.061 (1,4,5,6,7)	33.248 (1,4,5,6,7)	20.768 (1,2,3,5,6)	19.529 (all)	24.259 (all)	24.605 (1,2,3,5,6)	38.876
Expenses per ae (Rwf.)	<u>144,579</u>	57.930	56.618	50.146	46.651	45.167	41.297	52.497
Mean	<u>157,895</u>	65.321	62.344	51.788	52.162	50.980	50.259	62.783
St Dev	54.568 (all)	33.934 (all)	31.755 (all)	24.140 (1,2,3,6,7)	29.537 (1,2,3,6,7)	27.876 (1,2,3,4,5)	36.515 (1,2,3,4,5)	43.590

Notes: (1) Means and standard deviations are adjusted for sampling weights. (2) Statistically-significant differences at 0.001 level between mean of clusters x,y and the column cluster, established by Games-Howell test, suitable for pairwise multiple comparisons between groups in case of unequal or unknown variances between groups and unequal size of groups (recommended by Cardinal and Aitken, 2005; Field, 2005)⁶³.

Source: Based on own calculations.

Households of clusters 2 and 3 are found in the middle range according to aggregate income and consumption measures. **Cluster 2** is the “**associational type**” as all households in this cluster must have at least one member who participates in a tontine or an association (31% participate in both). Further, cluster 2 households are, on average, headed by a younger person. The cluster average of land available for cultivation is lower than the total sample average; but on the other hand, the households of this cluster do manage to raise considerable livestock by Rwandan standards. With average expenditures still above the overall poverty line of 64.000 Rwf per adult equivalent, the investment in social capital by associating with others seems to be correlated with somewhat better living standards. From the analysis, however, we cannot deduce the direction of the causality between the two variables.

Cluster 3 can be described as relatively “**resource-rich**”. Households of this cluster cultivate larger plots of land than the average (although one should take into account the high standard deviation for this variable). Nonetheless, these are still small to medium-scale farmers. As highlighted before, an average farm size of 1,62 hectares is a lot in comparison to the sample mean, but not that extraordinary when compared with the landholdings of large cattle farms or private rural entrepreneurs who are not included in this sample. Further, households of this cluster, generally headed by an older adult male include, on average, 4,17 adults. This suggests that these are either nuclear households that consist of several sub-units; either young adults who will soon leave the household to start their own (which potentially involves a division of land). When considering available land in adult equivalent terms, households in this cluster are relatively well accommodated. The larger surface of cultivated land allows them to raise more livestock in comparison with other clusters (also in adult equivalent terms). In addition, households of this cluster are, on average, well equipped in terms of physical capital (f.e. quality of housing and sanitation, availability of transport and energy, etc.), and they often have at least one member with a high level of education. Over one-third participate in either a tontine or an

⁶³ Methodological note: Levene’s statistic (i.e. test for homogeneity of variances) is significant for all variables included in the cluster analysis. This means that there is a significant difference between the variances of the different clusters. The F-test of ANOVA could still be robust if the clusters would have approximately the same size, but as this is not the case. We are obliged to use tests that do not assume equal variances between groups. There are four tests available in SPSS: Tamhane’s T2 test, Dunnett’s T3 and C test and the Games-Howell test. We opt for the last one as it is recommended by the sources cited above.

association. In terms of income and/or consumption, these households are still among the better-off in comparison with the next four clusters, although average expenses fall below the poverty line of 64.000 Rwf.

The characteristics of the resource-rich cluster (cluster 3) contrast strongly with those of the next two clusters. **Cluster 4**, the largest in the overall sample, can be typified as households that are “**resource-poor in fertile regions.**” Mean soil fertility is the highest of all clusters. In addition, these households are, on average, located somewhat closer to public services and reside in provinces with low average living costs compared to other clusters. On the other hand, cluster 4 households are extremely resource-poor in terms of landholdings and have, on average, very limited livestock holdings. The average availability of natural resources, in per capita terms, is lowest of all clusters. Also interesting is that households of this cluster are nearly always male-headed and least inclined to participate in any form of group or association. The lower average income and expenditures indicate that these households are confronted with difficult living conditions.

Cluster 5 is referred to as the “**resource-poor / centrally-located**”. In line with the previous cluster, the average land and livestock holdings of these households are extremely limited. But in contrast to cluster 4, average soil quality is lowest of all clusters. This suggests that the “centrally-located” often depend upon other activities for income generation (see Section 4). Over 30% of this cluster also participates in an association or tontine. Engagement in off-farm activities may be facilitated by the fact that these households live most frequently in less remote areas and closer to public services than households of other clusters. On the other hand, their central location does not seem to pay off in terms of overall living conditions as aggregate income and expenditures of this cluster are poor.

The resource constraint is not the most problematic aspect to deal with for **cluster 6** households. In terms of land, livestock (per adult equivalent), and soil fertility, the cluster average is comparable to the overall sample average. However, households of this cluster live in “**isolated**” regions: very remote areas, far from the nearest road (nearly twice as far as the average household included in the sample) and extremely far from public services. Their relative isolation clearly is an important institutional constraint: average expenditures are considerably below the poverty line of 64.000 Rwf. In addition, “isolated” households are the least equipped in terms of physical capital (low mean physical capital index). They are also quite deprived in terms of educated human capital (i.e. maximum years of education is the second lowest of all clusters).

Cluster 7 finally is the “**female-headed**” group, in most cases headed by older women. The average physical labour force (number of adults) present in the household and the maximum education of the household members is the lowest of all clusters. The cluster average of land available for cultivation is lower than the total sample average; but certainly in terms of livestock female-headed households are seriously deprived. The gender aspect, specific for this cluster, seems to be an important institutional constraint in creating favourable living conditions. It is beyond the scope of our analysis to identify which particular gender-induced constraints female-headed households are confronted with. But such constraints relate to limitations in access to land (no customary land rights), access to large livestock (traditionally a man’s affairs), access to markets (too much time spent on subsistence food production and on managing the household, often no other adults available to divide tasks), access to physical labour force (households generally have few adult members), access to remunerative jobs on the labour market, etc. (see Newbury and Baldwin, 2000). The mean income and expenditures of the average household in this cluster are among the lowest of all clusters; however, standard deviations are high.

4. Identifying livelihood profiles by linking asset portfolios to livelihood strategies

To examine the predictive validity of the cluster-solution, we look at cluster differences with regards to additional variables not included in the previous analysis. We opt for variables capturing households’ access to particular livelihood strategies. Livelihood strategies are the activities / actions to which households have access to in shaping their livelihoods. Whether or not a household has access to (or is locked within) certain strategies is dependent upon a combination of livelihood assets shaped by the institutional environment. In other words, “rural households design livelihood strategies to suit their asset endowments and account for the constraints imposed by market failures, state failures, social norms, and exposure to uninsured risk” (World Bank, 2007: 72). In turn, livelihood strategies determine the HHs capability of acquiring certain assets.

The World Development Report 2008 cites three complementary (but not necessarily successful) options for rural populations to gain a livelihood: through farming, through the labour market, and through migration (World Bank, 2007). At the same time, the report points to the heterogeneity within each of these activities. It highlights the importance of the dualism between market-oriented smallholder entrepreneurs

versus subsistence smallholder farmers; between agricultural and non-agricultural high-skilled and low-skilled jobs on the labour market; and between emigrations with high and low returns.

Table 3 illustrates that all clusters depend to a great extent upon their agricultural production. It is interesting to compare the monetary value of rural entrepreneurs' agricultural production with the resource-rich cluster. Although resource-rich peasants on average possess more than twice as much land, they do not generate more agricultural production than rural entrepreneurs.

Table 3: Livelihood strategies for different clusters

CLUSTER:	1	2	3	4	5	6	7	Total
% HH with positive income from:								
Own farming activities:	100,0	99,2	100,0	99,8	99,5	99,3	99,2	99,6
Subsistence production	98,4	99,2	100,0	99,3	97,6	98,3	97,4	98,6
Agricultural sales	91,4	68,8	78,5	71,8	69,2	70,4	65,8	72,1
Livestock (net - only if positive)	36,9	30,1	50,4	18,9	27,8	23,7	16,9	26,8
<i>% of HH with some livestock</i>	<i>65,7</i>	<i>80,4</i>	<i>93,0</i>	<i>58,3</i>	<i>69,6</i>	<i>58,5</i>	<i>58,4</i>	<i>67,1</i>
Off-farm activities:	47,1	37,3	25,2	29,6	33,3	26,8	18,1	30,0
Own off-farm enterprise	22,1	19,7	12,7	13,6	10,3	8,5	5,2	12,4
Non-agricultural skilled	11,1	4,9	9,3	3,4	3,6	1,7	1,5	4,3
Non-agricultural unskilled	12,0	3,4	6,4	5,3	11,2	5,8	0,6	6,0
Agricultural	6,6	14,4	4,7	12,8	13,8	14,1	11,5	11,8
Remittances (net - only if positive)	39,1	28,3	30,4	39,0	35,9	37,1	43,5	36,7
Monetary value (thousands Rwf) of income from:¹	1	2	3	4	5	6	7	Total
Subsistence production (median)	137,4	113,7	145,6	83,2	74,0	83,4	65,7	89,8
Mean	176,9	136,4	162,6	93,9	90,3	91,4	75,0	109,1
<i>St Dev</i>	<i>142,6</i>	<i>109,0</i>	<i>105,5</i>	<i>63,9</i>	<i>70,8</i>	<i>61,8</i>	<i>65,1</i>	<i>91,3</i>
Agricultural sales (median)	35,6	11,4	30,0	8,7	6,5	6,1	5,4	10,1
Mean	89,0	34,3	59,8	25,8	24,6	21,7	21,8	35,2
<i>St Dev</i>	<i>132,9</i>	<i>61,6</i>	<i>104,4</i>	<i>45,3</i>	<i>49,8</i>	<i>45,8</i>	<i>40,6</i>	<i>71,6</i>
Own off-farm enterprise (median)	201,3	66,0	60,0	38,5	20,0	62,6	4,5	50,9
Mean	248,4	82,4	204,4	70,4	35,5	103,6	28,9	107,7
<i>St Dev</i>	<i>192,7</i>	<i>62,5</i>	<i>392,1</i>	<i>96,1</i>	<i>39,5</i>	<i>135,0</i>	<i>60,6</i>	<i>178,8</i>
Wage labour -all kinds (median)	144,0	39,6	46,8	24,6	38,4	12,0	21,6	28,8
Mean	188,8	85,1	89,1	50,3	46,5	24,4	26,7	66,7
<i>St Dev</i>	<i>176,0</i>	<i>96,3</i>	<i>91,1</i>	<i>73,0</i>	<i>42,6</i>	<i>31,6</i>	<i>23,2</i>	<i>96,9</i>
Pay per hour (Rwf 2001 prices)	1	2	3	4	5	6	7	Total
All jobs (median)	94,5	54,5	65,4	30,7	46,0	31,3	30,7	46,0
Mean	177,1	67,5	107,5	71,0	141,7	50,9	64,9	97,5
<i>St Dev</i>	<i>275,6</i>	<i>64,5</i>	<i>118,4</i>	<i>107,8</i>	<i>294,7</i>	<i>61,5</i>	<i>98,1</i>	<i>184,9</i>
Own off-farm enterprise (median)	98,6	76,7	115,1	34,5	55,2	80,5	38,4	72,0
Mean	256,6	104,3	159,5	101,7	173,5	113,3	130,4	145,9
<i>St Dev</i>	<i>395,9</i>	<i>86,6</i>	<i>166,8</i>	<i>117,2</i>	<i>257,6</i>	<i>136,3</i>	<i>149,6</i>	<i>215,2</i>
Non-agricultural job (median)	111,1	50,1	102,3	53,9	56,8	46,6	10,2	56,8
Mean	148,3	49,9	102,4	86,5	193,0	51,7	8,2	113,5
<i>St Dev</i>	<i>160,2</i>	<i>29,3</i>	<i>83,7</i>	<i>141,0</i>	<i>402,3</i>	<i>36,9</i>	<i>4,6</i>	<i>223,0</i>
Agricultural job (median)	55,2	30,7	50,0	23,0	38,4	30,7	30,7	30,7
Mean	49,0	38,1	63,2	30,5	47,5	33,9	37,3	39,0
<i>St Dev</i>	<i>14,6</i>	<i>25,3</i>	<i>77,5</i>	<i>24,5</i>	<i>29,7</i>	<i>17,8</i>	<i>20,1</i>	<i>30,7</i>

Note: Only households with positive income from this source are taken into account when calculating median, means and standard deviation.

Source: Based on own calculations.

When considering the market-orientation of households in their on-farm activities, we find that nearly all households in the sample rely to a considerable extent upon subsistence food production, regardless of which cluster they fall into. Notwithstanding the fact that at least two-thirds of all clusters engage in agricultural trade, the relative importance of this trade is at most one-third of the monetary value of total agricultural production (based upon means). In addition, there is a large difference between median and mean monetary income from agricultural sales which indicates a large within-cluster variation (cfr. large standard deviation).

The cluster of rural entrepreneurs is most active in agricultural production for sales (over 90% of all households) and also generates the highest incomes in comparison to other clusters. Equally interestingly but rather obvious is that the “resource-rich” (cluster 1) seem to be less dependent upon subsistence food production than the “resource-poor” households of clusters 4 and 5. Cluster 3 households are able to generate production surpluses on their considerable plots of land and therefore engage more often in agricultural trade. They also generate higher revenues from this activity. Further, remoteness does not seem to hold the “isolated cluster” households back in trading part of their production; over 70% are involved in this activity. On the other hand, remoteness seems to affect the bargaining capacity of these households in price negotiations: the monetary income value of agricultural trade is limited. This could be linked to the fact that they only trade small amounts as a consequence of their remoteness. “Female-headed” households, finally, seem most constrained in trading their agricultural production. Although almost two-thirds occasionally engage in trade, the income this generates is among the lowest of all clusters.

Overall, the data indicate that nearly all households in the sample retain their subsistence orientation (which represents an important share of overall income) rather than engaging in market-oriented production, regardless of which cluster they fall into. This is not a matter of a preference for subsistence agriculture, but rather the result of the constraints they would face in agricultural production solely for trade. This finding is confirmed by qualitative field work undertaken by the author in 2007. She found that only very few households had a market-oriented production pattern. In most cases, engagement in market agriculture was based upon two different rationales: (1) either households with a cash constraint were obliged to sell a limited part of their production; or (2) households - in most cases the better-off of the local setting - sold the surplus that they generated on top of their subsistence food production/needs. Aside from these patterns, there are also some better-off entrepreneurs who deliberately produced cash crops for the market when able to rely upon other on/or off-farm income sources (Ansoms, 2008).

Turning to another aspect of agricultural trade, net income from livestock breeding is limited and even negative for a considerable group of households. This may seem surprising given that the percentage of households that keep some livestock (at least half of the households in all clusters) is much larger. Livestock is kept not so much to be intensively traded as an income-generating activity, but rather to serve as a buffer for self-insurance and as a source of manure to fertilise the land. The percentage of households extracting a positive income from their livestock is highest for the “resource-rich” (50,4%), the “rural entrepreneurs” (36,9%) and the “associational” clusters (30,6%).

Looking at off-farm activities, the data allows us to differentiate self-employment, non-agricultural skilled and unskilled jobs, and agricultural wage labour. Indeed, these categories are still quite broad: non-agricultural skilled labour may, for example, include jobs in the formal sector with high salaries, but also refers to the work of skilled plumbers and carpenters. Agricultural employment may include both fixed employment for NGOs but also very low-paid occasional employment on other peasants’ land. All this cannot be captured with the data from the aggregate categories available here. Nonetheless, Table 3 illustrates that there are clear differences between aggregate employment categories.

The “rural entrepreneurs” (cluster 1) are most active in off-farm activities: nearly half are involved in generating revenue outside of their own farms. Entrepreneurs mostly undertake activities in the non-agricultural sector (22,6% generate a non-agricultural revenue) or set up their own enterprises (22,1% of this cluster 1). They are much less active as agricultural wage labour force than most other clusters. Also, the associational cluster has almost 38% of all households involved in off-farm activities. Most of them either work in their own off-farm enterprises (almost one-fifth of all associational households are self-employed) or they work as agricultural labourers (14,4% are engaged in this type of job).

Two other clusters with a relatively large proportion active in off-farm activities are the resource-poor clusters, 33,3% for the centrally-located (cluster 5) and 30% for those in fertile regions (cluster 4). In the same way as the associational cluster, households of these clusters are mostly active as an agricultural labour force and/or they have their own off-farm enterprises. But centrally-located households also engage quite regularly in unskilled off-farm activities. Indeed, these households have the advantage of their central location which brings a lot of off-farm income-generating opportunities within reach.

For all other clusters, far less than 30% engage in activities outside their own farm. Only one-quarter of the “resource-rich” cluster engage in off-farm activities. It seems strange that the relatively large adult labour force of these households does not allow for more intra-household labour specialisation and differentiation beyond agricultural activities. On the other hand, the relatively abundant availability of land allows these households to concentrate on agricultural production for subsistence purposes and for trade on local markets. If active outside their own farm, household members of cluster 3 mostly engage in off-farm self-employment.

The two remaining clusters - 6 (“isolated”) and 7 (“female-headed”) - if active at all outside of their own farms, most often turn to the off-farm unskilled labour market, particularly to agricultural jobs. For the “isolated” households, income from wage labour is the lowest of all clusters. Indeed, remoteness seems to be an important institutional constraint for these households on the wage labour market. Engagement in off-farm self-employment is a more remunerative income-generating opportunity for this cluster. The mean monetary income value generated through this activity is considerable for the 8,5% of self-employed persons in the isolated cluster. Households of the “female-headed” cluster are the least active outside of their own farms. Less than one in five is involved in off-farm activities, and the revenue generated only counts for a small percentage of overall income.

Overall, the percentage of households that report earning an agricultural wage (11,8% of the total sample) is surprisingly low when put against qualitative information on social categories in the rural setting. The PPA report (GoR, 2001) mentions ‘working on other people’s land’ as one of the main characteristics of the ‘vulnerable’ (umutindi). A later report by the Organisation for Social Science Research in Eastern and Southern Africa (2006), presenting the data from a survey in 10 districts in different parts of Rwanda, reports that 20,4% of the population was in this category. On top of this, the PPA report mentions that an even larger category of ‘poor’ (umukene nyakujya and umukene) often complement their on-farm incomes with wage earnings from temporary agricultural jobs. Therefore, the percentage of households with off-farm agricultural earnings reported in the EICV is most surely an underestimation of the real number of households involved in this type of mostly temporary employment. Quite often, poor households work on a very irregular basis as daily wage labourers for money and/or for food, most often in times of distress. Certainly when paid in food, it is likely that households forget to report these limited earnings that enter the household on an irregular basis. Another explanation may be

that they are reluctant to admit to working for other peasants to earn a living (meaning that they are really so poor).

Furthermore, the differences between wage rates for different types of jobs are considerable. In general, the mean and median non-agricultural wage rate is significantly higher than the wages from agricultural jobs (except for cluster 7 with “female-headed” households; but the percentage of households involved in non-agricultural jobs is extremely small). Next to earnings on the agricultural or non-agricultural labour markets, the EICV data further allows calculating the earnings per hour for rural households involved in their own off-farm enterprise. For the total sample, both the mean and median of the non-agricultural wage is somewhat below 80% of the pay per hour in an own off-farm enterprise. The agricultural wage rate is only a fraction of what can be earned as an independent off-farm entrepreneur or a non-agricultural labour force member.

Next to wage rate differences for different job types, the between-cluster wage differences are also interesting to compare, even though the means and medians may differ quite a lot and the standard deviations are high. Between-cluster differences are the highest for off-farm self-employment and non-agricultural jobs. However, within-cluster variation is high for these types of activities: the pay-per-hour profiles of the “rural entrepreneurs” (cluster 1) and the “resource-poor / centrally-located” (cluster 5). They are characterised by high standard deviations and wide differences between medians and means. Wages differences between clusters for agricultural jobs – certainly when considering the median wages – are less impressive.

The average pay per hour is highest for the “rural entrepreneurs” (cluster 1). It is also considerable for the “resource-rich” (cluster 3) and the “resource-poor / centrally-located” (cluster 5). Indeed, the centrally-located households are better able to capitalise on their central location to negotiate a higher pay rate for all types of activities than can households of other (poorer) clusters. The “resource-poor in fertile regions” (cluster 4) earn considerably less per hour. Their limited capacity to generate an income on their own farm apparently constrains them in negotiating reasonable wages when desperately looking for off-farm jobs, especially as labourers in the agricultural sector. The “isolated” cluster (cluster 6) is also confronted with a bargaining constraint related to their remoteness and more limited mobility, which results in low wage rates on the wage labour market. However, those active in off-farm employment do earn well. Agricultural wage rates of “female-headed” lie close to the sample average; however, they get the lowest pay per hour in non-agricultural

jobs. Indeed, very few households of cluster 7 engage in this activity as it is typically done by adult males.

5. Linking livelihood profiles to poverty incidence

In economic literature, poverty is traditionally conceptualised by comparing income or consumption to a standard poverty line. In general, consumption measures perform better in comparison to income measures to approximate a household's living standard; moreover, consumption is also easier to measure and the results more accurate (Deaton, 1997). The poor are then identified as those falling below the poverty line, which offers advantages to comparisons in time and space.

The input of other social sciences (f.e. sociology, anthropology), however, has led to a focus on the multidimensionality of poverty, and the importance of conceptualising and contextualising the poverty phenomenon within its own setting. This resulted in an interest in subjective poverty assessments, including, for example, the poor as agents in their own poverty assessments. It also accepted more nuance and subjectivity than traditional unidimensional 'objective' measures. The World Bank, for example, undertook an elaborate study to capture the "Voices of the poor" and used this as an input for the World Development Report 2000/2001 ("Attacking poverty", World Bank, 2001; Narayan *et alii*, 2000). Both objective and subjective poverty measures have their advantages and disadvantages; this chapter serves to illustrate their complementarity.

From within the group of objective measures, Coudouel *et alii* (2002) differentiate absolute and relative poverty lines. Absolute poverty lines are often based upon minimal basic needs. For Rwanda, two consumption poverty lines have been defined to measure absolute poverty in 2001. A food poverty line of 45.000 Rwf per adult equivalent per year represents the cost of a basket of food securing the minimal necessary caloric intake (2500 kcal per adult equivalent per day). A second absolute line of 64.000 Rwf represents the minimal requirements of food and non-food consumption (GoR, 2002).

Relative poverty lines, on the other hand, are defined as a fraction of a central tendency in society, for example the median or mean of the society's income/consumption distribution (Muller, 2006). An often used cut-off line is 50 percent of the country's mean or median consumption (Zheng, 2001). Petrovici and Gorton in their study take two cut-offs, one at 30% and one at 50% of average per

capita expenditure (Petrovici and Gorton, 2005). Applying these ‘marks’ to the Rwandan context gives a set of relative poverty lines based upon overall mean consumption (25.301 and 42.169 Rwf); and an alternative set of relative poverty lines based upon rural mean consumption (19.849 and 33.082 Rwf)⁶⁴, see Table 4.

For all absolute and relative poverty lines, the Chi-square tests confirm that the difference between the clusters in terms of poverty incidence is significant. The poverty problem is least prominent among the “rural entrepreneurs” (cluster 1) as nearly all fall in the non-poor population group. The two other relatively better-off clusters, the “associational” (cluster 2) and “resource-rich” (cluster 3) households, have significant numbers of extreme poor (over 30%) and poor (over 25%) when considering the absolute poverty line. On the other hand, when turning to the relative poverty line (taking mean consumption as a standard), over 70% of these households fall in the non-poor category. For the remaining clusters, more than 70% have living standards below the absolute poverty line. Most problematic is the situation for the “female-headed” cluster, of which over half live below the food poverty line and can be categorised as the ‘extreme poor.’

Table 4: Poverty status based on absolute and relative poverty lines for different clusters

CLUSTER:	1	2	3	4	5	6	7	Total
% of HH	8,0%	12,6%	10,1%	23,0%	16,8%	13,8%	15,7%	100,0%
Poverty incidence based on absolute poverty lines								
(Chi-square p = 0,000)								
Extreme poor < 45.000 Rwf	0,0	31,1	35,1	43,6	47,8	50,0	56,7	41,3
Poor 45.000 – 64.000 Rwf	2,5	25,3	25,8	26,5	27,2	23,4	18,7	22,8
Non-poor > 64.000 Rwf	97,5	43,6	39,2	29,9	25,0	26,6	24,6	35,9
Poverty incidence based on relative poverty line (30% and 50% of <u>overall</u> mean consumption)								
(Chi-square p = 0,000)								
Extreme poor < 30%	0,0	5,4	8,4	13,2	13,4	14,1	24,8	12,7
Poor 30% - 50%	0,0	23,6	20,1	25,6	30,7	30,9	27,5	24,6
Non-poor > 50%	100,0	71,0	71,5	61,1	55,9	55,0	47,7	62,7
Poverty incidence based on relative poverty line (30% and 50% of <u>rural</u> mean consumption)								
(Chi-square p = 0,000)								
Extreme poor < 30%	0,0	2,0	2,8	6,7	6,8	8,2	15,6	6,8
Poor 30% - 50%	0,0	13,8	12,8	19,9	19,6	23,1	22,5	17,6
Non-poor > 50%	100,0	84,2	84,4	73,5	73,7	68,7	62,0	75,6

Source: Based on own calculations.

A similar picture appears when comparing clusters in terms of material wealth, assessed through ownership or lack of ownership of seven different objects (see Table 5).

⁶⁴ The calculation of these poverty lines is based upon the entire EICV sample, including 6420 households living in both rural and urban environments.

Table 5: Assets owned by households of different clusters

CLUSTER:	1	2	3	4	5	6	7	Total
% of HH owning a:								
Chair	67,9	54,9	65,9	47,6	46,1	30,2	29,4	46,5
Bed	80,2	43,2	58,7	36,5	43,6	31,6	21,0	41,2
Radio	58,8	38,9	52,3	25,0	37,6	24,5	7,5	31,5
Bicycle	17,6	6,9	13,7	3,5	3,7	2,7	0,7	5,6
Cupboard	14,8	5,1	7,2	4,3	3,1	2,6	2,6	4,8
Lounge suite	7,7	2,1	4,8	1,5	1,0	0,0	0,0	1,9
Sewing machine	1,9	1,8	4,9	2,0	0,6	0,7	0,8	1,7

Source: Based on own calculations.

“Rural entrepreneurs” (cluster 1) have the highest chance of owning each of these objects. Households in the relatively better-off “associational” and “resource-rich” categories also figure among the better-off clusters. Interestingly, cluster 3 households (resource-rich) have a higher chance of owning these objects than those of cluster 2 (associational). Among the poor clusters, the “resource-poor / centrally-located” (cluster 5) are still relatively well equipped (f.e. look at the relatively high percentage owning a radio). In comparison with this cluster, the seven assets are much less owned by the “resource-poor in fertile regions” (cluster 4) and by “isolated” households (cluster 6). The situation is, however, most problematic for the “female-headed” (cluster 7) households who own very few assets in this list.

It is equally interesting to see whether clusters differ substantially with respect to *subjective* measures of well-being. Subjective self-assessments should be approached with caution and by no means replace objective measures. On the other hand, they can reveal how households experience and perceive their own situations. In addition to the nationally representative EICV and FSRP surveys, the author of this chapter conducted a follow-up survey in September 2004 on a subsample of the combined EICV – FSRP sample. The study was restricted to households in two provinces, Gitarama and Gikongoro⁶⁵. It gathered information on the evolution of households’ living conditions over the 2001-2004 period (i.e. changes in livelihood assets and strategies), the household heads’ perception on the overall well-being of his/her household, and the households’ social networks within their social environment.

The data from this subsample can be used to complement on our cluster analysis. The distribution of the households over the six clusters (see Table 6) is somewhat different for the Gikongoro - Gitarama subsample. There are much more “resource-poor / centrally-located” households, and somewhat more households falling in the “isolated” and “resource-rich” clusters. On the other hand, the “resource-poor in

⁶⁵ Before the recent administrative reform (2006), Rwanda was divided into 11 provinces. After the reform, there are 4 provinces. The previous provinces Gitarama and Gikongoro, where the research is undertaken, now fall largely within the boundaries of the Southern Province.

fertile regions” are few in number in the Gikongoro – Gitarama subsample. This subsample also contains somewhat fewer households of the “entrepreneurial”, “associational” and the “female-headed” types.

Table 6: Cluster membership of households included in the Gikongoro – Gitarama subsample

Number and % of HH	1	2	3	4	5	6	7	Total
Cluster membership for total sample	96 8,0%	152 12,6%	130 10,1%	263 23,0%	198 16,8%	189 13,8%	192 15,7%	1220 100,0%
Cluster membership for subsample	13 6,8%	15 6,9%	48 21,0%	8 4,2%	68 32,8%	47 16,6%	25 11,7%	224(1) 100,0%

Note: (1) 58 households in the subsample (counting 282 respondents) do not overlap with the EICV - FSRP sample used for the cluster analysis.

Source: Based on own calculations.

The 282 households originally included in the Gikongoro – Gitarama subsample were shown a nine-step societal scale, subdivided into three parts. The first three steps represented the poorer categories, the next three steps the medium categories and the final three steps the richer categories. The respondent (family head) was first asked to enumerate the characteristics of ‘the poorer’ (steps 1-2-3), ‘the medium’ (steps 4-5-6), and ‘the richer’ (steps 7-8-9) on the social scale. Table 7, with the result of this exercise, illustrates a large degree of consistency in the characteristics that the respondents spontaneously attributed to these categories.

Table 7: Characteristics of three societal categories (1)

‘Richer’	Having a lot of livestock, mostly referring to cattle (77%), having sufficient or a lot of land (39%), having sufficient agricultural production or more - at least sufficient for self-subsistence (36%), having (a lot of) money (28%), having a nice house (23%), having their own business or being a trader (16%), having a permanent job (15%), having a vehicle (10%), having a banana grove (8%), having nice cloths and/or shoes (5%), having a husband or wife and enough children (5%).
‘Medium’	Having livestock, mostly referring to small husbandry (50%), having agricultural production at least sufficient for self-subsistence (45%), having sufficient land, with ‘sufficient’ probably referring to the fact that it suffices for self-subsistence (27%), having a decent house (16%), having some land but not referring to the fact that it is ‘sufficient’ (12%), having (some) money (9%), having cloths and/or shoes (7%), having insufficient agricultural production, not being self-subsistent (6%).
‘Poorer’	Working (temporarily) / cultivating for others (for money or food) to feed themselves (36%), having no / a lack of land (34%), having no livestock (33%), having no or limited agricultural production far from sufficient for self-subsistence (26%), having no house or a house of low quality (16%), having no cloths and/or shoes (11%), having nothing (11%), living from or needing help from others (9%), having no money (9%), being physically handicapped / incapable to work (7%), being a beggar (6%).

Note: (1) The percentage mentioned behind each element is the percentage of the 282 respondents who spontaneously mentioned this as a characteristic in open-type questions.

Source: Based on own calculations for the full Gikongoro-Gitarama subsample of 282 households.

In a next stage, the respondents categorised their own household on the 9-step social scale (based on their living conditions in 2004 – the time of the interview). They were then asked to indicate where they were three years before (in 2001, the time of the

EICV-FSRP survey). The distribution of households across the nine categories in 2001 is very unequal (see Table 8). This is in line with other research on subjective well-being measures (f.e. Kingdon and Knight, 2006). About 45% estimate their household's position within the 'poorer' steps of the societal scale, while over half of the respondents (52,1%) place their household in the 'medium' categories. Category 3 and 4 are the most populated, each hosting more than 20% of the households, whereas only 3,4% of all household heads place their household in the 'richer' categories. In line with Kingdon and Knight (2006), the overlap between objective consumption-based categories and subjective well-being categories is far from perfect.

Table 8: Poverty status in 2001 based on subjective assessment of well-being

CLUSTER:	1	2	3	4	5	6	7	Total
% of HH								
Poverty incidence in 2001 based on subjective well-being measure								
'Poorer'	24,9	62,7	18,2	50,7	54,6	54,9	52,6	45,1
'Medium'	75,1	37,3	78,7	49,3	42,6	41,2	41,6	51,9
'Richer'	0,0	0,0	3,2	0,0	2,8	4,0	5,8	2,9
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Source: Based on own calculations for the Gikongoro-Gitarama subsample of 227 households that overlap with the EICV-FSRP sample used for the cluster analysis above.

We are, however, most interested in the subjective well-being assessment for the particular clusters identified above. Referring to their living conditions in 2001, over three-quarters of the "rural entrepreneurs" and the "resource-rich" put themselves in the medium categories. It is surprising that almost one-quarter of the rural entrepreneurs consider themselves among the 'poorer,' whereas none of them has consumption levels below the poverty line. What is even more interesting is that resource-rich households seem more optimistic about their living conditions in 2001 than the rural entrepreneurs. It may be that the households' heads of resource-rich households refer rather to their own situation than that of the entire family which, in most cases, includes other adult male offspring whose living conditions in the long run will be less favourable than those of their fathers. A large majority (almost two-thirds) of households in the relatively well-off "associational" cluster consider themselves among 'the poorer.' This is the highest of all clusters and a surprising result given that this cluster has the second lowest poverty incidence according to objective poverty measures.

For the four poorer clusters, subjective assessments are somewhat comparable. Over 50% categorise themselves among the 'poorer'. Note that this is less than the 63% of the associational cluster considering themselves to figure among the 'poorer'. Equally intriguing is that the "isolated" and "female-headed" clusters have the highest

percentage of households categorising themselves among the ‘richer’ in 2001; 4,0% and 5,2% respectively.

6. Perceptions upon livelihood pathways: optimists versus pessimists

Some of the results in the previous section may be surprising; however, when analysing the data one should take account that the data in Table 8 are based upon recall questions. This would be highly problematic if the purpose of our analysis was to determine objectively whether households’ situations actually improved or deteriorated over the 2001-2004 period. We are, however, interested in the optimism or pessimism of objectively-determined livelihood profiles (based upon 2001 data) with regards to the evolution in their living conditions. This ‘subjective’ feeling may differ from ‘objective’ reality. In fact, there are two effects that play out here: the optimism or pessimism of the respondent in his/her assessment of the household’s situation at a particular point in time, and the optimism or pessimism of the respondent with regards to 2001-2004.

To capture this dynamic aspect, it is interesting to analyse how the identified household groups perceive changes in their living conditions between 2001 and 2004 (see table 9). Important to mention is that we look at the perception of household heads on the mobility of their household, not upon the mobility of their livelihood profile as a whole.

Table 9: Poverty status in 2004 based on subjective assessment of well-being

CLUSTER:	1	2	3	4	5	6	7	Total
% of HH								
Poverty incidence in 2004 based on subjective well-being measure								
‘Poorer’	26,9↑	42,4↓↓	20,5↑	50,7	53,9	46,3↓↓	56,0↑	43,1
‘Medium’	73,1↓	57,6↑↑	68,6↓↓	49,3	43,4	53,7↑↑	44,0↑	53,7
‘Richer’	0,0	0,0	10,9↑↑	0,0	2,7	0,0↓	0,0↓	3,2
Total	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Immobility ratio 1 (1)	83,3	70,0	72,1	100,0	76,4	70,7	67,8	74,6
‘Optimists’	37,1	43,2	26,8	50,7	29,8	43,0	16,3	32,1
‘Pessimists’	40,5	33,8	44,3	13,3	44,3	42,6	33,8	40,5
Immobility ratio 2 (1)	22,4	23,0	28,9	36,0	25,8	14,4	49,9	27,4

Note: (1) Immobility rate 1 represents the percentage of households that remain in the same aggregate subjective well-being category ‘poorer’, ‘medium’ or ‘richer’. Percentages for ‘optimists’ and ‘pessimists’ are based upon the respondent ranking the situation of his/her household in 2004 higher or lower on the 9-scale ladder than in 2001. Immobility rate 2 represents the percentage of households that remain in the same subjective well-being subcategory.

Source: Based on own calculations for the Gikongoro-Gitarama subsample.

Over one-quarter of all households in this subsample report a change, placing their household in a higher or lower aggregate well-being category (immobility ratio 1 of

74,6%). About 11,7% report a shift from 'poorer' to 'medium' categories and about 2,2% from 'medium' to 'richer'. On the other hand, 9,6% have shifted from 'medium' to 'poorer' and 1,9% from 'richer' to 'medium'. However, a comparison between Tables 8 and 9 hides the true mobility that households report over the 2001 – 2004 period. The well-being categories 'poorer', 'medium' and 'richer' are aggregated categories, each subdivided into three subcategories. The immobility ratio (2), based upon the fraction of households that remain in the same subcategory, is much lower.

Furthermore, the shift in the subjective assessment of well-being is very different for the different clusters. The “rural entrepreneurs” (cluster 1) are somewhat pessimistic about their overall living conditions in 2004 in comparison with 2001. Somewhat less than three-quarters consider their household to figure among the 'medium' categories; and still none of these 'objectively' well-off households consider themselves among the 'richer.' The “resource-rich” households (cluster 3) report a shift in their living conditions in two diverging directions. Whereas the group of 'medium' households is smaller in 2004, the size of the group of 'poorer' and more pronouncedly the group of 'richer' increases. Nonetheless, when considering the dynamics on the 9-scale ladder of subcategories, this cluster contains the most pessimistic households.

This is very different for the cluster of “associational” households (cluster 2): they are, in general, much more optimistic with regards to their relative wealth ranking in 2004 than 2001. In fact, the seemingly pessimistic nature of the households in assessing their living conditions in 2001 (with the highest percentage of all clusters considering themselves 'poorer') might be, in fact, the deceiving consequence that these households are rather content about the improvement in their living conditions between 2001 and 2004. On the other hand, we should also acknowledge the considerable percentage of 'pessimists' (33,8%) who report a slip on the 9-scale ladder, although they rarely classify their household into a lower aggregate well-being category. Overall, the percentage of households that consider themselves 'poorer' remains considerable. This may have to do with a wish of association households to appear poor to the research team in the hopes of attracting support⁶⁶.

Turning to the “isolated cluster”, Petrovici and Gorton (2005) found for the Romanian sample that poorer households living in the most rural remote areas tend to understate their poverty, while more centrally-located households (urban in their study) have higher expectations of overall well-being and tend to underestimate their own living status due to their ability to compare with richer households in the neighbourhood.

⁶⁶ This hope was frequently expressed during the survey conducted by the author and her research team.

This effect is not applicable to the Rwandan case when considering the 2001 data from Table 8. However, the 2004 data in Table 9 (where the recall effect is not present) confirm Petrovici and Gorton's findings for the Rwanda: "isolated" households report considerably less often to be among 'the poorer' than those of other objectively-poorer clusters.

When considering the 2001-2004 evolution for this "isolated" cluster, we observe a convergence trend. The group of "poorer" and "richer" has become smaller whereas an additional 12,5% of the households assess their situation as "medium" in 2004. On the other hand, when taking a look at the 9-scale ladder with subcategories, we find that the percentage of optimists is counterbalanced by an almost equally high percentage of pessimists. This indicates how working with aggregate subjective well-being measures hides part of the ongoing dynamics in subjective poverty assessment.

"Female-headed" households are very rarely optimistic. Overall, households shift from 'richer' to 'medium' and to 'poorer' categories. Interesting for this cluster is that the immobility rate, based upon aggregate categories, is the lowest of all clusters (67,8%), whereas the immobility rate based upon shifts in the nine subcategories, is the highest (49,9%). This indicates that these households – if moving at all – report shifts that immediately take them to another aggregate well-being category.

Finally, the distribution of both resource-poor clusters over the aggregate subjective well-being categories remains more or less stable when comparing 2001 and 2004. The immobility rate, certainly for the aggregate categories (immobility rate 1) is high, even 100% for the "resource-poor in fertile regions" of cluster 4 (but this cluster contains few cases in the subsample). When looking at the disaggregate level, we see that a majority of cluster 4 households are optimists, although they rarely take their household upwards to a higher aggregate well-being category. "Resource-poor / centrally-located" households of cluster 5, however, are more often pessimists than optimists (although their pessimism, in most cases, does not take them towards a lower aggregate subjective well-being category). Indeed, the aggregate figures once again mask the dynamics beneath.

7. Policy implications and conclusions

The main aim of this chapter has been to identify different livelihood profiles prevailing in the Rwandan rural context by means of principal component and cluster analysis. Next to contextual factors, the principal component analysis identified six

relevant dimensions related to asset categories in livelihoods analysis (i.e. aggregate wealth, human resources, natural resources, quality of location, and centrality of location and association networks). These components were used as an input for a cluster analysis which identified seven groups of households. These clusters were validated by examining differences in livelihood strategies and poverty profiles. To add a dynamic perspective, a subsample was studied regarding how the identified household groups perceive changes in their living conditions over the years 2001-2004. An overview summarising the key elements of each cluster's profile is presented in Table 10. From this analysis, we can now identify relevant policies for poverty alleviation in the rural setting that are attuned to households' different livelihood profiles and pathways.

The cluster of "rural entrepreneurs" (**cluster 1**) is doing well in terms of income and consumption measures. This cluster illustrates that it is possible to live well in the country without sizable (cultivable) landholdings. Average cluster landholdings (0,72 hectares) are almost equal to the sample mean (although we should note that these households do better than the sample average in adult equivalent terms). However, there is another crucial factor to explain the success of these clusters: access to off-farm employment, particularly in the non-agricultural setting, and engagement in one's own off-farm enterprises. In addition, households in this cluster earn the highest hourly wages of all clusters. This is most likely linked to their educational stock. Policy makers could draw lessons from the relative comfortable situation of this cluster by investing in education and by investing in strategies that enhance demand for off-farm employment.

We can also draw policy lessons from the livelihood profile of the "associational" **cluster 2**. Association links provide households with modest access to credit and risk insurance. This seems to pay off somewhat in terms of overall income and consumption which are the second highest of all clusters. On the other hand, they categorise their households quite often in the poorer category. At the same time though, the associational cluster is the most optimistic with regards to the subjective improvement in their well-being over the 2001-2004 period. Having access to a financial safety net apparently is important. In spite of these more positive elements, the analysis also highlighted that the average consumption of cluster 2 still lies below the poverty line of 64.000 Rwf. Therefore, there are important challenges for policy makers. The livelihoods of cluster 2 associational households could improve further with policy measures that provide a lever to the initiatives taken by the associations themselves: policies that could, for example, give assistance to associations to engage

in off-farm entrepreneurial activities and/or on-farm agricultural production techniques with high returns.

Policies targeting the relatively “resource-rich” **cluster 3** should focus on increasing the incentives for these households to produce for the market. This should not be done by coercion; on the contrary, it is crucial for policy makers to analyse in detail why these relatively land-abundant households do not engage more in market-oriented production. Enhancing their market-oriented entrepreneurial spirit can be done by improving their bargaining position in price negotiations. This may be achieved by encouraging them to organise into cooperatives within which they are active agents and not passive price-takers. Further, as market-oriented production often entails higher risks (in comparison to diversified subsistence-oriented production), resource-rich households might be more inclined to produce for the market if they would have increased access to risk-insuring mechanisms and to credit facilities that allow them to invest and/or overcome financial setbacks.

The “resource-poor in fertile regions” of **cluster 4** are highly deprived in terms of land and livestock. Given the limited natural resource base of rural Rwanda, it seems unrealistic for policy makers to improve access to land. However, policies could focus on improving access to off-farm employment; and, particularly for this cluster, explore the potential of off-farm small-scale enterprises, possibly through collective action. These households have potential, given their considerable educational stock. However, only 10% of this cluster participates in some form of association; even though such associations may help them to access credit to start-up activities and engage in networks that might ensure them an outlet for their products and services. Policies could enhance incentives to engage in such associations and help them to increase the opportunities of such resource-poor households to engage in alternative types of employment outside of the agricultural sector.

Cluster 5 households, the “resource-poor / centrally located” are also characterised by very limited access to natural resources (land and livestock). Therefore, the same types of policies are relevant for this cluster: enhance incentives to start their own enterprises or engage in off-farm employment. In fact, these households are bound to find income-generating opportunities outside of the agricultural sector as they are confronted with extremely low soil fertility and other resource constraints. Their central location could aid these households to engage in an entrepreneurial network(s) and find nearby outlets for their products and services.

Isolation is the most important institutional constraint of **cluster 6** households. Improved rural road infrastructures could improve household access to agricultural markets, both for inputs and outputs; and could result in a more market-oriented production mode. In addition, a better position in the overall infrastructural network could facilitate the search by isolated households for off-farm jobs. Improved availability of public services (such as schools and health centres) could be an important additional element in improving overall living conditions.

Finally, policies targeting “female-headed” households (**cluster 7**) should focus – next to the other relevant aspects raised above - upon specific gender-related institutional constraints. These households have a limited adult labour force and an extremely low educational stock. Moreover, traditional roles constrain female-headed households in taking up remunerative off-farm activities. Their bargaining position (in the local community, on agricultural markets and in the off-farm sector) may be enhanced through mechanisms of collective action.

For the **totality of all clusters**, we may conclude that the main challenge for rural policies will be to reduce the extremely high dependence of rural households upon subsistence food production. Given the severe constraints imposed by the shortage of natural resources, several development paths should be concurrently pursued. One path may be to concentrate on enhancing incentives for households to adopt specific agricultural production techniques with high(er) returns. But first of all, policy makers should not take the line that firm presuppositions, f.e. that land concentration and monocropping policies are, per definition, more productive than scattered subsistence production⁶⁷. In addition, policies should not be imposed; on the contrary, additional access to credit and risk-insuring mechanisms could convince households much more effectively. Policies that strive for agricultural growth should also strive for an equitable distribution of this growth to benefit all social groups.

Another path should concentrate on enhancing the potential of the off-farm labour market and small-scale entrepreneurial business to absorb the labour surplus. On the demand side, this may be achieved either in the public sector (through labour-intensive works) or in the local-level private sector. If a considerable mass of peasants can profit from a broad-based growth strategy within the agricultural sector (path 1), then their increased earnings may be spent or invested in other sectors. As such, agricultural growth may produce a trickle-down effect reaching wage labourers working in off-farm activities. On the supply side, investment in training and

⁶⁷ This chapter does not plead in favour or against the adoption of these techniques, but only points to the importance of considering alternative options

education could upgrade the potential and skills of wage labourers. Self-employment may be stimulated by providing access to credit and risk-insurance mechanisms at the lowest level. Credit initiatives should not only reach those who possess collateral, but also those less 'promising' rural actors who may have unexplored potential. The potential risk of investing in such facilities makes public sector involvement indispensable.

Overall, we conclude that policy makers should first invest in identifying the institutional access gates or barriers for divergent impoverished groups and for the rural population as a whole. They should then analyse how specific policies are or will impact such access gates and barriers. Rural policies should aim for a maximum pro-poor effect which, as this chapter illustrates, means fighting poverty with distinct and appropriate interventions for diverse groups of impoverished peasants.

Table 10: Summary profile of clusters

<u>Livelihood asset profile</u>	<u>Livelihood strategies profile</u>	<u>Optimists versus pessimists</u> ⁶⁸	<u>Policies for poverty alleviation</u>
Rural entrepreneurs: Most well-off households, headed by young male, containing well-educated household member; moderate landholdings.	Highest mean income from agricultural sales and highest % engaged in this activity; highest % active in non-farm activities (47%), mostly in own enterprise and in non-agricultural wage labour; highest pay per hour.	Somewhat more pessimists than optimists about shift in well-being between years 2001-2004.	Lessons for other clusters: extensive landholdings are not a condition sine qua non for good standards of living; however, success depends upon other crucial factors such as access to off-farm employment and to self-employment; also education is important.
Associational: Associational links, often headed by younger male; landholdings below sample average while livestock holdings above sample average; mean expenses just above poverty line.	High percentage (37%) active in off-farm activities, mostly in own enterprise or agricultural jobs; also very high percentage with livestock holdings although percentage with positive income from this activity is limited -> underexplored potential.	Largest % of subjective poor in 2001 but very optimistic about 2001-2004 change.	Lesson for other clusters: associational links provide <i>risk-insurance</i> and <i>access to credit</i> which apparently are important for subjective assessment of progress in well-being; policy makers could provide assistance to associations to engage in new agricultural production techniques and in off-farm entrepreneurial activities.
Resource-rich: Lot of land and livestock, headed by older male, lots of adult working force; mean expenses just below poverty line.	High revenue from agricultural production of which relatively high % is traded; 36% active in off-farm activities with highest wages of all clusters.	Divergence in terms of subjective poverty - more 'poorer' and 'richer' in 2004; high % of pessimists.	Enhance market-oriented agricultural production by improving bargaining position in price negotiations and by reducing risks related to market-oriented production (f.e. access to risk-insurance, credit, etc.).
Resource-poor in fertile regions: Very poor in terms of natural resources (land – livestock) despite high soil fertility, headed by older male.	Income very dependent upon own subsistence production; if active in off-farm sector - then lowest median pay per hour in self-employment and in agricultural jobs (lower than female-headed cluster).	Highest % of optimists about shift in well-being 2001-2004; but nearly no change in aggregate well-being categories.	Improve access to off-farm employment opportunities; improve bargaining positions in wage negotiations (by investing in training and education). Explore potential for off-farm small-scale entrepreneurship (enhance incentives to engage in associations).
Resource-poor / centrally-located: Live close to nearest road and public services, poor in terms of land and livestock, headed by somewhat younger male.	Quite active in off-farm sector (one third of all households), and able to negotiate reasonable wages, both in agricultural and non-agricultural sectors.	Highest % of pessimists about shift in well-being in 2001-2004 but nearly no change in aggregate well-being categories.	Improve access to off-farm employment. Explore potential to involve them in off-farm small-scale entrepreneurship.
Isolated: Living in remote areas, somewhat higher availability of land per ae headed by younger male; limited stock of physical capital.	75% active in agricultural trade but income from this activity is low; lowest median income from wage labour and low pay per hour in wage labour activities; decent pay per hour if active in self-employment.	Convergence (more ranked in 'medium' cat.), relatively low % of subjective poor in 2004.	Enhance access to markets by improving rural road infrastructure. Improve availability of public services (f.e. markets, schools, health centres).
Female-headed: Headed by older female, limited human capital (low adult working force and education).	Highly dependent upon subsistence production; least active in agricultural trade and in off-farm sector of all clusters.	More pessimists than optimists about shift in well-being 2001-2004; highest % of 'richer' households in 2001 but none left in 2004.	Remove gender-related constraints that prevent these households from engaging in agricultural trade and off-farm activities. Enhancing bargaining position through collective action.
All Severely constrained in terms of availability of land and livestock.	Highly dependent upon subsistence production; 72% are active in agricultural trade, but earnings from this activity are limited; also limited engagement in off-farm sector (only 30% of all households).	More pessimists than optimists about shift in well-being 2001-2004.	Improve integration and bargaining positions on agricultural markets; improve access to risk-insurance / credit to stimulate entrepreneurial activities in off-farm sector; stimulate demand for labour force though labour intensive works and by investing in broad-based agricultural growth.

⁶⁸ Data for this column are based upon the Gikongoro – Gitarama subsample.

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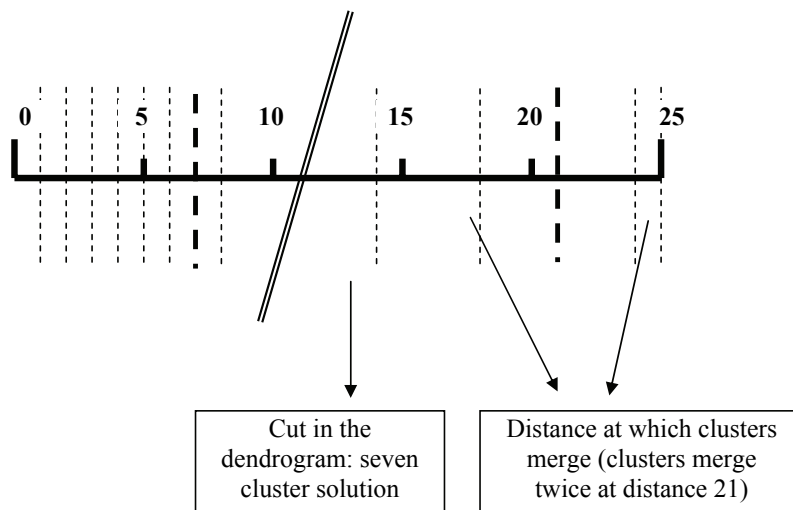
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Annex: Searching for the cut in the dendrogram

(See Section 3 in text above)



Chapter 4

The inverse relationship between farm size and productivity in rural Rwanda

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Key words: Inverse farm-size - farm productivity relationship, small-scale farmers, land reform, Rwanda

Abstract

The Rwandan government has recently adopted new agricultural and land policies that strive to increase productivity in the agricultural sector through land consolidation and concentration, and through the promotion of regional crop specialisation and monocropping. This chapter, however, identifies the strong inverse relationship between farm size and land productivity under the current land management system; also when taking into account farm fragmentation, crop diversification, frequency of multicropping and household size. In addition, it concludes that increased farm fragmentation, higher frequency of multicropping, and more crop diversification do not necessarily have a significant negative impact upon productivity, on the contrary. The chapter reflects upon the implications of Rwanda’s agrarian and land policies.

0. Introduction

Rwanda’s civil war in the early nineties is rightfully pictured as an ethno-political conflict, ending sadly in a tragic genocide that killed approximately 800.000 people. However, next to political and ethnic problems, Rwanda’s pre-war society was also marked by a ‘grievance factor’, triggered off by increasing ecological resource scarcity. In a country with over 80% of its people relying upon agriculture, high population growth worsened the pressure on natural resources and increased land

competition. This evolution profoundly affected the livelihoods of rural farmers and endangered the survival chances for the weakest among them. Already in the early eighties, scholars referred to Rwanda as a potential Malthusian case (f.e. see Marysse, 1982). After the war and genocide, many others raised the Malthusian argument to explain popular participation in the genocide (for an overview, see Uvin, 1998).

In the current post-1994 context, access to and productivity of land remain highly sensitive topics. Average landholdings in Rwanda are only 0,71 hectares per household (2000), considerably less in comparison to land availability during the mid-eighties when households, on average, had 1,20 hectares. In addition, inequality in the distribution of land has strongly increased over this period (Jayne *et alii*, 2003). Conflicts over land are frequent, both within and between households, families, and lineages.

The Rwandan government has recently adopted new agricultural and land policies that strive to increase productivity in the agricultural sector through land consolidation and concentration, and through the promotion of regional crop specialisation and monocropping. The land law was adopted in 2005⁶⁹ and aims to enhance the security of tenure and reduce conflicts by registering land holdings. It subscribes to the overall goal of increasing agricultural productivity and land efficiency, while attempting to avoid environmental degradation. One of the underlying assumptions of the law is that fragmented land use has a counterproductive impact upon these objectives. Article 20 prohibits the division of land parcels of one hectare or less (no ceiling on landholdings was included in the final approved law). Land consolidation⁷⁰ is presented as one of the main objectives of the land law (GoR, 2005). It is hoped that this consolidation will increase land concentration and provide economies-of-scale in two ways: first, the consolidation movement should lead to more concentrated farms (instead of a farm scattered over many land plots); and second, the consolidation movement should increase land concentration amongst a smaller number of modern and more efficient farmers (Ansoms, 2008, 2009).

The Rwandan Agricultural Policy, and Strategic Plan for Agricultural Transformation (SPAT, see GoR, 2004A) aim to transform the primary sector into a growth engine through agricultural modernisation, intensification, professionalisation and enterprise development. The SPAT strategy focuses upon the development of commodity chains

⁶⁹ Its full name is the Organic Law determining the use and management of land in Rwanda (N°08/2005 of 14/07/2005, GoR 2005).

⁷⁰ Land consolidation is defined as, “a procedure of putting together small plots of land in order to manage the land and use it in an efficient uniform manner so that the land may give more productivity” (Organic Law N° 08/2005 of 14/07/2005, article 2).

with export potential, or on crops with great importance for internal markets where the policy makers see a major role for the private sector. Regional crop specialisation and the promotion of monocropping are seen as important triggers for the marketisation of agricultural production, and the modernisation of the sector as a whole. Coherent policy plans to implement these ‘triggers’ are not yet developed. Nonetheless, Ansoms (2009) enumerates several examples where local peasants in particular regions have been obliged by local authorities to concentrate on certain crops, and even to destroy crops that were not planted ‘in row’ with the monocropping technique.

This chapter tests whether the underlying assumptions of the new agricultural and land policies are justified: do land consolidation and land concentration, less crop diversification and less multicropping have a positive impact upon productivity figures? Affirmative answers to these questions alone would not justify the immediate implementation of consolidation, specialisation, and monocropping policies. Policy makers must also consider the distributional effects these initiatives would have upon local rural livelihoods. On the other hand, negative answers to the various aspects of these questions should not necessarily lead to the immediate rejection of consolidation, specialisation and monocropping-promotion. This would only highlight the necessity for further research into the institutional constraints that prevent farmers from adopting certain risk-prone options that could increase the marketable surplus of their production. An answer to the principal research questions of this chapter is, therefore, only a first step in the policy debate that should follow.

The chapter first presents the natural resource constraint that typifies the Rwandan countryside. It then shows that there is an inverse relationship between farm size and land productivity (even when farm fragmentation, crop diversification, frequency of multicropping and variations in different regions’ soil quality are taken into account). Based on this analysis, the chapter finally reflects upon the implications for Rwanda’s rural policies.

1. Rwanda caught in a Malthusian trap?

Rwanda has long been a densely populated country, confronted much earlier with severe land-scarcity than the rest of the relatively land-abundant African continent. Its strategy to cope with the problem was typically one of land expansion. Since the early sixties, the proportion of arable land has even further increased, except for an important decline in 1994-1995 (Figure 1A). Nevertheless, this trend could not keep

pace with Rwanda's impressive population growth (Figure 1C). As a result of this gap, per capita arable land availability declined during the seventies and eighties (Figure 1B).

Figure 1A
Arable land as % of total land area

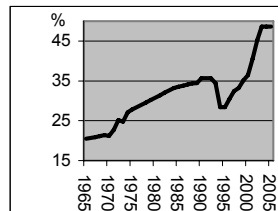


Figure 1B
Arable land per capita

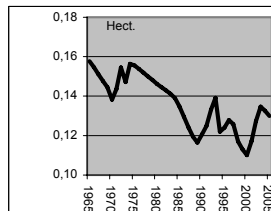
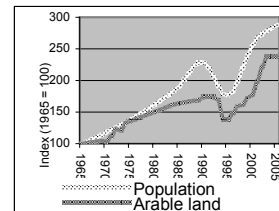


Figure 1C
Population versus available arable land



Source: World Bank, 2008.

Figure 2A
Land productivity

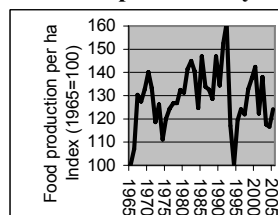


Figure 2B
Labour productivity

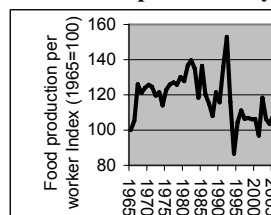
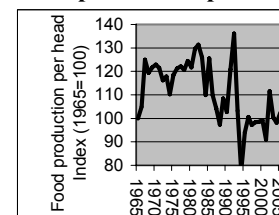


Figure 3C
Food production per head



Source: World Bank, 2008.

As land resources became scarcer, land expansion went hand in hand with intensification strategies to increase land productivity. However, complex technological innovation was often unavailable, too costly, or not suitable for the typical subsistence-based production system. Therefore, intensification was mostly obtained through traditional methods; for example, by reducing fallow periods, by increasing the number of cultivation cycles per year and by exploiting steeper parts of hills with more demanding crops. This strategy increased the burden on available arable land with obvious harmful effects on its ecological state and potential. By the early nineties, land productivity growth collapsed (Figure 2A), reaching the limits of what seemed to be an ecological boundary. Stagnation in productivity rates, combined with limited options for expansion and increasing population growth, resulted in declining food production per capita (Figure 2C). At the same time, there were almost no available options for the Rwandan labour surplus to be absorbed by other sectors. This resulted in underemployment, which is reflected in the stagnating and declining labour productivity figures within the agricultural sector in the second half of the

eighties (Figure 2B). It was exactly this worrying combination that led André and Platteau (1998) to the conclusion that Rwanda was, ‘caught in a Malthusian trap’⁷¹.

Post-war trends in agricultural intensification continue to be worrying. Land productivity has increased somewhat after 1994; although it remains problematic extremely volatile (Figure 2A). Labour productivity figures for the post-war years are also troublesome. They reflect how large numbers of rural peasants are still entrapped in agricultural survival activities (Figure 2B). Even more worrisome is the evolution of food production per head: the post-war recovery is very limited.

Surprisingly, the post-war potential for expansion seemed to be promising. The declining trend in per capita arable land availability was reversed in the first years of the new millennium (Figure 1B). Given that population growth continued at a considerable pace (Figure 1C), this can only be explained by an acceleration in the transformation of non-arable land into arable land (further expansion) over the post-war period (Figure 1A). However, from 2003 onwards, the expansion strategy is reaching its finite spatial limitations (see Figures 1A and 1B).

Next to the availability and intensity of land use, there is also the issue of land distribution. The long-term trend is far from encouraging, as shown in the next table. In 2000, average land available per household was about three quarters of the available arable land in 1990. Moreover, land ownership in Rwanda has shifted from the poor to the rich. According to Jayne *et alii* (2003), average landholdings have declined strongly for all economic quartiles between 1990 and 2000, except for the richest.

The question as to whether Rwanda has finally been able to escape the Malthusian trap of ever increasing resource scarcity remains unresolved. Expansion was only a temporary solution to the resource constraint in the post-1994 period, and it entailed the increasing exploitation of unsuitable lands to the point of total resource depletion. Successfully coping with land scarcity is, therefore, entirely conditional upon the

⁷¹ According to Malthusian theory in its original version, the societal cycle leads unavoidably to a point where “mankind’s biological reproduction capacity” structurally exceeds its “physical production capacity” (Ehrlich and Lui, 1997: 207). Such tension eventually results in the outburst of “misery and vice”, which takes the form of large-scale diseases or violence. This temporarily resolves problems of population pressure and thus of resource scarcity. Nevertheless, as the post-outburst context is characterized by the same institutional setting, society is implicitly ‘doomed’ to continuously fall into the same trap. Uvin distinguishes among two types of Malthusian arguments. The “hard” Malthusian argument sees violence and conflict as the unavoidable result of rising population pressure and resource scarcity. The “soft Malthusianists” argue that “ecological resource scarcity did play a role in the processes that led to the 1994 violence, [but] this role was not fixed and cannot be understood without considering political processes” (Uvin, 2003: 83).

ability of the rural sector to go beyond the current ecological and productivity boundaries of the natural resource base. Intensification depends upon the availability of land, production-improving techniques, incentives and the abilities of local farmers to make use of them. These abilities may differ for various types of farmers. The main issue is, therefore, the selection of national rural/agricultural policy objectives; including which particular type(s) or group(s) of farmers should be targeted to make the agricultural sector more productive. An important preliminary question to answer then is which type(s) of farmers and farming systems maximize land productivity in the current context.

Table 1: Land availability and land distribution

	Av. land access per hh	Household per capita land access					Inequality		
		Quart 1	Quart 2	Quart 3	Quart 4	Av.	Gini 1	Gini 2	Gini 3
1984	1,20	0,07	0,15	0,26	0,62	0,28	-	-	-
1990	0,94	0,05	0,10	0,16	0,39	0,17	0,43	0,43	0,41
2000	0,71	0,02	0,06	0,13	0,43	0,16	0,52	0,54	0,54

Source: Jayne *et alii*, 2003: 262.

Remarks: Quart stands for quartile. Gini 1 is defined in terms of land per household, Gini 2 in terms of land per capita, and Gini 3 in terms of land per adult.

2. Debates on the inverse farm size – productivity relationship

There is considerable empirical evidence that links land consolidation and concentration to improved productivity (For some recent literature, see Hung *et alii*, 2007 for Vietnam; Lerman and Cimpoeș, 2006 for Moldova). Wu *et alii* (2005) advance three potential sources for productivity improvements through land consolidation. First, concentration of plots could facilitate improved land quality management through irrigation and use of machinery. Secondly, concentration could reduce certain secondary cultivation costs (f.e. labour time, fencing costs, transportation, supervision, etc.). Finally, land concentration might also lead to changes in crop choice allowed by land improvements.

However, there is also an extensive literature that illustrates an inverse relationship between farm size and land productivity. The debate began with the work of Amartya Sen (1962) on India. The influential research of Berry and Cline (1979) and Cornia (1985) also pointed to a strong inverse relationship. Dyer (2004), however, found significant flaws in the approach of Berry and Cline, and pointed to the importance of disaggregating data. In their recent work, Johnston and Le Roux (2007) gave a short overview of disaggregated studies and found a diverse pattern of results, "... with some finding a clear inverse relationship, others a positive relationship and still others describing a convex or concave relationship." (Johnston and Le Roux, 2004: 357).

In addition, if an inverse relationship is identified, one should be careful to not automatically interpret this as a mere reflection of small-scale farmers' higher efficiency. On the side of the larger farmers, it may be that they have enough alternatives to earn their livelihoods, which decreases their incentive to fully exploit the potential of their land. They may hold it for other than productive purposes. They may also consider land as a 'relatively abundant resource'; even in a land-scarce environment, given they face a lower implicit price for land compared to other production factors (Ellis, 1990). Turning to the side of the smaller farmers, peasants may be obliged to overexploit the land at their disposal. Akram-Lodhi mentions that the greater productivity of small-scale farmers may be a 'survival mechanism of the poor' rather than a 'mechanism of potentially poverty-eliminating accumulation' (Akram-Lodhi, 2007: 560). Examples of these survival mechanisms have been elaborated by other authors. Binswanger and Rosenzweig (1986), for example, point to the possibility that imperfections on the labour market may prevent labour-selling households from allocating their labour force in the most optimal way, resulting in overemployment on the own farm that leads to an inverse relationship. Barrett (1996) adds that food price risks may incite small-scale peasant households to deliberately opt for employing their labour force in an excessive way, "beyond even their shadow valuation of labor" (Barrett, 1996). Assunção and Ghatak (2003) however, point to the possibility that the inverse relationship might be the result of self-selection among the peasants, where efficient small-scale peasants have higher opportunity costs to engage in wage labour. All these theories provide household-specific explanations, either pointing to opportunities, either to constraints to which these households are confronted, to provide explanations for the inverse land size – productivity relationship.

Another issue is whether the inverse relationship will hold in a modernising agricultural sector. A study focussing on the Indian case indicates that, "the inverse relationship between yields and farm size, although valid for a traditional agriculture, cannot be assumed to exist in an agriculture experiencing technical change" – certainly when the transformation is of the Green Revolution type (Deolalikar, 1981: 275). Based on data for the Thar Desert in India, Ram *et alii* (1999) find that the inverse relationship weakened with the increased availability of size-neutral biotechnology and differences in management input. Bhalla and Roy (1988), on the other hand, do confirm a weakened inverse relationship comparing Indian data for 1970 and 1976. But they reject the hypothesis that this was the result of technological change induced by the green revolution. Another study by Carter (1984), however, finds that even with post-Green Revolution data for India a strong inverse relationship

continues to exist. The author concludes that, “these results suggest that small-scale agriculture warrants attention as a base for agriculture development in a land scarce economy” (Carter, 1984: 144).

The farm size – productivity relationship has again become relevant in current debates on agrarian reforms. There are two competing models. The first model promotes market-led agrarian reforms (MLAR) - based on the willing-seller, willing-buyer principle of land without maximum ceilings. This should result in a self-selection process of the most productive producers; and, accordingly, productivity and agricultural efficiency should increase (for the main arguments of the MLAR literature, see Deininger, 1999; Deininger and Binswanger 1999; Deininger and Feder 1998 and Deininger, 2003). Deininger and May (2000) accentuate that this growth-oriented strategy may, at the same time, lead to greater equity; given the inverse relationship between farm size and productivity.

Others (f.e. Borras, 2003) point out that agricultural reforms occur in a space where various social actors have unequal bargaining and negotiation positions due to the asymmetry of social class power. As a result, the small-scale farmers – regardless of whether they are the most productive – may be institutionally constrained in consolidating their position in a market-led land reform. The model which presents itself as an alternative to market-led reforms is promulgated by La Vía Campesina (for an overview of the movement’s evolution, see Desmarais, 2002). This model argues for agricultural reforms in which small-scale producers play a central role; through peasant empowerment and food sovereignty. Roset *et alii* (2006) refer to the inverse relationship between farm size and land productivity as the main argument for smallholder farming systems as a basis for agrarian reform.

Turning to the case of Rwanda, rural policy documents and governmental policy makers do not consider small-scale subsistence agriculture as a viable option for rural development. The Strategic Plan for Agricultural Transformation identifies, as a main challenge, the “*transformation of subsistence agriculture into commercial agriculture with all its involvements in terms of institutional, social changes of behaviour and distribution of roles and responsibilities between different stakeholders*” (GoR, 2004A: 33). The land policy takes it further, “... *the Rwandan family farm unit is no longer viable. ... The re-organization of the available space and technological innovations are necessary in order to ensure food security for a steadily and rapidly increasing population*” (GoR, 2004B: 16). Some of the foreseen innovations include: farm concentration, regional specialisation in certain crop types, and the abandonment of multicropping (i.e. combining different crops on the same plot of land) in favour of

monocropping; in order to benefit from the ‘economies of scale.’ Most importantly, the policy envisages re-organising the agricultural sector by consolidating land and shifting to larger farm units.

At this point, it is doubtful, however, whether large-scale Rwandan farmers are indeed more productive. Byiringiro and Reardon (1996) use pre-conflict data to conclude that smaller farmers have higher average and marginal land productivity than larger farmers, and that their farmlands are not more eroded despite more intensive cultivation methods. Also, in the post-war context, larger farmers are not necessarily the most productive land users, as we show in the next part of the chapter.

3. The case of Rwanda

We use socio-economic quantitative data gathered by the Food Security Research Project (FSRP) combined with data from the Household Living Conditions Survey (EICV)⁷². Conditional upon the dependent variable considered (see later), the sample includes a total of 1312 / 1357 households from 125 cellules⁷³ distributed over 12 different agro-ecological zones in Rwanda⁷⁴.

Productivity can be measured in different ways: results in terms of labour productivity⁷⁵ are essentially different from efficiency in terms of land productivity. Considering labour productivity, Byiringiro and Reardon found that the market wage was higher than the marginal value product of labour on smaller farms. They conclude that “this implies a ‘bottling up’ of labor on smaller farms, and constraints to access to

⁷² The Food Security Research Project is a joint initiative of Michigan State University, the Rwandan Ministry of Agriculture and USAID. The FSRP sample is a sub-sample of the nationally representative Household Living Conditions Survey (EICV) that was undertaken by the Rwandan government (2001). In general, the FSRP sample retained the same households as included in the EICV sample, and replaced those non-available with households from the EICV’s reserve list. The FSRP panel survey focused on land use and agricultural production for 6 seasons between 2000 and 2002. Compared to the EICV data regarding land and livestock ownership, the FSRP data is more reliable for variables; given the effort put into correct data measurement and follow-up. However, the data on the monetary value of agricultural production per household is only available in the EICV dataset. We combine the EICV dataset with the 2001 FSRP dataset in order to have compatible data.

⁷³ Rwandan households are typically scattered over the hills. Before the administrative reforms of 2005, the cellule was the administrative division that corresponded with one or a few hills.

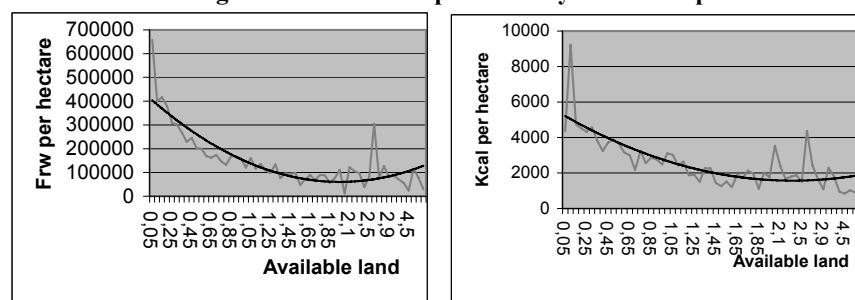
⁷⁴ The EICV dataset was gathered data between July 2000 and June 2001. The FSRP data was gathered during 3 years (between 2000 and 2002), each time for both season A (September – January) and season B (March – August). This means that the FRSP 2001 data cover both season A (September 2000 – January 2001) and season B (March 2001 – August 2001), a period that is more or less compatible with the collection period of the EICV dataset.

⁷⁵ Regarding labour productivity, we find that small-scale farmers are less productive. The Rwandan countryside is characterised by high underemployment; certainly in small-scale farms. For these households, the marginal increase in output when adding additional labour is extremely limited due to the lack of land.

labor market opportunities, and perhaps barriers to entry into small business” (Byiringiro and Reardon, 1996: 135). In this chapter however, we focus on land productivity, given that this is the scarce factor for Rwandan peasant households. Still, there are different ways to measure land productivity. Productivity per unit of land may be expressed in yield (ton per hectare); however, this measure makes it difficult to compare productivity for different crops / combinations of crops. Productivity of land may also be expressed in monetary (in Rwf – Rwandan francs) or in caloric value.⁷⁶ The correlation between the two seems logical but it is not obvious. Peasants may, for example, choose to produce cash crops such as coffee or tea. The cultivation and sale of these crops may have a considerable impact upon the monetary value of overall production, but the output’s caloric value is very low. On the other hand, food crops such as sweet potatoes may have a low market value but can be an important component of the food diet because of their high caloric value.

Figure 3 illustrates the relationship between farm size and output per land unit. The raw data shows that there is a large variance in the productivity rates of the land-poorest households. Nonetheless, the inverse trend in the relationship is clear, regardless of which productivity measure is used.

Figure 3: Farm size – productivity relationship



Source: Calculations for median added value of production per hectare are based on the combined EICV-FSRP dataset (2001). Calculations for median caloric value of production per hectare are based on FSRP (2001) and FAO (2007) datasets.

3.1 OLS (Ordinary Least Squares) models

The farm size-productivity relationship may also be studied using regression analysis. Typically (see Bhalla and Roy, 1988; Carter, 1984; Deolalikar, 1981), the relationship is represented by the model:

⁷⁶ In this paper, calculations for added value of production per hectare are based on the combined EICV-FSRP dataset (2001). Calculations for caloric value of production per hectare are based on FSRP (2001) and FAO (2007) datasets.

$$\ln Y = \beta_0 + \beta_1 \ln H + e$$

where Y is the output per hectare and H represents the farm size in hectares. The log transformation highly improves the variation in productivity that is explained by the model (R^2). It allows one to interpret the coefficient as an elasticity, representing the percentage change in the dependent variable when the independent variable increases by one percent. A significant negative β_1 coefficient would indicate a negative elasticity between farm size and productivity, which would provide support for the inverse relationship. Table 2 indicates a strong negative correlation between farm size and productivity – regardless of which productivity measure is used.

**Table 2: Farm size – productivity relationship:
OLS regression with one explanatory variable⁷⁷**

OLS Regression 1 (N=1312) (productivity as independent variable measured in monetary value)			OLS Regression 2 (N=1357) (productivity as independent variable measured in caloric value)		
β_0	β_1	R^2	β_0	β_1	R^2
0,011	-0,539		0,001	-0,407	
(0,002)	(0,002)	0,190	(0,001)	(0,001)	0,180
***	***		***	***	

Unstandardised coefficients. Figures in parentheses are estimated standard errors

*** significant at the 0.001 level.

Bhalla and Roy (1988) have adapted the original model by adding several coefficients accounting for soil quality (i.e. land type, land colour and land depth). Indeed, farm size may be correlated with soil quality. Ellis (1990) mentions that large farms may have less fertile land than small farms and provides two possible explanations. First, the more fertile regions with a higher soil quality tend to have a higher population density and more fragmentation. Another thesis is that small-scale peasants are obliged to fully exploit the productive potential of all their land, while larger farmers only concentrate on their best land which brings down their ‘average’ productivity (taking into account their entire property). Therefore, the observed inverse relationship may result from a correlation between farm size and soil quality. Bhalla and Roy (1988), and Lamb (2003) both found for the Indian case that indeed, part of the inverse relationship can be accounted for by the soil quality factor.

To account for this factor in the analysis, we include a soil quality index, developed at the Laboratory of Soil Science, Ghent University, for the 125 selected cellules included in the EICV-FSRP datasets, based on the soil profile database and soil map of Rwanda at a scale of 1:50.000 (Imerzoukene and Van Ranst 2001). This soil

⁷⁷ The sample sizes are different for both regressions, and made compatible to the sample sizes of the analyses presented further in the paper. The variables are centred with respect to their means. This is also done in subsequent analyses (the rationale for this is explained later).

quality⁷⁸ index was calculated by multiplying the scores (values between 0 and 100) attributed to five soil characteristics: soil texture (A), soil depth (B), topsoil sum of basic cations (C), pH (D), and organic carbon content (E). As such, it evaluates the physical and chemical soil fertility and gives an expression of the soil quality for crop production⁷⁹. In our analysis, we consider the weighted average index for the dominant soil series at the cellule level. A formal definition of the soil quality index is given by⁸⁰:

$$Index = \frac{A}{100} \times \frac{B}{100} \times \frac{C}{100} \times \frac{D}{100} \times \frac{E}{100}.$$

In their analysis on the inverse relationship, Bhalla and Roy (1988) further include a coefficient for land fragmentation. They identify this variable as a potentially important additional aspect of soil quality and, in any case, a variable that reveals important information. In an environment where peasants are often driven into distress sales of land, the worse land plots are assumed to get sold first. Therefore, a greater level of fragmentation is likely to be correlated with lower soil quality and would thus have a negative impact upon productivity rates. Blarel *et alii* (1992), however, point to the fact that in pre-war Rwanda, land fragmentation was advantageous for farmers' risk management and productivity. De Lame (2005) presents farm fragmentation as a typical characteristic of the Rwandan farming system: "Some fields, almost always including the banana grove, surround the house. Others are scattered and pieced out following divisions aimed at making sure that each heir possesses each type of field on the land inherited from the father or on purchased or given land." (De Lame, 2005: 128) We include farm fragmentation as a

⁷⁸ The cellules, taking part in the socio-economic study, were indicated on hardcopy maps of the sectors within each Rwandan province. This map of studied sectors was digitised and overlaid with the soil map sheets at a scale of 1 : 50.000 giving information on the soil series present within each of the studied cellules. The physical and chemical properties of each of these soil series were extracted from the related soil profile database.

⁷⁹ The weighted average soil quality index has certain limitations. First, the soil profile database is based on information gathered over the eighties and early nineties while combined with the EICV - FSRP data of 2001. Over this period, it is likely that further land degradation has taken place in different degrees for different areas. This factor can not be accounted for in this analysis. Second, as the exact location of the household fields is not known, the soil quality needed to be reported at an aggregate (cellule) level. The variability in soil quality reported within each of the cellules may however be quite high. For example: the soil quality of fields located in the valleys can be higher than the soil quality of fields on steep slopes. Both elements may possibly bias the analysis.

⁸⁰ When calculating a soil quality index, one may opt for additive versus multiplicative methods. In this case we opted for a multiplicative method as, in comparison with additive methods, it does a better job in revealing important limitations in only one or a few aspects of soil quality that may – despite good scores for all the other factors – have an important impact on overall productivity.

separate coefficient, measured by the number of plots over which the farm is divided⁸¹.

Table 3 Summary statistics

	Mean	Median	St. Dev.	Minimum	Maximum
Monetary value of production for season 2001A and 2001B (Rwf)	272.804	172.836	389.131	0	9.061.270
Caloric value of production for season 2001A and 2001B (Kcal per year)	4.327	3.098	4.731	70	79.197
Farm size (hectares)	0,82	0,57	0,86	0,02	8,46
Farm fragmentation (average number of blocs considering season 2001A and 2001B)	3,15	3,00	1,97	1,00	15,00
Crop diversification (sum of number of crops in season 2001A and 2001B)	12,40	12,00	4,27	3,00	28,00
Multicropping (percentage of cultivated land surface covered with multicropping technique)	53,47	53,12	25,27	0,00	100,00
Adult equivalent (number of adult equivalents in the household)	4,52	4,23	2,02	0,70	13,95
Soil quality (calculation explained above)	0,36	0,35	0,11	0,13	0,80
Population density (people per km ²)	386,06	357,00	206,63	26,00	1.486,00
Distance to market (km)	4,18	3,00	4,53	0,00	32,00

Note: The calculation of summary statistics is based upon the sample size of 1357 households for all variables measured at the household level. The calculation of summary statistics for cellule-level variables is based upon the sample of 125 cellules.

Further, we consider two variables that are of specific importance to the Rwandan case with regards to farmers' risk management. First, we consider the number of crops cultivated on the farm (sum of number of crops in season A – September to February - and season B – March to August). Agricultural policies often encourage crop specialisation to realise economies of scale and to orient the agricultural sector more towards the cash market. However, the rationale for concentrating on one market crop may be irrelevant for subsistence farmers and/or for farmers with limited bargaining power in the local markets. Moreover, diversification of crop types may be an effective method for subsistence farmers to spread and thus reduce risk (i.e. weather risks, crop disease, etc.) when land is very scarce. In the same way, farmers may choose to cultivate different crops on the same piece of land. This technique (i.e.

⁸¹ The Pearson correlation between land fragmentation and land quality is significant and positive, but very small (0.037).

‘multicropping’) is frequently used in Rwanda, and may also be useful –aside from its risk-mitigating character – in increasing agricultural output when the combined crops are complementary. We incorporate this into the regression analysis by adding a variable that accounts for the share of farm size used for multicropping (taking into account land use in seasons A and B).

We further add two variables that are related to population size, both on the farm and in the larger environment. One variable accounts for the population density in the district in which the household is located. It seems logical that households in more densely populated areas are bound to use their available land more intensively, which would have an automatic effect upon their productivity. This effect may also occur on a more disaggregate level. Households with a lot of household members may be obliged to intensify their agricultural activities on their available land. We therefore include a variable that measures the number of adult ‘equivalents’ present in the household. Finally, we include a variable that accounts for the distance from the cellule to the nearest market. This aspect could be important as an incentive/disincentive for households to produce a marketable surplus.

Including these variables complicates our regression model, but provides a solution as to whether the inverse relationship between farm size and land productivity holds after taking account of farm fragmentation, crop diversification, share of the farm size used for multicropping, household size and regional population density, variations in soil quality, and the distance to the nearest market. The new regression model can be specified as follows:

$$\ln Y = \beta_0 + \beta_1 \ln H + \beta_2 F + \beta_3 C + \beta_4 M + \beta_5 A + \beta_6 \ln H * A + \beta_7 L + \beta_8 P + \beta_9 D + \beta_{10} \ln H * L + \beta_{11} \ln H * P + \beta_{12} \ln H * D + \beta_{13} F * L + e \quad (1)$$

where Y is the output per hectare, H represents the area of the cultivated land (farm size), F represents the number of plots over which the total cultivated land is fragmented (farm fragmentation), C stands for the number of crops cultivated on the farm (sum of season A and B), M stands for the share of the farm size used for multicropping (based on land use in season A and B), and A stands for the adult equivalents present in the household. These variables are all measured at the household level. We further include three contextual variables. The variable L represents the soil quality index at cellule level. The variable P represents the population density (per square kilometre) of the district in which the household is located. Finally, D stands for the distance (in time) from the cellule to the nearest market. These variables are all measured at the aggregated level of the cellule in which the farmer’s household resides. An OLS analysis, however, treats these

variables as if they were household-level characteristics. We further include several interaction terms. The interaction terms $\ln H * A$, $\ln H * L$, $\ln H * P$ and $\ln H * D$ account for the possible variations in the relationship between farm size and productivity dependent upon household size, soil quality, population density, and distance to the market. The interaction term $F * L$ accounts for the possible variation in the relationship between farm fragmentation and productivity; dependent upon soil quality. These interaction terms seem justified based upon the literature cited above. All variables are centred with respect to their means to minimize the risk that covariances among random slopes and between the random slopes and the random intercepts result in problems comparable of multicollinearity (see Bickel, 2007: 137)⁸². The rationale for the log transformation of farm size remains the same as for the bivariate model. For the other variables, transformations are avoided as they would have little impact upon R^2 . The coefficients of those variables represent the percentage change in productivity when the independent variable increases with one unit (f.e. one extra plot of land, one extra crop, one extra percentage of land cultivated with multicropping, etc.).

The extended model (see Table 4, model 1) also confirms a strong inverse relationship between farm size and productivity when other variables are considered. A one percent increase in farm size relates to a 0,6% decrease in productivity in monetary value, and a 0,5% decrease in productivity in caloric terms. Also, the coefficient of fragmentation is significant. The positive sign of the coefficient confirms Blarel *et alii*'s thesis that, in the current context, farm fragmentation has a positive impact upon productivity. Further, the crop diversification and the multicropping variables are both significant and positive for productivity, regardless of which output measure is used. The significance of all three variables – farm fragmentation, crop diversification, and the incidence of multicropping - indicates that in the current context farmers' risk management techniques seem to pay off in terms of productivity, although their effects are small. The family size (adult equivalent) variable is positive and significant, whereas the farm size/family size interaction term is negative and significant. This indicates that an increase in adult equivalents reinforces the inverse relationship between farm size and productivity. Soil quality seems to have a strong and significant positive impact upon productivity rates. The significant (positive) farm size/soil quality interaction term indicates that the inverse relationship between farm size and productivity is mitigated when soil quality improves. The negative farm

⁸² Bickel (2007) pleads for the grand-mean centring of all variables in order to avoid that strong correlations between random intercepts and random slopes insert a bias in the random regression coefficient estimates. Calculation of the grand-mean is based upon all cases included in the EICV-FSRP 2001 dataset. In the regression, some of these cases are not incorporated due to missing data for one of the variables.

fragmentation/soil quality interaction term implies that the productivity gains associated with more farm fragmentation diminish as cellules have higher soil quality. The interpretation of the other contextual and interaction terms is somewhat less straightforward as their impact upon productivity is very small.

This OLS model combines data from two different levels: data at the household level (i.e. productivity, farm size, farm fragmentation, crop diversification, frequency of multicropping, and household size measured in adult equivalent) and at the cellule level (i.e. soil quality, population density and distance from nearest market). By disaggregating the cellule-level data to the household level, we introduce the methodological problem of ‘the miraculous multiplication of the number of units’: the effective degrees of freedom for the hypothesis tests is smaller than the number of households.

To avoid this, one may choose to perform the analysis at the aggregated level; in this case, the cellule level. We use the cellule medians⁸³ for the variables measured at the household-level (indicated by C in the subscript). The aggregated regression model is defined as:

$$\ln Y_c = \beta_0 + \beta_1 \ln H_c + \beta_2 F_c + \beta_3 C_c + \beta_4 M_c + \beta_5 A_c + \beta_6 \ln H_c * A_c + \beta_7 L + \beta_8 P + \beta_9 D + \beta_{10} \ln H_c * L + \beta_{11} \ln H_c * P + \beta_{12} \ln H_c * D + \beta_{13} F_c * L + e \quad (2)$$

Also this regression model (see Table 4, model 2) provides support for a strong inverse relationship between farm size and land productivity for the Rwandan case. The results of the aggregate regression are entirely comparable with the first model, except for the change in the sign of the farm size/family size interaction term.

Another way to preclude the problem of combining data from different levels is by excluding all higher-level variables from the analysis. The model then becomes:

$$\ln Y = \beta_0 + \beta_1 \ln H + \beta_2 F + \beta_3 C + \beta_4 M + \beta_5 A + \beta_6 \ln H * A + e \quad (3)$$

We see that, in fact, with this “slimmed” regression (see Table 4, model 3) the unstandardised coefficients and the standard errors of the variables change very little in comparison to model 1. This seems to indicate that the inclusion or exclusion of the contextual variables in the regression model has very little impact upon the interpretation of the variables measured at household level.

⁸³ The sample is not representative at the cellule level. Given the limited number of cases per cellule, we prefer to use cellule medians instead of cellule means to avoid that outliers profoundly distort the analysis.

Bhalla and Roy (1988) have further disaggregated their analysis to investigate whether the inverse relationship held for more homogeneous environments within India. They consider particular administrative regions (up to the district level) next to agro-ecological regions. The Rwandan EICV-FSRP database only allows us to disaggregate based on administrative criteria as our data are representative only up to the provincial level. Model 3 can, therefore, be estimated at the provincial level. The regression estimates (see Table 5) show that in all provinces, the inverse relationship firmly holds. It is strongest for those regressions with higher R squares. The coefficient of farm fragmentation is positive and significant in all provinces and for both productivity measures, which again confirms Blarel *et alii*'s conjecture in every Rwandan province. The impact of crop diversification upon productivity is less consistent when comparing different provinces. The coefficient is significant in most cases; however, the sign of the coefficient differs depending upon location and the productivity measure used. The multicropping variable is significant in most cases and clearly has a positive though rather limited impact upon productivity rates. Family size has a significant positive impact upon productivity. The sign of the farm size/family size interaction term is less consistent across provinces. Overall, the results at the disaggregated administrative level, to a large extent, correspond overall with the national trend.

3.2 Random coefficient and multilevel analysis

We already raised the problem of combining data from different levels; but in addition, lower-level independent variables measured at the household level – in their relation to the dependent variable - may be influenced by contextual factors that are specific to the cellule/ province/agricultural region in which the households are nested. Applying OLS to nested data results in deflated standard errors. This entails the risk of erroneously rejecting the null hypothesis (Type I error of finding statistical significance, when in fact there is none). Random coefficient or multilevel regression analyses - with REML⁸⁴ estimators as substitutes for OLS estimators - are then the appropriate tools with which to analyze these data.

Random coefficient regression allows addressing the joint problems of dependent observations and (within-group) correlated residuals due to nesting of observations. This technique permits the intercepts and slopes of coefficients of the lower level explanatory variables to vary across groups (data grouped in cellules/provinces). All

⁸⁴ REML stands for REstricted Maximum Likelihood. In contrast to the Maximum Likelihood procedure, this REML procedure takes into account the number of parameters to estimate the model, which is important in the case of smaller samples.

random regression coefficients have a *fixed component*, this is the summary average of a population intercept and slopes that vary from one cellule to another); in most empirical applications, their estimates differ little from the OLS estimates. However, the standard errors for random coefficient regressions are typically larger than the deflated values reported in the OLS regression, which reduces the risk of committing type I errors (i.e. finding false significances). The *random components* measure the extent to which the random intercept and slopes vary across cellules. The model also allows the estimation of the covariances between intercepts and slopes. These determine whether the random components vary together or not⁸⁵. The random coefficient analysis may be transformed into a multilevel analysis by including contextual variables from a higher level (i.e. soil quality, population density, and distance to the market measured at the cellule level) to see whether they account for the variability in the random intercept of lower level variables, and by including cross-level interaction terms as additional explanatory variables to see whether they explain variability in the random slopes (Bickel, 2007).

For the purpose of this chapter, a random coefficient regression model with two levels (households and cellules) seems most appropriate; given that the inclusion of a third level (either agricultural zone or administrative province) would lead to a problematic reduction of the effective sample size (there are only 12 agricultural zones and 11 provinces in which lower-level data are nested). In addition, contextual factors related to the cellule level are more relevant than those at a more aggregated level for our type of agriculture-related analysis.

When defining a random coefficient or multilevel model, the first question to answer is whether there are coefficients that should be permitted to vary across higher-level groups. To formulate an answer, we calculate the unconditional intra-class correlation coefficient⁸⁶ (ICC, with no explanatory variables in the equation). For productivity in terms of monetary value, the ICC amounts to 0,246 whereas it equals 0,356 for productivity in terms of caloric value. This implies that, respectively, 24,6% and 35,6% of the variability in the productivity variable occurs between cellules, while 75,4% and 64,4% occurs within cellules. This nested-engendered intra-class

⁸⁵ With the “variance components” default option of SPSS for the covariance structure, the variances of the random coefficients are allowed to vary, but the model specifies that they do not vary together. As a result, the estimates of covariance parameters will not include any covariances. When choosing the “unstructured” option instead, no constraints upon relationships among random components are imposed: random intercepts and slopes may vary together. The option, however, requires more parameters to estimate, which decreases the degrees of freedom (Bickel, 2007).

⁸⁶ The intra-class correlation coefficient is calculated by dividing between-group variability by the sum of between-group variabilities and within group variabilities. ‘Unconditional’ means that there are no explanatory variables in the equation when calculating this coefficient.

correlation seems to be sufficiently large to justify random coefficients in the regression analysis.

The second question is which independent variables should be assigned fixed slopes and which have to be treated as random coefficients. Bickel (2007) points to the importance of substantive theoretical knowledge when making this decision. He highlights that the inclusion of too many random coefficients may make the model too complex and difficult to interpret. As we described above, there is extensive empirical evidence in the literature of the diversified experience of different regions with the farm size/productivity question. Therefore, we opt for specifying the effect of farm size as random. Additionally, the effect of farm fragmentation will be treated as random, as it may vary from region to region dependent upon soil quality (see Bhalla and Roy 1988).

The final question to answer is which contextual variables may account for the variation in the random intercept and slope of the random farm size and farm fragmentation coefficients. In this analysis, we opt to include three contextual variables that may be relevant for the farm size/productivity relationship, the same three variables as included in the OLS regression presented above: soil quality, population density and distance to the market.

For the purpose of this analysis, all variables have been grand-mean centered. This reduces the risk of problematic correlations between random components⁸⁷; and it facilitates the interpretation of the intercept as the estimated value of the dependent variable when all independent variables are equal to their means (Bickel, 2007).

The estimated level-one model is given by:

Level-one model

$$\ln Y_{IJ} = \beta_{0J} + \beta_{1J} \ln H + \beta_{2J} F + \beta_3 C + \beta_4 M + \beta_5 A + \beta_6 \ln H * A + e_{IJ}$$

where Y_{IJ} is productivity of household I in cellule J, β_{0J} is the intercept for cellule J with a fixed and random component; β_{1J} and β_{2J} are the random slopes of the explanatory variables accounting for land size (H) and farm fragmentation (F) - again with a fixed and a random component; and β_3 , β_4 , β_5 , and β_6 are the fixed slopes of

⁸⁷ "Covariances among random slopes and between random slopes and random intercepts have consequences that are comparable to multicollinearity. When relationships among these various factors are strong, they interfere with efficient estimation of random regression coefficients. Grand-mean centering of all independent variables is a useful corrective" (Bickel, 2007: 137).

explanatory variables accounting for crop diversification (C), multicropping (M), family size (A) and the interaction term land size/family size interaction term.

The level-two models for the intercept and the slopes of the variables H and F are:

Level-two model

$$\begin{aligned}\beta_{0J} &= \gamma_{00} + \gamma_{01}L + \gamma_{02}P + \gamma_{03}D + u_{0J} \\ \beta_{1J} &= \gamma_{10} + \gamma_{11}L + \gamma_{12}P + \gamma_{13}D + u_{1J} \\ \beta_{2J} &= \gamma_{20} + \gamma_{21}L + u_{2J}\end{aligned}$$

where the random intercept (β_{0J}) and random slope of variable H (β_{1J}) are expressed as functions of three contextual level-two variables L, P and D. The random slope of the farm fragmentation variable (β_{2J}) is only expressed as a function of the contextual variable accounting for soil quality.

The complete multilevel model can be specified as follows:

Full model

$$\begin{aligned}\ln Y_{IJ} &= \gamma_{00} + \gamma_{10} \ln H + \gamma_{20}F + \beta_3C + \beta_4M + \beta_5A + \beta_6 \ln H * A + \gamma_{01}L + \gamma_{02}P + \gamma_{03}D \\ &+ \gamma_{11}L * \ln H + \gamma_{21}L * F + \gamma_{12}P * \ln H + \gamma_{13}D * \ln H + (u_{0J} + u_{1J} \ln H + u_{2J}F + e_{IJ})\end{aligned}\quad (4)$$

The full model combines the level-one and level-two models. γ_{00} is the common intercept across cellules; and γ_{01} , γ_{02} , and γ_{03} , are the effects of the cellule-level variables L, P and D on cellule-specific intercepts. γ_{10} and γ_{20} are the common slopes with household-level variables H and F across cellules; γ_{11} , γ_{12} , and γ_{13} are the effects of the group-level variables L, P, and D on the cellule-specific slope of H; and γ_{21} finally is the effect of the group-level variable L on the cellule-specific slope of F. β_3 , β_4 , β_5 , and β_6 have been defined above.

Considering the estimated model (see Table 4, model 4), we find that the coefficients of the contextual variables and cross-level interaction terms are all insignificant. This suggests that the inclusion of contextual variables and cross-level interaction terms adds little to the explanatory power of the overall model. Indeed, the conditional intra-class correlation⁸⁸ (24.4% for productivity in monetary value, 38.8% for productivity in caloric value) is nearly the same or even higher than the unconditional intra-class

⁸⁸ The conditional intra-class correlation coefficient is calculated in the same way as the unconditional coefficient, except for the fact that the contextual variables and cross-level interactions are included as explanatory variables. If the conditional intra-class correlation coefficient is considerably smaller than the unconditional coefficient, then the contextual factors explain a considerable part of the nesting-engendered intra-class correlation. This is not the case in our analysis.

coefficient calculated above. This indicates that the contextual factors and cross-level interaction terms do not explain the differences in intercept and slopes for the different cellules in the study.

Therefore, as an alternative to this complex multilevel model, we might as well consider the simpler random coefficient model. Such a model still allows coefficients to vary across groups (cellules), but does not try to explain this variability using contextual variables and cross-level interaction terms. The simplified model is:

Level-one model

$$\ln Y_{IJ} = \beta_{0J} + \beta_{1J} \ln H + \beta_{2J} F + \beta_{3J} C + \beta_{4J} M + \beta_{5J} A + \beta_{6J} \ln H * A + e_{IJ}$$

Level-two model

$$\beta_{0J} = \gamma_{00} + u_{0J}$$

$$\beta_{1J} = \gamma_{10} + u_{1J}$$

$$\beta_{2J} = \gamma_{20} + u_{2J}$$

Random coefficient model

$$\ln Y = \gamma_{00} + \gamma_{10} \ln H + \gamma_{20} F + \beta_3 C + \beta_4 M + \beta_5 \ln A + (u_{0J} + u_{1J} \ln H + u_{2J} F + e_{IJ}) \quad (5)$$

Before getting to the interpretation of the model's estimation, let us compare the predictive value of model 4 and 5. This brings forward several elements in favor of model 5. Indeed, the summary measure R_1^2 - indicating the percentage with which the model reduces errors in predicting productivity when compared with the null unconditional model - is not much better for the multilevel regression (Table 4, model 4) than for the random coefficient model (Table 4, model 5). Also, when comparing the 'smaller-is-better' information criteria for both models, we find that the multilevel model does not provide a substantially better fit in comparison to the random coefficient model, on the contrary: the deviance statistic (difference in $-2 \log$ likelihood between the multilevel model and the random coefficient) is not significant⁸⁹. All other information criteria (Akaike's, Hurvich and Tsai's,

⁸⁹ To compare information criteria, the model has to be estimated with maximum likelihood ML instead of restricted maximum likelihood REML (Bickel, 2007: 94, 257). The $-2 \log$ likelihood of the multilevel model with 21 parameters (1 for the intercept, 13 for each of the slopes, and 7 for each of the random terms) is 798,428.1 for productivity in monetary value, and 565,474.2 for productivity in caloric value. The $-2 \log$ likelihood of the random coefficient model with 14 parameters (1 for the intercept, 6 for each of the slopes and 7 for each of the random terms) is 798,439.5 for productivity in monetary value, and 565,481.7 for productivity in caloric value. The deviance differences are equal to 11.4 and 7.5 respectively. They do not surpass the critical value of χ^2 (equal to 14.067 with alpha .05 and with 7 degrees of freedom - the difference in the number of parameters used). This means that the multilevel model does not provide a better fit.

Bozdogan's and Schwarz's Bayesian criteria) that punish for using up additional degrees of freedom, and aim at reducing the number of irrelevant parameters, suggest that the simpler random coefficient model is to be preferred. Comparing the variance – covariance parameters of both models (see Table 6 and 7) leads to similar conclusions. The estimates in table 6 account for the residual variance in the random intercept and random slope of the random components after including the contextual variables, cfr. model 4. Table 7 gives the same information for model 5, which does not include contextual variables. The household-level variances and covariances – both in terms of magnitude and in terms of their significance - are barely influenced by the inclusion of the contextual variables and cross-level interaction terms as identified above⁹⁰. The between-cellule variability is, therefore, likely to be caused by other contextual factors for which no data is available.

Let us have a closer look at the results of the random coefficient model which fits our data best (see Table 4, model 5). The model tests whether the underlying assumptions of the new Rwandese agricultural and land policies are justified. Do land consolidation and land concentration, less crop diversification and less multicropping, in fact, have a positive impact upon productivity figures? Our analysis suggests that this is not the case, on the contrary.

Farm fragmentation and the frequency of multicropping have a significant positive impact upon productivity, although their coefficients are small. An additional plot adding to the number of plots over which the farm is distributed, results in a 0,1% increase in productivity (for both measures). The effect of a percentage increase in soil covered with multicropping is marginal: it raises productivity with 0,004 or 0,005% (dependent upon the productivity measure used). The relationship between productivity and crop diversification is not clear: there is a significant positive - though small - effect of crop diversification upon productivity expressed in caloric value, but not for productivity in monetary value. Increased family size is associated with significantly higher productivity, although, again, the effect is small. The farm size/family size interaction term is negative and significant. For the random components (see Table 7), we see that the variances are significant which signifies that intercept and slopes of farm size and farm fragmentation do vary across cellules. Looking at the covariances, we find that the farm size/farm fragmentation covariance is significantly different from zero although small - implying that the slopes of those variables are somewhat correlated.

⁹⁰ If the contextual variables and cross-level interaction terms would account for part of the cellule-to-cellule variability, then the variances and covariances should become smaller, preferably reaching a level that is no longer statistically significant. This is not the case in this analysis.

The most important finding of this random coefficient model, however, is that the strong inverse relationship between farm size and productivity holds. Whereas coefficients for all other variables are small, the effect of farm size upon productivity is not only significant and negative, but also quite considerable: if farm size doubles, then productivity in monetary terms decreases with 60%, and productivity in caloric terms contracts with 50%. The fact that this inverse farm size- productivity relationship stands out in each model that we calculated, points to its consistency.

4. Conclusion: policy discussions

This chapter has proven a strong inverse size-productivity relationship for the rural context of post-1994 Rwanda. Interestingly, this relationship is not unknown to Rwandan policy makers. Indeed, it is even recognised in the Strategic Plan for Agricultural Transformation, "... small production units perform better per land unit than larger ones" (GoR, 2004A: 10). In addition, this chapter found that other risk-coping mechanisms of small-scale farmers, such as farm fragmentation, and multicropping, seem to pay off in terms of productivity.

However, as mentioned earlier in this chapter, one should avoid interpreting the higher productivity of small-scale farmers as a mere reflection of higher efficiency. It is likely that extreme land scarcity compels small-scale farmers to overexploit their lands in the absence of other income generating opportunities. In addition, land and labour market imperfections, next to the risk of food price fluctuations, may provide valid explanations for the inverse relationship. The findings of this chapter should not, therefore, lead to the immediate rejection of consolidation, specialisation and monocropping-promotion to achieve increased productivity.

On the other hand, Rwandan policy makers assume too easily that the inverse relationship will reverse itself when larger farmers would begin to exploit the land to its full potential. Then, it is hoped, land consolidation and the promotion of larger-scale oriented techniques will lead to a very significant productivity gain. But as mentioned in the literature review earlier in this chapter, this has not always been the case in other contexts.

In-depth information on the rationale of small-scale peasants to invest so heavily in cultivating their own plots is necessary. And in addition, the rationale of larger farmers and large-scale agricultural entrepreneurs should also thoroughly be looked

at. At this point, the question as to what would happen to the inverse relationship under the agricultural transformation policies elaborated by Rwandan policy makers, remains unanswered. At the least, its very existence at this point profoundly calls into question the underlying assumptions on which the currently promoted agrarian reforms are based (land consolidation, regional specialisation, monocropping production technique).

Besides the productivity discussion, there is also the aspect of poverty reduction. Agricultural policies focussing upon larger farmers might have a negative impact upon the well-being of the majority of non-professional subsistence-oriented rural agents, if no or few employment opportunities can be guaranteed for this large group outside of the farm sector. We would rather plead for rural policies that empower and actively involve the large community of small-scale farmers in agricultural development strategies to achieve a more equitable distribution of agricultural growth and to pro-actively prevent households from falling into the vulnerability trap.

Key issues are the removal of the institutional constraints that prevent small-scale farmers from adopting new types of agriculture and/or diversify their income portfolio away from subsistence agriculture; the expansion of off-farm employment opportunities which would provide peasant households with alternative options for their labour force; the enhancement of the bargaining position of peasants versus larger farmers in food, land and credit markets. Finally, attention should be paid to the intra-household distribution of assets, decision making power, and the work load in income-generating and other household activities. Overall, the chapter's suggestion to policy makers is to focus on the potential of the large mass of small-scale farmers. This is the optimal choice, when combining the need for increased agricultural output with the objective of poverty reduction.

Table 4 (A): Farm size – productivity relationship – Various regressions

Variable	Productivity as independent variable Measured in monetary value ⁹¹				
	Simulating multilevel analysis with OLS	OLS at aggregated cellule level	OLS ⁹²	Multilevel regression with 2 levels	Random coefficient regression with 2 levels
	(1) N=1312	(2) N=125	(3) N=1312	(4) N ₁ =1312 N ₂ =125	(5) N ₁ =1312 N ₂ =125
Intercept	0,014 (0,002) ***	0,087 (0,003) ***	0,016 (0,002) ***	0,051 (0,051) ***	0,056 (0,051) ***
LnH (farm size)	-0,624 (0,003) ***	-0,443 (0,008) ***	-0,633 (0,002) ***	-0,625 (0,047) ***	-0,613 (0,047) ***
F (farm fragmentation)	0,070 (0,001) ***	0,052 (0,003) ***	0,072 (0,001) ***	0,108 (0,024) ***	0,108 (0,023) ***
C (crop diversification)	0,009 (0,000) ***	0,007 (0,001) ***	0,008 (0,000) ***	0,000 (0,001) ***	0,000 (0,000) ***
M (multicropping)	0,004 (0,000) ***	0,002 (0,000) ***	0,004 (0,000) ***	0,004 (0,000) ***	0,004 (0,000) ***
A (adult equivalent)	0,098 (0,001) ***	0,042 (0,003) ***	0,100 (0,001) ***	0,093 (0,001) ***	0,093 (0,001) ***
LnH*A	-0,016 (0,001) ***	0,113 (0,006) ***	-0,015 (0,001) ***	-0,036 (0,001) ***	-0,036 (0,001) ***
L (soil quality)	0,269 (0,015) ***	0,285 (0,025) ***	-	0,615 (0,444) ***	-
P (population density)	0,000 (0,000) ***	0,000 (0,000) ***	-	-0,000 (0,000) ***	-
D distance to market)	-0,009 (0,000) ***	-0,011 (0,001) ***	-	-0,019 (0,011) ***	-
lnH*L	0,105 (0,018) ***	0,252 (0,055) ***	-	-0,284 (0,416) ***	-
F*L	-0,148 (0,008) ***	-0,118 (0,022) ***	-	-0,015 (0,206) ***	-
LnH*P	0,000 (0,000) ***	0,000 (0,000) ***	-	-0,000 (0,000) ***	-
LnH*D	0,005 (0,000) ***	0,014 (0,002) ***	-	0,001 (0,009) ***	-
R ² / R _l ²	0,252	0,262	0,248	0,222	0,222

Unstandardised coefficients, figures in parenthesis are estimated standard errors,

* significant at 0.05 level; ** significant at 0.01 level, *** significant at 0.001 level.

⁹¹ The sample sizes are different for both regressions. Here, the productivity variable is based on data in the EICV survey, while the other variables at the household level are based on the FSRP sample. The sample size represents the overlap between both samples.

⁹² White's test indicates that there is a heteroscedasticity problem with these data (heteroscedasticity is accepted with $\alpha=0,01$). This may result in the underestimation of standard errors. After using White's algorithm that corrects OLS standard errors in the presence of heteroscedasticity (Pryce, 2002), we find that the variables' coefficients with the White procedure are comparable to those of the ordinary OLS regression. The coefficients of variables C and LnH*A become insignificant.

Table 4 (B): Farm size – productivity relationship – Various regressions

Variable	Productivity as independent variable Measured in caloric value ⁹³				
	Simulating multilevel analysis with OLS	OLS at aggregated cellule level	OLS ⁹⁴	Multilevel regression with 2 levels	Random coefficient regression with 2 levels
	(1) N=1357	(2) N=125	(3) N=1357	(4) N ₁ =1357 N ₂ =125	(5) N ₁ =1357 N ₂ =125
Intercept	0,007 (0,001) ***	0,026 (0,003) ***	0,005 (0,001) ***	0,076 (0,045) ***	0,078 (0,045) ***
LnH (farm size)	-0,518 (0,002) ***	-0,383 (0,007) ***	-0,512 (0,002) ***	-0,523 (0,034) ***	-0,521 (0,034) ***
F (farm fragmentation)	0,068 (0,001) ***	-0,047 (0,002) ***	0,068 (0,001) ***	0,109 (0,015) ***	0,109 (0,015) ***
C (crop diversification)	0,034 (0,000) ***	0,056 (0,001) ***	0,032 (0,000) ***	0,016 (0,000) ***	0,016 (0,000) ***
M (multicropping)	0,006 (0,000) ***	0,005 (0,000) ***	0,006 (0,000) ***	0,005 (0,000) ***	0,005 (0,000) ***
A (adult equivalent)	0,051 (0,001) ***	0,047 (0,003) ***	0,051 (0,001) ***	0,040 (0,001) ***	0,040 (0,001) ***
LnH*A	-0,010 (0,001) ***	0,052 (0,005) ***	-0,009 (0,001) ***	-0,017 (0,001) ***	-0,017 (0,001) ***
L (soil quality)	0,463 (0,011) ***	0,549 (0,024) ***	-	0,558 (0,396) ***	-
P (population density)	0,000 (0,000) ***	0,000 (0,000) ***	-	-0,000 (0,000) ***	-
D distance to market)	-0,003 (0,000) ***	-0,007 (0,001) ***	-	-0,010 (0,010) ***	-
lnH*L	0,129 (0,013) ***	0,474 (0,051) ***	-	-0,427 (0,301) ***	-
F*L	-0,144 (0,006) ***	-0,125 (0,020) ***	-	-0,054 (0,128) ***	-
LnH*P	-0,000 (0,000) ***	0,000 (0,000) ***	-	-0,000 (0,000) ***	-
LnH*D	-0,007 (0,000) ***	0,011 (0,002) ***	-	-0,006 (0,007) ***	-
R ² / R _f ²	0,292	0,251	0,285	0,295	0,287

Unstandardised coefficients, figures in parenthesis are estimated standard errors,

* significant at 0.05 level; ** significant at 0.01 level, *** significant at 0.001 level.

⁹³ The sample sizes are different for both regressions. Here, all variables at the household level are based on the FSRP sample. The sample size represents the data for which all information included in the regression (seasons A and B) is available.

⁹⁴ White's test indicates that there may be a problem of heteroscedasticity with these data (heteroscedasticity is rejected with $\alpha \leq 0,01$, accepted with $\alpha > 0,01$). After using White's algorithm that corrects OLS standard errors in the presence of heteroscedasticity (Pryce, 2002), we find that the variables' coefficients with the White procedure are comparable to those of the ordinary OLS regression. The coefficients of the variables LnH*A becomes insignificant.

Table 5: Farm size – productivity relationship: Model (3) at provincial level⁹⁵

Productivity as independent variable - Measured in monetary value											
Variable	BUT	BYU	CYA	GIK	GIS	GIT	KIB	KIB	KIG	RUH	UMU
	N=128	N=127	N=113	N=130	N=119	N=133	N=115	N=135	N=114	N=83	N=115
Intercept	-0,198 (0,005) ***	-0,094 (0,008) ***	-0,248 (0,011) ***	0,043 (0,007) ***	0,207 (0,006) ***	0,389 (0,009) ***	-0,012 (0,006) *	0,079 (0,007) ***	-0,153 (0,006) ***	-0,290 (0,007) ***	0,354 (0,012) ***
LnH	-0,266 (0,008) ***	-0,631 (0,008) ***	-0,478 (0,009) ***	-0,665 (0,010) ***	-0,728 (0,006) ***	-0,731 (0,009) ***	-0,683 (0,007) ***	-0,736 (0,009) ***	-0,715 (0,008) ***	-0,811 (0,009) ***	-0,293 (0,016) ***
F	0,017 (0,003) ***	0,037 (0,002) ***	0,111 (0,008) ***	0,100 (0,003) ***	0,037 (0,002) ***	0,124 (0,005) ***	0,084 (0,002) ***	0,070 (0,004) ***	0,063 (0,003) ***	0,231 (0,003) ***	0,095 (0,008) ***
C	-0,031 (0,002) ***	0,039 (0,001) ***	-0,054 (0,003) ***	-0,023 (0,002) ***	-0,019 (0,002) ***	0,003 (0,002) ***	0,015 (0,001) ***	0,040 (0,002) ***	0,062 (0,001) ***	0,036 (0,002) ***	-0,027 (0,003) ***
M	0,002 (0,000) ***	0,004 (0,000) ***	0,003 (0,000) ***	0,001 (0,000) ***	0,001 (0,000) ***	0,002 (0,000) ***	0,013 (0,000) ***	-0,002 (0,000) ***	0,008 (0,000) ***	0,010 (0,000) ***	0,007 (0,000) ***
A	0,109 (0,003) ***	0,101 (0,002) ***	0,150 (0,003) ***	0,082 (0,003) ***	0,106 (0,002) ***	0,116 (0,003) ***	0,016 (0,002) ***	0,108 (0,003) ***	0,064 (0,003) ***	0,001 (0,003) ***	0,232 (0,005) ***
LnH*A	-0,016 (0,003) ***	-0,068 (0,003) ***	0,083 (0,003) ***	-0,014 (0,003) ***	-0,044 (0,002) ***	-0,043 (0,003) ***	-0,014 (0,002) ***	-0,034 (0,003) ***	0,054 (0,003) ***	-0,017 (0,003) ***	-0,070 (0,006) ***
R ²	0,141	0,174	0,299	0,360	0,377	0,250	0,394	0,248	0,255	0,342	0,170
Productivity as independent variable - Measured in caloric value											
Variable	BUT	BYU	CYA	GIK	GIS	GIT	KIB	KIB	KIG	RUH	UMU
	N=135	N=132	N=119	N=134	N=123	N=137	N=117	N=136	N=116	N=87	N=121
Intercept	-0,127 (0,003) ***	0,306 (0,005) ***	0,124 (0,008) ***	0,024 (0,006) ***	-0,210 (0,006) ***	0,261 (0,005) ***	0,035 (0,005) ***	0,104 (0,004) ***	-0,305 (0,005) ***	-0,448 (0,005) ***	0,492 (0,007) ***
LnH	-0,335 (0,005) ***	-0,543 (0,006) ***	-0,512 (0,007) ***	-0,521 (0,008) ***	-0,226 (0,006) ***	-0,528 (0,005) ***	-0,403 (0,006) ***	-0,661 (0,005) ***	-0,527 (0,007) ***	-0,446 (0,006) ***	-0,403 (0,009) ***
F	0,128 (0,002) ***	0,051 (0,001) ***	0,160 (0,006) ***	0,088 (0,002) ***	0,067 (0,002) ***	0,159 (0,003) ***	0,065 (0,002) ***	0,055 (0,003) ***	0,095 (0,003) ***	0,146 (0,002) ***	0,098 (0,005) ***
C	-0,016 (0,001) ***	0,031 (0,001) ***	-0,037 (0,002) ***	0,008 (0,002) ***	-0,046 (0,002) ***	0,027 (0,001) ***	0,050 (0,001) ***	0,018 (0,001) ***	0,037 (0,001) ***	-0,029 (0,001) ***	0,018 (0,002) ***
M	0,002 (0,000) ***	0,004 (0,000) ***	0,001 (0,000) ***	0,007 (0,000) ***	0,001 (0,000) ***	0,007 (0,000) ***	0,009 (0,000) ***	0,004 (0,000) ***	0,003 (0,000) ***	0,006 (0,000) ***	0,009 (0,000) ***
A	0,087 (0,002) ***	0,030 (0,002) ***	0,032 (0,002) ***	0,069 (0,003) ***	0,014 (0,002) ***	0,046 (0,002) ***	0,022 (0,002) ***	0,051 (0,002) ***	0,059 (0,002) ***	0,052 (0,002) ***	0,080 (0,003) ***
LnH*A	-0,034 (0,002) ***	0,012 (0,002) ***	0,016 (0,002) ***	-0,035 (0,003) ***	-0,041 (0,003) ***	0,049 (0,001) ***	0,014 (0,002) ***	-0,007 (0,002) ***	-0,035 (0,002) ***	-0,030 (0,002) ***	-0,096 (0,003) ***
R ²	0,283	0,240	0,368	0,349	0,084	0,427	0,264	0,516	0,157	0,325	0,360

⁹⁵ The sample sizes are different for both regressions. For the first regression, the productivity variable is based on data in the EICV survey, while the other variables at the household level are based on the FSRP sample. The sample size represents the overlap between both samples. For the second regression, all variables at the household level are based on the FSRP sample. The sample size represents the data for which all information included in the regression is available.

Table 6: Estimates of covariance parameters for model (4)

Productivity as independent variable measured in monetary value				
Parameter	Estimate	St. Error	Wald Z	Sign.
Residual	0,548	0,001	421,555	0,000
Random intercept variance	0,314	0,041	7,720	0,000
Covariance between intercept and slope of H	0,003	0,027	0,099	0,921
Random slope variance of H	0,276	0,036	7,744	0,000
Covariance between intercept and slope of F	0,015	0,013	1,134	0,257
Covariance between slope of H and slope of F	-0,061	0,014	-4,475	0,000
Random slope variance of F	0,069	0,009	7,769	0,000

Productivity as independent variable measured in caloric value				
Parameter	Estimate	St. Error	Wald Z	Sign.
Residual	0,270	0,001	429,154	0,000
Random intercept variance	0,250	0,032	7,764	0,000
Covariance between intercept and slope of H	0,015	0,017	0,878	0,380
Random slope variance of H	0,144	0,019	7,734	0,000
Covariance between intercept and slope of F	-0,001	0,007	-0,188	0,851
Covariance between slope of H and slope of F	-0,014	0,006	-2,471	0,013
Random slope variance of F	0,027	0,003	7,774	0,000

Table 7: Estimates of covariance parameters for model (5)

Productivity as independent variable measured in monetary value				
Parameter	Estimate	St. Error	Wald Z	Sign.
Residual	0,549	0,001	421,555	0,000
Random intercept variance	0,325	0,042	7,812	0,000
Covariance between intercept and slope of H	0,003	0,027	0,122	0,903
Random slope variance of H	0,279	0,036	7,822	0,000
Covariance between intercept and slope of F	0,016	0,014	1,195	0,232
Covariance between slope of H and slope of F	-0,061	0,014	-4,496	0,000
Random slope variance of F	0,068	0,009	7,800	0,000

Productivity as independent variable measured in caloric value				
Parameter	Estimate	St. Error	Wald Z	Sign.
Residual	0,270	0,001	429,154	0,000
Random intercept variance	0,252	0,032	7,859	0,000
Covariance between intercept and slope of H	0,014	0,017	0,830	0,407
Random slope variance of H	0,145	0,018	7,832	0,000
Covariance between intercept and slope of F	-0,003	0,007	-0,416	0,677
Covariance between slope of H and slope of F	-0,015	0,006	-2,531	0,011
Random slope variance of F	0,026	0,003	7,805	0,000

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Chapter 5

Views from below on the pro-poor growth challenge: The case of rural Rwanda

By An Ansoms

Note: The title and contents were reformulated based upon a previous version of this paper: “Rural poverty in Rwanda: Views from below”, original title as presented at the African Studies Association 50th Annual Meeting: “21st Century Africa: Evolving Conceptions of Human Rights”, (New York, October 18-21, 2007). The paper received the honourable mention for the Graduate Student Paper Prize 2007 from the African Studies Association.

Key words: poverty, inequality, pro-poor growth, local livelihoods, peasants, Rwanda

Abstract

This chapter focuses on the Rwandan case to validate how ‘views from below’ may contribute to a better understanding of the pro-poor growth challenge. Based on micro level field data (gathered in 2007), we analyse local peasants’ perceptions of the characteristics and degree of poverty for different locally-present socio-economic categories. We look at the opportunities and constraints that determine their potential for social mobility and their capacity to participate in growth strategies. Further, we consider how the peasant categories perceive specific policy measures included in the Rwandan government’s ‘pro-poor’ rural strategies. The insights from this bottom-up perspective could inspire Rwandan policy makers to redirect their focus towards distribution-oriented growth strategies.

0. Introduction

At the dawn of the new millennium, the international community has placed the fight against poverty as the top priority on the development agenda. The ambitions for progress were translated into the millennium development goals, to be realised by 2015. Besides this global agenda, the country-specific Structural Adjustment Programs were replaced by Poverty Reduction Strategy Papers (PRSP) that - largely financed with international financial aid - function as the standard framework for recipient-led development strategies. Rwanda implemented its first PRSP policy from 2002 until 2005 (see GoR, 2002). A second Economic Development and Poverty

Reduction Strategy (EDPRS) was elaborated in 2007 and will be implemented over the 2008-2012 period (see GoR, 2007).

The emergence of this new development paradigm, focusing on poverty, did however not erase the international community's belief in the necessity of economic growth as a trigger for development. As Bhalla mentions, "Growth is the core of economics. Inequality may be its heart, but growth is its soul. [...] Every country, irrespective of ideological persuasion, has worshiped at the altar of growth. [...] Without growth, concerns about poverty and inequality will only become greater concerns" (Bhalla 2002: 13). But the general understanding of growth as the essential element as such, shifted towards being a necessary but insufficient condition in achieving poverty reduction. The World Development Report 2000/2001 mentions: "The general relationship between economic growth and poverty reduction is clear. But there are also significant differences across countries and over time in how much poverty reduction occurs at a given rate of economic growth" (World Bank 2000: 52). As an alternative to pure growth strategies, the concept of 'pro-poor growth' entered the development discourse.

The extent to which growth has been pro-poor during the implementation period of the first Rwandan PRSP is debatable. On the positive side, Rwanda had considerable growth figures over the 2001-2006 period, amounting to 4,6%, which is 2,7% in per capita terms. At the same time, poverty (based on a national poverty line of 250 Rwf) decreased from 60,3% to 56,8%. On the negative side, poverty in absolute terms increased from 4,8 to 5,4 million people. And the Gini coefficient – as a measure for inequality - increased from 0,37 to 0,44 over a period of only five years (data from GoR, 2006A). Indeed, the UNDP's Human Development Report on Rwanda mentions how "Rwanda's high growth rates are deceptive in that they hide large and growing inequalities between social classes, geographic regions and gender" (UNDP, 2007: 5).

This chapter refers to the Rwandan case to illustrate how 'views from below', basically the peasants' perceptions on developmental processes in their local setting, may contribute to a better understanding of the overall pro-poor growth challenge. We first refer to the mainstream pro-poor growth literature that is mostly based upon macro-level quantitative analysis. The chapter however follows a different approach. We use micro level field data concerning local perceptions on the characteristics and degree of poverty for different locally-present socio-economic categories. We look at the opportunities and constraints those categories are facing, which define their potential for social mobility and their capacity to participate in growth strategies. Finally, we consider how peasants perceive specific policy measures included in the

Rwandan government's 'pro-poor' rural strategies. In a concluding part of the chapter, we draw policy conclusions to enhance the translation of pro-poor rhetorics into reality.

1. Understandings of pro-poor growth

In the literature, there are two interpretations on what constitutes pro-poor growth. One definition regards economic growth as pro-poor when poverty in absolute terms decreases (see f.e. Kraay, 2006; Ravallion and Chen, 2003). This growth-poverty correlation can be quantified with the growth elasticity of poverty. In line with cross-country evidence, positive growth of 1% should be linked to a 2-3% decrease in poverty incidence (people living below the poverty line of 1\$ PPP per head) (World Bank; 2000; Ravallion, 2001; Adams, 2004). When applying this method to the Rwandan case, Ansoms (2007) found a growth elasticity of poverty of $-0,40$ for the 2001-2006 period⁹⁶, which indicates that the pro-poor character of Rwandan economic growth during this period is low, despite the implementation of PRSP policies.

Another interpretation of pro-poor growth highlights the importance of the equity aspect as it requires for growth to disproportionately benefit the poor (see f.e. Klasen, 2003; Kakwani and Pernia, 2000). Cross-country evidence found that the average elasticity of connection between the income of the poorest quintile (poorest 20% of overall population) and the mean per capita income is close to $+1$ (Roemer and Gugerty, 1997; Gallup *et alii*, 1998; Dollar and Kraay, 2002). In accordance with the second interpretation of what 'pro-poor' comprehends, this elasticity corresponds with a poor-neutral growth. The first interpretation would however conclude that "growth is good for the poor", the title of the renowned and well cited paper of Dollar and Kraay (2002). For the case of Rwanda, the increase in Gini coefficient between 2001 and 2006 at least indicates that economic growth has not been distribution neutral.

The World Development Report 2006 combines both interpretations of pro-poor growth in stating that "*the effectiveness of future economic growth in reducing absolute income poverty declines with initial income inequality*" (World Bank, 2006A: 84). Adams (2004) reaches a similar conclusion based on his finding that countries with higher inequality levels (i.e. $Gini > 0,4$) have lower growth elasticity of poverty and vice versa. The Rwandan case seems to fit into this picture.

⁹⁶ These calculations are based upon a poverty line of 175 Rwf per adult equivalent per day for 2001 prices, and 250 Rwf per adult equivalent per day for 2006 prices (not equal to the US* 1PPP per head poverty line as data are not available).

Next to the literature looking at the growth-poverty-inequality connection on an aggregate scale, other authors focus on the structure of growth as a crucial element in the growth-poverty link. Thurlow and Wobst (2006) found for example that not all growth is equally good in terms of poverty reduction, focusing on the case of Zambia. Other literature, based on cross-country evidence, reaches similar conclusions, and more specifically finds that agricultural growth is in general more pro-poor than growth in other sectors (Christiaensen and Demery, 2006, ...).

Accordingly, the appreciation of the agricultural sector in overall growth strategies has returned. This is illustrated by the focus on “Agriculture for Development” in the latest World Development Report (WDR) 2008, 25 years after the last WDR on agriculture. Validating rural-centred strategies in the creation of growth is however no shortcut to ensuring a pro-poor effect. The link between agricultural growth and poverty reduction relies upon the extent to which the poor participate in growth strategies. This depends upon the institutional arrangements in the local context; f.e. access to markets, technology, risk-coping mechanisms (World Bank 2005) and the distribution of crucial assets, particularly land (Ravallion and Datt 2002; Deininger and Squire 1998; de Janvry and Sadoulet 1996).

Rwanda is an example of a country where the pro-poor impact of agricultural growth is limited due to a low participation of the poorer rural categories in agricultural growth. The growth elasticity of poverty for the agricultural sector does not stand out positively in comparison to the industrial and service sectors, on the contrary. This indicates that smallholders (the large majority of Rwandan farmers) are institutionally constrained to participate in primary growth strategies (Ansoms, 2008).

In all of the above mentioned literature, the conceptualisation of ‘pro-poor growth’ is based on aggregate macro-level indicators, uniquely defined in quantitative terms. Equally, the institutional processes that relate to the degree of pro-poorness of growth are analysed with country-wide or cross-country data. Such analysis allows marking a worrying trend with regards to the pro-poor character of economic development. It does however not provide in-depth insights in the underlying reasons why particular groups of poor do or do not participate in overall economic growth. In this chapter, we aim to complement upon current understandings of pro-poor strategies by considering the ‘views from below’.

2. Views from below: methodological issues

2.1 Identification of the settings

From May until July 2007, the author of this chapter did field research in six imidugudu⁹⁷ in the Southern province of rural Rwanda. Five out of six of the imidugudu (B-C-D-E-F in table 1) were drawn from a sample of twenty-four in the ex-Gikongoro and Gitarama provinces⁹⁸, which had been randomly selected for previously undertaken quantitative studies⁹⁹. The decision to take the sample of twenty-four as a point of departure was based on the familiarity of the researcher with this sample. The selection of the five imidugudu was directed by the aim to select settings with diverging characteristics both in terms of “average wealth” (very poor to quite well-off), as in terms of location (very remote to very central). The sixth umudugudu (A in table 1) is located very near to Kigali, which gives it special features in comparison to the other settings. It was added to the sample based upon its location.

2.2 Identification of the questions

In designing our interview guide, we opted for questions both with more and less structure, dependent upon the subject discussed. Questions in relation to the socio-economic characteristics of diverse categories were more structured, as we wanted comparable information for each focus group. For the remainder of the interview, we adopted an approach with less structure: although we kept in mind on which specific topics we wanted information (f.e. opinion of interviewees on specific agricultural policies; specificities on the swampland valorisation policy), the local cultural context did not always allow approaching people with direct, to-the-point questions. Interviews were carried out in the presence of the author, a translator (Kinyarwanda –

⁹⁷ Rwandan households are typically scattered over the hills. The umudugudu (plural: imidugudu) is the administrative division that corresponds with one or a few hills. The boundaries of the umudugudu after the administrative reform often concur with the boundaries of what was called the cellule before the administrative reform (2006), at least in the rural setting.

⁹⁸ Before the recent administrative reform (2006), Rwanda was divided into 11 provinces. After the reform, there are 4 provinces. The previous provinces Gitarama and Gikongoro, where the research is undertaken, now fall largely within the boundaries of the Southern Province.

⁹⁹ In the preparatory phase of the PRSP elaboration, the Statistics department of the Rwandan government Rwandan undertook a national Household Living Conditions Survey (EICV) (1999-2001), selecting 24 cellules per province for 11 provinces. The Food Security Research Project, coordinated by Michigan State University, used a sub sample of the EICV survey (12 cellules per province) to collect data on agricultural production for 6 seasons between 2000 and 2002. The author of this paper did a follow-up survey in September 2005 on livelihood strategies and social relations of rural households in Gikongoro and Gitarama (24 cellules in 2 provinces). For the purpose of this qualitative study, she selected 5 cellules - now imidugudu.

French) and someone transcribing questions and answers in Kinyarwanda. These were later translated into French.

Table 1: Main characteristics of research settings

Characteristics	
A	<i>Location:</i> very close to Kigali city and location of a large market that provisions Kigali with food and meat
	<i>Average wealth and employment opportunities:</i> among the richer imidugudu in the sample (referring to the average peasant's situation) but big social gap between large-scale farms (often owned by outsiders) and local peasants, other employment opportunities besides agriculture but less since some of these activities have been stopped by Rwandan authorities
	<i>Specificities:</i> Lot of temporary immigrant workers
B	<i>Location:</i> less remote and small commercial centre within its own region, fertile region, less hilly
	<i>Average wealth and employment opportunities:</i> best-off umudugudu in the sample (average peasant's situation), population lives from agriculture, lot of monocropping of cassava and coffee, lot of production for the market, cassava was affected by disease but situation improves
	<i>Specificities:</i> external actor (German NGO) has set up a development project (marshland valorisation with rice cultivation)
C	<i>Location:</i> very close to Gitarama city, average fertility, less hilly
	<i>Average wealth and employment opportunities:</i> among poorer imidugudu in the sample (average peasant's situation), lot of employment opportunities besides agriculture in the past (brick making, bicycle taxi), but not anymore due to prohibition by Rwandan authorities
	<i>Specificities:</i> external actor (German NGO) has set up a development project (marshland valorisation with rice cultivation)
D	<i>Location:</i> very remote and poorly accessible, overpopulated, infertile soils
	<i>Average wealth and employment opportunities:</i> poorest umudugudu in the sample (average peasant's situation), lot of agricultural labour force but limited employment opportunities in the local setting, both within the agricultural and non-agricultural sector; significant group looks for temporary work elsewhere
	<i>Specificities:</i> lot of chronic malnutrition, distrust among local population
E	<i>Location:</i> less remote, households live dispersed over hill and no real centre, quite fertile region
	<i>Average wealth and employment opportunities:</i> poorer imidugudu in the sample (average peasant's situation), few peasants are auto subsistent, few other employment opportunities besides agriculture, less agricultural commerce than before due to disease that affected cassava (main crop)
	<i>Specificities:</i> lot of people are in prison or are ex-prisoners, big distinction in well-being of different social categories - lot of social conflicts - Ministry of Defence has a coffee washing installation in this umudugudu
F	<i>Location:</i> remote, but small commercial centre within its own region, quite fertile region with clayish soil
	<i>Average wealth and employment opportunities:</i> among richer imidugudu in the sample (average peasant's situation); lot of banana production to make banana beer that is sold in the local centre, lot of commerce in local 'boutiques'

Source: own research

2.3 Identification of focus groups and focus group participants

For the design of focus groups for each umudugudu, we first identified four particular groups of local power holders and influential people: the umudugudu committee, the Ubudehe committee (explanation see further), a selection of men and women heading local associations, and a selection of local inyangamugayo (local leaders) not included

in the previous three leader categories¹⁰⁰. For the remainder of the umudugudu population, we composed 7 to 10 focus groups of 4 to 8 household heads¹⁰¹ (as a standard 6 were invited)¹⁰². Within each focus group, we aimed for homogeneity, both in terms of the socio-economic characteristics, as in terms of the power relations existing between group members. The diversity between the groups however had to be maximal to allow the assessment of the specific differences between categories relevant to the research (see Morgan, 1998).

Segmentation was mainly based on the locally defined socio-economic categories¹⁰³ in the framework of the Participatory Poverty Assessment (PPA) (2001-2003). The PPA was a nationwide poverty profile assessment covering each district of the 12 provinces of Rwanda (district and province boundaries based on administrative system before 2006)¹⁰⁴. Based upon these data, the assessment report of the Rwandan government (GoR, 2001) identified six categories (see table 2) that appear in various contexts. Howe and McKay (2007) linked this qualitative assessment of poverty profiles to quantitative survey data to determine patterns of chronic poverty. Ingelaere (2006) introduced a dynamic aspect by mapping the peasants' perceptions on mobility

¹⁰⁰ We interviewed them on the first day of field visit to the particular setting. Their point of view proved to be important in relation to the topic of the research. However, their presence in other focus groups could have pounded on the opinions of other participants.

¹⁰¹ As a standard, only household heads were invited except for the groups with power holders / influential people. Occasionally male household heads would send his wife to represent them in the meeting. The author is aware of the gendered bias this inserts into the analysis. However, a considerable part of the households are female headed. At least this gendered dimension was taken into account.

¹⁰² The use of focus groups is an appropriate methodology when the researcher wants to understand the diversity of different groups within the population (Morgan, 1998); in the case of this research the variety of social categories in a specific local setting. Therefore, the loss of information on individuals was considered to be an acceptable price to pay, while the focus group methodology offered the advantage to talk to a wider range of people that fit within the diversity of profiles that are crucial for this research.

¹⁰³ In several imidugudu, a large part of the population was categorised within one single socio-economic category. Therefore, additional criterions for segregation between focus groups were: Male versus female headed households; is the household currently in swampland / in swampland until recently / never in swampland or very long time ago.

¹⁰⁴ In a first phase, 2067 facilitators, working in close collaboration with the Ministry of Local Government, were sent out to the cellule-level (one per district) to gather data on: 1) the local people's perceptions on the profile, causes and consequences of poverty, 2) the social category of all households in the community – indicated on a social map of the cellule, 3) the problems the community faced and the priority among those which could be tackled with a collective action plan (referred to as *Ubudehe*). *Ubudehe* was a traditional practice to unite people and make them collaborate in joint projects (f.e. cultivating fields together before the start of the rainy season). The current Rwandan government has made us of this term to refer to a local development project in the framework of the PPA and wealth-ranking exercise. In a second phase, funds were made available by the European Union to finance 1) the *Ubudehe* collective action plan at the cellule level (500.000 Rwandan Francs per cellule), 2) the strategies of two poor households, identified based on social map (50.000 Rwandan Francs each). In a later stage, this exercise was enlarged to all cellules, meaning that all Rwandan inhabitants have been involved in a local assessment of poverty and a wealth ranking exercise (GoR, 2001).

and the (perceived) changes of households across the socio-economic categories over a period of 15 years.

Table 2: Socio-economic categories defined on the basis of the PPA methodology

Category	Characteristics
1. Umutindi nyakujya (Abatindi nyakujya)	Destitute, beg for their livelihood, no land, no animals, live from working on other peoples' lands, but not very capable in terms of labour, ignorant, not respected, discriminated, look like "fools" ¹⁰⁵ .
2. Umutindi (Abatindi)	Very poor, live from working on other peoples' lands, very little land with low harvests, no animals, no access to health care or schooling.
3. Umukene¹⁰⁶ (Abakene)	Poor, land to produce food for their family but no surplus for the market, often work for others, have no savings.
4. Umukene wifashiye (Abakene wifashiye)	Poor with a bit more land, few animals, besides subsistence production they have a small income to satisfy a few other needs, (f.e. school fees for children).
5. Umukungu¹⁰⁷ (Abakungu)	Rich in terms of food security, large farms (often with banana or coffee groves and/or forest), rich soils, some animals, enough food, employ others on own farms, at times get access to paid employment (higher-skilled jobs), have savings.
6. Umukire (Abakire)	Rich in terms of revenue, land, animals, monetary revenue (coming from paid employment as civil servants or in trades), savings at official banks, their prosperity often pushes them to migrate to urban centres.

Government of Rwanda 2004A; Government of Rwanda 2001.

Indeed, the categories may have different names in different social contexts, and not all categories appear within each local setting. Further, the specific characteristics of each category may differ according to the region, and the relationships between categories may strongly diverge dependent upon the local context. But nonetheless, this is a sort of internalised social categorisation used by the Rwandan peasant population to refer to differences in livelihoods and overall socio-economic living conditions¹⁰⁸. In general, peasants know what the main differences are between an umutindi, umukene, umukungu and umukire, even when one or several of these categories do not occur in their umudugudu. Each umudugudu disposed of a social map with all households categorised into these socio-economic categories. We used these as a basis for the sampling of our focus group participants. Table 3 gives the frequency of each category in the six imidugudu.

¹⁰⁵ The pejorative tone in this description is based on the Summary Document of the Rwandan government (GoR, 2001), not on the author's own opinion.

¹⁰⁶ Umukene is the Kinyarwanda word for "poor", the plural is "abakene".

¹⁰⁷ De Lame (2005) points to the fact that in the field work setting of her research, the word "umukungu" had a pejorative connotation referring to the resented 'rich people'.

¹⁰⁸ Ingelaere states: "The different groups such as the umutindi, umukene and umukire etc. always exist when considering the (sub)groups as such. Even when a certain village (at a certain point in time) does not contain, for example, households with the characteristics of *umukire*, then the idea and knowledge of what it means to be *umukire* is still known to the inhabitants." It is further argued that these categories function as a mental map and background to assess personal and household mobility over time (Ingelaere, 2007: 17).

Table 3: Number of households in PPA category for each umudugudu

PPA category	Umudugudu					
	A	B	C	D	E	F
Unknown		2	8	2	4	24
Umutindi nyakujya			3		6	2
Umutindi / umukene nyakujya	12	4	3	57		8
Umukene	131	7	211	49	151	134
Umukene wifashiye	52	109		13		28
Umukungu	6	7	32		18	
Umukire	7					
Total	208	129	257	121	179	196

Source : Own research

In the next part, we identify these socio-economic categories in each of the six case study settings. This gives an insight into socio-economic opportunities specific for the local setting, and into local social class structure. In addition, it reveals the capacity and constraints of these social classes to participate in broader growth strategies. Indeed, in a final part of the chapter, we consider how the peasants – as embedded within their socio-economic category - perceive specific policy measures included in the Rwandan government's 'pro-poor' rural strategies.

3. Socio-economic dynamics at the local level

In each of the focus groups, we asked the participants to define their category in great detail - for the groups with local power holders and influential people, we asked them to define all categories. In addition, we posed the question whether it would be possible to move up from their social category to a better position on the societal scale defined by economic well-being¹⁰⁹. Answers to this question have to be approached with some caution, to distinguish wishful thinking from realistic potential for social mobility¹¹⁰. As an additional question we asked focus group participants what they would put forward if they could speak to the Mayor as the spokesperson of their category. The answer to this question indicates which types of strategies and interventions they find useful to improve their category's well-being.

¹⁰⁹ Ingelaere (2006, 2007) maps actual social mobility "to understand the consequences of the violence experienced in the hills over the last fifteen years and the perceived regime performance in the domain of economic recovery" (Ingelaere, 2006: 35). This chapter however focuses on the perceived potential for current and future social mobility, concentrating particularly upon upwards mobility to identify current institutional opportunities and constraints that different categories of peasants face in improving their living conditions and to participate in growth strategies.

¹¹⁰ Quite often, focus group participants would start their answer with "if I would receive 'this' / if I could acquire 'this', then I could do 'that' which could make me move forward". As such, their answers have to be interpreted by focusing upon two aspects. 1) Which strategy would they adopt when the "if" condition is met? 2) Under what conditions can the "if" condition turn into reality? Very often, the poorer categories had a very clear idea on aspect 1 but not on aspect 2.

For a schematic overview for all cases, see annex 1. For a full description of the data, see annex 2. There, we touch upon diverse topics related to land transactions, agricultural production, livestock exchange, off-farm employment, production of non-agricultural goods and services, local credit markets, initiatives of collective action, etc. The goal is not give an extensive overview of the dynamics on the market of agricultural goods, land, labour or capital. Nor do we want to give a comprehensive overview of all aspects of social relations and local power structures. Instead, we position households on the local societal scale defined by different degrees of well-being, and their potential for social mobility. The following paragraphs only give a broad summary of the research findings, linking them to the wider socio-economic dynamics at the local level.

Considering the full picture, we find that all imidugudu are in one way or another confronted with structural constraints imposed by land scarcity, overpopulation, and the limited potential to diversify the local economy beyond subsistence agriculture. In fact, the specific problems of all Rwandan peasants relate to constraints in access to the land, labour and capital market, and to markets for agricultural and non-agricultural goods and services. The way these problems appear on the surface may however differ for the different socio-economic categories, and for different case study settings.

In umudugudu A, the ban of the Rwandan government on off-farm activities - specifically the prohibition of traditional brick-baking (see further) - has imposed a heavy burden upon off-farm investment, employment and income-generating opportunities. It has broken the symbiotic interdependency between abakene bifashije as entrepreneurs and investors, and abakene as non-agricultural labour force. Falling back on the agricultural sector, the competition for access to land and livestock took a more grim form, certainly with abakire outsiders (richest category) also entering the land arena. In addition, the competition on the market of agricultural labour force is high as demand by better-off categories has decreased, and supply of labour force by poorer categories increased. Indeed, with the disappearance of the brick-making activity, the better-off categories are confronted with decreasing revenues; and they have more time to work on their plots themselves. On the supply side, a lot more local candidates offer their services, now that they are deprived from employment in the brick sector. And in addition, migrant labourers are still wandering around in the hope the brick activity will start up again soon.

In umudugudu B, the land constraint is the least pressing of all settings. A majority of farmers is still self-subsistent, which is reflected in the large number of abakene

bifashije households¹¹¹. Quite some of them engage in cash crop production, concentrating on cassava. On the other hand, the cassava disease has confronted the local population with their vulnerability when being dependent upon one single crop type. The local agricultural economy is slowly recovering from this setback, although better-off categories, particularly abakungu, have a comparative advantage. They have the necessary financial means to invest in the improved cassava seed. The recovery of cassava production allows farmers to reengage in trade. The rich variety of different types of trade enables all categories to play some role. Also interesting is that the population of this region has been able to reverse the authorities' decision to sell the market to an individual investor, who started to impose heavy taxes.

Umudugudu C is confronted with the same challenge as umudugudu A, related to the ban on informal non-agricultural activities such as brick-making and offering services as taxi-vélo. But the resignation in this umudugudu is more widespread, illustrated by the fact that various focus group participants referred to banditry and the despondency of younger generations. The total local economy, previously based upon interdependencies between various socio-economic categories, collapsed. This has resulted in widespread unemployment with supply towering above demand on the wage labour market.

Umudugudu D is the poorest umudugudu in the whole sample. Indeed, in this setting the problem of land scarcity and overpopulation is the most pressing as the majority of households have fallen into the umukene nyakuja (umutindi) category, nearly entirely dependent upon working as agricultural labour force. Moreover, the extreme scarcity of land results in a limited local demand for such labour. Households of the better-off category in this setting barely have enough land to live from, and only rarely need additional labour force. Agricultural labourers therefore have to appeal to temporary migration in search for employment opportunities. But at the same time, good social relationships within the local settings are seen as crucial to optimise survival chances: they enable access to associations and to livestock exchange between better-off and poorer categories.

Umudugudu E is the most 'troubled' setting in terms of local social relations. The wealth accumulation of better-off categories is based upon food price speculation and the exploitation of poorer peasants. This results in increasing polarisation and feelings of frustration and anger among worse-off socio-economic categories. The total lack of any buffer for poorer categories negatively affects their bargaining power in trade

¹¹¹ The near totality of households is put in the abakene bifashije category. Indeed, many are self-subsistent. But our field work findings suggest a need for further differentiation within the category.

transactions, and makes them entirely dependent upon this exploitative system. Obligated to sell the user rights on their land and their harvests that have not yet reached maturity, they are prevented from exploiting the full potential of their own property and production, regardless of how limited these already are.

Umudugudu F, finally, is also increasingly confronted with land scarcity. The local demand for labour is limited and therefore, younger people search for temporary employment in other regions. But at the same time, the limited demand for agricultural labour may be partly attributed to the existence of the ikibara system in which poorer categories may get access to land in return for their labour instead of money. Next to agricultural activities, some local actors are also involved in small-scale trade (mostly of banana beer) in the boutiques / cabarets on the road passing through the umudugudu.

What comes up in the various case studies is the interconnectedness of rural actors, both within and between socio-economic categories, and within and between different settings. The **interconnectedness of local peasants of the same socio-economic categories** is most clearly illustrated in the many initiatives of collective action at the local level. A multitude of associations are involved in a variety of activities in the rural setting. Previous research (conducted in 2004) on the types and functionings of such structures brought us to the definition of 5 types of associations (Ansoms, 2005).

1) Mutual-help groups

Mutual-help groups are typically very informal small groups of closely related farmers, mostly family or very close neighbors. The group consists of typically 3 to 10 members, but can also take the form of an arrangement between just 2 persons, who exchange labor by working or 'rotating' on each other's fields throughout the whole year, during specific seasons, or during some days at the beginning of the planting season.

2) Farmers' associations

Farmers' associations in general unite a larger group of farmers. These collectivities can be founded by one of the members or an external actor and can operate at both the local and the supra-local level. Farmers' associations typically engage in entrepreneurial activities. Farmers' associations mostly focus on joint labor efforts, but in the overall majority of cases members also contribute money to a mutual 'caisse' at one or several regular occasions. The 'caisse' money can also be increased by investing part of the profits from the entrepreneurial activity. This 'collective good' can later be used to set up and/or continue the entrepreneurial activity or to

provide credit facilities to the members. In some cases, local ‘departments’ adhere to a higher level supporting structure to which they contribute a fixed amount of money each month. This higher level then provides them with for example tools, livestock for rotation. Also, this umbrella structure can arrange to create banking accounts for lower level associations and/or individual members, giving access to credit facilities.

3) Tontines or savings associations

Tontines or savings associations are larger group of farmers, founded by one of the members or an external actor. They regularly meet and contribute a fixed amount of money; the total sum is allocated to one of its members by turns. This rotation continues until all members have received ‘their share’ and can engage in a new turn or leave the group. Tontines serve as a kind of risk-reducing mechanism, as members who are facing financial problems can often get their turn earlier than planned. In some cases, members gather a small part of their regular contributions in a ‘caisse’ instead of allocating the complete sum. This ‘caisse’ money serves as a buffer for members who are not able to make their contribution in time and can then temporarily lend money. Some tontines do not work with the rotation system but gather money over a particular period, giving people the opportunity for credit. This credit is to be paid back before the end of the period, when the total sum is divided among the members.

4) Risk-insurance associations (special case of savings associations)

Risk insurance associations function very much like savings associations, except for the fact that money is only given in case of risk encounter. Examples are the mutualities where members receive money in case of health expenses; and funeral associations that pay for the funeral in case of decease. The regular contribution is in general quite low, some 50 to 100 Frw per person. This low rate increases the accessibility of risk-insurance associations, often they are organized at a level far beyond the village boundaries, counting over 100 members.

5) Mixed-type associations

In some cases, associations combine the activities of several of these organization types. The most common example is the combination of ‘rotation’ with more entrepreneurial activities and/or some form of tontines. In other cases, they just focus on entrepreneurial activities combined with a savings activity. Further, one could state that tontines and certain farmers’ associations can potentially also function as a risk-insurance mechanism. Lending money is a specific problem in the Rwandese rural society, certainly in case of emergencies. The stringency in living conditions combined with low levels of trust often prevent better-off farmers to give individual

loans to their neighbors or even their own family. Lending money in case of emergencies is only possible within the framework of associations, giving their members the opportunity to lend money for an interest rate of 5 or 10%.

Local associations are most often built upon horizontal and not so much vertical forms of cooperation. They offer some insurance against risks, and access to small credits. But at the same time, they have rigid rules and procedures to avoid free-rider behaviour, which limits their capacity to function as solidarity networks in case peasants are confronted with serious problems. Furthermore, the financial means they dispose of are extremely limited, as they are most often exclusively dependent upon the contribution of their members.

There are other **mechanisms that interconnect peasants of different socio-economic categories** within a specific local setting. Some of these result in a win-win outcome. The livestock 'guardienage' system for example gives poorer categories access to large or small livestock. They guard a cow or a goat for someone of a higher socio-economic category, take care of it, feed it, but also profit from its manure and milk. And when they are lucky, they become owner of the second offspring. But at the same time, the receiver is entirely dependent upon the goodwill of the benefactor to not take the cow or goat away after having produced a first time. Various informants pointed out that one needs to maintain good relationships to be included in such a profitable form of livestock exchange. Another requirement is to have the standard of living that allows someone to take care of the animal, which is often not reserved for peasants in the umutindi category.

The interconnectedness of poorer and better-off categories is even clearer on the labour market, where small-scale peasants with insufficient land for auto-subsistence, sell their physical force to gain an (additional) income. In umudugudu D, where the problem of land scarcity is most pressing, the majority of local actors is to be found among the group of abatindi (there referred to as abakene nyakujya) extracting their main (sometimes entire) revenue from wage labour. All other settings have smaller proportions of households falling into the abatindi categories. But in four out of five of these settings, the majority of households is classified in the umukene category, consistently typified as those who have insufficient land for self-subsistence and who are partly dependent upon the wages they earn as agricultural labour force. In imidugudu A, B, C and E most of the labour force supply can be absorbed by the local demand from better-off categories. However, in all settings, the competition for jobs has resulted in a situation where increasing wage rates have not kept pace with the

increase in food prices on local markets. As a result, the purchasing power of net food takers has significantly decreased over the last five years.

On the non-agricultural labour market, employment opportunities are volatile and scarce. When trained as plumbers, masons or carpenters, the main strategy is to invest occasional incomes derived from these activities into agricultural assets. Non-agricultural jobs are most often only seen as side-activities, a way to spread risk and to diversify the income. Also engagement in trade is seen as a side-activity, although some better-off owners of boutiques or local shops do generate the main part of their revenue through this activity. The forms and scales of trade within a local setting may be very different. The situation in umudugudu B illustrates this particularly well, as we found large-scale next to small-scale trade, cash crop trade next to trade of small surpluses next to distress sales of crops, all in the same location.

As mentioned above, non-agricultural income-generating opportunities were more widespread in imidugudu A and C in the recent past. Informal brick-making enterprises provided better-off categories with a profitable opportunity to invest locally, and poorer categories with remunerative jobs. The decision of Rwandan authorities to combat the informal and polluting character of these activities has led to the (at least temporary) abolishment. As a result, the local economic system collapsed with profound effects in both the economic and social sphere. In both settings, the implications for local living conditions are severe.

The interconnectedness of better-off and poorer categories also manifests itself on the land market, where one may distinguish between extremely diverse forms of land transactions. In some cases, land is rented out by richer categories to poorer peasants. Quite often, this is seen as a form of charity and solidarity. We regularly came across abatindi households who live in a house and on a plot that they have been given by someone out of compassion. Sometimes, older peasants from better-off categories that are no longer capable of cultivating their accumulated land, rent out plots in return for money in a more organised way. Those poorer peasants, that have been able to acquire some money, are then able to engage in such transactions. But in most cases, young peasants of better-off categories (sometimes the same category as the older peasants – see umudugudu B) are those who have the required financial means to rent land. In umudugudu F, however, we came across a very interesting system – referred to as the “*ikibara*” system – through which poorer categories can get access to land in return for offering their labour force. They get the user rights on half of the surface that they prepare for cultivation. It was seen as a form of vertical solidarity, both by better-off and poorer categories.

In other cases, land was rented out by poorer categories to better-off farmers when being confronted with an urgent need for money. The most exploitative system we came across – referred to as the “kotsa imyaka” system - was found in umudugudu D and somewhat less in umudugudu B¹¹². In their urgent need for cash, poorer categories “sell their harvest prematurely” for a low price, much lower than what they could get on the market at the time of harvest. This is an example of poorer categories calling upon their richer neighbours to offer a temporary buffer in case of setbacks, but resulting in the reinforcement of power imbalances and in fact pure exploitation of their vulnerability to the benefit of the better-off party in this transaction.

Next to the interconnectedness of different types of peasants within their local setting, there are also forms of **interconnectedness of peasants between different settings**. This phenomenon occurs for example in trade chains. Despite the fact that all farmers aim for auto-subsistence, they are dependent upon trade to sell their occasional surpluses. And net food takers are dependent upon the market to buy their food. Market and food price mechanisms thus have a profound impact upon living conditions within local settings. In all settings, our case study material points to a limited bargaining capacity of small-scale farmers in the market dynamics. This explains why peasants are so attached to the idea of self-subsistence: they are scared to depend upon volatile and unpredictable markets on which they have no power to raise their voice against prevailing injustices.

Another illustration of interconnectedness between different settings is to be found in the exchange of labour force. In settings D and F, younger people with insufficient landholdings are obliged to leave their umudugudu in search of income-generating opportunities. Settings A and B depend to an important extent upon such immigrant labourers coming from far-away regions. These immigrant labourers increase the competition over jobs on the local labour market. Therefore, the fact that better-off categories employ “outsiders” instead of their poorer neighbours may result in animosity between different socio-economic categories within the local setting (see for example case A).

The wide variety of issues coming up in the analysis of these six case studies, illustrates their complementarity. But it also points to the diversity of problems that the Rwandan rural setting and the actors operating there, are confronted with.

¹¹² It may be that the same practice occurred in other settings where participants referred to the existence of the practice where poorer peasants rent land to better-off categories. However, in other settings, our informants did not specifically refer to the “kotsa imyaka” kind of transaction.

Problematically, the rural setting is often presented as a quite homogeneous environment. But we have illustrated that both within and between local settings, the opportunities and constraints that peasants are confronted with, may differ. This diversity requires a nuanced and diversified policy approach. In the next part, we will consider the (potential) impact of national policies upon these local settings and offer a tentative answer to why poorer categories of peasants participate little in so called ‘pro-poor’ growth strategies.

4. The impact of national policies: why do peasants participate little in pro-poor growth strategies?

In order to evaluate the pro-poor character of technological and organizational changes within and beyond the agricultural sector, we should picture the impact of those changes on the living conditions of different types of farmers. Ansoms (2008), based on the PPA categories, analyses on an aggregate scale, how the focus of rural policies on professionalisation and modernisation of the rural economy allows for a pro-poor rhetoric on the one hand; but in reality the actual commitments turn in favour of competitive and commercial farmers on the other. She concludes that “the danger exists that current rural policies will increasingly enfeeble small-scale peasants. [...] Overall, these processes will result in a ‘survival of the fittest’, or more accurately a ‘survival of the largest’ within the agricultural sector, while alternative employment is unsure for those disregarded by these new rural policies” (Ansons 2008: 30).

In this chapter, we consider the same rural policies but adopt a micro-level perspective. We give several examples where policies intervene in the local setting with a mission to modernise and reengineer rural life and consider the opinions of different categories of peasants. More specifically, we focus upon the adoption of monocropping and regional specialisation of crop types, the registration of official and formal land titles in combination with the aim to consolidate plots, the valorisation of the swamplands, and the stabilisation of livestock. As we will argue, the implementation of these four policies has or will have a profound impact upon the capacity of poorer peasant categories to participate in agricultural growth.

4.1 Monocropping and regional specialisation

One of the objectives of the Rwandan government is to stimulate the adoption of the monocropping technique, where peasants cultivate one particular crop type per plot.

In addition, each region should specialise in some particular crops based on agro-bio-climatic conditions and in accordance with market needs. Article 63 of the land law specifies that productive land use “shall be based on the area’s master plan and the general structure on land allocation, organization and use and [the adoption of] specific plants certified by relevant authorities” (GoR, 2005). Both policies should allow Rwandan farmers to realise economy-of-scale effects and should expand market exchange. To achieve these objectives, the policy plans rather follow a top-down approach. The local authorities will, in the name of the local peasants, be entitled to determine for which crops the region has a comparative advantage. Peasants then have to be guided towards adopting these crops (for examples, see Ansoms, 2009).

In several of the imidugudu, peasants already have some experience with monocropping: they adopt this technique when cultivating in associations in the swamplands. In some settings, peasants also have experience with monocropping in the hills. In imidugudu E and F, participants referred specifically to associations that are experimenting with monocropping systems on the plots they cultivate in the hills. In umudugudu B, monocropping is widespread among better-off categories where farmers have willingly adopted the system on their cassava and coffee plots. A participant of the ubudehe focus group mentioned that “this is an idea from the peasants that exists since a long time”; another added that mostly the abakene and abakene nyakujya “do not have the money to adopt monocropping with improved seed”. In umudugudu E, peasants also adopted monocropping on their cassava plots in the recent past. But when this crop was affected by a disease, they were confronted with the vulnerability of depending upon one crop type. They returned to food crop production under a traditional multicropping system. Some peasants that have access to improved seed, are now again reengaging in commercialised cassava production. In umudugudu A, the category of abakungu seemed more favourable to monocropping on particular land plots, as they can still cultivate different crop types given the multitude of land plots they have access to. Several have adopted the monocropping technique on part of their property and find that it gives a high return. But in all settings most peasants are still adopting the multicropping technique on a large part of their plots to achieve auto-subsistence.

Interestingly, when asking peasants’ opinions on the mono- versus multi-cropping system, the first reaction was often in favour of monocropping. But we have clear indications that we often got answers, perceived by our respondents as socially desirable. In fact, the district’s and sector’s agronomists have given trainings and recommendations to the local peasants on the desirability of the monocropping system, presented as a recommendation by the state. As a result, participants in our

focus groups not rarely applauded the monocropping system, pointing to its advantages in fixed phrases that we came across over and over again. A formulation that we often picked up, is that monocropping “prevents crops to stand in each other’s way”. This argument was raised using the exact same words by a variety of focus groups in different imidugudu. Respondents would also point to the resistance of peasants to adopt monocropping as the result of “a lack of openness of spirit”. However, when going into detail, they often put things into perspective.

When peasants raised objections to the monocropping system, they often started by enumerating its advantages (even referring to examples where the system works), after which they appended a whole series of ‘if’ conditions: “if the climatic conditions are right, if one has the chance to have chosen the right crop, if one has access to the right seed, if one has enough manure, if the field is sufficiently large, if one has the necessary physical force, if one receives adequate training”, etc. As such, they explicitly adhere to the public transcript that is diffused by the authorities, while implicitly pointing to the reasons why the technique is not suitable for their case. And in practice they often continue to combine different crop types on their plots, an important element that reveals their true beliefs.

Indeed, behind the pro-monocropping rhetorics, peasants did reveal the many advantages of the multicropping system. In several settings, participants highlighted that multicropping is a way to diversify risks. The technique offers a kind of insurance against famines and one-sided food patterns, certainly for poorer peasants. They have little amounts of land and small plots. When one crop gives nothing, the others compensate for this setback. Or in the words of an umukene participant in umudugudu D, “multicropping is a way to be cautious, you may loose on one side and win on the other”. In addition, poorer categories combine crop types that are complementary (f.e. beans and bananas in umudugudu B; beans and maize or sorghum and cassava in umudugudu D, soya and maize in umudugudu F). Indeed, multicropping is considered to be a more flexible system in the absence of manure, which is seen as a prerequisite to have good harvests with monocropping. Overall, we may conclude that poorer peasants are obliged to diversify their risk in such a way that the likeliness of a total failure becomes as small as possible because they have no buffer to recover from eventual setbacks.

With regards to whether monocropping is more or less productive in comparison to multicropping, opinions differed. In umudugudu D, most participants saw multicropping more as a risk-coping than as a production-enhancing mechanism. But the participants of the female abakene nyakujya focus group all agreed that it is also a

productivity maximising mechanism, conditional upon which cultures are combined. “One should choose crop types that do not stand in each other’s way, for example beans and maize are a good combination”. In umudugudu A, someone of the umudugudu authorities’ focus group mentioned that researchers of ISAR (Rwanda Agricultural Research Institute) pushed farmers to engage in monocropping because it would give a higher production. But he considered mixing different crops to be a good system; he even spoke of potential losses when this system would be abandoned. In the abakungu focus group of umudugudu C, a participant pointed out that the productivity of monocropping is low without fertilising the plots with manure. Multicropping is then more profitable. When a participant in the same group disagreed, his arguments in favour of monocropping were countered by the remainder of the group.

Overall, we saw that participants do acknowledge the potential of monocropping to reach higher average productivity. But at the same time, productivity figures would be more volatile, dependent upon controllable factors that are however beyond the reach of many peasants (access to manure, access to the right seed, access to enough land), in combination with uncontrollable factors such as climatic conditions and crop diseases. In umudugudu C, a participant of the ubudehe focus group pointed to experiments of ISAR in the neighbourhood with good results. But later in the interview, all focus group participants seemed to suggest that the potential benefits in productivity do not outweigh the risk involved, and highlighted that this risk is more prominent for poorer categories (those below abakungu). Indeed, we find at large that all interviewed peasants of poorer categories and most peasants of better-off categories opted for on average lower but more constant productivity figures achieved through the multicropping system.

The issue of regional specialisation (each region concentrating on a few crop types) is equally the subject of mixed feelings in the various settings and among poorer and better-off categories. Here, we got less socially desirable answers as focus groups often started an open discussion on arguments in favour and against.

Arguments in favour were most often raised in the somewhat better-off focus groups. In umudugudu B, a participant of the ubudehe group mentioned that their region has since long specialised in cassava production, and apparently this gives good profits. In practice, this is the case for only the better-off categories that can afford to invest in cassava production. In umudugudu E, better-off peasants immediately saw the profits that regional specialisation may offer, when stocking and selling the product in collaboration with others to bargain a good price. Nonetheless, at the same time, the

nearly totality of better-off peasants in all imidugudu are very attached to the idea of self-subsistence. Their aim is to produce a variety of crops to fulfil their own needs. Once having reached this objective, they do not mind concentrating on a particular crop type that gives well on the remainder of their plots. A person of the umukungu focus group in umudugudu A for example raised the question: “Why would I concentrate on one crop type to trade this while my plots can procure me of all I need”? In umudugudu B, where better-off peasants do concentrate on cassava production, they still produce other crops that they need for self-subsistence.

Turning to the arguments against regional specialisation, a first issue is the large diversity of soil types, even within a local setting (highlighted by participants of several focus group in umudugudu F). In addition, according to a participant of the umukene wifashije focus group in umudugudu D, cultivating the same crop (referring to cassava) years in a row makes the soil “tired”. Rotation is necessary to maintain the soil’s quality.

But next to efficiency-related arguments, focus group participants referred far more often to risk-related arguments. Several informants argued that specialising in one crop renders peasants extremely vulnerable to the many diseases and bad climatic conditions that frequently hit the local setting. Diversifying the risk over different crop types with different cultivation cycles may be a way to deal with climatic irregularities. And it also ensures that a disease affecting a particular crop does not endanger the entire harvest. Several imidugudu have experience with the disastrous effect of crop diseases¹¹³.

Focus group participants also pointed out that the different crops they cultivate, each have a particular function. And different categories of peasants with their particular needs may prefer different types of crops. A participant of one of the abakene focus groups used the expression that “one may be neighbours, but not from the same family” to indicate that peasants from different categories may not agree on which

¹¹³ One participant in the umukene wifashije focus group of umudugudu D gave the example of bananas. Three years ago, a lot of people had large banana groves; however, the species they had (Kivuvu) were attacked by a disease and disappeared. Consequentially, they have to turn to another species coming from Gitarama called Inyamike. Another person added that those who were able to change species in time currently have a high banana production, but others were seriously affected by this crisis. In umudugudu E, the disease affecting cassava still has an important negative impact upon local living conditions. A participant of the inyangamugayo focus group mentioned that this experience learned them which risk is involved in mainly depending upon one crop type (cassava). And even now that improved seed is available, getting access to it is difficult and expensive. Therefore poorer categories are comparatively disadvantaged in comparison to better-off categories. Moreover, poorer categories have no means to buy pesticides in the case of an epidemic of a particular crop on their plots (mentioned by a participant of the associations focus group in umudugudu B).

crop type to specialise. Poorer categories, in lack of a buffer, for example cultivate particular types of crops to have some food while waiting for the maturity of other crops. Participants of poorer focus groups in imidugudu B and D for example pointed to the importance of cultivating sweet potatoes to have some food for their children at all times. Growing sweet potatoes gives access to a small food depot from which peasants may harvest at all times. During our interviews, participants' children (also from other imidugudu) were often chewing on some cooked sweet potatoes.

The need for food also influences the decision on crop types in other ways. In umudugudu A, a person of the associations focus group mentioned "if someone for example cultivates cassava which takes a long time to reach maturity, what will he eat until then"? In umudugudu C, respondents explained to combine beans and cassava as beans can be harvested in the same year, whereas cassava takes a few seasons before reaching maturity. In umudugudu B, a person of the umukene wifashije group mentioned that people will become sick if only cultivating one crop (due to a lack of food). In umudugudu E, an umukene participant suggested that the state should offer some kind of subsidy to poorer peasants when imposing a particular crop type, to buffer for the umukene's need of food before harvests reach maturity. It is exactly this lack of buffer that obliges poorer groups of peasants to cultivate different crop types: they live from day to day and can not invest in crops with long-term cultivation cycles without having crops with short-term cultivation cycles at their disposal.

Another argument pleading against regional specialisation is that it would make peasants entirely dependent upon food markets that function poorly. Participants frequently referred to the fact that they "can not live from one single crop". Most respondents did not consider the option of specialisation and exchange of crops on local markets. In the case of umudugudu D, this can be explained by their isolation. Indeed, a participant of the umudugudu authorities' focus group mentioned that "the conditions for monocropping to work are to have a reliable market and good roads". But we got similar reactions in other settings.

The reluctance of peasants to depend upon the market is linked to their limited bargaining power in the trading chain. In umudugudu E, a participant of the focus group with local leaders did see the advantage of trading large quantities. But he highlighted that the stocking and trade of these crops should be done in a coordinated way in order to obtain a good price. In other focus groups however, participants found that they would not be able to protect their bargaining power if all peasants launch themselves in cultivating one or a few particular crop types. Participant pointed to the

problem of price fluctuations of a particular crop in time: at the moment seed has to be bought, the crop costs a multitude per kg in comparison to the time of harvest.

But there are also problematic and unpredictable price fluctuations between crops. In umudugudu C, a participant of the umukene focus group mentioned that “for example cassava does not cost like potatoes; therefore, our region could loose while other regions win”. In one of the abakene focus groups in umudugudu A, the female participants even started an exercise based on a practical case study. One participant reasoned that those who bring cassava will also need maize or sorghum. So she assumed that the exchange would be equivalent and equitable. Another however objected, saying that they could have problems when trading on the market when the price of their crop is low in comparison to other crops. Then they risk “bringing a lot of sorghum to the market to buy only a small amount of cassava”; then they “would loose”. In umudugudu F, a participant of an umukene focus group referred to the same problem: “if one produces one crop to sell on the market, then one often finds that the prices for other crops are very high in comparison with the gains from what one has cultivated”.

The respondents pointed in fact to the poor integration of the local markets and the limited bargaining power of local actors when engaging in trade. This allows intermediary brokers to set the prices. They profit from regional crop surpluses and shortages, while individual peasants remain relatively powerless in the trading chain. One of the main elements that constraints individual peasants in trade relationships is the lack of access to transport, even for centrally located imidugudu such as setting C.

Overall, we may conclude that forcefully restricting peasants to the cultivation of a few crops in a monocropping system makes little sense. On the contrary, certainly the poorer categories may further become exposed to risks they are not capable of coping with. First, they have no access to risk-coping mechanisms such as credit or insurance to overcome eventual setbacks. Second, the chances for failure due to bad climatic conditions are very real while poorer peasants have no reserves at all to cope with this, not even for one season. And even when monocropping harvests would be satisfactory, local peasants – certainly those of poorer categories - have limited bargaining power to negotiate good prices for selling their own products and good prices for purchasing what they need.

4.2 Land registration and consolidation

Another objective of the Rwandan government is to register all landholdings. Land registration is to become compulsory; and land transactions are to be regulated through legal formal procedures (GoR, 2005, see article 26). In securing official land titles, the government aims for increased investment in land conservation and quality improvements (GoR, 2004B). This assumption is based upon a vision in which the state is the single granter of property rights. In reality however, formal law is only one of the normative frameworks next to customary systems. Rwandan peasants operate in a context of legal pluralism where various institutional rules interact, reinforce and compete with each other. This results in a partial adoption, partial reinterpretation, and partial ignorance of formal narratives, when being translated to the local setting (on legal pluralism, see Meinzen-Dick and Pradhan, 2002)

In addition to assigning official property rights, the land law also hopes to tackle the problem of land fragmentation by prohibiting the division of land parcels below one hectare (GoR, 2005, see article 20). This rule should be set against the observation that three quarters of all Rwandan households have landholdings below one hectare (0,71 hectares, 2000 figures, Jayne *et alii*, 2003), in most cases spread over multiple plots. Avoiding division of land plots or consolidating plots can take two forms. Either people with adjacent plots may cultivate them together while each keeping the rights on their individual part of the harvest (based upon plot size). Or brothers and sisters may manage their heritage collectively instead of dividing it into many small pieces.

At the time of our research, most participants were poorly and fragmentarily informed about the specificities of the new land law. Participants of local authorities focus groups were generally somewhat better informed than others as most of them have at least heard about the new policy but often without knowing the details. Other peasants, if informed at all, have captured some elements of the land law on the radio. Certain participants wrongly assumed that the registration process would be used by the state as an occasion to redistribute land in order to equalise land property, obliging those with large properties to give land to those who have none.

Interestingly, some participants referred to past experiences with land registration. In a mixed umukungu – umukene wifashije focus group in umudugudu A, a person mentioned that in the past a land registration initiative took place. It dated from the first republic under Kayibanda, when land had been registered with written proofs. At our question whether they had used these written proofs in land transactions, the

participant said they did not because their plots became fragmented over the years. In umudugudu F, respondents made mention of a registration initiative dating from before the 1990-1994 war. The umudugudu coordinator evaluated this rather positively, but in other focus groups participants mentioned that the initiative failed as peasants did not want to register. Then, around 2002 a new project was launched to fill in registration forms at the level of the sector. But again the operation failed as people were reluctant to report their landholdings and apparently there was also some fee involved to get land registered, which made people even more unwilling to do so.

When deliberating about advantages versus disadvantages of land registration, a major element in favour, raised in several imidugudu, is that it can reduce conflicts over land within families and between neighbours that surpass their boundaries. Another advantage would be that sellers can not take property back when having transferred the official title. But some respondents wondered which amount of procedures they would have to go through when selling their land officially. In addition, several groups were clear that they do not want to pay for the title (the issue did not come up in all focus group conversations, but all respondents reflecting upon it, agreed). The requirement of paying a financial fee for land registration would clearly insert a huge constraint for poorer socio-economic categories to claim an official land title.

But even without the installation of a financial cost, there are other several elements that plead against land registration. A participant of the inyangamugayo focus group in umudugudu C pointed to the practical difficulties of registering land due to the fact that peasants have little fields, dispersed over the hills. But there are also objections on moral grounds. Peasants are highly reluctant to reveal the true extent of their property, both to us, to each other, and certainly to the authorities. In umudugudu D for example, the participants in the inyangamugayo focus group started to whisper worriedly among each other, saying “I have no land, how could I register it”. In umudugudu B, participants of the ubudehe focus group found it problematic that the state would know their property, all pointing out that their land plots are very small. Indeed, respondents expressed their concern that registered titles could be used as a basis for land taxation. This issue was often raised by the better-off categories in various settings; but also poorer categories raised this as an issue of concern.

The idea of land consolidation was perceived as even more problematic. Indeed, in some rare cases, people did point to the potential of a consolidation movement. In the focus group of umudugudu responsables of setting C for example, a participant referred to the experience in the marshlands to confirm the feasibility of land consolidation in the hills. In the ubudehe focus group, however, another person

pointed to that same marshland experiment as a bad experience that should not be repeated in the hills. And in the associations focus group, a respondent explained that consolidation of plots and collective cultivation in the marshland has been possible, but only because people still have their individual plots in the hills.

Indeed, in various settings respondents referred to land consolidation as “possible in the marshlands”, but “impossible in the hills”. In those hills, land ownership is in principle perceived as an individual right. “People have their own ways of doing things”, and value their individuality in making agricultural decisions. A participant of the umukene wifashije focus group in umudugudu D put it very clear: “You can not touch upon the land of another. If you do that, he will cut you into pieces”. A fellow participant added that pleading for plot consolidation would be considered as an act of aggression towards others.

To ground these rather bold statements, focus group participants raised several practical objections to consolidation. With regards to consolidation of neighbouring plots, participants highlighted that adjacent plots do not necessarily have the same fertility and productivity for a certain crop type (raised in an umukene focus group in umudugudu D where soil fertility is a pressing issue, but also in umudugudu F where it is less of an issue). In addition, people may have different capacities in terms of physical and moral force. A respondent in the umukene wifashije focus group in umudugudu D mentioned that “a lazy one should stay lazy in his own place without living on the expense of others”.

Furthermore, several participants proposed the problem of diverging interests of different categories, which makes an agreement on a joint project nearly impossible. Better-off peasants seemed little inclined to link their land and their production decisions to poorer categories. Poorer peasants expressed their concerns that a consolidation move could lead to an erosion of their land rights. In umudugudu A, a participant of an umukene wifashije focus group highlighted that neighbours have different needs and may have difficulties to agree on a particular idea. In the umudugudu authorities group, a respondent pointed to the problem that the umukene often harvests prematurely while the umukungu is able to wait for full maturity. The association focus group in umudugudu C raised the same issue. In umudugudu D, a participant of the inyangamugayo focus group mentioned that if plots would be absorbed into a collective part with one crop, this would result in famine in case that particular crop would fail. A participant in the umukene wifashije focus group in umudugudu D explained that people have different land sizes, which means that “they play a different game”. A participant in the umukene nyakujya group added that the

rich for example harvest cassava after five years, while the abakene have to harvest something after some months because if not, they have nothing to eat.

But also within families, the idea of keeping inherited land consolidated by cultivating it collectively with all descendents is problematic. At our question whether it would be possible among brothers and sisters to manage the farm property “as one” without subdivision, one person of the umukene wifashije focus group in umudugudu D said that the one with more power will take a bigger part of the harvest than the others. Another person added that communal management of a heritage is simply impossible. Another participant adds that indeed it is impossible, if not they could kill each other.

Overall, we see that peasants are reluctant to register their landholdings. They live in a situation of legal pluralism and see formal law as only one institutional framework in determining land rights. It is therefore not always clear to them how an official registration of landholdings could help them: relatively land-rich peasants fear land redistribution when the authorities would know their property; poorer peasants do not see the utility of registering their marginal landholdings. In addition, all fear that the Rwandan authorities may use the registration information for taxation. Land consolidation is even more controversial. Peasants seem attached to their individual right to make decisions upon their landholdings, and point to the different needs they have, which makes coordinated land use problematic.

4.3 The valorisation of the swamplands¹¹⁴

The government’s current swampland valorisation policy is inspired by the same objectives to maximize agricultural output while using land more efficiently and more productively. However, the adopted approach for the swamplands is essentially different compared to the land in the hills. Instead of assigning individual ownership

¹¹⁴ Swampland has since long been an important natural resource for local peasant communities, all together occupying about 10 % of the total Rwandan territory (Seyler and Mugemana, 2003). Originally, the Rwandan swamplands were used for hunting or fishing activities, and for cattle grazing (Cambrezy, 1981). However, increasing population pressure pushed farmers to use them for food crop production to complement their cultivation activities on the rain-dependent slopes. Inclusion or exclusion was based upon the inherent capacity of a household to undertake this heavy preparatory work to make savage swampland plots arable. Confronted with mounting ecological pressures, marshland territories captured the interest of the Habyarimana administration by the mid '70s. The government declared that all marshland zones were to become state property. By the early '80s, a huge variety of formal and informal institutional arrangements regulated access to marshlands: user rights granted by the ‘state’, user rights guaranteed through membership in collectivities, implicit user rights derived from the physical investment in preparing the savage land for cultivation and from the continuing productive use. After the end of the war in 1994, nor the Rwandan government nor international donors consider the unplanned haphazard use of marshlands and wetlands as a desirable situation. The validation of the swampland’s potential is esteemed crucial in a context of high population growth and land shortage.

titles to local peasants, article 29 of the land law mentions that “swamp land belongs to the state. It shall not definitively be allocated to individuals and no person can use the reason that he or she has spent a long time with it to justify the definitive take over of the land” (Government of Rwanda, 2005). As no private property rights on swamp plots can be allocated to individuals, it is the government that takes up the role of central promoter of swampland development. The approach may take two different forms. In some locations, the government is giving swampland into concession to private investors. In other places, the government entitles local authorities to allocate marshland plots to farmer groups that engage in collective marshland cultivation systems.

The analysis of the swampland valorisation policy in our six case study settings (all located nearby a swampland – for an elaborate description, see annex 2 and 3) allows to differentiate among these two externally-induced systems to valorise the swamplands. On the one hand, there are those case studies (C, D, E and F) where the swampland valorisation policy took the form of promoting collective production systems, either coordinated by an external NGO, or entirely left to the initiative of local authorities and influential social actors within the *umudugudu*. In these settings we saw that marshland associations have progressively claimed user rights that were previously in the hands of individual peasants. On the other hand, there are the cases where concessions on swamplands have been given by the government to a private investor (case A), or to influential individuals who function(ed) as gate-keepers at the interface between the local and the external world (case B). Although the swampland valorisation reforms promoted by the national government are translated to the local lifeworlds of peasants in very different ways, there are some general patterns.

First of all, national policy makers impose a uniform technical solution upon the local settings. National policy makers limit the freedom of swampland cultivators in their crop and cultivation preferences. Authorities enforce the monocropping cultivation method, which they consider to be more productive than the traditional intermixing of several food crops. They further foresee in specific regulations that enforce the cultivation of particular crop types, mostly productive market-oriented ‘high-value’ crops such as rice, sugar cane, maize, ... (see f.e. GoR, 2007: 68).

In *umudugudu* B, peasants had the experience of cultivating maize that was compulsorily sold to the manager of the marshland (until 2007, because the concession of this person over the marshland ended) for a price below the market prize. In *umudugudu* C, the peasants that cultivate in the marshland are involved in rice production. In *umudugudu* D, some marshland associations have experience with

monocropping, but not all land has been handed over to associations yet. In setting E, the marshland is cultivated by associations that have divided their plots into two. Half of the attributed land is cultivated communally, and half is divided over the associational members to be cultivated individually. Monocropping is increasingly adopted in the communal part. However, in their individual parts, peasants stick to the multicropping system. In umudugudu F, finally, the monocropping technique is often used in the marshland area, although peasants did ‘admit’ that their associations sometimes practice multicropping combining f.e. soya and maize. They are aware that this is not in line with the official policy, but they are convinced of the profitability of the system.

In some settings, authorities already determined which crop type peasants have to stick to, in addition to the monocropping obligation. In case C for example, peasants were obliged to cultivate rice in the marshland. The result in terms of productivity was however disastrous because the wrong seed type had been selected, and because part of the marshland was too dry as long as the dike was not ready. Many peasants had even left the marshland, disappointed by the fact that the NGO (developer of the marshland) and local authorities would not reconsider their crop choice decision. Also in case B, respondents mentioned that rice would increasingly be promoted by the authorities. Indeed, increased rice production in swampland area is an important policy guideline coming from the national level. Important question is however to consider whether the local environment is suitable for this crop. Peasants in case D had not yet received directions on which crop type to cultivate, but they clearly highlighted their expertise and suggested that the authorities should ask their input when choosing a particular crop type. In case B, respondents mentioned that a lot depends upon which price peasants may get when specialising in one crop type.

In case A, the swampland was covered with sugarcane, both cultivated by the Madhivani group (a private investor who received a concession over approximately 3.000 hectares of swampland), and by individual peasants in the wider surroundings. We find however (see annex 3) the total monetary value of the swampland output under ‘free’ crop cultivation by individual peasants would have been comparable to that of sugarcane production by individual peasants; and it would have been higher than that of sugarcane production by the private Madhivani company (see annex 3 and 4).

In a sense, the current cultivation techniques that are adopted in the marshland are a pilot experience with policies that Rwandan authorities also envisage to implement in the hills. In none of the cases has there been consultation with the local level

population on whether the technical ‘solutions’ are suitable for the local climate and whether they are adapted to the local socio-economic-environmental context.

Turning to the organisational aspects of the reform, the central authorities have adopted a decentralised approach (except for case A where about 3000 hectares were given into concession to the Madhivani business group). The initiative is left into the hands of local authorities, development brokers and local influential actors who have extensive room for manoeuvre. This could have improved the translation process of national targets towards the local context, adapting them to the needs of the population. But local authorities lack accountability towards the population at the local level. Their legitimacy to a great degree depends upon compliance with (the implementation of the) national priorities, regardless of the appropriateness of the policy measures at the local level. Moreover, the main decision power at the decentralised level lies with an administrative person who is appointed by the central authorities (Ingelaere, 2007: 35). The result –as illustrated in case studies B, C, D, and E – is that local authorities do not provide institutional support to avoid elite capture of the opportunities provided by the new externally-induced institutional rules.

Looking at the organisational aspect in more detail, we found that the creation and functioning of swampland associations (cases B, C, D, and E) is very much alike in different settings. First of all, social networks are crucial in assuring an entry in swampland associations. In cases D and E, informants explicitly mentioned ‘ignorance’ as a main reason why people did not adhere to a swampland association. Many local farmers did not immediately anticipate “how associations would take it over” and became only aware about the collectivisation process when associations were full.

In addition, the associational system has introduced a new aspect into the bargaining process over swampland rights: financial capacity. In cases B, C, D and E, this was explicitly mentioned as an important factor. In the past, local farmers could ensure their user rights through having the physical capacity to cultivate the plots, and inherently put their claim upon the plots that they had developed. The new system however requires both physical power and financial means to pass the access gate for a membership in swampland associations. In an initial stage, members often have to contribute a financial fee to cover the purchase of seed and in some cases the necessary technical know-how to cultivate a new cash crop.

The entry cost widely differed between case studies (from some hundreds up to some thousands Rwf), with an immediate impact upon access or exclusion of various

peasants categories. After an initial adherence fee, financial contributions then continue to be necessary to pay for seed and other required inputs. Quite often associations even open their own official savings account. As a result, the entry cost rises quickly: newcomers have to “catch up” with the association’s accumulated savings which may mount up to several thousands of Rwandan francs. Sometimes, associations are linked with and pay contributions to a cooperative that gathers several locally based associations at a higher level (district or province). In case B, the financial obligation of the association to the cooperative even amounted to 100.000 Rwf, and the destination of this money was unclear.

Turning to the outcome of the valorisation process, there are two aspects to take into account: the outcome in terms of productivity (‘size of the cake’), and in terms of poverty and equity (‘distribution of the cake’). Whether or not the post-reform cultivation pattern resulted in higher productivity figures, was difficult to determine. Some focus group informants did acknowledge that productivity increased (cfr. case F). In other settings, interviewees pointed to the perverse consequences of the wrong crop choice upon overall marshland productivity (cfr. case C). In case A however, we were able to estimate that productivity under the current system was lower than what could have been achieved under alternative options of swampland use (cfr. cultivation by the Madhivani group versus cultivation by individual farmers – see annex 3).

In terms of equity the net impact can more easily be assessed. In nearly all cases (case F seems to be the exception), the externally-induced reforms have enhanced the opportunities of the local elites to further consolidate their power positions. The opportunities provided by the reform allow these elites to secure a considerable part of the swampland development cake for themselves. In addition, their local power position is reinforced through their central role in the distribution of the remaining part of the development cake to other social actors, their clients in this bargaining game. Likewise, the new institutional rules reinforce the constraints upon less powerful social actors in their agency to secure access or challenge their exclusion from swampland plots.

As a result, the externally-induced reforms contribute to the reproduction of structural forms of poverty and inequality within and beyond the swampland arena. In case studies B and C, interviewees referred to already existing socio-economic categories to differentiate between those who profited (‘umukungu’) and those who lost (‘umukene’) in the redistribution process of the marshland. But also in cases D and E, respondents mentioned that those with financial means have had a clear advantage to gain access to the swamplands. In this way, informants indicated how the swampland

(re)distribution process contributes to the polarisation between socio-economic categories in the wider societal sphere.

4.4 Zero-grazing and stabilisation of livestock

Next to land-related policies, Rwandan authorities also concentrate on livestock as another important natural resource that plays a crucial role in the rural economy. In the Rwandan society, ownership and exchange of cattle is of great importance in rituals (f.e. during marriage) and in social relations (De Lame, 2005). The symbolic importance of the cow in Rwandan rural society can be illustrated by references to the cow in dividing the day into time zones¹¹⁵. But access to cattle also has a very important economic value. It functions as a capital stock; and, as pointed out in many of our case studies, it provides peasant households with manure to fertilise their plots. The civil war starting in 1990 and the genocide in 1994 had a profound impact upon livestock holdings. Immediately after war, access to large livestock was problematic in the rural setting. But by 2000, average cattle holdings (0,60 per household) nearly reached the pre-war level of 1990. At the same time, however, only 30% of Rwandan households owned cattle (Verpoorten, 2006).

In the same year (2000), about 80% of all rural households owned some livestock. This means that small livestock is of great importance: “households owned on average 1,33 goats, 0,43 sheep and 0,33 pigs” (Verpoorten, 2006: 55). As we pointed out in the description of our cases, small livestock may offer a better economic buffer. First, the investment cost for one piece is smaller. Second, an investment equal to the value of a cow is spread over several heads of small livestock, which reduces the risk of loosing all in case of a disease. In addition, it is easier to trade small livestock and transfer it into money. In need for a modest amount of cash, peasant households will be reluctant to sell their cow, whereas selling a head of the small livestock is perceived as less problematic. In addition, small livestock may more easily be sold locally whereas this is not always the case for large livestock.

¹¹⁵ 7AM is referred to as ‘imka zivuye mu rugo’ (the cows leave the enclosure). 7.15AM is referred to as ‘imka zahutse’ (the cows are on their way). 8AM is referred to as ‘imka zahutse’ (the cows are grazing). 10AM is referred to as ‘inyana zitaha’ (the calves return to the stable). 11 AM is referred to as ‘imka zimenyereye mu rwuri’ (the cows get used to the grasses – ruminating). 2PM is referred to as ‘imka zikutse’ (the cows leave the watering place). 3PM is referred to as ‘inyana zisubura iswa’ (the calves return to the grazing land). 4PM is referred to as ‘imka zihinduye’ (the cows return). 5PM is referred to as ‘inyana zitaha’ (the calves arrive). 6.30 PM is referred to as ‘imka zatiha’ (the cows arrive). 7PM is referred to as ‘imka zikamwa’ (the cows are put to rest). 8PM is referred to as ‘imka zihumuje’ (the cows rest) (Mpakaniye, 2005).

Poorer categories not rarely secure access to livestock by engaging in a guardienage contract with a neighbour and / or a friend. The guardienage system serves as a solidarity and exchange mechanism between better-off and poorer categories. The advantage for the owner is that the burden of taking care of his cattle is reduced (certainly important in times of draught); the owner limits the risk of his whole cattle to be affected by a disease; and by showing solidarity, the person's social embeddedness may improve while the risk of provoking feelings of jealousy and envy is attenuated. The receiver takes on the duty to take care of the cow by feeding it. In practice, it means that the receiver brings the cow to grazing areas and guards it in the enclosure at night. In return he or she may use its manure and consume part of its milk (traditionally 3/7th goes to the owner). Even more importantly is that this person may become the owner of his or her own cow, when receiving the second calve¹¹⁶. The system of guardienage also exists for goats and pigs, and children do it on a micro-scale with chicken and rabbits (Mpakaniye, 2005).

In 2001, about 21,6% of all cattle – equal to almost 160.000 heads of livestock - was lend out in a guardienage system. For goats, this was 23,3% (equal to over 321.850 heads), for sheep (ovine) 17,4% (equal to 76.972 heads), for pigs 25,5% (equal to 66.242 heads), for chicken 7,9% (93.464 heads) and for rabbits 2,2% (9.950 heads) (Mpakaniye, 2005). Although we do not have such quantitative data for the 6 imidugudu involved in our qualitative research, indeed, we noticed that the guardienage system was frequently referred to as of great importance for economic well-being. Most often, the exchange involves large livestock, but in some cases, also small livestock was guarded by poorer peasants. In all imidigudu, focus group participants made mention of it, often as a mechanism through which poorer categories can move upwards on the societal scale. And often it is the only way for poorer peasants to get access to livestock.

To further improve access to livestock, the Rwandan government has elaborated a policy referred to as “one household, one cow”, aiming to provide poor peasant households with a cow of an improved variety. Those eligible for the programme are households that do not own a cow and have land below 0,75 hectares. This would come down to a total of 668.763 households. But these potential beneficiaries have to fulfil certain preconditions to benefit from this programme: the household in question has to grow at least 20 ares of pasture, and has to build a stable. The household further has to have mechanisms for water harvest and conservation at its disposal; and should have two pits near the house. In addition, the household has to align to the policy of

¹¹⁶ The first calve goes to the owner, and also the mother remains the owner's property. The second calf goes to the 'gardien'.

priority crop cultivation (“should be growing and having a reasonable yield of one crop that is suitable for the particular area”); and should be of “exemplary character” (GoR, 2006B: 17). Households with land above 0,75 hectares will be helped through other programmes, such as artificial insemination of their cows with improved seed, and access to loans through commercial banks.

The “one household, one cow” policy is combined with the introduction of zerograzing. Traditionally, the domestic cattle graze on nearby available grazing land (not necessarily owned by the household). However, given that available grazing land is shrinking, the Rwandan government wants peasants to keep their cattle in stables and feed them with grasses cultivated on their land. As such, the implementation of such policy makes sense in terms of environmental protection and makes further livestock expansion feasible. Therefore, the policy is not only imposed upon peasants profiting from the “one household, one cow” programme, but upon the rural setting as a whole.

But the sudden enforcement of the policy in some imidugudu, and the widespread announcement in others, results in great unrest. The requirement to build stables and grow grasses seems in most cases not feasible for poorer categories of peasants that have up to now been involved in the guardianship of cattle from better-off categories. They are or will be obliged to return the cattle to its original owners. And even for those household owning a cow, the requirements may be a heavy burden which is pushing them or will push them to selling their large livestock.

Indeed, in some imidugudu, the stabilisation of livestock and the zerograzing policies were intensely debated issues during our focus group interviews. In umudugudu B, a group of abakene bifashije pointed to the problem of having to lock their cattle into stables and to grow grassed on their land. A participant explained that this pushes them to selling their cattle as they are not able to fulfil these requirements. In umudugudu C, the group of inyangamugayo mentioned that two households in their umudugudu have already received a cow through the “one household, one cow” policy. They referred to this as “a gift from the President of the Republic”. A person explained that the agronomist chose two households who have herbs and asked them to build a stable. But also other households are obliged to keep their cattle at home. In the group of abakene, a person made mention of a fine of 11.000 Rwf when one does not keep the cows at home. At our question who raises these taxes, the participants all murmured that the authorities do this, even the head of the umudugudu can do it. At our question whether these taxes then go into the treasury of the state, they all started

laughing, saying that the money disappears into the pockets of the authority person who collects the fine.

In umudugudu D, the ‘stabilisation obligation’ spontaneously came up in three focus groups. During the interview, one of the respondents of the umukene wifashije focus group mentioned that “there are agricultural policies that make us tired. We cultivate because we live from agriculture, and we try to use manure on our fields. But now they ask us to keep our cows at our homes and to no longer let them graze on the hills. Where do they expect us to grow herbs, while we even have not enough to cultivate food crops? The State really makes us tired, we will have problems with manure due to this policy measure. The consequences will be that we will be weak, because I don’t think about renting a field to cultivate herbs only. This agricultural policy puts sticks in our wheels.” He added that actually it is difficult to find sufficient food for two cows; “only the abakire will be capable of this”. Later on in the interview, another participant added that this policy is a handicap for them. The person could agree with the necessity to cultivate herbs, but from there to oblige them to lock up their animals in stables “goes too far”.

In the same setting, several people of the abakene group also spontaneously mentioned that this policy is problematic. One person raised that they have small plots of land and thus they do not have the space to cultivate herbs. Another person mentioned that it would be good if they could even only let their cows walk a bit outside to maintain their muscles. If cows are kept in their stables for too long, they loose their capacity to walk (which they need to get to the market). The first person raised the example of a man who had a cow of 100.000 Rwf. But the cow was not able to walk all the way to the market; as a result the owner was obliged to butcher it on the spot and sell the meat for only 40.000 Rwf. “They tried to make the cow walk, but he did not move a bit”. The policy also has severe consequences for the umukene nyakujya. A person in this focus group explained that “in the past, people asked us to guard cows for them and we could use the manure on our land. These cows were an important economic aid for us. But now this has stopped because we are not capable of keeping the cow on our own property.”

Overall, we find that despite a genuine concern of Rwandan authorities to improve access to livestock while not exceeding the ecological frontiers of grazing land capacity, the zero-grazing policy imposes serious problems upon local peasants of various categories. Peasants either have to invest in cultivating herbs, either they have to get rid of their livestock. In addition, the rigid implementation of the stabilisation

policy breaks down the solidarity link between better-off and poorer categories that existed through the guardienage system.

5. Conclusion: Different layers of pro-poor growth

Over the last five years, the Rwandan government has implemented its first Poverty Reduction Strategy Paper (PRSP). Nonetheless, the decrease in poverty was limited while inequality increased. The low pro-poor character of the first Rwandan PRSP illustrates the poor understanding of how poverty works at the local level and how national policies impact upon local living conditions. In this chapter, we have tried to complement on the current understanding of rural poverty by studying it from a local angle. We looked at the perception of people upon the characteristics and constraints of various locally present socio-economic categories. We used these insights to identify how specific national policies may impact upon the local living conditions of different types of rural households, upon their power relations, and upon the distributional processes within the local social setting.

The rural policy strategies studied into detail in this chapter – the adoption of monocropping and regional crop specialisation, land registration and consolidation of plots, valorisation of the swamplands, and stabilisation of livestock - are led by a logic to improve efficiency and realise economic growth with the ultimate goal to contribute to poverty reduction. The “views from below” however reveal that their poverty reducing effects might very well be limited; these policies might even have a contraproductive impact. And also their effect on agricultural growth at large is unsure.

More specifically, we found that given the extreme agro-ecological diversity that characterises Rwanda, a forcefully implemented restriction to the cultivation of a few crops in a monocropping system may have a perverse impact upon economic growth. In addition, our data suggest that particularly for poorer peasant categories, the forced implementation of such policies would impose them to risks that they are not capable of taking. Poorer peasants would loose their ability and knowledgeability for risk-diversification, enabling them to cope with crop failure or uncontrollable market price fluctuations. At the same time, they have no access to a financial buffer or to risk-coping mechanisms to overcome eventual setbacks. So both the proclaimed growth and the pro-poor effects of monocropping and regional specialisation are extremely uncertain.

Peasants from all categories strongly rejected the idea of land consolidation. Better-off peasants seemed little inclined to link their land and their production decisions to poorer categories. Poorer peasants expressed their concerns that a consolidation move could lead to an erosion of their land rights. They implicitly feared what Des Forges describes as the “winnowing out of the chaff” (Des Forges, 2006).

This is indeed what is happening at this stage in the swamplands. An enforced redefinition by the Rwandan authorities of the rules for access and division of swampland plots results in a reinforcement of existing power (im)balances, and contributes to the polarisation between socio-economic categories.

The combination of zero-grazing and obliged stabilisation of livestock, finally, complicates the opportunities for small-scale peasants to have access to large livestock. In addition, it results in a break-down of the solidarity link between better-off and poorer categories that existed through the guardianage system.

In fact, the main problem lies in the rigid top-down implementation of these policies, which does not allow for the essential flexibility to let local actors of different socio-economic categories raise their voice or participate in policy elaboration from the bottom-up. There are alternative choices to be made.

Pro-poor growth is not just a matter of getting the percentage of growth up, with the hope for a trickle-down effect that will get the percentage of poverty down. Policy makers should have a clear view on which groups are hidden within and beyond the percentage of poor, and which role they play in economic growth. The elaboration of a package of pro-poor policies for the rural economy should therefore start with the identification of the opportunities and constraints of various socio-economic categories within diverse local settings; and the positive and negative roles of these categories in the bargaining process over available resources and opportunities. Such analysis can then feed back into an integrated pro-poor policy that targets the poor directly and indirectly.

Pro-poor objectives can indeed be indirectly reached by targeting non-poor groups (abakire, abakungu, and abakene bifashije) with growth strategies that have a maximal trickle-down effect. Better-off categories could first of all play an important intermediate role in trade chains between large-scale traders and subsistence peasants with small surpluses. Therefore, growth-enhancing policies could stimulate regional coordination and collective action to improve the bargaining position of local rural agents on regional markets. In setting B, we saw how the abakungu fulfil this role by

providing an outlet to poorer categories. In setting D however, the abakungu use their intermediate position in an exploitative way: confronted with distress situations, poorer neighbours are obliged to sell their crops prematurely for a low price, which allows the abakungu to engage in profitable price speculation. Indeed, the risk of elite capture of policies that target poor population groups indirectly (through a trickle-down effect) is always real; and should be inhibited through careful monitoring and by enabling poorer peasants to raise their voice.

Second, better-off categories can within their local environment play an important role as investors in non-agricultural activities. The Rwandan government's ambition to enhance non-agricultural employment opportunities fits within the Vision 2020 objective to decrease the proportion of population dependent upon agricultural activities from 85 to 50% by the year 2020. However, as we saw in case studies A and C, the stringent formal procedures, environmental regulations and taxation procedures of the Rwandan authorities impose important constraints upon investment by better-off categories in the local non-agricultural sector. The cases show that the disappearance of the symbiotic link between better-off categories - as investors - and poorer categories - as employees within a particular non-agricultural activity (such as brick making) - may result in a collapse of the local economy. Instead, policies related to the non-agricultural economy should enhance the capacity of local investors to engage in such activities. Although problems of elite capture may again appear, the likeliness of a trickle-down effect of non-agricultural investment by better-off categories embedded within the local rural economy is higher than when large-scale investors with no links whatsoever to the local societal fabric engage in this sector.

Next to an indirect approach, poorer categories can also be targeted directly through growth-oriented policies. There are however three essentially different categories of poor with different needs: the abakene that still generate agricultural output although their landholdings are not sufficient to reach self-subsistence; the abakene nyakujya – abatindi who have marginally small landholdings and are dependent upon off-farm wage labour (mainly in the agricultural sector); and the abatindi nyakujya who are entirely marginalized. The latter category can play nearly no role in growth-oriented strategies given that their production capacity is often limited due to physical limitations. The two other categories however do have potential to participate in growth creation.

Policies oriented to enhance the participation of abakene peasants in economic growth could focus upon the removal of constraints that confine this category to risk-averse survival strategies. Indeed, much of our case study material has illustrated the total

lack of any buffer for this category. This prevents abakene households from engaging in potentially profitable agricultural strategies that entail a certain risk. Providing such a buffer may be done by providing small-scale credit programs (with limited amounts of money per peasant) that reach maximal accessibility. At this point, credit providers focus on maximal profit for minimal risks, which favours the chances of large-scale producers with ambitious production plans and a bail to cover the risk. Government institutions therefore have a major role to play in the promotion of small-scale initiatives; and as such this calls into question the policy makers' focus upon the private sector to solve the lack of access of rural agents to credit. Rotating savings and credit associations often exist at the grassroots level; they could be important mechanisms to channel money towards the local sphere. An elaborate study of the functionings of the 'Banques Populaires' of before 1994 could lead to a breakthrough on how to go forward in the current setting. In addition, the government could enhance the risk-coping potential of peasants through flexible insurance mechanisms (potentially linked to credit systems). This would allow peasants to adopt more risky strategies without facing the threat of complete collapse of their livelihoods in the case of a one-time failure.

It could even inspire abakene households to engage in market-oriented agricultural production, despite their limited landholdings. An additional crucial aspect is then to support initiatives that may improve the bargaining capacity of poorer peasants on local and regional markets. Again, collective action seems the only feasible way to achieve this, leveraged through financial support from donors and from the state. At the same time, it is crucial for these poorer peasants to feel that their voice is represented within such financially supported collectivities. If not, they may turn into instruments to impose yet another round of agricultural obligations upon Rwanda's farmer population. In addition, the availability of a buffer may even inspire the entrepreneurial type among abakene to set up small-scale non-agricultural businesses. Policies may stimulate this through linking the local level to regional and national trade chains for non-agricultural goods.

The abakene nyakujya – abatindi households finally can be activated in growth policies through the wage labour market. Given the current ecological boundaries, this category will become more important and more numerous in the nearby future. But at this point, we can deduct from our interviews that the idea for peasants to live without land is very problematic. They see only few options besides farming, and most often, the livelihood prospects of those options are bleak. The automatic link between (agricultural) wage labour and 'being poor' in the perception of the rural population is obvious. This perception is founded within a reality where demand for labour force is

limited while the supply of non-skilled labourers is high. Therefore, policies should work on both sides of this chain. On the one hand, Rwandan policy makers should facilitate and stimulate all potential investment in labour-intensive off-farm activities. This may be done directly through organising labour-intensive works (constructing roads, infrastructural projects, etc.). But even more important is to facilitate the local better-off categories to invest their profits locally in small-scale locally-base business initiatives instead of turning to the cities. At the same time, Rwandan authorities could also improve the quality of the currently mainly unskilled labour force by investing in training initiatives for a variety of sectors. This would enhance the bargaining capacity of the agricultural labour force in wage negotiations.

Overall, this chapter leads to the conclusion that pro-poor growth requires more than combining growth with a reduction in the percentage of poor. We found that ‘the poor’ are a collection of different categories with very diverse needs, opportunities and constraints. The well-being of all socio-economic categories, poor and non-poor, is interlinked and interdependent. This makes the local economy a hybrid system; and therefore, creating pro-poor growth is a hybrid process. It is not a matter of targeting a particular group, focusing upon a particular sector or sticking to seemingly efficiency-improving techniques.

Instead pro-poor growth entails *a wider process of societal change in which overall economic development concurs with an active participation of relatively deprived socio-economic categories that are enhanced in this participation through policies that target them directly and indirectly (through a trickle-down effect)*. The current focus in pro-poor growth literature on macro-level developments should be complemented by adding micro-level perspectives. This adds nuance and complexity to the pro-poor growth literature as it requires gaining insights in the institutional opportunities and constraints that different livelihood categories face, which condition their participation in growth strategies.

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Annex 1: The characteristics of the socio-economic categories: an overview

	Umudugudu A	Umudugudu B	Umudugudu C
Umukire	Outsiders living elsewhere but who invested in large-scale farming located in the umudugudu, own improved livestock and employ immigrant labourers	Some farmers of the umudugudu have reached this category, left to live in cities and commercial centres, still engaged in trade with local setting	
Umukungu	Large farms, subsistence production + surplus for the market, own traditional cows, access to credit, employ agricultural labour on a permanent basis, mostly immigrant labourers <i>STRAT: access to improved livestock</i>	Some have left the umudugudu but are still engaged in trade with local setting; local abakungu have large land plots, large and small livestock, cultivate cassava for the market through monocropping system, employ agricultural labour on a permanent basis <i>STRAT: access to improved livestock, access to market to sell cassava and improved cassava roots</i>	Lot of land, large and small livestock, subsistence production + surplus for market, employ agricultural labour force, in the past active in brick-making as investors <i>STRAT: access to markets (transport), allow engagement in non-agricultural business, particularly brick-making</i>
Umukene wifashije	Self-subsistent / some surplus for the market, small and large livestock, employ agricultural labourers on non-permanent basis, some are (were) active in the non-agricultural sector as masons / carpenters / owners of boutiques / and in recent past often engaged in traditional brick-making as entrepreneurs <i>STRAT: allow engagement in non-agricultural business, particularly brick-making</i>	Self-sufficient + occasional surpluses for the market, own some small livestock and some have or guard large livestock, may be active in non-agricultural professions or as small-scale traders, employ agricultural force on non-permanent basis Lower batch: work as agricultural labourers themselves and do not agree to fit into this category <i>STRAT: access to improved cassava seed, livestock, and limit the number of children</i>	Small agricultural exploitation, insufficient for self-subsistence, active on agricultural labour market but supply if labour force is abundant and demand has decreased, activities creating non-agricultural jobs for this category have been banned by authorities, active in associations but difficulties to fulfil the financial requirements <i>STRAT: access to brick-making and other non-agricultural employment opportunities, access to large livestock</i>
Umukene	Non self-subsistent, work for others as agricultural or non-agricultural labour force (non-agricultural employment has become scarce with ban on traditional brick making) <i>STRAT: access to livestock, access to non-agricultural employment, access to non-used parts of marshland</i>	Work for others for money or food, have limited landholdings, some guard a goat for others, cassava production is expensive for them (high investment cost) <i>STRAT: potential for social mobility is limited, need for access to improved cassava seed, credit to rent plots to invest in cassava production, membership in associations is important</i>	

Umutindi / Urukene nyakuiya	(Narly) no landholdings, no livestock, work for money or food to survive <i>STRAT: upwards mobility is not possible. need for charity</i>	Nearly no land, no house or of poor quality covered with banana leaves, no livestock, some are involved in pottery making <i>STRAT: upwards mobility is not possible, need for charity</i>	Work for food, house of poor quality, still engaged in social relations with others <i>STRAT: upwards mobility is not possible. need for charity</i>
Umutindi nyakuiya			Not able to do anything, lonely and isolated, some are mentally ill or handicapped <i>STRAT: upwards mobility is not possible. need for charity</i>
Overall	<i>Ban on informal off-farm activities imposes a heavy burden upon non-agricultural investment, employment and income-generating activities User rights could be granted to part of the marshland on which Madhivani business group has a concession but is not used Umutugudu seems not able to use its central location (near to Kigali) as a comparative advantage</i>	<i>Make improved cassava seed widely available for peasants of all categories</i>	<i>Ban on informal off-farm activities imposes a heavy burden upon non-agricultural investment, employment and income-generating activities -> resignation and banditry at local level Umutugudu seems not able to overcome the setback of the disappearance of brick-making, seems not able to use its central location (near to Gitarama) as a comparative advantage</i>

	Umudugudu D	Umudugudu E	Umudugudu F
Umukire	No cases reported of people in this category, nor of any who reached his category in the past and left the umudugudu, characterised by large exploitations, can buy land and livestock, can employ others	Some who reached this category have left the umudugudu, links with local setting are very limited (only management of own property)	
Umukungu		Self-subsistent + surplus for the market, some engaged in cash crop production (cassava) but less in comparison to the past, employ others, speculate with food stocks on price fluctuations, buy harvest of poorer categories prematurely for low price (kotsa imyaka) <i>STRAT: access to improved cassava seed; price speculation is a strategy to move upwards, but often at expense of poorer categories</i>	
Umukene wifashije	Self-subsistence + some surplus for the market, some large and small livestock, sometimes employ others but most of the time not, able to survive in the local setting – no need to go elsewhere in search for income, some work for others in nearby locations in return for land. <i>STRAT: access to credit, access to markets (infrastructure)</i>		Relatively large exploitation with banana grove, some large and small livestock, active in trade of urwagwa (banana beer) sold in boutiques on road passing through umudugudu, employ agricultural labour force on a temporary basis, some rent land to poorer categories through ikibara system <i>STRAT: access to credit, access to improved livestock, access to markets, access to training</i>
Umukene	Not self-subsistent, may rent additional plots but most often earn income as agricultural wage labourer, own small livestock and may guard cow for better-off farmers <i>STRAT: upwards mobility dependent upon social relations, access to associations, access to livestock, potential for upwards mobility through temporary migration to find employment, need for buffer</i>	Not self-subsistent, no or limited livestock, work for others as agricultural labour force, no access to bank loans and related credit, total lack of any buffer which results in consumptions of crops before maturity, selling crops before maturity to better-off categories <i>STRAT: access to buffer (insurance and credit) which allows to exploit the full potential of the production; also need for increase bargaining power in trade transactions to avoid exploitation (potential for collective action), access to livestock, access to cassava and market for it</i>	Not self-subsistent, rent land through ikibara system, guard livestock, work as labour force in agricultural and non-agricultural sector but for longer-term work they have to leave the local setting (temporary migration to find employment) <i>STRAT: upwards mobility through temporary migration to find employment, access to livestock, training for non-agricultural professions is available in near surroundings but not sufficient demand</i>

Umutindi / Umukene nyakuiya	(Nearly) no land, no livestock, only one set of cloths, work for others for food or money, not able to participate in associations, housing problem, problem to enter associations, social isolation and lack of respect from other categories, do not have any buffer that protects them in case of setbacks <i>STRAT: can not be left aside because group is large, but strategies for improvement are scarce; illustrates danger of letting this group become too large. Access to small livestock, collective action, buffer</i>		Nearly no land, shabby house covered with banana leaves, some are involved in ikibara system, have to borrow everything (agricultural equipment, shoes, bucket), capable for physical work <i>STRAT: upwards mobility is not possible, need for charity</i> <i>Some are young and may move upwards, but not based upon their own force</i>
Umutindi nyakuiya		(Nearly) no land, no housing or houses of poor quality, work for others in return for food, some have fallen into this category because of imprisonment <i>STRAT: upwards mobility is possible for those who come out of prison and start to work, for others, upwards mobility is not possible, need for charity</i>	Not able to work (bad health, handicaps, advanced age <i>STRAT: upwards mobility is not possible, need for charity</i>
Overall	Overall mobility is difficult given structural constraints the umudugudu is confronted with (overpopulation, extreme land scarcity, decreasing fertility) <i>Extreme remoteness and lack of infrastructure to reach the umudugudu limit the potential for trade of goods and services and makes the umudugudu a very bad candidate for all potential investment in non-agricultural activities</i>	<i>Need for access to improved cassava seed for all categories, this may relaunch cash crop production and market transactions</i> <i>Make market transactions free (<-> selling of the market to individuals who raise high taxes)</i> <i>Intervene in system of buying and selling harvests prematurely to avoid further polarisation and exploitation</i>	<i>Region needs a positive stimulus, if possible in non-agricultural sector. There is potential (trained craftsmen) but no employment opportunities.</i> <i>Trade with outsiders is now on an accidental basis (boutiques with urwagwa for people passing through umudugudu). Opportunities for trade on a larger scale may be further explored.</i>

Annex 2: The characteristics of the socio-economic categories for each umudugudu: Description of the data

Case A - In the periphery of Kigali

(1) Context - the umudugudu

Umudugudu A is located at the outskirts of Kigali, near the Nyabarongo valley. When entering the umudugudu, one side of the road is bordered by banana trees; on the other side one has a view on the wide plantations of sugar cane in the marshland area that is exploited by the Madhvani business group. In the umudugudu, there are quite some large-scale farms of which the owners live in Kigali city. However, the farms are mostly exploited by immigrant workers; the local population is little involved in activities there. There are other employment opportunities, both for locals as for immigrant workers. However quite some of these previously informal activities have been stopped by the authorities in an attempt to insert them into the formal economy. There is hope for progress in at least one area: the brick making activity that was abandoned will start up again soon; but investors will have to comply with stringent formal procedures, environmental regulations and taxation procedures. The umudugudu itself is the setting of a large market that provisions Kigali with food and meat; however, trade on this market is heavily taxed which results in limited gains for the local population.

(2) Socio-economic categories and their characteristics

In umudugudu A, there are five social categories, in order from rich to poor: umukire, umukungu, umukene wifashiye, umukene and umutindi. The majority are abakene, but there is also a considerable group of abakene bifashije. The other categories do not count more than a dozen households.

When looking at the characteristics of each category in more detail, we found first of all that there is a huge difference in what focus group participants identified as ‘umukire’ versus ‘umukungu’. The **umukire** are outsiders who have come to the umudugudu in their search for land on which to establish their farms. Participants in various focus groups mentioned that in the umudugudu there are no ‘home-bread’ abakire. They live in Kigali, but construct their houses in the umudugudu because Kigali is nearby and “Kigali is almost full”, while the prices of land plots in their umudugudu are relatively cheap. The abakire themselves only come occasionally; in the umudugudu, one finds their farms and cattle. They employ labour force “to guard

their fortune”. The presence of abakire farms is not at all considered as positive by the “original” inhabitants of the umudugudu. In several focus groups, people raised two main issues. First, the abakire mostly employ labour force coming from other regions, often their own acquaintances or people from their region of origin. As such, the presence of these farms does not result in job creation for the local inhabitants. Second, the presence of the abakire is linked with the “problem of the grasses”. The abakire plant grass on their plots to feed the cattle on their farms. However, these grasses make nearby plots infertile because they extract a lot of water, or because the grasses fall on the crops of the surrounding plots. Due to such inconveniences, peasants who have plots that are surrounded by grasses may be “obliged to sell these plots” to the abakire.

Going through the list of abakire who have property in the umudugudu, there is one person living abroad, one who is in prison but had a job as co-director in the nearby brick factory in the past, a military doctor who is captain in the army, a person who owns a garbage gathering enterprise in Kigali, a person who has a construction enterprise in Kigali and wants to start a milk factory in the umudugudu, a trader who died but whose family still has properties in the umudugudu, and a woman who lives not far from the umudugudu and has a large cattle farm. Most of the abakire thus have a non-agricultural job or their own business. Their agricultural investments in the umudugudu are a way to invest in fixed capital and to acquire the status of farmer, which is important in the Rwandan tradition. Some of them also own the boutiques on the market place at the boundary of the umudugudu, located next to the main road from Kigali to Gitarama.

The **umukungu** category in umudugudu A consists almost exclusively of well established local farmers; they only rarely have other occupations besides agriculture. Abakungu sell their surplus on the market or to traders who come with trucks into the umudugudu. Nonetheless, they are not commercial farmers as their main concern is to produce “everything we need for the household” themselves. They are ‘able’ to adopt a system of monocropping as “we have enough plots of land”. They have cattle, mostly of traditional species in contrast to the abakire who have improved livestock. The abakungu’s financial situation is comfortable as they can easily pay the scholarly fees of their children. If needed, they can obtain a credit from the popular banks as their exploitation is sufficiently large to function as a bail. Another main characteristic of this category is that they employ one or several peasant labourers on a more or less permanent basis. The abakungu in our focus group mostly employ immigrant labourers, one mentioned that it is because “the locals are afraid to be laughed at if they work for us”. He also reported cases of stealing of their crops at the time of the

harvest. This illustrates the animosity between this category and the poorer peasants in the umudugudu. Another factor contributing to this animosity is the abakungu's engagement in strategies of land accumulation. They are reported to buy land from poorer categories who sell in times of distress. They also rent plots from peasants in lower categories who rent out their plots because these have other employment, or because they need the money in the occurrence of a distress situation. This later feeds back into a feeling of frustration of poorer categories, when loosing the user rights over their land.

The profile of most **abakene bifashije** is related to their engagement in agricultural activities. They are described to be auto-subsistent and produce sufficient quantities to sell on the market. They have large and small livestock of their own. They can employ other people, most often of poorer categories in the umudugudu because they do not need permanent (often migrant) labourers. However, in several focus groups, participants referred to this category as people who potentially work in off-farm jobs in the non-agricultural sector. This indicates that within this category there are two types of households: those mainly engaged in agriculture, and on the other hand the entrepreneurs that (wish to) work in or invest in non-agricultural activities. People of the second type see agriculture as a side-job while their main activity is to be found in the non-agricultural sector. They may be masons or carpenters, own a boutique or a cabaret or work in the nearby brick making factory. Quite some were entrepreneurs in informal brick making enterprises before this activity was called to a halt by the Rwandan authorities (see further). Due to the ban on traditional brick making, a lot of entrepreneurial income earning opportunities for abakene bifashije disappeared.

The **abakene** in umudugudu A are households that have insufficient land to be self subsistent. They lack financial means to pay school fees and health care. And they are obliged to work for others, either as agricultural labour force, either in off-farm jobs. In agricultural jobs, a male abakene household head pointed out that they earn more (up to 500 Rwf per day) than the abatindi category because they have the necessary physical force. However, female abakene household heads reported salaries of 300 Rwf. There is also a possibility to work as permanent labour force in the nearby marshland, owned in concession by the Madhvani Indian Business group. The salary for this work is 400 Rwf per day. Only few people work there as the work is quite tough and moreover, salaries are only paid once every fifteen days or every month. People often need cash immediately and can not wait for such a long period. Abakene may also have the chance to find employment as a (often non-skilled) mason or carpenter, as a brick charger (on average 600 Rwf per day), or as an employee in the nearby brick factory (650 Rwf per day). However, these jobs are scarce.

In general, non-agricultural employment opportunities for the abakene have become limited as several other job options disappeared. One person worked as a labourer in a stone mine and earned 1000 Rwf per day, but the person in question had to stop with this activity as it was reorganised by the authorities. Another worked in a coltan mine and earned up to 500 Rwf per day; he had no information on why the activity was stopped. But most frequently, people in the umudugudu were employed as labour force in the informal brick making sector until this activity was called to a halt by Rwandan authorities. They were paid 2 Rwf per brick, which resulted in a salary between 600 and 800 Rwf per day. Several participants mentioned that in fact, activities have been stopped by the state because often they were organised in a ‘disorganised way’. The state wants people to put themselves together in associations and to ‘orderly’ undertake these activities to have a better overview of what takes place. Several people mentioned that investors were ‘delayed’ due to the difficulties they have in complying with regulations (getting permits at different levels of authority, heavy taxation requirements, etc.); and to cover for the increased cost to engage in this activity. But all hoped that the brick-making enterprises would start up again soon.

The **umutindi** category in this umudugudu is less numerous. The households in this category are described as those who have no or very small landholdings, and no livestock. Their children do not go to school, and the family can “spend a day without eating”. They are engaged in a daily struggle to find food, and they have to work for others – either for money or food – to survive. If they work for others, their salary only amounts to 300 Rwf per day, considerably less than what other categories can earn as an agricultural labourer. But they often work for food instead of money. Sometimes, they work for getting access to a small plot of land, often from the abakene or abakene wifashije category. Those who are physically capable had more employment opportunities in the past; they could – as the abakene did - work in the brick making business. But today, their options are restricted to working as an agricultural labourer, going off to Kigali for begging, or living from someone’s help (often a family member). One female participant in the abatindi focus group mentioned that begging can give a salary of at least 1000 Rwf per day; however, the authorities in Kigali make it more and more difficult to beg. Working in the sugar cane plantations of Madhvani is not really an option for them, given that the work force there has to be physically capable for hard work. And moreover, people are paid per month or per fifteen days, while the abatindi need money or food on a daily basis as they have no reserves to live on until the salary arrives.

(3) Relationships between socio-economic categories

Mutual relationships between categories are somewhat complex given that societal differentiation is very pronounced in this umudugudu. All the participants in the abatindi focus group mentioned that they feel respected in their umudugudu. On the other hand, the abatindi earn less than others.

The abakire are seen as outsiders who bring little profit to the umudugudu as – except for the fact that they accumulate land – their farms are isolated from the umudugudu's dynamics. The labour force working there is mostly from elsewhere. But also the “home bread” abakungu often employ immigrant labour force – supposedly because the people of the umudugudu do not want to work for them. Societal tensions between socio-economic categories seem thus mostly related to the insider-outsider perspective (cfr. better-off insiders employing “outsiders” instead of “insiders” of poorer categories).

The abakene bifashije on the one hand and the abakene and abatindi categories on the other seem to be engaged in a more symbiotic relationship. Traditionally, abakene bifashije provided employment for the poorer categories, both in the agricultural and the non-agricultural sector. Indeed as mentioned before, a lot of people (mostly from the abakene category) were employed in the brick making sector. They earned decent salaries which they partly spent on local services. When the brick making activity was stopped by the authorities, the abakene bifashije lost their entrepreneurial activity and a lot of abakene lost their jobs. As a result the local demand for off-farm services collapsed, which again had an impact on employment of both abakene bifashije and abakene active in this service sector. An umukene wifashije, previously employed as a carpenter, mentioned: “Since our childhood, it was brick making that we knew. After this stopped, a lot stopped. A lot of immigrant labourers had to return home. The locals remained behind, unemployed. Cabarets and boutiques closed; and masons and carpenters lost their clients.” The fact that the entrepreneurial freedom of the abakene bifashije had been restrained by the state in several ways, was not only highlighted as problematic by this category. Several of the abakene focus groups also expressed their wish that the abakene bifashije would be allowed to reengage in business as it would result in increased employment opportunities for the abakene category in return.

(4) Mobility between socio-economic categories

In general, focus group participants saw a lot of options and opportunities to improve their living conditions. This can be explained by the fact that the umudugudu is more

centrally located, which allows for more diversity in economic livelihood strategies. On the other hand, participants of nearly every focus group, expressed their grievances with respect to decisions of the state that constrain them in their livelihood strategies. Three issues were frequently referred to. First, as highlighted before, people mentioned the ban on traditional brick making. Second, the state had allocated the nearby marshland in concession to the Madhvani group (an Indian business group) who appropriated the plots that were previously cultivated by the local inhabitants. The loss of their user rights on these plots had a negative impact upon the food security in the umudugudu. Finally, the state had ‘sold’ the nearby agricultural market to a private investor (since early 2007) who is now allowed to raise taxes on the products people sell on the market. The taxes depend upon the quantity brought to the market (with a minimum of 100 Rwf). In their attempt to avoid these taxes, people with only small surpluses prefer to not sell these, or sell them within the local setting for a lower price. In addition, a participant in the inyangamugayo focus group pointed out that these taxes have an inflationary influence upon food prices. Taken together, these three issues are of concern with regards to the social mobility potential of several categories.

The opinions of participants on the chances for the **umukungu** category to move upwards differed. In the focus group with ubudehe responsables, a participant put forward that an umukungu can engage in trade based on the crops he sells on the market, and then “he can for example buy a car”. It is also possible that people from this category find a credit to engage in small commercial activities (f.e. start up a boutique or a bar). However, other persons of this focus group pointed out that it is rare that someone from the umudugudu becomes an umukire. Only children from rich people can do this when they have been able to study. If someone of the umudugudu would become umukire, he would very likely move to Kigali.

Among the abakungu themselves, there seemed to be an agreement that moving upwards is extremely difficult. One said it is impossible when being a farmer, except if you find a donor that gives money to buy improved varieties of cattle. Another confirmed this, and added that it is impossible to move up with agricultural activities. Another person mentioned that there is a level at which they are now, and they can not go beyond that. At our question what they would ask for as a spokesperson if they could speak to the Mayor, they agreed that the most useful project for the umukungu category would be to get access to improved livestock, either directly, either through credit.

The chances of the category of **umukene wifashije** to move up on the societal scale are higher. For those mainly engaged in agriculture, a progressive move forward during a good season could bring them to the category of **umukungu**. At our question whether there are also possibilities to become **umukungu** with a non-agricultural strategy, a participant of the **umudugudu** leaders focus group answered that this is not the case. “The **umukungu** is rich in terms of cattle and food crops. If one engages in commerce and is successful, then he skips the category of **umukungu** and immediately becomes **umukire**.” This would imply that the entrepreneurial **abakene bifashije** would immediately move up to the category of **umukire** if successful in non-agricultural investments. In the **inyangamugayo** focus group, participants however disagreed: they all found that it is impossible to go from the category of **umukene wifashije** immediately to **umukire**; a participant mentioned that “one can not burn any steps”.

In any case, it is clear that the chances to move forward for the entrepreneurial **abakene bifashije** depend upon whether they will be able to receive the authorisation to (re)engage in off-farm business. An **umukene wifashije** mentioned that if brick-making restarts, he can save up to 2 million Rwf and become a trader. He mentioned that he is still young and he thought he would be successful and even buy his own car in the future. Another thought he will be rich in five years and have a boutique. Interestingly, both would like to stay in the **umudugudu** and not move to Kigali once they become **umukire**. One mentioned that hired labour force will not work as he himself would, and therefore he prefers to manage his own heritage. The other participant would not want to move to Kigali because he has no family there; and because “I like agriculture and the countryside”. At our question what their first priority would be when talking to the Mayor as a spokesperson for their category, they mentioned that it is crucial for them that the brick making activity will soon be allowed again.

For the **umukene** category, the prospects to move upwards depend upon two types of strategies. The first strategy is to improve wealth through agricultural activities. However, success or failure depends to a large extent upon chance, next to a “good working spirit”, and access to manure. **Abakene**, who guard large or have small livestock, have a higher chance to be successful. But in the end, everything depends upon good weather conditions. Another type of strategy would be to look for employment in non-agricultural activities. However, this strategy was only rarely raised by the **abakene**, and most often referred to as something from the past. As spokesperson of their category, they would plead to restart the brick-making activity. In addition, the **abakene**’s requests to the Mayor would mostly concentrate on the redistribution of land. Several of the **abakene** focus groups mentioned that they would

like to get access to the currently flooded part of the marshland, held in concession by the Madhvani business group but not cultivated with crops. At our question whether they would be capable of putting the non-used Madhvani marshland to use if they were allowed, most of them agreed they could.

For the **umutindi** category, upward social mobility is an illusion according to nearly all focus group participants who reflected upon this question. According to the Umutindi focus group, there is no way at all to move upwards. One person mentioned that it is rather the contrary, they regress in terms of living conditions and the situation becomes worse; she mentioned: “What can make us go up? We are becoming old, how can we then move ahead of its category?” At our question whether their children and grandchildren will be able to leave the category of abatindi, participants in the focus group were more positive. One mentioned that this has to be possible, because “everyone has his chance in life”. But they do not know what the chances for their children will be. Their children might leave the category, but they themselves have no means to help them: “it is our children’s destiny that will decide”. Another person added that it is possible because they are the people of tomorrow. A third added that the children may have a chance because they have their physical force, they are young. A fourth mentioned that his children are people that work a lot, they will increase in category. A fifth however thought that her children will not be able to leave the abatindi category; she has nothing to help them and she has HIV. At our question what they would ask the Mayor when being the spokesperson of their category, participants of the abatindi focus group enumerated: food and clothing, construction of houses and a decent roof, toilets, and some help to pay for health care. These are all assets that could indeed improve their living conditions, but do not go beyond the charity realm by increasing their productive potential.

Case B - A local centre in a region suitable for cassava and coffee

(1) Context – The umudugudu

Umudugudu B lies in an easily accessible rather flat region. Moreover, it is an important local centre for commerce. In past times, this region was scarcely populated, but the population increased over the years with people moving in from other overpopulated regions. This umudugudu seems to be better off in comparison with others. There are several swamplands in the neighbourhood of this umudugudu, one bigger one at the river, and one smaller but closer swampland around one the meanders of the river. The region is rather fertile. Soils are suitable for producing cassava and coffee, which farmers cultivate through adopting a monocropping system.

A lot of them sell their cassava production on the market or to traders who come to the umudugudu. Cassava has been affected by a disease in 2005, but with the introduction of a new species, the umudugudu seems to overcome this setback. There are also many fields with coffee trees, and in addition the population produces beans, sorghum, rice and soybeans, maize, peanuts, sweet potatoes and bananas. There is a lot of migrant labour force who comes to this region to work on a permanent basis.

(2) Socio-economic categories and their characteristics

In umudugudu B, there are four social categories, in order from rich to poor: umukungu, umukene wifashije, umukene, umukene nyakujya. The first and the latter two categories are marginally small; nearly all households in the umudugudu are classified as abakene bifashije.

The **umukire** category is not present in the umudugudu. Nonetheless, there are people of the umudugudu who have been able to reach this status and moved to cities or commercial centres. These abakire are still engaged in trade with the peasants in the umudugudu, and they may also invest in cultivation of rice and cassava locally. They employ labour force to manage their property and cultivate their fields.

There are only seven **umukungu** households in the umudugudu. Others have left to engage in the same activities as the abakire. Those abakungu who are present in the umudugudu, are described as farmers who have large land plots, who harvest a lot, and who produce for the market. They often engage in cultivation of cassava. But because of a disease of the roots, the wealth extracted from this has diminished. Nonetheless, improved seed is more and more available and allows farmers, certainly this better-off category, to reengage in cassava production. Another characteristic of the abakungu, is that they have accumulated several heads of large cattle and small livestock. But on the other hand, they are not educated (up to a tertiary level) and they do not own a vehicle.

The abakungu employ wage labourers on their plots on a regular basis. This labour force is generally composed of immigrant workers next to some local peasants. The salary is between 400 and 500 Rwf per day, dependent upon whether it is the dry or rainy season, and whether the labourer works in the hills or the marshland. Immigrant workers pay for lodging with one day of work per month. The abakungu may also rent plots from the poorest groups through a system called 'kotsa imyaka' (this practice is more common in case D and will be explained in detail there).

Nearly all households of the umudugudu (84%) belong to the **umukene wifashije** category. This group is described as those who have a sufficiently large exploitation for self-subsistence production. Peasants – generally of a more advanced age - who have more plots than they can cultivate, may rent out land to other abakene bifashije that are young and in search of additional land. The latter group may also rent land from abakene peasants through the ‘kotsa imyaka’ system (explained in detail in case D). Peasants of this category have occasional surpluses for the market. In the past, cassava was cultivated as a cash crop. But with the disease of the roots, a lot of peasants turned to food production. They still sell small surpluses, to buy salt or soap or to acquire money to cover school costs. Some reengage in cassava production as improved varieties become more and more available.

The abakene bifashije are supposed to have small livestock, and some may have cattle. And purposely, they do not work as agricultural labour force on other people’s land; on the contrary, they employ people from time to time. If active on the labour market, people from this category operate as traders buying surpluses from other peasants; or they are engaged in non-agricultural professions such as masonry and carpentry. A participant mentioned that those may earn between 1000 and 1500 Rwf per day; however, jobs are scarce.

However, it seems that further differentiation among the abakene bifashije is necessary. There are certainly peasants categorised into this group that are characterised by the enumerated particularities. Others however disagreed to fit within the “typical” umukene wifashije profile. In fact, when designing our focus groups, we differentiated among the large population of abakene bifashije by taking into account the gender aspect (male- versus female-headed households), and whether or not the household’s living conditions improved over the last five years (information provided by the ubudehe coordinator during the preparatory field visit in 2006). In the focus groups of households whose living conditions did not improve over the last five years, and in the two focus groups with female household heads, all disagreed to be classified into the category of abakene bifashije, after having enumerated some of the characteristics mentioned above. They pointed out that those who are physically ‘capable’ often work as agricultural labour force¹¹⁷.

Quite some declared to not have any livestock at home, others guard a cow or a goat. None of them agreed to own their own cow, except for one man who received it as a ‘dotte’. Indeed, these declarations might be biased by the desire to appear poor in

¹¹⁷ Few times, they may also employ people themselves in acute need for physical force at a particular moment, but this is only on a very temporary basis.

hope of help from the research team. But the umukene wifashije focus group composed of male household heads whose situation improved over the last five years did agree to fit into the “typical” profile of the umukene wifashije. It seems logical that one may find essential differences within the population of this category, in which the near totality of the umudugudu’s households was put into.

The category of **umukene** is described as “those who work for others to live”, either for money or for food. They are employed by the abakungu and the upper part of the abakene bifashije. Participants of the umukene focus group highlighted that “there are times that we do not find employment”, another added that “it is 3 to 4 days per week that we have the chance to work”. Later in the interview, a person pointed out that the wide availability of immigrant labour force is an important disadvantage for them because “a lot of the posts are already occupied”. The abakene are further described as those who have a small exploitation with limited harvests, and they sometimes rent plots from better-off categories. But all the same they may rent their land to better-off categories through the ‘kotsa imyaka’ system (explained in detail in case D), when they are in urgent need for money. The system is however not so widespread because until recently, peasants had another alternative to lend money from an investor who coordinated the maize production in one of the marshlands¹¹⁸. Some of the abakene guard a goat for better-off categories.

The **umukene nyakuja** category finally, is a small group of people who have nearly no land, no house or a house of poor quality covered with banana leaves, and no livestock. They work for others to survive, in most cases in return for food. Two out of four of the abakene nyakuja families are involved in pottery making. These pots are sold on the market for a price between 100 and 300 Rwf. This category is really composed of the most marginalized households of the umudugudu.

(3) Relationships between socio-economic categories

As mentioned before, a lot of farmers in umudugudu B are involved in trade transactions, and these transactions also shape the relationships between the different socio-economic categories. There are different types of trade in which farmers may engage. First, there are traders who live outside of the umudugudu, but some originate from the umudugudu and moved to trade centres after having reached the high-level socio-economic categories of umukire or umukungu. The traders come with vehicles

¹¹⁸ The investor recently left the marshland when no longer receiving a concession from the authorities. The coordination of the marshland is now in the hands of a cooperative that imposes an entrance fee of 6500 Rwf to get access to a plot.

to pick up large quantities of crops (most often cassava) to sell them in trade centres. Prices offered by these traders are equal or close to the market price, certainly for large quantities. The local farmers involved in this kind of trade as suppliers are from the umukungu category or the better-off umukene wifashije group.

Peasants, who do not have large quantities to sell, may offer these to local traders, for a price below the market price. These local traders are generally from better-off categories now operating on the demand side (umukungu and sometimes umukene wifashije). They accumulate stocks and sell them either on the market or to larger traders who come to the umudugudu and transport the goods to trade centres. In addition, there are local traders of the poorer categories who operate at a very small scale. This type of trader does not build up a stock but simply extracts his profit from transporting for example a banana trunk – bought a few days before the market takes place – to the market and selling it there for a small profit.

Peasants may also opt to wait for the market day and sell their product on the market. It is interesting that, in contrast to the other cases in this chapter, traders on the market close to this umudugudu have not experienced dramatic increases in taxes. In other settings, the markets have been sold to private investors who raise high taxes in comparison to the recent past, when the authorities exploited the markets free of cost or in return for a limited tax rate. In fact, the nearby market had been sold to a private investor who started raising taxes per quantity. But the protest of peasants was so widespread that the system was abolished. There is now only a small fee of 50 Rwf, which local traders have to pay to the associations responsible for keeping the market clean.

(4) Mobility between socio-economic categories

In general, the participants in the focus groups see potential for social mobility upwards. A big problem highlighted is that cassava has been affected by a disease. This stands in the way of commercialised production that was more frequent in the past. However, new roots have been introduced and therefore the situation improves, although not all inhabitants have access to these roots yet. In the abakene bifashije focus group, participants mentioned that cultivating cassava is expensive. Buying the seed requires important monetary means which constrains peasants of the lower part of abakene bifashije and the abakene to engage in commercial production. The upper parts of the abakene bifashije and the abakungu on the other hand, have the necessary means to invest in cassava production and profit from trade opportunities.

Looking at each category separately, participants pointed out that there have been cases where farmers reached the status of *umukire* or *umukungu*, and left the *umudugudu* to install themselves in commercial centres. At our question whether this would be within reach for the **abakungu** still present in the *umudugudu*, the focus group of farmers falling into this category mentioned that it is possible for the younger among them. The older however, will continue to live as they are now. As spokesperson of this category, participants raised two important issues. First, they would like to get access to improved livestock. Second, they would like to have access to a market where they can sell their multiplied improved cassava seed and the cassava as such.

Upwards mobility is also an option for the category of **umukene wifashije**. An important condition for upwards mobility – mentioned in two different focus groups – is to have a limited number of children. Large families experience important difficulties to improve their living conditions. Cassava production was often cited as the first key step when moving upwards on the societal scale. The money extracted from selling cassava, can be invested in several other types of activities. Someone mentioned that one may invest in large livestock. Another suitable destination may be to invest in commerce. Alternative ways to move upwards are to engage in off-farm professions or to invest in education of one's children up to the level of secondary school. Male *abakene wifashije* were more optimistic about their potential to improve their living conditions in comparison to female household heads. It is easier for them to engage in trade and commercial production. As a spokesperson of their category, focus group participants mainly pointed to the necessity to get access to livestock, both large and small. Someone also mentioned the importance to get access to marshland plots, and another highlighted the need for improved cassava seed.

For the **umukene** category, the cultivation of cassava was again seen as an important precondition to move upwards. Someone of the *umukene* focus group mentioned “one should cultivate cassava, otherwise you always stay poor”. A crucial issue here is to have access to improved seed that can not be affected by the widespread disease. Another person saw a window of opportunity through membership in an association, which gives access to credit and may engage the household in commerce. A peasant categorised into the *umukene wifashije* group – but declaring to be among the *abakene* – pointed to the importance of having a buffer that should allow the *umukene* to first cultivate his own plots before having to work as agricultural labour force. Because otherwise, the risk exists that one first works for others and then turns to his own plot when the climatic conditions are no longer ideal. Most of the *abakene* and *abakene*

bifashije declaring to be abakene, were however cynical about the potential to go forward on the societal scale.

In the focus group of **abakene nyakujya**, opinions on upward mobility were very unclear. As a spokesperson of their focus group, they would ask for help to solve the problem of their housing. They live in houses of poor quality, and consider this as a main priority. Other focus groups reflecting upon the upward mobility potential of this category highlighted that if there is any chance to improve, one should take into account that it would take a very long time. The likeliness seems to be low.

Case C - In the periphery of Gitarama

(1) Context – The umudugudu

Umudugudu C is located near to Gitarama city in a flat region. When using fertilisers, soil fertility is rather good; but without fertilisers, production is limited. Farmers concentrate on beans, cassava and potatoes. Rice cultivation was recently introduced in the nearby marshland by an NGO, however, harvests have been poor. A lot of inhabitants keep pigs. In the recent past there were, besides agriculture, a lot of off-farm employment opportunities: a large part of the population was involved in brick making, and a popular activity among younger people was to become ‘taxi vélo’ in the nearby city. However, the government has forbidden bicycle taxis. The brick making activity has also been banned because of its environmentally negative effects. This ban has negatively affected the incomes of a lot of households.

(2) Socio-economic categories and their characteristics

In umudugudu C, there are four social categories, in order from rich to poor: umukungu, umukene, umutindi and umutindi nyakujya. The latter two categories are marginally small; the majority of the population is categorised as abakene although there is also a small but significant group of abakungu.

The **umukungu** category is described as those who have a decent house, a lot of land, large and small livestock, and they sell their surplus on the market. In some cases, the abakungu rent land from other abakungu who have too much to cultivate or from abakene who are in need of money. Some mentioned that the abakungu can put their savings on a bank account, meaning that they have the money to open such an account, but at the same time this gives them access to credit. In addition, the umukungu employs agricultural labour force. In past times, they also employed

people in the brick-baking business in which the umukungu category took up the role of investors.

Respondents from different focus groups disagreed upon the topic whether the abakungu are flourishing or whether their status is crumbling. In some groups, informants mentioned that the abakungu now employ less people and that several abakungu households have become abakene. A participant referred to the problem of male household heads being put in prison during the gacaca trials, which makes their families poorer. In addition, there is the problem of land fragmentation which complicates the situation for children from abakungu households to maintain this status when they start their own households. Further, there is the problem of decreasing soil fertility and crop diseases, next to theft of crops that are being stolen from the fields. Other participants however disagreed and pointed to the access of the abakungu category to manure (from their livestock), which allows them to have more fertile land and to produce more. In addition, several persons highlighted that the abakungu have extracted considerable profits from selling their products on markets where food prices have progressively increased. All agree however, that the ban of the authorities on traditional brick-baking enterprises has profoundly lowered the demand of abakungu for labour force, both in the agricultural as in the non-agricultural sphere.

The **abakene** are described as the category that has a house and a small piece of cultivable land. Some of the abakene rent land from others, but the rented plots are most often small. Many abakene do a lot of efforts to participate in an association, which is for their category the only way to get access to credit. To continue, abakene may have small livestock and some guard a cow for richer categories. They are able to feed their family through the work on their own farm, in addition to the money earned as agricultural labour force. Many participants of this category, worked in the brick-making activity before it was prohibited. They all agreed that this ban has a very negative impact on their living conditions. People may now still find employment as agricultural labour force, but opportunities have become scarce. Wage rates apparently differ according to employer. Some pay 300 Rwf, whereas others pay 400 Rwf; women generally get 250 Rwf if they carry a child on their back. In the past, a project of WFP (World Food Program) that employed people to valorise the swampland, paid them 500 Rwf, but the project has stopped. Given the high supply of labour force on a labour market with low demand, the wages have not increased significantly over the last few years. This means that, confronted with strong increases in the food prices, the purchasing power of the current agricultural wages has decreased to a great extent. A lot of abakene have problems with paying health and school costs.

The categories of **abatindi** and **abatindi nyakuja** count very few households. They are the most deprived in the umudugudu. One respondent explained that the difference between both is that “the umutindi has to work for food”, whereas “the umutindi nyakuja is really not able to do anything”. Another person mentioned that “the umutindi nyakuja lives a miserable life, he has to rely upon himself and live on his own”, “the umutindi [on the other hand] can find a friend and find something to eat”. Many participants in various focus group did however not differentiate between both categories. The households were described as those who have nothing, and if they do not find employment in return for food, then they can not eat. Finding employment in return for money is nearly impossible for them. Some do not have a house, others have a very small and shabby place to live in. They can not participate in associations as they have no financial means.

One of our focus groups was composed of the 6 household heads (or individuals because several did not have a household) categorised into these categories. Conversing with them was difficult as they were either old (some with physical handicaps), without property and with too many children; either they were young but mentally handicapped. They were not well respected in the local setting. Passing through the umudugudu a few days after our conversation, one of the youngsters was beaten up by bystanders when he tried to approach us while being drunk.

(3) Relationships between socio-economic categories

On the one hand, a large part of the population is engaged in associations, which seems to suggest rather harmonious relations and interdependencies. An informant estimated that about half of the umudugudu population is involved in some kind of association (f.e. an agriculture and livestock raising association, a tontine, a sewing association, an association making baskets, ...). Quite some of these associations are linked to structures operating at a higher level. We came for example across an association linked to the syndicate ‘Ingabo’ that supports the association’s activities through facilitating access to small livestock (goat). The basket-making association is embedded within a structure that provides the local level with the necessary material and that provides an outlet for the final product. There are also several tontines, but informants agreed that it is more difficult for the umukene to find the necessary financial means to take part in this activity. Indeed, several participants pointed out that it is in general easier for the umukungu to engage in associational activities; whereas the abakene are in constant search for money to fulfil the financial requirements.

The brick and tile fabrication had in the past also been taken up by associations, until the activity was banned around 2003 - 2004 because the authorities wanted to reduce the environmental burden. It was exactly this ban that has caused many problems and tensions within the umudugudu, both between and within various socio-economic categories. In the past, the brick- and tile-making activity was organised in a very informal way. Three people would invest together in the construction of a traditional oven (made of bricks); others could rent this oven (the example given was that they had to pay 1500 Rwf per baking session for an oven with a capacity of 5000 bricks). A lot of people worked “on their own account”, but there were also people working as non-agricultural labour force, being paid between 1 and 2 Rwf per brick, adding up to a salary of between 1.000 to 2.000 Rwf per day.

When the activity was banned, the local population did not want to obey immediately. But authorities used force by confiscating bricks and several people were put in prison. After open resistance was smothered, the impact upon the local living conditions was profound. First of all, people who were active in brick-baking have lost an alternative source of revenue next to the earnings from their farms. This was a large proportion of the population, “the whole umudugudu would work there; it allowed us to work in a way not bounded by seasons”. Respondents highlighted that this had stopped their progression in socio-economic living conditions. In addition, people who were active within the off-farm service sector – we came across a carpenter, a mason, a sewer among our interviewees - pointed out that the local demand for their services has crumbled since the brick-making activity had stopped. Moreover, for masons, the availability of material (bricks and tiles) has become limited. In addition, the practice of ‘guardienage’ in which richer categories lend a cow to poorer categories, has diminished. This can be explained by the impoverishment of better-off categories who now want to keep their property in their own hands; but also by impoverishment of poorer categories that are no longer able to feed the livestock. And in general, the relations between better-off and poorer categories deteriorated.

Participants in our focus groups pointed out that there are new investors relaunching this activity. Apparently, brick baking will be allowed if the investor(s) build improved, modern ovens that use barks of coffee and sawdust instead of wood. However, investing in this activity requires a lot of money. Someone mentioned that “at this point, it are the traders of Gitarama who engage in this activity”; another preferred the traditional ovens as this allowed local people to work for their own account whereas in the new system they can only find employment as wage labourers.

In addition to the ban on brick- and tile-baking, authorities had also placed a ban on the ‘taxi-vélo’ system in which young people were involved. They would transport people, but also goods to the nearby urban centre of Gitarama. Someone mentioned that “if you go to the city now with a bicycle, they confiscate it and destroy it”. Doing the trajectory by motorbike is six times as expensive as it was by bike, so people go by foot. Many young people thus lost an income-generating opportunity; others lost a relatively cheap way to transport their goods to the market in the nearby city.

Participants in several focus groups further mentioned that thefts and crimes have significantly increased since a large part of the population has become unemployed. This hits mostly younger people. The older household heads still have their land to return to. Younger people however, had massively engaged into off-farm employment confronted with land scarcity, and now have nearly no alternatives to turn to. Someone mentioned that “a lot of them transformed into bandits”. Indeed, an additional problem is that young adults are now no longer able to afford tiles to build their own house. This hinders their transition into adulthood, and adds up to already existing frustration.

(4) Mobility between socio-economic categories

The upwards mobility of all categories has seriously been constrained by the ban on the brick-making activity. The abakungu lost an important investment opportunity, and the abakene lost employment opportunities. Indeed, households in the umukungu category mentioned to have accumulated their wealth in ‘better times’. For some (older) household heads, this was when there was still abundant land, for others this was when the brick making activity was still allowed and the derived demand for off-farm services was still guaranteed.

At our question what focus group participants would ask the Mayor as a spokesperson of the umukungu category, the issue of the ‘clay-business’ (traditional brick-making) frequently came up. One respondent of the umukungu focus group doubted whether the Mayor would understand their concerns. Another tried to frame the activity within the government’s discourse by highlighting that “it would of course have to be coordinated in an organised way”. Overall however, the abakungu were little optimistic on their chances to have this activity relaunched in a way that they can invest in it. Another matter referred to by several of the local leaders’ focus groups is to facilitate the engagement of the abakungu in modernised agriculture and commercial activities. Some mentioned that the abakungu could receive help to buy a

vehicle to transport harvests to the market; others highlighted the importance of formations that should allow them to manage their property better.

When reflecting upon the social mobility potential upwards for abakene, various participants agreed that this is possible. Many emphasised the importance of ‘the cow’ as a condition to move upwards. But interestingly, in contrast to the other case studies in this chapter, guarding a cow for someone of a richer category was barely mentioned as a strategy to acquire a cow. Indeed, since the ban on brick-making, the guardienage system progressively disappeared. Ways to acquire a cow are through a child that has studied and after finishing buys land and a cow for the family; or through a credit received from an NGO or a friend.

In several focus groups, participants of the umukene category highlighted the limitations that the ban on brick-making has put upon their social mobility potential. According to an informant of an umukene focus group, they were all “about to become umukungu” through the profits from the brick-making activity. Now, the constraints upon entrepreneurial activities results in a situation where “the abakungu are only the old with a lot of exploitations”. Employment opportunities have not only disappeared in this off-farm sector; demand for agricultural labour has also decreased. An umukungu mentioned that “in those times, I could even employ five agricultural workers for the work on my land”. Now he could do with much less. We got some cynical reactions from abakene participants at our question whether they can improve in life. Someone laughingly suggested that this is possible if one finds money on the road by chance. Another female umukene family head said that they may go forward, “only if God does miracles”; and accentuated that for female-headed households it is even more difficult than for those that are male-headed.

At our question what focus group participants would ask the Mayor as a spokesperson of the umukene category, answers in nearly all focus groups reflecting upon the issue, referred to the necessity to distribute cows. At our question whether the abakene would be able to keep a cow, they all agreed. Having a cow and its manure is apparently a very important status symbol in this setting. Respondents also referred to the very positive effect that an abolishment of the prohibition on the clay business would have. But they seemed little optimistic about the chances that this might happen.

The chances for the umutindi and umutindi nyakujya categories to move upwards on the societal scale were estimated as extremely limited. Respondents in this category saw this only happening through external help. As a spokesperson of their category,

they had various demands: some focussed on getting a house; others would ask to get access to small livestock. Someone asked for large livestock but admitted that she would not be able to take care of it. Overall, it is little surprising that the chances for this category to improve their living conditions are so scarce given the advanced age of the household heads or the mental and physical problems of younger people falling into this category.

Case D - Extreme remoteness, overpopulation and unfertile soils

(1) Context – The umudugudu

Umudugudu D is by far the poorest in the sample of six with regards to the average peasants' living conditions. It is located in a very hilly region, extremely remote; it is only accessible by motorbike. A small path leads to this hill – which makes it totally inaccessible after some moderate rains. The marshland production is of crucial importance for providing food supplies as the region is quite infertile, has very sandy acid soils, and is highly overpopulated. Farmers concentrate on cultivating sweet potatoes, cassava and beans; bananas and sorghum are rare. Given the limited space, most people are unable to keep cows. Consequentially, the population has adapted by keeping small husbandry (mostly goats and chicken). A large majority of the population works on other people's fields to gain additional income. There are nearly no employment opportunities outside of the agricultural sector. And also the demand for agricultural labour is limited. A significant group of people is obliged to look for temporary work in nearby or remote regions. A lot of children – and adults – suffer from chronic malnutrition (white hair, facial features). People are very welcoming to outsiders, but there is a lot of distrust within the umudugudu (often related to what happened during the genocide).

(2) Socio-economic categories and their characteristics

In umudugudu D, there are three categories, in order from rich to poor: umukene wifashiye, umukene and umukene nyakujya. In contrast to the other case studies, the population is quite equally spread over two of these categories: the abakene group is almost as large as the abakene nyakujya. The latter is the largest group whereas in other imidugudu, the relative weight of this category is (still) small.

The categories of **umukungu** and **umukire** are used to describe the same phenomenon of 'the rich'. 'The rich' were described as those who have large exploitations. They often move to the bigger centres to buy houses there. They are

characterised by having a lot of livestock and a large exploitation on which they employ a lot of people. The confusion between *umukire* and *umukungu* categories may be explained by the fact that both do not occur in this very poor and remote *umudugudu*. There were also no cases reported of people of the *umudugudu* who reached this status but left the local setting.

An **umukene wifashije** is purely defined in terms of agricultural assets: the household has sufficient land to be self-subsistent: “they can eat from their property”. They can sell part of their crops on the market (in good seasons); and they have at least one cow and some small livestock. Occasionally they employ others, paying either with money or food. However, employment opportunities in the *umudugudu* are scarce given that everyone is facing the land constraint and in general the households of the *abakene bifashije* category are capable of cultivating their own property without help. Further, households falling in this category have some financial means that allow them to pay for health care and schooling for their children. Interestingly, participants mentioned that households in this category have fewer links with the outside world in comparison to poorer categories. Whereas the latter often have to send their children away to find work elsewhere, the *abakene bifashije* category has the ‘luxury’ to survive within the local setting: “they are able to survive on their own”. Participants in several focus groups mentioned that people from this category do not need to look for agricultural jobs. However, the *abakene bifashije* themselves declared to work for others in nearby *imidugudu*, most often in return for land (they rent land and pay with labour). They may also rent plots for money if they have the financial means. These extra plots are mostly used for market production (cassava). However, the participants brought forward the problem that the rental price increases significantly every year due to land scarcity and population growth. Some people in this category have a secondary job next to agriculture in the trade sector, but agriculture remains their main source of revenue.

The main difference between the *umukene wifashije* and the **umukene** category in this *umudugudu*, is that the latter is not self-sufficient in terms of agricultural production. *Abakene* do have a small exploitation, but it is insufficiently large to feed their household throughout the whole year. In order to cope with the land constraint, there are two strategies they can adopt. They may rent land from people outside the *umudugudu* who have sufficient space. But even more often, they are obliged to work as agricultural labourers on other people’s plots in a search for cash to buy additional food supplies on the market. On average, they are paid 300 Rwf (Rwandan francs) per day. In some nearby *imidugudu*, they may find employment opportunities that pay 400 Rwf per day. Given their cash constraint, they face difficulties to pay for health

care or for school fees. They may possess small livestock, but owning cows is rare for this category. One participant in an umukene focus group mentioned that they maximally have one cow. And most often, if they have cows at home, they keep them for others (referring to a system of ‘guardienage’).

The group of **umukene nyakujya**, which corresponds with the umutindi category, is very numerous in umudugudu D. The characteristics of this category were summarised by informants as those who have very little land and extremely limited harvests; most of them have no livestock; and they own only one set of cloths. As a livelihood strategy, they have to work for others, either for money or food, to gain an income. If paid in money, they receive the same salary as agricultural labourers from the umukene category, about 300 Rwf per day, although for women the salary may only be 250 Rwf per day. But they often do not have the profile of “preferred employee” and are then obliged to accept jobs that are badly paid with food. Very few people of this category can participate in associations that undertake economic activities. The monetary demands of such associations, however limited they may be, are too heavy for this category that is engaged in a continuous struggle to survive from day to day. Next to the characteristics already enumerated, the two abakene nyakujya focus groups referred to the housing problem of their category: either they have no house, either their house is old and crumbling; and in most cases, the houses are only covered with banana leaves. Several participants in these focus groups also referred to their age or their limited physical capacity to explain their situation.

(3) Relationships between socio-economic categories

In several focus groups, participants referred to the powerlessness and dependency of abakene nyakujya upon others. The abakene nyakujya focus groups referred to their living conditions as dependent upon ‘benefactors’. A participant mentioned that they live at God’s grace; another person added that they live thanks to charity; and another participant mentioned that they really have “nearly nothing” (nta shinge nta rugero) and need help. But, focus group participants from other than abakene nyakujya categories also put forward more negative characteristics referring to “abakene nyakujya as those who are dirty and lack soap to keep clean”; “people who do not like to go where there are other people and who prefer social isolation”.

The abakene nyakujya themselves referred to the lack of respect from richer categories to account for their social isolation. One person of the male abakene nyakujya focus group gave the example that the t-shirt he was wearing is also what he wears in church. Richer people can not accept that he approaches them, he can only

approach poor people like himself. Another person mentioned that their category stays behind the others, even in daily life. “I am really the last in the row; even the umukene does not consider the umukene nyakujya as similar (meaning equal)”. Another gave the example that the one who is well dressed, receives a chair in a meeting or ceremony, while the umukene nyakujya who is not well dressed has to stay outside. Another person added that this is because the richer know that what they will offer to their category will not return to them because the umukene nyakujya is too poor to give something in return. Several participants of the female umukene nyakujya focus group pointed out that they are pushed aside and ignored by richer categories. One participant added that neighbours often say “nzamuha ngo ampe?” to say that if they give something to the poor, how will that person pay it back?

There are several other accounts that illustrate how the extreme poverty of the abakene nyakujya in comparison to the others contributes to animosity in social relations. A participant in the abakene focus group referred to the abakene nyakujya as “those who have no intelligence at all”, in contrast to his own category of abakene who have the intelligence to find money. Another person mentioned that in fact, people of the umukene nyakujya category are always wandering around in the umudugudu in search for work and they may accept whatever is offered; he added that this is in fact a form of constant begging.

The relationship between abakene and abakene bifashije seemed more symbiotic. Indeed, employment opportunities for abakene to work for the abakene bifashije were rare. Even the best-off social category in this setting (umukene wifashije) is facing land scarcity up to an extent that some of them have to engage in agricultural labour for others. But there were records of abakene bifashije lending livestock to abakene categories through the guardienage system. Access to livestock and its manure is crucial for the abakene’s agricultural production.

(4) Mobility between socio-economic categories

The general impression is that it is difficult to go forward for all categories. The umudugudu is facing a very pressing structural problem of land scarcity combined with overpopulation and physical isolation. The number of those who almost entirely depend upon employment in the agricultural sector is high and increasing, while intra-umudugudu employment opportunities are rare. As a result, the survival of a large part of the umudugudu’s population depends up to a high extent upon employment opportunities in the neighbouring areas or in far-away regions where people may join the migrant labour force.

Off-farm employment opportunities are even more limited. Some people mentioned that exploring off-farm opportunities, f.e. in commerce, could potentially be very profitable. However, given the remoteness and isolation of the umudugudu, they see few viable options to turn this into reality. Some people have the skills to work as masons or carpenters, but they have to go far away to find employment. And given the umudugudu's remoteness, it is difficult for them to have information on employment opportunities while being in the umudugudu.

In addition, the setting has been affected by several problems over the last five years: crop diseases and bad climatic conditions have affected the harvests of bananas, cassava and colocase; the flooding of the marshland made the land uncultivable for several seasons; the nearby market has been sold to a private investor who raises taxes on ongoing trade etc. One person mentioned that over the last five years, the situation has become a little better given that a lot of households distributed their heritage to their children. This seems however more a strategy to cope with extreme land scarcity that offers a temporary solution for the increasing stress on available land. But this illustrates all the more in which extremely problematic conditions the local population has to survive.

In general, the opportunities to go up from the category of **abakene bifashije** are extremely limited within the context of the umudugudu. The main characteristic of 'richer' categories is to have large landholdings, while the lack of land is exactly the stress factor. As a spokesperson for their category, abakene bifashije would ask the Mayor for a road to improve contact with the outside world, and they also highlighted the need for access to credit. In addition, some participants mentioned that this category could be helped by giving cattle to those who have none yet; it would help them improve the soil fertility of their land by using manure.

For the **abakene**, there are several opportunities to move up on the societal scale. One important strategy (also for abakene bifashije), is to adhere to an association. Membership in an association may be an important trigger for positive social mobility by giving people access to modest credits and to economic assets, but also to new ideas in terms of livelihood strategies by working together with others and learning from each other. More in general, participants of several focus groups mentioned that the umukene should really invest in maintaining good relationships. This may help them in finding a benefactor that could lend a cow or a goat; and it also makes the person's profile more attractive as a potential member of an association. On the other hand, the person's chances to adhere to associations are limited when they do not have

a certain living standard. The monetary requirements of associational membership are often too demanding for the abakene nyakujya and at times also pose problems for the abakene. And a certain standard of living is also required to be involved in a guardianship contract as the abakene bifashije will not lend a cow to a person who is incapable of maintaining it.

A second aspect of major importance for the umukene category is to have a spirit of hard work (“ni ugushirika ubute”). Certainly the younger people have a comparative advantage here: they have more physical force and they are more flexible. They can work as migrant labour without having to leave behind an extensive family and the related responsibilities. A third factor, of special relevance for the female abakene is that they are seriously limited in terms of upwards social mobility without a male family member. One participant mentioned: “would you not require a husband to move upwards?” and other female abakene agreed that indeed without male ally, this is extremely difficult. Finally, a major factor in a person’s social mobility path is chance: most of the abakene are very vulnerable to shocks that negatively affect their environment such as bad climatic conditions and crop disease. One of the strategies mentioned to go forward, is to cultivate cassava for the market. However, participants also pointed out that this is a very risky strategy because in case the cassava does not give the awaited harvests, the family may be ruined. Given that they have no buffer whatsoever, they are bound to adopt a risk-averse attitude in all activities that they undertake.

Imagining themselves as spokesperson of the umukene category, participants often referred to the need for cattle. But whereas the focus group of association coordinators, ubudehe responsables and the inyangamugayo would give households in this category a cow, the participants of the umukene focus groups preferred small livestock. In addition, the group of male abakene frequently referred to the need for a road. An umukene participant mentioned this is a project they urgently need, a precondition in order to be able to move forward for all. It would in his opinion highly improve their chances for engaging in commerce, and for commercial traders to reach them. In addition, it would improve their access to several products (f.e. building materials) and services.

For the **umukene nyakujya category**, all participants in the various focus groups agreed that options to improve living conditions are extremely limited. Some participants started an exercise of wishful thinking. A participant in the Ubudehe focus group mentioned that it is rather easy to move up from this category IF a child receives help in terms of school fees paid for him and if he is able to finish secondary

school. Then he will be able to help his family move up later onwards in life. No one could mention an example in the umudugudu of someone in this category who had moved upwards. One participant of the inyangamugayo focus group mentioned that it is possible to move up IF the umukene nyakujya receive some aid from someone, like an NGO handing out livestock.

Others disagreed saying that it is unlikely this will happen, and it is almost impossible to move upwards based on own forces. The umukene nyakujya has nearly nothing that can help him, while other richer categories have no incentive to help this category. The participants of the female abakene nyakujya group first whispered among each other at our question whether it is possible to move upwards, saying that their category has nothing. This makes it basically impossible to move upwards except IF “God does miracles”. After some reflection they said it is possible IF they are helped. The group of male abakene nyakujya adhered to the same idea saying that moving up from their category is only possible in case of external aid.

At the question what they would ask the Mayor if they were the spokesperson of their category, we had interesting discussions on the advantages of receiving large versus small livestock. All except one person agreed that they would prefer small livestock as their category would not be able to maintain larger livestock. For larger livestock one needs a large plantation of herbs or the physical force to look for the herb plants elsewhere. The advantage of small livestock is that it produces quickly (referring to offspring). The one person who did prefer large livestock laughed at our question why and answered that it is because she has nothing.

Further, there was a difference in what the male abakene would ask for in comparison to the female household heads. The male abakene nyakujya group asked for certain productive assets that could help them improve their living conditions, f.e. hoes, manure and an aid that would allow them to unite themselves in associations. A person added that “when one has money, all doors are open”. At our question whether access to credit would help them, one person mentioned that it would be difficult for them to repay this, but being a member of an association would be an alternative way to get access to credit. Female abakene nyakujya asked for less productive assets, such as a decent house, cloths and food. During the interview, several of them referred to their lack of physical capacity as the major constraint to move upwards.

*Case E - Troubled setting and 'sick' cassava***(1) Context – The Umudugudu**

Umudugudu E is a very typical Rwandan 'village', in the sense that it is actually a collection of houses dispersed over the hill without any part that identifiable as the centre of the umudugudu. In the past, a lot of peasants concentrated on cassava, and quite some of this production was destined to the market. However, in 2005 this crop has been affected by a disease, which made farmers concentrate more on other crops. The introduction of new roots makes that the situation slowly improves, but the availability of these roots is less spread than in umudugudu B. There are not many other employment opportunities besides agriculture. The Ministry of Defence has a coffee washing installation in this umudugudu, however, it is unclear up to which extent this affects the local well-being. Overall, this umudugudu is confronted with a lot of social conflicts. A lot of young men are in prison or are ex-prisoners. During the genocide, this was a 'hot' region, and the current gacaca processes bring up a lot of social tensions.

(2) Socio-economic categories and their characteristics

In umudugudu E, there are three social categories, in order from rich to poor: umukungu, umukene and umutindi nyakujya. The large majority of households fall into the category of abakene. Throughout the interviews, various informants highlighted the problem of the 'disease of cassava' that affected the well-being of all categories.

The **abakungu** were described as those with a lot of land, a lot of production, and with livestock. They are however not rich enough to own a vehicle. Informants continued that abakungu "can make their families live easily", and have immediate money to pay for health costs or cover for other problems that may arise. Moreover, abakungu are able to obtain a credit at the bank, where they can have their own savings account. In that umukungu focus group, a person explained that the difference between them (although they did not want to be named 'abakungu') and the abakene is that they are better organised. They are grouped in associations and get formations in agriculture. This makes that they "understand the importance to not sell their products before prices rise".

Several informants further mentioned that the abakungu produce several crop types and have enough to sell their surpluses to traders or on the market. In general, farmers

in this category prefer to sell their stocks to traders as this allows them to avoid relatively high market taxes (since the market was “bought” by a private investor, respondents made mention of tax rates equal to 10 Rwf per kg). Several of the abakungu moreover buy the harvest of abakene and speculate with these stocks to sell them when food prices increase. At frequent occasions, poorer categories rent out their plots to the richer categories (transfer of the user right for a season), when confronted with urgent cash needs. This system of “kotsa imyaka”, which also exists in umudugudu B, will be explained in further detail below.

The umukungu category is further described as “those who employ people to work on their land”. There is competition on the local labour market between local people and immigrants who may come from far (other side of the country). Interestingly, the abakungu in our focus groups did not want to admit that they employ people. In fact, in our focus groups with abakungu, all participants were very reluctant to reveal their properties. This was also the case in other settings, but the “underreporting of property” was most apparent here. Reported landholdings were for example totally unrealistic. An umukungu tried to put the relative wealth of his category into perspective by pointing out that “today even someone who harvests two bags of sorghum is referred to as an umukungu”.

The **abakene** are described as those with insufficient land to be self-subsistent, and no or limited livestock holdings. If they have a cow at their house, it is often ‘guarded’ for someone who is better-off. They have no access to bank loans as they are unable to pay for the costs to open an account (7.000 Rwf). Abakene are sometimes obliged to consume their crops before they reach maturity; and they experience difficulties to pay school fees or health costs. Their houses are of poor quality (only last 4 to 5 years), and some lack petrol to lighten their house. The umukene group is further characterised by “renting out their plots to richer peasants”, also referred to as “selling harvests before they reach maturity”. They sell either to the abakungu, either to the local shop owners. In general, the households falling in the umukene category are obliged to work for others. The reported salary differed from one focus group to another. The abakene focus groups made mention of salaries of 400 Rwf; some mentioned wages of 300 Rwf for women; and “dependent upon the season, wages may even go down to 200 Rwf”. In an umukungu focus group, however, someone said that “no one works for 400 Rwf anymore”. He reported salaries of 500 Rwf. Some of the abakene are somewhat better-off when they are able to work as masons or carpenters, which is better paid.

The poorest in the umudugudu are referred to as **abatindi nyakujya**. They have (nearly) no land and often lack housing. Some are renting a very small plot, or received the user right over some land from a benefactor. Their main income however comes from working as agricultural labour force, mostly in return for food. Someone mentioned that the abatindi “are never available”, meaning that they are unable to engage in social relations (cfr. associations, social visits, etc.) as “they are always looking for employment somewhere”. Some respondents used colourful images to describe this category as “those who have a house with the size of a pen”, “those who have nothing, not even rats”. The reasons why households end up in this category are diverse: some are born in this category as their parents have not left them with sufficient land to inherit; another person became handicapped and thus lost his job as a mason. Several others became abatindi because of imprisonment.

Next to these three socio-economic categories, there is another interesting group of young entrepreneurs that are the **owners of local ‘boutiques’**. These are not really inserted in the existing socio-economic categories as they most often do not (yet) have a household of their own (or did not at the time of the social mapping exercise). They are described by others as “similar to abakungu”, whereas the persons involved described themselves as “children from abakene families”. At our question where they found the money to invest in this activity, we got diverse stories. One learned the profession from his brother and started his own shop after his brother got married. Another person saved money when working in Kigali and invested this in his own business. Someone else was involved in some kind of trade before the war and restarted this after the war ended. The shopkeepers provide themselves locally, with the harvests of peasants. But in addition they buy other products, not available locally, in nearby urban regions to sell them locally. One person is involved in making and selling sorghum beer. According to respondents of several focus groups, these traders move to other more urbanised locations when they have accumulated enough money. Once having left the local setting, they rarely invest in local business but concentrate on their new lives in the urbanised setting: “they come back only to visit” and “leave their property into the hands of people that [they] trust”.

(3) Relationships between socio-economic categories

The relationships in the umudugudu are troubled in many ways. First, the aftermath of the genocide and the organisation of the gacaca at the time of our research were creating a lot of animosity. The people identified for our focus groups sometimes left prison only a few days before our interview. Others that we interviewed one day, were put in prison the next. In addition to this, the local umudugudu coordinator was

replaced several times in a short time laps. And moreover, the ubudehe committee, responsible to distribute small livestock (goats) given to the umudugudu in the frame of the ubudehe project, was accused of active corruption. People mentioned that only those who bribed the committee had received a goat.

But most referred to during our interview, is the 'Kotsa' system. This was mentioned both as a mechanism that increases tensions between various socio-economic categories, but also as an illustration of the interconnectedness of the livelihoods of different categories. Households of the abakene group in general do not have sufficient harvests to get through the season. When confronted with a need for cash at a particular moment in time, they can appeal to an umukungu who may offer to buy the (future) harvest on the umukene's plot before it has reached maturity. Informants referred to this as "renting out one's plot". The umukungu's offer however does not come without a cost. The umukungu generally offers a low price in comparison to what the umukene peasant could earn if selling the crop after maturity on the market (several informants made reference for sorghum of 50-70 Rwf offered by the umukungu before the maturity of the crop, versus 100-200 Rwf per kg that one may get on the market after maturity has been reached). Informants of several focus groups acknowledged that there have been situations where an umukene who has rented out his plot to an umukungu, is employed by that same umukungu to work on his own plot in return for a wage. At our question why people would not simply engage in wage labour instead of renting out their plots and thus loose the user rights for that season, informants explained that employment opportunities are generally scarce at the time people need cash (in the dry season). This is why they rent out their plots in return for cash. Later in the year, during the harvest, they then engage on the labour market as agricultural labour force. If problems accumulate further, then some of them are obliged to sell their land.

Other abakene do manage to await the maturity of their crops. But at the time of harvest, they are often in urgent need for cash to replenish other stocks (f.e. salt and soap), to pay for school fees, to buy some cloths, etc. They then sell part of their harvests to the abakungu. They may also sell on the market (often for a somewhat higher price), but then they have to wait for the market day, transport their goods or pay for transportation costs, and pay a market tax (10 Rwf per kg). They therefore often prefer to sell their small stocks locally for a price somewhat below the market price, to save the time and money that market transactions require.

The abakungu on their turn stock these goods until a later moment when the prices are higher. They sometimes even sell their own livestock to buy crops and engage in this

price speculation game. When prices have increased, they then sell these products on the market (for smaller quantities, but then they have to pay taxes), or to traders who come to load the goods on vehicles (for larger quantities and this allows to avoid market taxes); either they sell parts to the local inhabitants or they use food as payment for people who work on their plots. Indeed, when abakene have to turn to the stocks of the umukungu to provision themselves with seed for the next season, they often pay a much higher price than the one they originally got. If they are unable to pay, they work for the umukungu for money or seed.

Indeed, informants agreed that there are abakungu who are not involved in this system, and there are abakene that keep their production until maturity and sell occasional surpluses on the market. But many others of both socio-economic categories are linked to each other through these exploitative systems. According to several informants from diverse focus groups, these practices enhance the existing polarisation between poorer and better-off categories. An umukene informant mentioned that “all the harvests go to the abakungu”; someone added that “the child of the umukene becomes the slave of the umukungu”. Some informants of better-off categories referred to the abakene as “they may be lazy”, “they rent their land to others to have money for the cabaret”, “they need formations to be able to work seriously”. In the past, it has happened that someone of the umukene category did not hand over his harvest to the umukungu. Several of the abakungu pointed to the importance to only engage into transaction with trustworthy individuals, and “to put things on paper”. The abakene on the other hand underlined that they have little choice but to comply. If not, no one will want “to help” them later onwards. Some informants reported cases of stealing these crops that were sold before maturity; and there were records of abakene who have been put into prison for this reason. Interestingly, (only) one focus group brought up that the abakungu have “intermediaries (umukarasi)” of the abakene group working for them. These intermediaries purposely function as a go-between between abakene who want to sell their crops (whether or not before maturity) and abakungu who want to accumulate stocks.

In some focus groups, people brought up that the system will become prohibited. Indeed, the arrival of a coffee processing centre had already taken coffee out of the kotsa system. Coffee harvest is now directly sold to this factory. The crop still involved in the kotsa system is most often sorghum, but respondents also mentioned beans and bananas. Informants of (only) one focus group explained that authorities (unclear at which level) are planning to introduce an alternative system for these other crops. According to these interviewees, a cooperative will be founded that will buy

the harvest of the local peasants for a price somewhat below the market price. Later on, that cooperative will keep the product available for local peasants in case of need. Peasants of this abakene focus group seemed however not very enthusiastic about this new initiative, given their fears that the cooperative would set a price considerably lower than the market price whereas the peasants would be obliged to sell to the cooperative only.

(4) Mobility between socio-economic categories

All informants agreed that the cassava disease had profoundly affected the well-being of the farmers in the umudugudu. Whereas many farmers produced for the market in a system of cassava monocropping before 2000, they have been obliged to turn to a multicropping system focusing upon auto-subsistence when the cassava was attacked by the disease. This has imposed restrictions upon upwards mobility for abakungu, but also for some abakene who were previously prospering based upon their cassava earnings. There are new roots that are immune for the disease, but they have not (yet) been widely distributed to all peasants. The better-off peasants seem to have access first.

In the current context, several of the abakungu hope that the introduction of these new roots will improve their chances to move forward in life. But next to cassava production, there are other ways for them to move upwards through food price speculation. Someone mentioned that the abakungu can sell their cattle or get a loan from the bank (about 100.000 Rwf) to invest in buying up harvests (whether or not prematurely) of abakene peasants. They build up stocks and sell these when the prices have risen. At our question whether abakungu can reach the status of abakire, all respondents agreed that there were no abakire in their setting. But in several focus groups, people did acknowledge that some left the umudugudu to live in an urbanised setting after accumulating a lot of money. These are often people who have been involved in trade.

For the abakene category, upwards social mobility is difficult. Indeed, there are some rare cases of respondents mentioning the ‘guardienage’ system in which abakene guard livestock of better-off peasants as a way to improve their living conditions. But cases were rare in comparison to other settings, which is not surprising given the tense relationships between abakungu and abakene. A lot of the participants in abakene focus groups did mention access to livestock as something they would plead for as a spokesperson of their category. The ubudehe project that distributed small livestock (goats) was considered as a failure: many of the goats are no longer there (sold or

eaten) and people reported that corruption had taken place in the distribution process. Another strategy pointed to by some abakene, was to cultivate cassava (when new roots would be distributed); however others in the focus group highlighted that this has become difficult for the umukene with the low soil fertility, and the overpopulation which results in limited availability of land.

In general, opportunities for abakene to move upwards on the societal scale are considered to be rare. Many even saw things more negatively and found it likely that the abakene's living conditions will further degrade. Whereas some in the non-abakene focus groups pointed to the "squandering nature" of some abakene "spoiling their money in a bar", others pointed to the extremely difficult living circumstances and the exploitative nature of the kotsa system in which many abakene are entrapped. Several respondents of the abakene focus groups pointed to the polarisation between abakungu and abakene categories. One of the participants in an umukene focus group pleaded for the creation of associations that defend the interests of the peasants. He highlighted that associations may bring subsidies, can support their members (f.e. through credits), and can help them to choose between activities to involve in.

Also for the abatindi nyakujya category, strategies for upwards mobility are scarce. Someone mentioned that an umutindi family may improve when the male household head is released from prison. Others however said that the umutindi needs some form of help, if not, upwards mobility is an illusion. As a spokesperson of their group, most abatindi raised that they would ask the Mayor for a decent place to live. Some would also plead to distribute livestock among the abatindi.

Case F- A local centre in a fertile region full of banana plantations

(1) Context – The umudugudu

This umudugudu is located in a very hilly region, and remote from any urban area. But within its own region it is a small commercial centre. Despite the hills and erosion problem, this region is much more fertile than others and has a rather clayish soil. Peasants cultivate mainly bananas (everywhere in the umudugudu, one sees banana groves) and cassava, next to beans, soybean, colocase and vegetables. Sweet potatoes were cultivated in the marshland area, but in 2007 peasants have for the first time cultivated rice there (under the command of the district's agronomist). The banana production is almost uniquely destined to making banana beer, that is sold in larger commercial centres nearby, and in their own 'boutiques' located at the main road that goes through the umudugudu. Despite the commercial spirit of the local population,

they are suspicious of outsiders and slightly hostile to the research team (certainly in the commercial area of the umudugudu).

(2) Socio-economic categories and their characteristics

In umudugudu F, there are four social categories, in order from rich to poor: umukene wifashije, umukene, umutindi and umutindi nyakujya. The latter two categories are marginally small; the majority of the population is categorised as abakene, next to a small but significant group of abakene bifashije. There are no “highly placed” people in the umudugudu, a participant explains that those who were there are dead or in exile. Even the teachers in the local school do not originate from the umudugudu.

The category of **umukene wifashije** is described as those with a reasonably large exploitation, of which part is covered with banana trees. The large surface allows them to leave some land fallow, although this practice has become rare in more recent times with increasing land scarcity. As an alternative, peasants of the umukene wifashije category rent land to poorer categories through the ikibara system. Instead of paying for the rented plot, this person prepares it for cultivation. The plot is then divided into two (most often equal) parts. The harvests of one part go to the person who rents out the plot, the harvests of the other part to the person who rents the plot. People of the umukene wifashije category have one or a few cows and some small livestock (goats, pigs, sheep and chicken). Abakene bifashije often engage in the trade of urwagwa, transforming bananas into beer and selling it in the local boutiques on the road passing through the umudugudu. And they can employ people from the umukene category, but only on a short-term basis, given that in the umudugudu, there are no farmers that employ people on a long-term basis. Respondents mentioned that the money to pay people often comes from trade in banana beer. It can also be used to cover for medical costs, as the umukene wifashije generally has no problem paying these.

The category of **umukene** is described as those who have a small house and a small exploitation. They may rent land, most often from people who have left the umudugudu or from the abakene bifashije that have too much to exploit on their own. The abakene may own some small livestock; access to large livestock is most often dependent upon whether someone of the household is involved in the ‘guardienage’ system. The abakene may have difficulties to pay for food and for school fees, medical costs and the health insurance. But they do have the physical force to work on other people’s land in return for money. There are also abakene who have non-agricultural jobs as masons or carpenters (there is a training centre not too far from the

umudugudu). Longer-term or regular employment is however scarce in the umudugudu, both within the agricultural and non-agricultural sectors. Therefore, some male abakene (often younger people who do not yet have a family, but not necessarily only those), go to other provinces and districts to look for employment. Female heads of abakene households are however bound to find employment within the umudugudu as they can not leave their households behind. The money earned through off-farm jobs is used to buy additional food on the market, as the abakene are regularly confronted with additional needs next to what they produce on their own plots. The fact that the market prices increased a lot over the last five years, poses an important problem for this category.

The **umutindi** and **umutindi nyakujya** categories are similar in terms of living conditions. They live in shabby houses; some have houses covered by banana leaves. If they have some animals, they live together with the animals in their small house. They have nearly no land; some are involved in the ikibara system in which they rent a plot of richer peasants. Other characteristics mentioned are that abatindi have to lend basic agricultural equipment because do not have any of their own, they have to borrow a bucket when fetching water, and they own only one cloth. The main difference is however that the abatindi nyakujya are physically incapable to work due to bad health, handicaps, and advanced age. The abatindi however are capable of working for others, either for food or for money. The increase in food prices has strongly affected the purchasing power of wages earned by the abatindi.

(3) Relationships between socio-economic categories

The relationship between the category of umukene wifashije and umukene seems rather symbiotic. On the one hand, the expectations of the abakene are limited, knowing that the abakene bifashije can only offer limited and temporary employment. Local wages are low in comparison to other settings, between 250 and 300 Rwf dependent upon whether the labour force is male or female, and has to work in the marshlands versus the hills.

The fact that wage labour employment opportunities are limited, may be linked to the ikibara system in which some of the abakene bifashije are involved. Instead of employing the umukene category in return for a wage, better-off peasants offer access to land in return for labour force. This is in fact the fairest system of land and labour exchange between better-off and poorer categories that we came across in all case studies. Indeed, poorer households are not confronted with a need for cash to get access to land (cfr. cases A, B, and C). Nor are poorer households obliged to sell their

crops (prematurely) for lower prices to richer categories that extract profits from price speculation (cfr. case D).

In addition to this, the category of umukene wifashije lends out cows or small livestock to poorer categories; but those at the bottom-side of the umukene wifashije category may also lend a cow from someone at the upper-side. The receiver of the cow guards it and may keep the second calve from himself.

For abatindi categories however, their poverty imposes important constraints upon their social and economic embeddedness within the local setting. “Some of them are received as normal people”, but most often they feel rejected. A participant of this focus group asked us to be their spokesperson, to let the authorities know that “there are people who are very far behind and who are known by no one”.

(4) Mobility between socio-economic categories

Respondents esteemed the likeliness of the umukene wifashije becoming umukungu as low: the umukungu would have a lot of livestock, a large exploitation and a house to rent out. Reaching such status in the current socio-economic and environmental conditions seems difficult. In fact, “the likeliness of going backward is higher than that of moving forward”. Indeed, the focus group of older abakene bifashije expressed their concerns that their children will not be able to acquire the same wealth as they did. They pointed to the fact that the local economy is still very rely on agriculture, and thus access to land. When their farms will be divided over their children, average landholdings will be much smaller as what they could depend upon. The only possibility to escape this fate, is by studying but only few children enter secondary school. As a spokesperson of the umukene wifashije category, focus group participants would ask for access to improved cows, training in agriculture, and for specialised materials for masons. A person also raised the need for a good market to sell their products; someone also mentioned the need for popular banks to give this category access to small credits.

Younger abakene bifashije household heads have reached their category either through the heritage they received from their fathers, either through the earnings of wages as migrant labour force. This is seen as an important strategy for young abakene to improve their socio-economic status. The strategy is however only open for male labourers; women most often stay in the umudugudu to take care of their family. A person mentioned that an entrepreneurial person may also engage in commerce but adds that in their umudugudu, it is in general agriculture that makes

people improve their living conditions. Another person added that agriculture is the best strategy, because engaging in commerce entails a risk of going bankrupt. Finally, a participant highlighted that one may also opt to learn a profession such as masonry, but acknowledged that employment opportunities are scarce. Other focus groups reflected most often upon livestock-based strategies through which the umukene may reach a higher category on the societal scale. Respondents of several abakene groups mentioned that they are involved in a system of guarding cows for better-off categories, which gives them access to manure and to a calve if they are “lucky”. Some also pointed to the possibility for abakene to invest in small livestock as a strategy to move upwards; or to rent land. The money for these investments, however, has to come from working as a migrant labourer in other regions.

As a spokesperson of the umukene category speaking to the Mayor, a variety of needs came up. Most mentioned is the need for livestock. Some preferred access to large livestock; others however would prefer small livestock as it is easier to sell in case of a setback¹¹⁹. Other things mentioned are the need for improved cassava seed, training in agriculture and livestock holding, equipment for those engaged in off-farm professions, etc. Several participants hoped for a project from a donor that would require employment of physical labour force in which the people of the umudugudu could take part.

Upward mobility is much more difficult for the abatindi categories; “if one is born in an umutindi family, than it is most likely that he will end up in the same category”. But apparently, there had been cases in the past where an NGO helped some of the households falling in this category with the construction of houses and giving them access to some small livestock.

¹¹⁹ Owning small livestock provides a better buffer than large livestock because households will prevent at all cost to have to sell their (often only) cow whereas selling a goat, pig or sheep – of which they may have several – is seen as less problematic.

Annex 3: The swampland valorisation policy: an overview

Rules and power relations		Outcome
Case A		
Indian business group – Madhivani – got a concession over thousands of hectares of swampland to grow and process sugarcane. The local population was sent away forcefully without compensation.	Peasants revolted when their land was taken (cfr. they assumed to have informal user and transfer rights); however respondents also referred to the swamplands as state property to explain why they lost their rights. Peasants perceived Madhivani as “beyond their reach”. They had tried to mobilize local authorities to negotiate over access rights to non-used parts of the swampland, but in vain.	<u>Efficiency</u> : As an alternative to cultivation under management of Madhivani group, productivity would have been higher if swampland had been cultivated by individual peasants (either with sugarcane, either with other crops). <u>Poverty</u> : social cost of land expropriation was high (loss of safety-net in times of setbacks).
Case B		
In first instance, control over marshland was given to influential individuals with political connections. Later, however, they had to insert themselves into the logic of collectivities. One was chased in a later stage. Within these collectivities, better-off peasants were able to define the ‘rules of the game’	At the time of our research, user rights to marshland plots could only be obtained through associational membership. Better-off peasants have a clear advantage in securing access. In cooperative A, they are members of smaller associations with relatively more land, or chiefs of associations who ask others for financial contributions to adhere. In cooperative B, they are able to pay the high access fee. Poorer peasants have difficulties in gaining access rights and are (not all) excluded.	<u>Efficiency</u> : Peasants acknowledge that overall productivity is satisfactory with the monocropping system. The main issue is which price people will get for cash crops. <u>Poverty</u> : The marshland reorganisation provides influential outsiders and better-off peasants with the opportunity to gain preferential access to marshland and to reinforce their power positions. The problem of elite capture resulted in the reproduction of structural forms of poverty and added to the durable inequality among peasants.
Case C		
Marshland management is in the hands of a foreign NGO involved in valorising the marshland. The NGO coordinated an entire redistribution process and stimulated rice production. This however resulted in poor harvests.	Peasants who occupied a lot of marshland before the redistribution, lost part of their plots. However, under the new system, mostly better-off peasants cultivate in the marshland. Poorer peasants were disadvantaged during the redistribution because of a lack of time, a lack of financial means, and a lack of connections “to be there at the right time”. Several respondents made mention of cases of bribery. Those still active in the marshland were constrained by the “stubbornness” of the NGO to stick to rice. Many left, discouraged by failing harvests.	<u>Efficiency</u> : Although some informants disagreed, the validation process seemed at first to be a success in terms of productivity, this is at the time associations could choose their own crop type but were obliged to adopt the multicropping technique. When in a later stage many of them were obliged to cultivate rice, productivity had strongly declined. <u>Poverty</u> : Poorer peasants were deprived during the distribution process of marshland (after the valorisation project of the NGO) or left after failed harvests.

Case D User rights on marshland are in the process of being transferred from individual into collective hands. Many are unaware of the ongoing process.	A large part of the population is not well informed on the ongoing process. Others seem to take advantage of this to secure their interests. Access depends upon the rights social connections, having sufficient financial means, and having the physical capacity to produce.	<u>Efficiency:</u> It is difficult to say what the outcome will be in terms of efficiency as the marshland is currently flooded and peasants have not yet operated under the new system. <u>Poverty:</u> The bargaining position of those peasants who already dispose of extensive social networks is reinforced. Peasants without such connections or without the necessary financial means to pay for access are being excluded in the redistribution process.
Case E User rights have been transferred from individual into collective hands. This process has resulted in increased polarisation, and adds up to the already existing social tensions in the local setting.	There was a lot of ignorance at the time of the creation of associations; as a result, considerable groups of peasants did not adhere. It is difficult to adhere to an association in a later stage as it involves a financial contribution proportional to the accumulated savings of the association. Associations have divided their plots into two, one half is cultivated collectively, another part individually. Monocropping has not (yet) universally been adopted.	<u>Efficiency:</u> Net effect of the valorisation policy is unsure and difficult to assess. People would refer to disappointing harvest levels of the last years, however, this can mainly be explained through bad weather conditions. <u>Poverty:</u> Poorer groups had been deprived during the distribution process; those not included were mainly those who were ignorant of the role associations would play.
Case F User rights have been transferred from individual into collective hands. This has been a rather inclusive process and is evaluated by many as a step forward.	Marshlands were created based on peasants having marshland plots near to each other. But also those not cultivating in the marshland could adhere. All above 18 years old could adhere. The most important condition to adhere is to have the physical capacity to cultivate. Financial requirements are limited. Monocropping was increasingly imposed. Peasants did have doubts whether this was the most sensible option.	<u>Efficiency:</u> Respondents seemed to see the merits of a monocropping system; however, when going into more detail they often saw a lot of reasons why multicropping was also advantageous. <u>Poverty:</u> The distribution of marshland has become much more inclusive after the reform; those excluded are newly founded households and those physically incapable.

Annex 4: The swampland valorisation policy implemented in the 6 case study settings: Description of the data

Case A - An Indian business group and a sugarcane swampland

The marshland next to umudugudu A is part of the large Nyabarongo swampland, covering 24.698 hectares. In ‘old times’, people cultivated crops in the marshland on an individual basis. Access was based upon the physical capacity to prepare a plot for cultivation. With time however, the exploitation density in the swampland increased. At that point, other exclusion mechanisms started to play. Among those not active in the swampland were the newly established households, and households obliged to sell the user right on their marshland plot in times of setbacks, unable to recover the land afterwards. Poorer peasants cultivated land ‘owned’ by others in a *métayage* system¹²⁰.

Nearby the umudugudu, there is a sugarcane factory named Kabuye Sugar Works, the only sugar manufacturer in the whole country. In 1997, Kabuye Sugar Works was the very first company to be privatised in post-conflict Rwanda. It was bought by the Indian Madhivani Group¹²¹ for 1.5 Million \$ with a land lease on 2.735 hectares (of the 24.698 hectares of Nyabarongo swampland) for 50 years (Cherif, 2004). This land was confiscated by the Rwandan authorities to be handed over to Kabuye Sugar Works. The company later got additional concessions.

¹²⁰ Farmers involved in the *métayage* system cultivate the land of another owner and as a compensation of obtaining user rights, they ‘pay’ the owner with a part of their harvest (maximum 1/3).

¹²¹ *The Madhivani Group* is originally from India, but has been involved in business in Uganda for over 50 years. It is currently the largest private sector business group that operates in Uganda, mainly involved in sugar production. In Rwanda, the group owns Kabuye Sugar works that is by now active in many sides within a circle of 45 km from Kigali. There are also plans for some new projects in Kibungo. Several elements suggest a close connection between the Madhivani family and the ruling Rwandan Patriotic Front party headed by president Kagame. Rumours speak of non-negligible financial support from the Madhivani company to the Rwandan Patriotic Front army during the 1990-1994 war, which put them in a privileged position when engaging in post-war business. In our interview with the general manager of Kabuye Sugar Works (and employee of the Madhivani Group), he however accentuated that they were the highest bidder. But he did confirm that the company was invited to participate in the bidding process by the Rwandan government through its embassy in Uganda. He also referred at frequent occasions in the interview to the good relations that the company maintains with the government, and praised the ‘visionary attitude of the government right from the beginning’. On the other hand, relations between the private investor and the Rwandan government have been tense at times. The manager of the group for example referred to the delay in getting access to the ‘promised land’ as the government took a long time to dispossess the people who had occupied it. He also cited the seven-year old request of Kabuye Sugar Works to the government to take corrective measures to transform the flooded areas into cultivable land, whereas the government found this the responsibility of the business group (Information based upon an interview with Mr. Rao, general manager of Kabuye Sugar Works, 26 June 2007).

The result of this privatisation was that virtually all local peasants in the wide neighbourhood of umudugudu A lost their user rights to swampland plots in the Nyabarongo valley. At our question how the peasants had been informed about the land concession being given to Madhivani, several participants quoted the interview that the President of the Republic gave on the radio, explaining that the swampland had been given to the Madhivani group for a period of 50 years. The perception was widely shared by our informants that “the decision to give the marshland away has come from the president himself”. However, a considerable proportion of peasants did not hand over “their land” voluntarily. Informants spoke of strong intimidation by the police and the local defence, referring to peasants being put in prison or “chased” from the swampland “by bullets”. This illustrates that the local population quite often did perceive their user rights on swampland plots as permanent, despite the lack of formal or informal property titles. They were not (immediately) willing to give these up without contestation.

At the time of our research, a considerable part of the swampland near the umudugudu was not maintained and cultivated, and as a result it was covered with papyrus. According to the general manager of Kabuye Sugar Works, this part is not suitable for sugarcane cultivation due to frequent floods. Making this swampland suitable for cultivation would require irrigation and drainage techniques. At that time, the discussion was ongoing whether this had to be done by the government or by the private company. Before 1997 however, the local population did manage to cultivate a considerable part of this ‘unsuitable’ marshland. The fact that this land is left fallow by Madhivani, was a sensitive and hotly debated issue during our interviews with local peasants.

There had been some negotiation taking place over the uncultivated parts of the swampland. Local peasants had hoped to achieve the permission to access these parts through the intermediation of local authorities at the district level. But these negotiation attempts failed as “the local authorities did not want to listen to us”. At the time of our research, there was no hope left. One participant mentioned that “Madhivan is probably scared that we would occupy a larger part of the marshland if we get access to some flooded land there”. Another mentioned that “we can not run to the local authorities anyway, because those have chased us from the spot in the first place”.

A major question is whether the outcome of the privatisation of Kabuye Sugar Works and the transfer of land from small-scale peasants to the business group has paid off in terms of efficiency, more specifically focussing upon overall output and productivity.

The sugar production of Kabuye Sugar Works was about 12.000 tons per year (equal to a manufacturing capacity of approximately 133.333 tons of sugarcane¹²²). 40 to 45% is produced on the 3000 hectares of land held in concession by the Madhivani group. According to the general manager, only 1750 hectares of this area are suitable for permanent cultivation. The company employs between 5000 and 6000 people as daily wage workers, being paid 400 Rwf for a 6-hour day of work. It further buys the sugarcane of some 1200 up to 1500 private small-scale farmers occupying an additional 2200 hectares. In addition, Kabuye Sugar Works creates employment in the transportation sector, paying 3.500 Rwf per ton of sugarcane transported. About 400 employees work in the sugar factory itself. (Information based upon an interview with Mr. Rao, general manager of Kabuye Sugar Works, 26 June 2007)

What would have been the alternative outcome in terms of overall output, productivity, employment creation and average earnings if the 3.000 hectares of swampland held in concession by the Madhivani business group had been cultivated by individual small-scale peasants involved in sugarcane cultivation? The table in annex 4 brings up some important points. The productivity of individual small-scale peasants growing sugarcane (50,0 – 54,5 tons per hectare) is not that different from that of the privatised company when considering output per cultivated hectare (45,7 – 51,4 tons per cultivated hectare). And when calculating the output per available hectare (26,7 – 30,0 tons per available hectare), productivity on land held in concession by the privatised company is considerably lower. Given that individual peasants would most likely not have left fallow almost 1.000 hectares of swampland, the overall sugarcane production would have been considerably higher if the land held in concession by Kabuye Sugar Works had remained in the hands of individual peasants. At current productivity rates, earnings of individual farmers cultivating 0,16 - 0,17 ha of swampland with sugarcane¹²³ (which leaves farmers with a lot of time to engage in other income-generating activities) would be comparable to the yearly earnings of a daily wage labourer in the privatised company (with nearly no time for other income-generating activities). In other words, the 3000 hectares of swampland held in concession by Kabuye Sugar Works could have provided a total of 18.000 peasant households with earnings comparable to the 5000 - 6000 agricultural labourers that the company employs today¹²⁴. A precondition may be that poorer

¹²² Ratio of 9% to calculate the final product.

¹²³ The value of sugarcane production equals 466.667 – 513.333 Rwf per ha. At this productivity rate, the income of sugar cane production of 0,16 – 0,17 hectares equals the salary of daily wage labourers working on Kabuye Sugar Works' sugarcane plantations.

¹²⁴ At an average of 0,16 to 0,17 hectares per household, a total of 18.000 peasant households could get access to the 3.000 hectares of swampland. Question is whether such productivity rates (400 Rwf per day) can be reached on such small surfaces given that the calculation of productivity is based upon land holdings between 1,2 and 1,8 hectares per household.

categories of households have access to risk-insurance and credit facilities that allow them to engage in sugarcane production. There is also potential for collective action mechanisms although the risk of elite capture should be countered to be truly inclusive.

A second alternative would have been for individual small-scale peasants to continue cultivating all sorts of crops instead of only sugarcane. The table in the annex shows that the productivity rate (monetary value per ha) of ‘free’ crop production is comparable to that of sugarcane production. Certainly if the preconditions for inclusive sugarcane production - enumerated above - are not met, then this option of free crop choice is, most likely, more inclusive.

Table Annex 4: Alternative allocations of 3000 hectares of swampland

Held in concession by Kabuye Sugar Works	Peasant households cultivating sugarcane	Peasant households cultivating whatever they like
Productivity per available hectare: 26,7 – 30,0 tons Productivity per cultivated hectare: 45,7 – 51,4 tons	Productivity on 2200 hectares covered with sugarcane currently cultivated by peasant households: 50,0 – 54,5 tons per hectare	
	Productivity rate of ‘free’ crop production (monetary value per ha) is comparable to that of sugarcane production.	
5000-6000 jobs for agricultural labourers, paid 400 Rwf per day	400 Rwf per day corresponds with cultivating 0,16-0,17 hectares with sugarcane -> 18.000 peasant households on 3000 hectares	Idem, but swampland cultivation without sugarcane requirement would facilitate access for poorer categories of peasants

In any case, we can conclude that the current allocation of the 3000 hectares of swampland held in concession by Kabuye Sugar Works is not optimal in terms of overall output and productivity. By outsourcing sugarcane production to individual peasants while concentrating on the manufacturing process, Kabuye Sugar Works could have made higher profits, and could have realised a higher output. In addition, this option would also have been more profitable for the local peasant community.

This brings us to another aspect of efficiency, interpreted in terms of poverty reduction. In fact, an official instance of the Rwandan government recognised that “the privatisation of Kabuye Sugar Office and its purchase by Kabuye Sugar Works in 1997 has been cited explicitly as an example of an operation which instead of benefiting to the population, has made people poorer in taking their fields” (Privatisation Secretariat, 2002). We asked the general manager of Kabuye Sugar Works what the role of the company has been in poverty reduction. He pointed to the fact that this is not the primary concern of a private business, but expressed his conviction that the company plays an important role. He enumerated “what would not

have been there if Kabuye Sugar Works was not active: 6 tot 8 million Rwf leaving the country by importing sugar, 7000 to 8000 unemployed, 1.5 billion Rwf less in circulation, 3 million \$ less taxes for the Rwandan government”. He added “I don’t claim that we have to reduce poverty, but in the process of doing business, there is development”.

However, the social cost of the land concessions in the hands of Kabuye Sugar Works was high: thousands of peasants families lost access to their swampland plots. For some who cultivated cash crops or used their land to extract clay for brick-baking, this meant a loss in their monetary income-generating capacity. Others that concentrated on subsistence crops and used the swampland plots as a safety-net in times of setback, lost an important risk-coping mechanism.

Case B - Two marshlands, two influential development brokers, two cooperatives

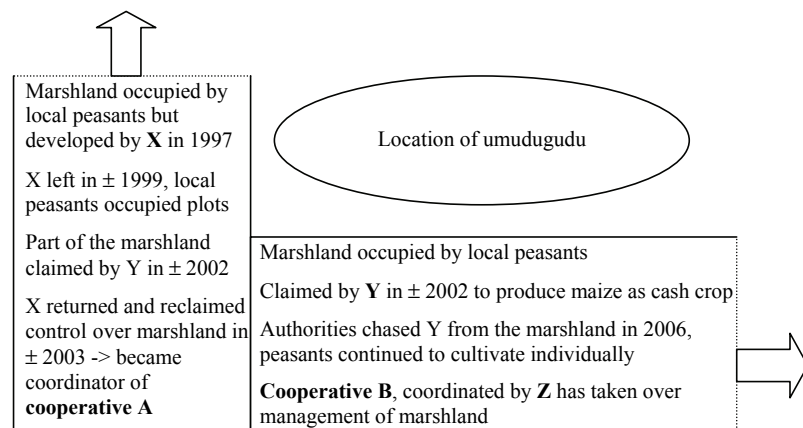
In umudugudu B, concessions over the marshlands were handed to two private investors. In 1997, after the war, a military group of the RPF army arrived to develop the unexploited part of the marshland to clear away the hiding place for “evildoers”. X (part of the military group) managed the process and started a food-for-work project with the aid of WFP (World Food Program). The project employed local peasants to develop the marshland. At a certain point (unclear when exactly) WFP ended the funding. X tried to continue with the project for a while, but when there was a flooding due to bad weather conditions (around 1999), X decided “to leave the marshland to the people of the umudugudu”.

Due to the flooding, the papyrus grew again and the marshland had to be redeveloped. People again occupied and cultivated land according to their physical capacity, or to their financial means to hire physical capacity. At a certain point however, the mayor started a campaign to “help the population find a project that could bring them money”. In his opinion, the population had to shift from food crop production with “no market value” to market production. At that point (probably around 2002), entrepreneur Y received the permission of the district authorities to start a maize project in the marshland. Y managed to get the support of an NGO who provided him with seeds and manure. Y was described as an *agricultural entrepreneur* “*who is used to cultivate in the marshes, he does it everywhere*”. In contrast to X, Y originated from the region itself. Apparently, Y tried to reinforce his social statue as a broker by referring to his political connections. According to our interviewees, Y took “everything he wanted”, partly plots previously “owned” by X, partly plots that had always been cultivated by individual local peasants.

Around 2003, X returned and found that “the limits of his marshland were exceeded by Y”. With the proof of old maps, he took the matter to the district where he reclaimed ‘his’ part of the marshland (approximately 120 hectares). Several interviewees implicitly linked A’s military connections to his negotiation ability to claim the marshland.

At his return, X “mobilised the population to form associations” and to cultivate under the umbrella of cooperative A, of which he became the ‘coordinateur’ or ‘spokesperson’. People cultivated one single crop type within each association, but there were differences between associations. “In the near future” however, people state that rice cultivation would become a mutual project for many associations in the cooperative.

Figure Annex 4: A schematic overview of the swampland areas in umudugudu B



Focus group participants estimated the number of marshland associations under umbrella cooperative A at around 60, with members from all the nearby imidugudu. Access to or exclusion from the associations under the cooperative’s umbrella is first of all dependent upon financial means. Each association has to contribute 100.000 Rwf to the cooperative, regardless of the land allocated to it and regardless of the number of members. The financial requirement was described by a participant as “a delicate problem as many people do not find the necessary means”. Another requirement in securing access to marshland plots, is to have the “necessary physical force to cultivate”. Those who fell sick at a certain point of time and were unable to pay for labour force working in their place were obliged to leave.

Most important in the process of securing access to marshland plots however are the social relations of peasants. Three mechanisms played at the same time in the allocation of marshland managed by X. First of all there were those who were well informed about the inevitable evolution from individual towards collective marshland user rights. Whereas some peasants tried to ignore the associational requirement, others jumped on the boat early (focus group participants in this case referred to themselves as “those who knew the utility of the marshland”). They formed rather small associations with a limited number of members and received user rights on considerable plots of marshland, up to several hectares. With the process ongoing – people were being dispossessed of their marshland plots and associations were taking up the space – other peasants did “understand the advantages of associations” and wanted to adhere. However, given the large part of the marshland already occupied by associations, and given the large influx of candidate members, newly created associations at that time counted more members and received user rights on smaller plots of marshland, up to one hectare. The ‘early’ associations did not want to enrol more members as they wanted to “preserve the size of their plots”.

Within the associations, another mechanism played. According to the statute of most marshland associations, members could only get a user right on one plot. However, those with enough financial means subscribed other family members. As a result, households could gain user rights to several plots. In our interviews, poorer peasant categories referred to this practice as ‘cheating’. Better-off categories however, described this as a legitimate system given that they “paid for access” and only occupied plots according to their financial means.

A key role in the third mechanism to secure access to marshland plots, was played by those referred to as ‘capitas’ by the interviewees. These are influential peasants, well-connected to local authorities and to X’s cooperative. They realised the opportunity that the associational requirement could provide them with. They ‘bought’ user rights over considerable parts of the marshland (examples of 40.000 Rwf were cited), and then “gathered an association around them” who reimbursed the costs made in the process. Local peasants were allowed to enter the association in return for a considerably high financial contribution, around 5.000 up to 6.500 Rwf to adhere, in addition to a tax rate of 1200 Rwf per year. This third mechanism had, at the time of our research, become the only opportunity to adhere to a marshland association under the umbrella of cooperative A. Therefore, over the years, adhering to an association had become very expensive

Among the associations under umbrella cooperative A, some have members cultivating individually, others cultivate together. But in any case, they “do cultivate what they are asked to cultivate”. For some this was arachide and rice, others combined maize and beans, and still others cultivated rice at that point, but would rotate between beans (dry season) and rice (rainy season) in the coming season. In general, people were quite happy with the overall productivity of the current system, giving “good harvests and high returns”.

In his part of the marshland, Y opted to let people cultivate the marshland plots that they had occupied before his arrival, but with the obligation to cultivate maize. Nonetheless, a significant percentage of local peasants (estimated at around 30%) did lose their user rights, either because they did not want to cultivate maize, either because they were not able to “cultivate in time” (all peasants had to follow a fixed cultivation and harvest pattern), either in the process of organising the peasants in associations. Indeed, Y had also captured the “associational drive” of the national authorities and organised his labour force into associations. Participants in several focus groups referred to these as “phantom associations” that only served as a showcase to the high authorities. Our research in 2007 revealed that X had asked peasants for financial contributions when organising the peasants in associations (“he asked us 1000 Rwf as a rent, and shortly after that he asked to pay taxes for the district”). In addition, some informants referred to irregularities where richer peasants had paid bribes to get user rights over marshland plots previously occupied by poorer and/or less powerful peasants who were chased.

X provided the population with seeds, manure and fertilizers. But at the moment of harvest, peasants were obliged to sell their maize to X for a fixed price. The opinions of peasants widely differed with regards to whether this was a good system or not. Some informants mentioned that X paid a decent price: “it might have been slightly below the market price, maybe 10 Rwf per kg lower, but in any case we would not have found a market for the maize production”. Others however mentioned that the maize in Y’s marshland gave them “stomach pain” given that “X took our production, not fulfilling his promises to pay a right price”. These respondents reported prices offered by X equal to two thirds of the market price or even less. Apparently, X engaged local defence forces to catch peasants who tried to “smuggle” maize out of the marshland.

In 2006, the odds turned against Y as “he was chased from the marshland by the district authorities”¹²⁵. After Y left, the local peasant population occupied the marshland “in a disorganised way”. In most cases, people continued to cultivate the plots that they had occupied during Y’s presence but with the freedom to choose the crop type they wanted. Shortly thereafter however, in October 2006, the district authorities handed the management of the marshland over to cooperative B, managed by a new coordinator Z.

At that point, the rules of the game determining access or exclusion to this part of the marshland altered entirely. The cooperative divided the marshland in plots of approximately equal size and fixed an entrance fee. There is place for some 2500 people, divided over several dozens of associations (different numbers are cited, between 30 and 50). Household heads may however ‘buy’ access to several plots in the name of other adult family members. This is ‘officially’ against the rules, and therefore not something to be done openly. In addition, there were rumours that some privileged peasants – the encadreur of the cooperative and the associational authorities – did not have to pay the contribution to access plots in the marshland.

The original entrance fee was set at 3.000 Rwf. Soon thereafter, it increased up to 5.000 Rwf, some even paid 6.500 Rwf. Some informants explained this increase by referring to the fact that the cooperative will have to buy seeds and manure. The NGO that previously financed these expenses stopped its support. In addition to this, associations will have to pay taxes to the Rwandan authorities. Other focus group participants however thought that too many peasants expressed their interest at the moment the associations were created. In their opinion, the price increased to discourage those with limited financial means to adhere. The perception of peasants upon “how much space is left” in the marshland, widely differed among our informants. Some “have heard that the marshland is full”. One of the associational coordinators however mentioned that only about 1500 people had adhered at the time of our research, leaving place to 1000 others.

Our case study material does not allow assessing the outcome of the marshland reorganisation in terms of efficiency, considering overall output and productivity with

¹²⁵ There were several versions of what happened exactly. According to some, he was involved in a dispute with the NGO who supported this project, and when the latter called upon the authorities to protest against Y’s behaviour, the authorities decided to chase him. Others referred to the disputes between Y and the local peasant population as a trigger for the authorities to chase him: ‘his perverse actions were noticed at the district and at the province level’. Some interviewees referred to ‘the contract between Y and the district that simply ended’. Still others mentioned that the authorities found out that the associations were fake, which brought them to chasing Y.

exact figures. In general, peasants did acknowledge that the overall output of the marshland was quite satisfactory with the monocropping system. A big issue was however which price they could get for their goods on the market or from the intermediary trader. Certainly in the marshland coordinated by cooperative B, people expressed their curiosity about whether the price that the cooperative will arrange for them, would be higher than what they previously got from entrepreneur Y.

Much clearer however is the outcome of the reorganisation bargaining game in terms of equity. Whereas poorer categories could relatively easily occupy marshland plots in periods of ‘disorganisation’, the rearrangement of the institutional landscape with the introduction of new formal policy guidelines did not turn into their favour. On the contrary, the marshland valorisation reform has reinforced existing power imbalances between better-off and poorer categories. Better-off peasants were able “to buy their way in the marshland”. Some peasants with sufficient financial means and the necessary social networks even managed to become intermediary brokers between X, Y and Z on the one hand, and the associational members on the other hand. For poorer peasant categories however, access to marshland is difficult due to their limited financial capacity. The problem of elite capture is resulting in the reproduction of structural forms of poverty and existing patronage networks.

Case C - A German NGO in a rice field

Nearby umudugudu C, there is a large swampland in which peasants traditionally produced soya, sweet potatoes, beans, cabbage, maize, etc, often adopting a multicropping cultivation system. In the rainy season, plots became unsuitable for cultivation due to floods. Our respondents highlighted the crucial importance of the swampland for their umudugudu, especially in terms of ensuring food security.

From January 2001 until February 2002, the swampland was prepared for more permanent cultivation through a cash-for-work project financed by WFP under the direction of a German NGO “Agro-Action Allemande” (AAA). In a second phase, the swampland was redistributed to the local population of nearby imidugudu, gathered in numerous associations. In the first years after the valorisation project, associations could choose which crop type to cultivate: maize, soya, beans, sunflowers, etc., as long as they restricted themselves to the monocropping production technique. However, in the framework of increasing the productivity of the swampland and introducing ‘suitable’ cash crops, a lot of swampland cultivators had to turn to rice production over the last few years.

To get access to swampland plots, people were obliged to organize themselves in associations. In some cases, people whose swampland plots were located near to each other grouped themselves. But also peasants, previously not active in the swamplands, could enter. There was a huge demand for swampland plots in the initial stage of the distribution process. Apparently, the decision to include or exclude peasants was made by the presidents of the associations, based upon “the capacity to exploit the swampland plot”. The physical labour force requirements to cultivate a plot in the swampland, were quite heavy due to the labour-intensiveness of the terracing technique used. Another requirement was to fertilize the swampland plot with manure. This requires both a physical investment to transport this manure from the house to the swampland, but also an investment in livestock to produce manure. In addition, respondents mentioned that “one had to present oneself often” during preparatory meetings to get access to marshland plots.

Because of these requirements, in most cases abakungu were able to acquire a swampland plot. They could pay for agricultural labour force to do the time-demanding work in their place; they had the financial means to buy seed; they had livestock to produce manure; they had the time to socialize during time-demanding meetings and were provided with the right connections “to be on the right spot at the right time”. Some poorer peasants self-excluded themselves based upon these requirements. In addition however, there had been misunderstandings upon the exact date of the meeting in which the swampland would be distributed. As such, a lot of interested poorer peasants without good connections had been excluded from the distribution process. And those abakene (poorer socio-economic category) who were able to acquire swampland plots, were disadvantaged in the distribution process. Informants of these focus groups made mention of cases of bribery – respondents referred to whine pots paid to the associational presidents - which allowed some richer peasants to acquire several swampland plots. Respondents referred specifically to the swampland coordinator and several of the associational presidents, but also to other abakungu.

In terms of productivity, rice harvests had been poor over the last three years (2003-2006), as the swampland is actually not (yet) suitable to cultivate the type of rice available in the local setting. Either a dike should be build to make the swampland sufficiently wet, or a different kind of seed should be used. Apparently peasants had previously been cultivating a rice seed that gave a high production, but they were given a new type of seed that did not perform well. By 2007 (at the time of our research), a lot of people who had acquired plots in the swampland distribution process had left it after being confronted with several disappointing harvests. Mostly

the poorer categories (abakene) were discouraged by the unproductive investment of money and labour over the last years. Better-off peasants seemed to give their swampland investment the benefit of the doubt and awaited better times. Someone mentioned that he saw it as an investment for the future: he continued to exploit his swampland plots to make sure that they would not be attributed to others.

In terms of equity, several tendencies played at the same time. Both the AAA spokesperson as the umudugudu interviewees confirmed that for those who cultivated large amounts of land in the marshes before 2001, the valorisation process meant a significant decline in the swampland surface available to them. In this sense, the valorisation project contributed to a more equitable distribution. But on the other hand, mostly better-off categories cultivating in the swampland profited from this redistribution process. Several mechanisms interacted: first of all, a lot of poorer peasants concluded by themselves that they would not be capable to fulfil the necessary labour and monetary requirements. In addition, poorer peasants were less informed about the distribution process and had fewer connections. Finally, those poorer peasants who did acquire a plot, were often discouraged after three years of disappointing harvests and did no longer have the time and energy to “wait until the project would finally accept to change the crop type”.

Case D - Associations in the process of being created

Given the extreme land scarcity in **umudugudu D**, marshland production has always been of crucial importance for providing food supplies. Informants explained how in 1974, the marshland was distributed equitably among the inhabitants of the nearby regions. Over time, some people, confronted with setbacks, were obliged to “sell their land”. At the same time, newly created households could not acquire user rights over marshland plots. But nonetheless, a large proportion of the households in the umudugudu in one way or another did derive part of their production from marshland cultivation.

At the time of our research in 2007, the reorganisation of the marshland was ongoing. But the process of transferring marshland plots from individuals into the hands of associations had come to a (physical) halt due to the floods that had made the marshland inaccessible for a long period that year. At that point, there were already some associations (four to five) that acquired control over marshland plots. They had not yet been pushed towards a particular crop type, nor had they been obliged at that time to adopt the monocropping technique. The sensibilisation about these policies had clearly not yet reached the same level as in other imidugudu.

Next to the associations, there were also individual peasants who still (assumed to) occupied their marshland plots. Better-informed participants explained how associations – once having received an approval of official authorities – claim swamp-land plots from individual occupiers according to the association's choice. The previous 'occupier' is then sent away. A lot of peasants were not yet aware of what awaited them after the flooding would be over. They assumed they would return to their individual plot, whereas the user rights might very well be claimed by a newly created association.

There are three crucial aspects to gain access to marshland plots through associational membership: access to the right social relations, having enough financial means, and having the physical ability to produce. Indeed, in the process of transferring individual user rights to marshland associations, social capital seems to be a crucial asset. Several previously existing associations (with activities non-related to marshland cultivation) have secured their access rights with the local authorities. Peasants involved in such associations have a clear advantage over others to acquire user rights to marshland plots. For those not enrolled, it is easier to become a member of newly created associations. However, information on which associations are being created and on how to be included as a member is extremely scarce. The majority of people included in our focus groups were not even aware of the (future) role associations would play.

Also economic well-being plays a role in the ongoing bargaining process over marshland. Poorer peasants are constrained in their capability to pay the social part that is required to enter existing associations that combine marshland activities with a tontine. The contribution depends upon the amount of savings that the association has accumulated before a person becomes member. In addition – as explained by a participant of an umukene nyakujya focus group - members of marshland associations are often people who have sufficient time or who can pay for agricultural labour force to work in their place. Poorer peasants however gain their livelihood by working on other people's land and cultivating their own land in the afternoon. They simply do not have the time to fulfil the necessary labour requirements at the foreseen dates. Indeed, some of the abakene nyakujya focus group participants mentioned that they are employed by richer categories to work in the marshland in their place. On top of this, poorer peasants do not have the 'patience' to await the maturity of crops before harvesting. In the associational system, the decisions are taken by the collective unit and might not fit individual agendas of poor peasants with urgent food needs.

Next to social and economic assets, it is finally also the physical capacity of peasants that determines their chances to adhere to a marshland association. The collective system requires for people to cultivate at certain times and to certain standards. Peasants with limited physical abilities self-exclude themselves or are denied access to marshland associations simply on this basis.

Although still ongoing, the risk of elite capture of the opportunities provided within the new policy lines seems huge. The transition from individual to collective user rights reinforces the bargaining position of those peasants that are better-informed and that already dispose of extensive social networks. The ignorance of others – often of poorer categories - affects their ability to challenge the newly-created rules and to secure their position in the bargaining game.

Case E - Associations of the well-informed versus the excluded: an externally-induced reform reinforcing existing power imbalances at the local level

In umudugudu E, population pressure pushed peasants to cultivate the marshes. There was not a specific distributional rule for these plots, everyone could develop a part and cultivate according to his own physical capacity. This capacity determined the surface of the plot. During the mid '70, authorities started to promote working in associations. One of the activities undertaken was the digging of small lakes for fish production. Other associations were involved in vegetable cultivation. However, according to our interviewees, at a certain moment a severe flooding stopped all cultivation activities. As a result, all associations dissolved. After the marshland dried up, the plots returned into the hands of individuals. A lot of households living close to the marshland as such (re)gained individual user rights to marshland plots.

The associational system was reintroduced by the communal authorities as early as 1995. Associations were created from then onwards (the newest association we came across was created in 2001), asked for permission to the authorities, and then occupied the plots of individuals. At the time of our research, respondents spoke of six different associations. In several cases, the marshland activity is combined with a tontine system. Some associations are also involved in other activities – f.e. we came across an association involved in beekeeping. Something particular for the marshland associations in this umudugudu – not found in the other settings that we discuss– is that the peasants introduced a system where half of the available plots are cultivated collectively, and half are distributed among its members to be cultivated individually.

There are different categories of peasants in relation to marshland cultivation. First, there is the category of peasants who cultivated in the marshland before the reform, and who have become member of an association. These people had preferential access at the time the associations were created; they were referred to as the “founding members”. Indeed, associations started with those who had plots in the marshland. Then, there are also quite some peasants who were not cultivating in the marshland before the reform and used the opportunity to become member of a marshland association. A crucial prerequisite was to be informed at the right time, which often depended upon ‘getting along’ with those at the forefront in the associational drive. Some people also mentioned that there was a cost involved. But most said that, at the time of creation of associations, adherence was free of cost.

On the other hand, there are also those who cultivated in the marshland in the past but did not adhere to an association. As a result, they lost their access to marshland plots. Some did not want to or were unable to confine to the association’s rules (a respondent f.e. mentioned that in their association they had to grow sugarcane and some refused). But the main reason for not adhering, was ignorance. Some respondents, not part of this group, referred to these peasants as people who did not have the openness of mind to work together. The peasants involved however mentioned that they did not understand the importance of associations at the time of their creation; quite some of them did not believe that associations would simply take control of the marshland. When chased from their marshland plots, these peasants often regretted afterwards to not have become a member.

Finally, there are peasants who did adhere to an association, but who left the association for one reason or another. Someone mentioned that over the course of the years, the climate has been unfavourable at several occasions (flooding). This discouraged certain peasants and made them leave. There are also people who were absent during collective working days, or who were unable to pay their financial contribution in time. This could lead to accumulated fines which obliged certain peasants to leave the association. It is in this way that most people left. Finally, there are peasants that fell sick for some time, or that were put into prison for a longer period. As a result of their incapacity to work and attend the meetings, they lost access to the association and to the marshland. At the time of our research, all our respondents agreed that it was difficult to adhere to a marshland association, once fallen outside of the marshland system. The price varies between 5000 and 10.000 Rwf (someone even mentioned 15.000 Rwf, depending upon the social fund that the association has build).

In the same way as for the previous two case studies, there are three crucial aspects to gain access to marshland plots. First of all, peasants need to have the right social relations. Ignorance was raised as the main reason for peasants not adhering to associations at the time they engaged in marshland cultivation. Some mentioned that associations had been created in secrecy. Secondly, people need the financial means. The associations we came across often combined their marshland activities with some form of rotating savings (tontine). Someone unable to pay the required contributions, is obliged to leave the association. This same system also complicates adherence of interested peasants not yet member. Finally, peasants involved in marshland associations need to have the necessary physical force. Respondents did mention that richer categories sometimes paid poorer peasants to work in their place.

The overall outcome of the valorisation process in terms of productivity is unsure. Indeed, we were informed about disappointing results over several years. But the poor harvests probably had more to do with perverse weather conditions, than being purely the result of the valorisation process. However, turning to the distribution of the cake, respondents agreed that poorer people had been deprived in their chances to access marshland plots. One interviewee (member of a marshland association) pleaded for a total redistribution of the marshland – even if this would mean a personal loss for him. He referred to the actual situation as highly problematic in times of draught. Those without any land to cultivate become frustrated and suffer from hunger. Those with plots in the marshes can however count on a considerable harvest. This creates severe social tensions at the local level. Another person (non-member of a marshland association) reasoned in the same way that the state should be more interested in the distribution of the marshlands and not simply leave it to the initiative of associations. He stated that “the disinterest of the state creates disorder”.

Case F - The local level ‘inspired’ by the associational spirit to reach a more equitable outcome

In umudugudu F, peasants spontaneously started to cultivate marshland when population pressure increased. In 1974 however, the cellule committee decided to redistribute the marshland. The main criterion, according to some informants, was the physical ability of households to cultivate the plots. Some received more, others less. Over time, certain peasants were obliged to sell their marshland plot in times of setbacks. But very few did so as all peasants realised the importance of the marshland as a complement to the agricultural production in the hills. The households not cultivating in the marshland were – next to those physically incapable of exploiting a

marshland plot - mostly newly founded households or newcomers arriving from elsewhere.

At the time of our preparatory research in February 2006, peasants had heard some rumours about a new marshland policy. Our informants were all very concerned on what course the reform would take, and highlighted that the marshland was really crucial for their *umudugudu*. Later that year, the local authorities – in line with national policy objectives – informed the local peasants about the requirement to cultivate in associations. Participants in several focus groups confirmed that these associations were created by the peasants themselves, but only after “being mobilised by the sector authorities on the advantage of working in associations”. This was around July 2006. At the time of our research in 2007, there were about five associations with variable surfaces, “dependent upon the number of participants in their association”. They are organised under the umbrella of a cooperative, and headed by a president that is chosen among the members of the association.

In general, peasants with neighbouring marshland plots put themselves together to form an association. But also other peasants, not yet active in the marshland, could adhere. The financial requirements to enter an association are limited although slightly different for each association, dependent upon the statute and the cultivated crop type. The most important requirement to enter an association is having the physical capacity to cultivate.

The crop type cultivated in the marshland depends upon the association in which one takes part. The marshland area was traditionally used to cultivate food crops (f.e. sweet potatoes). After the reform, associations cultivate soya, maize, or colocase. In 2007 however, under the command of the district’s agronomist, some associations – cultivating in the wet parts of the marshland - have for the first time cultivated rice. The monocropping technique is often used, although peasants did ‘admit’ that they sometimes practice multicropping. They are aware that this is not in line with the official policy, but are convinced of the profitability of the system. Harvests are shared equally; several associations even use a balance to avoid disputes. Quite some associations also sell part of their harvests on the market. Profits are divided equally.

In terms of marshland productivity, it is difficult to judge whether the marshland is used more efficiently now in comparison to before the reform. Peasants did mention that the harvests are satisfactory in the associational system adopting the monocropping technique. But this discourse often seemed an obligatory exercise to confirm the public transcript. After insisting on the topic in our interviews,

respondents often enumerated several reasons why multicropping is ‘also’ advantageous. Although it can not be said openly, combining different crop types is actually preferred by many of them.

Looking at the net effect in terms of poverty reduction and equity, the result is less equivocal. Several peasant households, previously excluded from the marshland, have been able to profit from the occasion to be included in an association and as such acquired access to the marshland. Participants mentioned how “much more people are served by the harvests in the marshland than before the reform”. Participants in one focus group estimated the percentage of peasants active in the marshland at about 50% before the reform and 95% after the reform. Others however estimated the percentage of peasants active in the marshland at around 70%, pointing to the phenomenon of newly created households after the marshland reorganisation that could not get access. Quite some peasants thought that equalising land property was a specific goal of the marshland valorisation policy, which, interestingly, it is not according to official policy lines at the national level.

Although we gathered a lot of information on this case, we could not get a hold on what exactly made this case different from the others. It could be that local sector authorities had insisted on an inclusive system, although our interviews do suggest this. It could also be that the local social dynamics at the umudugudu level prevented elite-capture and resulted in a rather successful open-access policy. Indeed, at the time of our research stay in 2006 (when the reform was announced but not yet implemented), there was a lot of anxiety among local peasants on what the end result of the reform would be. Informants at that time accentuated that the marshland redistribution should be an inclusive process given the crucial importance of marshland production to survive, “otherwise a war could break out”. This might suggest that poorer categories exercised agency proactively in the form of threatening with social unrest if they would be excluded in the marshland bargaining game.

Annex 5: Three alternative swampland cultivation modes compared (2007 figures)

	Current situation	Only small-scale peasant sugarcane production	Small-scale peasant 'free' crop production
Productivity (output per ha) in quantity	The production capacity in terms of sugarcane production (not in terms of processing) of Kabuye Sugar Works over a period of 18 months is 80.000 – 90.000 tons ¹²⁶ produced on a surface of 3.000 available and 1.750 cultivated hectares. This is a ratio of 26,7 – 30,0 tons per available and 45,7 – 51,4 tons per cultivated ha.	At this point, the productivity of individual small-scale peasants production sugarcane lies at 50,0 – 54,5 tons of sugarcane per ha ¹²⁷ per 18 months on the 2200 ha cultivated by small-scale peasants. The productivity of individual small-scale peasants growing sugarcane is considerably higher than that of the privatised company.	
Productivity (output per ha) in monetary terms		The monetary value of sugarcane production is equal to 466.667 – 508.667 Rwf per ha per year ¹²⁸ (14.000 Rwf per ton, 2007 prices).	The mean monetary value of 'free' crop production per ha on all types of land lies around 273.512 Rwf per ha (2001 prices, see Ansoms, 2008A) ¹²⁹ or 449.364 Rwf per ha in 2007 prices ³⁰ . This amount would most likely be somewhat higher when only taking into account more fertile swampland plots. - The productivity rate of 'free' crop production (monetary value per ha) is comparable to that of sugarcane production.

¹²⁶ About 40 to 45% of the sugar production comes from the land held in concession by Kabuye Sugar Works. This is equal to 7.200 – 8.100 tons of sugar, 40 to 45% of 18.000 tons of sugar processed in the factory over a period of 18 months (production capacity of 12.000 tons per year). The weight of the finalised sugar is about 9% of the required sugarcane. This means that the total amount of sugarcane produced by Kabuye Sugar Works on its own plots is equal to 80.000 – 90.000 tons.

¹²⁷ About 55 to 60% of the sugar production comes from individual peasant plots. This is equal to 9.900 – 10.800 tons of sugar or 110.000 – 120.000 tons of sugarcane over a period of 18 months. This means that the productivity lies at 50,0 – 54,5 tons of sugarcane per ha per 18 months on the 2200 ha cultivated by small-scale peasants. Ideally, small-scale farmers could have a production capacity of 100 up to 150 tons per ha over a period of 18 months (Information based upon an interview with Mr. Rao, general manager of Kabuye Sugar Works, 26 June 2007).

¹²⁸ The monetary value of sugarcane production is 14.000 Rwf per ton (2007 price offered by Kabuye Sugar Works to individual peasants). Peasants produce between 50,0 and 54,5 tons of sugarcane per hectare, good for 700.000 up to 763.000 Rwf per hectare over a period of 18 months or equal to 466.667 – 508.667 Rwf per ha per year.

¹²⁹ All plots land in swamplands and on hills is taken into consideration..

¹³⁰ Accumulated inflation (consumer prices – period average) over the 2000-2007 period is equal to 64,3%.

80.000 – 90.000 tons of sugarcane produced by Kabuye Sugar Works + 110.000 – 120.000 tons of sugarcane produced by small-scale peasants Total of 200.000 tons of sugarcane in 18 months, = 18.000 tons of sugar. The market price of this sugar is equal to 9 billion Rwf (at 500 Rwf per kg sugar¹³¹). This is less than what Kabuye Sugar Works could have earned when concentrating exclusively on manufacturing instead of producing sugarcane.	If all available land would be cultivated by small-scale peasants, they would produce 230.000 - 250.700 tons of sugarcane in 18 months¹³², resulting in 20.700 – 22.563 tons of sugar. The overall monetary value of the swamp land output would have been equal to 3,2 – 3,5 billion Rwf (14.000 Rwf per ton sugarcane) for the local peasants, and 10,4 – 11,3 billion Rwf (500 Rwf per kg sugar on Kigali market) for Kabuye Sugar Works	The total monetary value of the swamp land output under 'free' crop cultivation would be comparable to that of sugarcane production.
Overall output	• 5000 – 6000 individual jobs in sugarcane production • 400 jobs in sugarcane processing • 1200 – 1500 small-scale peasant families selling sugarcane to factory • unknown number of jobs in transportation sector	Most likely, a lot more small-scale peasants would have been active in subsistence crop production if this would have been allowed in the swamp land. (Currently, individual peasants growing sugarcane occupy between 1,2 and 1,8 ha in the swamp land whereas average total landholdings were at 0,75 ha per family in 2000.)
Employment Earnings per day in the swamp land	• 2509 – 3136¹³³ small-scale peasant families selling sugarcane to the factory • 400 + some additional jobs in sugarcane processing (given higher production) • additional jobs in transportation sector At current productivity rates, earnings of individual farmers cultivating 0,16-0,17 ha of swamp land with sugarcane¹³⁴ are comparable to the yearly earnings of a daily wage labourer in the privatised company (with nearly no time for other income-generating activities). The 3000 hectares of swamp land held in concession by Kabuye Sugar Works could have provided a total of 18.000 peasant households with earnings comparable to the 5000 - 6000 agricultural labourers that the company employs today¹³⁵.	Average earnings per day for individual small-scale peasants families that have the freedom to choose which crop type they cultivate are comparable to those of peasants obliged to cultivate sugarcane.

¹³¹ The price of sugar has increased from 500 Rwf to 900 – 1200 Rwf (Rwanda News Agency, 2008).

¹³² 1200-1500 private small-scale farmers occupy a territory of 2200 hectares. If the additional 3000 hectares held by Kabuye Sugar works would have remained in the hands of small-scale peasants (considering an arbitrary 20% as not cultivable), a total of 230.000 – 250.700 tons could have been produced at the current productivity rate.

¹³³ 1200-1500 private small-scale farmers occupy a territory of 2200 hectares. If the additional 3000 hectares held by Kabuye Sugar works would have remained in the hands of small-scale peasants (considering an arbitrary 20% as not cultivable), a total of 2509 – 3136 private small-scale peasants could have had access to swamp land at the current hectares per peasant rate.

¹³⁴ The value of sugarcane production equals 466.667 – 513.333 Rwf per ha. At this productivity rate, the income of sugar cane production of 0,16 – 0,17 hectares equals the salary of daily wage labourers working on Kabuye Sugar Works' sugarcane plantations.

¹³⁵ At an average of 0,16 to 0,17 hectares per household, a total of 18.000 peasant households could get access to the 3.000 hectares of swamp land.

Conclusion:

Rural change and class differentiation in contemporary Rwanda

Abstract

The **concluding paper** of the PhD is a reflection on the insights of the various PhD papers with regards to the process of rural change and class (trans)formations in contemporary Rwanda. It looks at the causes, processes, mechanisms, contexts and symptoms of the rural differentiation process. It pleads for an alternative rural policy that promotes broad-based agricultural growth with a key role for small-scale peasants, in combination with an activation of the potential of (nearly) landless rural agents in the local off-farm sector.

1. Rural differentiation and the case of Rwanda

The papers of this PhD (see table 1) all reflect upon the (potential) impact of the dynamics of change in agrarian and rural structures upon class differentiation at the national and local level. *Rural differentiation* was defined by White (1989) as “a dynamic process involving the emergence or sharpening of ‘differences’ within the rural population; [...] it involves a cumulative and permanent process of change in the ways in which different groups in rural society – and some outside it – gain access to the products of their own or others’ labor, based on their differential control over production resources” (White, 1989: 19-20).

White provides a framework for studying these dynamics by analysing the *causes*, *processes*, *mechanisms*, *contexts* and *symptoms* of the class differentiation process. The *causes* relate to dynamics that set the differentiation process into motion. White refers specifically to the penetration or expansion of the commodity economy. The *process* of differentiation itself concerns “shifts in patterns of control over means of production and the accompanying social division of labor” (White, 1989: 26). These shifts occur through *mechanisms* that partially or totally dispossess certain rural actors from production resources in contrast to the various forms of disposition of surpluses by rural elites. The mechanisms are influenced by and shaped through the political and economic *context* at the global, regional, national, and local level. Finally, there are the *symptoms* of rural differentiation: the distribution of land, the division of labour, the incomes and livelihood strategies of various socio-economic groups in the rural setting. When taken together, the papers’ difference in *focus*, *level* and

techniques of analysis provide the necessary information to fit the Rwandan case into this framework.

Table 1: An overview of the PhD paper titles

PhD Chapters
0. Evolutions of growth, poverty and inequality: Challenges for the Poverty Reduction Strategy
1. Striving for growth, bypassing the poor? A critical review of Rwanda's rural sector policies
2. 'Reengineering rural society?' The visions and ambitions of the Rwandan elites
3. Rural poverty and livelihood profiles in post-genocide Rwanda
4. The inverse relationship between farm size and productivity in rural Rwanda
5. Views from below on the pro-poor growth challenge: The case of rural Rwanda

First, we should note that the Rwandan case is not unique in the African continent: the *causes* that set into motion a process of rural differentiation are found in various developing countries. Bryceson (2002) for example explains how the whole of Africa is involved in a process of 'deagrarianisation', defined as "the long-term process of occupational adjustment, income earning reorientation, social identification and spatial relocation of rural dwellers away from strictly agricultural-based modes of livelihood" (Bryceson, 2002: 726). Rigg (2006) points, in the same line, to the increasing detachment of rural livelihoods from farming and from access to land. These general tendencies in the 'Rural South' lie close to the dynamics of rural change currently ongoing in Rwanda.

Bryceson (2002) considers neoliberal-inspired policies - referring especially to structural adjustment and market liberalisation policies - as catalysers of this deagrarianisation process. Indeed, we could say that also for the Rwandan case current rural policies and policy makers' discourses are largely embedded within neoliberal foundations. Although structural adjustment policies have been replaced by poverty reduction policies, the emphasis upon economic growth as a universal solution to the poverty problem remains problematic. We have shown this elaborately in our **introductory paper**.

There are however also other causes of rural differentiation, related to the increasing environmental stress and stringent competition over natural resources. Indeed, land constraints are looming for several African countries (World Bank, 2007). But as we have shown in **PhD paper 4**, Rwanda is an extreme case, with only 0,71 hectares available for the average household. In addition, the country is confronted with ever continuing population growth. This scarcity has set into motion a restructuration of smallholders' livelihoods. Small-scale peasants are increasingly pushed towards subsistence production, until a point where they can no longer survive from their agricultural production. At that point, they increasingly diversify their incomes

through engaging in non-agricultural activities, most often as casual agricultural wage labour force. The category of (nearly) landless rural actors, entirely dependent upon this wage labour market is growing.

In addition, rural policies are expected to further enhance the process of polarization. In order to increase land efficiency and productivity in response to the resource constraint, **PhD paper 2** identifies how the visions and ambitions of the rural policy makers aim for a re-engineering of rural society. **PhD paper 1** identifies how policy makers plan for an agrarian and land reform that focuses upon land concentration and consolidation next to agricultural modernisation, promoting regional crop specialisation, and monocropping production techniques. Despite the findings of **PhD paper 4** that identify a strong inverse relationship between farm size and land productivity - which points to the unexplored potential of small-scale peasants - Rwandan policy makers tend to favour 'high-potential' larger farmers in their quest to move beyond the current ecological frontiers. Small-scale peasants will often be institutionally obliged to adopt government-promoted productivity enhancing techniques.

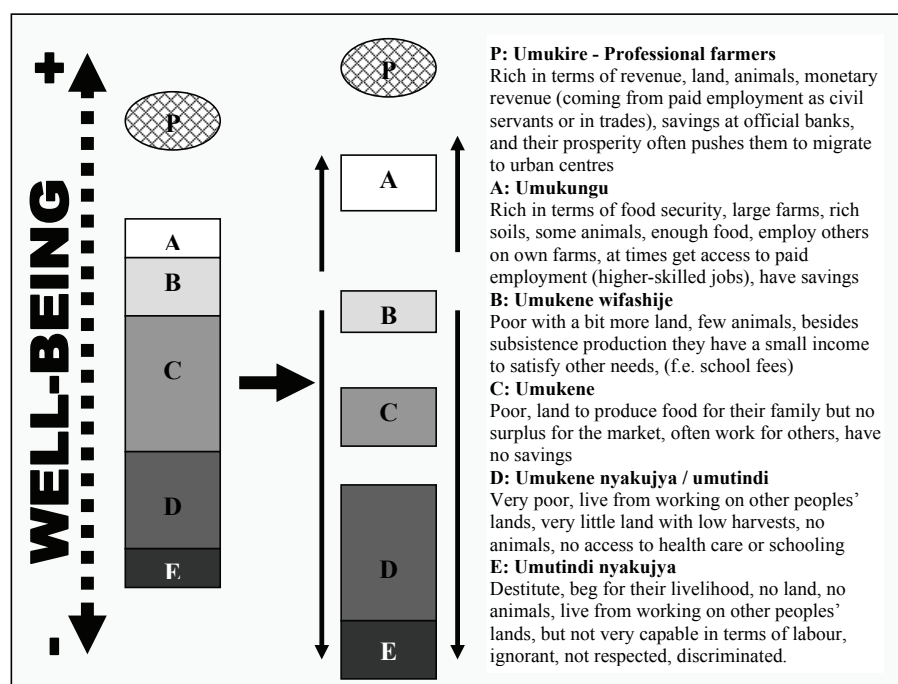
The *process* of rural differentiation and polarization itself takes the form of deeply rooted social change through the shifts in control over resources (cfr. capital), the shifts in the division of labour, and in the division of decision power of various socio-economic categories. White mentions how "studies [on agrarian change often] document *symptoms* rather than *processes*" (White, 1989: 27). Indeed, the *symptoms* of the rural differentiation process are clear from the quantitative data that we provided in the PhD. The **introductory paper** illustrated how overall poverty evolutions between 2001 and 2006 are not satisfactory as the absolute number of poor has increased. In addition, inequality – measured by the Gini coefficient – worsened over this period. **PhD paper 3** identified different livelihood profiles with very differential access to natural, physical, human, financial and social capital, resulting in an obvious difference of poverty incidence between those categories.

On the other hand, White believes that "detailed local-level work can more easily combine [the study of symptoms AND processes] with information on mechanisms of change" (White, 1989: 27). This is exactly what we attempted to do in our qualitative **PhD paper 5** that analyses the differentiation process currently ongoing in rural Rwanda. The paper describes the characteristics and livelihood strategies of the various socio-economic categories in different local settings and their potential for mobility. But it also focuses upon the (likely) impact that rural policies (will) have

upon the well-being of these categories. The rural polarisation process itself can be visualised intuitively (see figure 1).

Rural policies focus on the upper layers of the population distribution, which will – most likely - positively stimulate the well-being of the categories of abakire, and some abakungu. Through their increased wealth and bargaining power on local and regional markets, competition over available resources will increase to the detriment of middle-range categories that are increasingly pushed into subsistence agriculture or out of the agricultural sector. In addition, a wide trickle-down effect of agricultural growth on the off-farm sector is not assured, as the agricultural expansion remains in the hands of few and is not broadly-based. The poorer socio-economic categories will therefore (on average) be pushed downwards on the overall well-being scale.

Figure 1: A visual interpretation of the rural differentiation process ongoing in rural Rwanda



In addition, the polarisation process may also result in mobility among categories. The category of abakene wifashije could become smaller few peasants move upwards to the category of abakire (when able to engage in trade); while most are pushed towards to the category of abakene (bound to subsistence production and unable to compete with professional farmers on local and regional markets). The category of abakene could decrease in size as ecological pressures and population growth increasingly

push peasants into the umutindi category where they have to complement their farm revenues with incomes from non-agricultural non-skilled labour. At the same time, the increasing competition for non-skilled jobs on the labour market will most likely push the overall well-being of this category downwards and may even push some of the umutindi peasants into the category of destitute poor without any productive prospects (abatindi nyakujya).

The *mechanisms* of the differentiation process relate to how certain rural actors are partially or totally dispossessed from production resources, in contrast to the various forms of disposition of surpluses by rural elites (White, 1989). Indeed, there is a land consolidation movement ongoing. This occurs in a spontaneous way when poorer farmers are obliged to sell their land in times of distress, and – confronted with ever increasing stress upon their livelihoods – are unable to buy it back (see **PhD paper 5**). But there is also a policy-induced influence that results in polarisation of land user rights, consider f.e. the swampland redistribution process that results in land user rights being transferred into the hands of more ‘capable’ farmers able to engage in organisations (see **PhD paper 5**). This polarisation tendency in land user rights is expected to continue as rural policies aim for further land consolidation into fewer hands and for a reduction of the agriculture-dependent population to 50% in 2020 (see **PhD paper 2**).

Polarisation of access to the land resource results in the expansion of a (nearly) landless agrarian class. For this group, access to land will no longer be the primary demarcator of wealth; access to non-agricultural income-generating opportunities will become primordial. But within this range of activities, we see again how well-paid higher-skilled jobs go to better-off categories whereas poorer categories have to compete with each other on a very competitive low-skilled labour market whereas demand for these goods and services is limited (see **PhD paper 5**).

The rural differentiation process is embedded within the political and economic *context* at the global, regional, national, and local level. The global context is one in which Rwanda has few comparative advantages on the world market, regardless of whether considering the primary, secondary or tertiary sector. Nonetheless, the market liberalisation drive pushes the Rwandan economy into an increasingly competitive environment. International donors could play an important role here, allowing the vulnerable Rwandan economy - or at least some crucial sectors - to protect itself. In first instance, Rwanda could concentrate on regional trade and its comparative advantages when engaging in such trade. But turning to the regional perspective, also Rwandan leaders have a major political responsibility. The aggressive attitude of

Rwanda and the negative role it still plays in Eastern DR Congo's conflict(s) imposes strong limitations upon a regionally-embedded agrarian growth policy.

Turning to the national level, the Rwandan context is predetermined by the distance between the political elites and the rural peasantry. **PhD paper 2** elaborately reflected upon the strong contrast in the characteristics of Rwanda's current political elite on the one hand and the majority of Rwandans on the other. The former are mainly Tutsi versus a majority of mostly Hutu, nearly always urban-based versus a majority of rural peasants, and often born or raised in a neighbouring country in contrast to the majority of born and raised in Rwanda. This distance is translated in the ambitions of the current political elite - a modernisation of Rwandan society, either by a service-driven, knowledge-based economy, or by going for a rapid modernisation and 'professionalisation' of the agricultural sector without many chances for small-scale peasants.

The local context is typified by decentralised authorities that lack accountability towards the population at the local level. **PhD paper 2** pointed out that their legitimacy to a great degree, depends upon compliance with (the implementation of) national priorities, regardless of the appropriateness of the policy measures at the local level. In addition, there are no political dynamics that render decentralised authorities accountable towards the local population they govern.

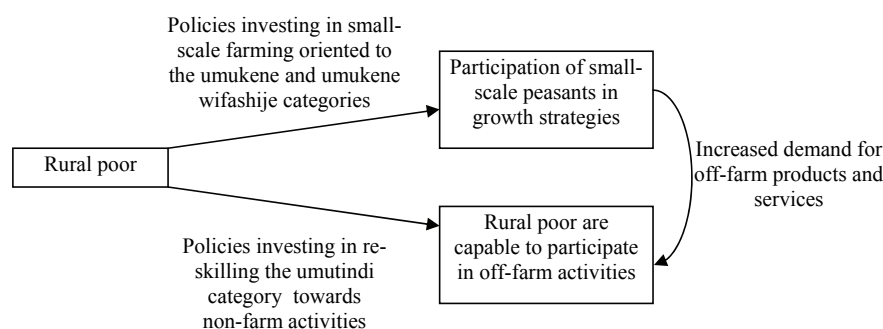
This all adds up to a context in which the ongoing institutional processes stimulate a path of rural change that enhances the increasing polarisation between rural classes and their livelihood profiles. Indeed, we admit that the process of rural change is unavoidable and even desirable in the long term. In the process of change, there will always be shifts in the ways different groups in rural society gain access to wealth, based on their differential access to productive resources (cfr. White 1989). However, in the context of Rwanda, the differentiation process results in a quite extreme form of polarisation of which the most perverse effects could be countered by policy intervention.

2. Policy implications

To outline which types of priorities those policies could focus upon, Rigg (2006) differentiates between the 'established' and the 'revisionist' approach. According to the old 'established' approach, the rural rich are those who are land-rich; prosperity in the rural setting is inescapably linked to access to land. The best way to assist the rural

poor is therefore to redistribute land and to invest in agriculture. Sustainable futures for the rural south can thus be assured by supporting small-holder farming. The new 'revisionist' approach however takes into account the process of deagrarianisation. It acknowledges that the rural poor can be both land rich and land poor. Given the increasing competition for the available land, assisting the rural poor can be much more efficiently done by 're-skilling' them. The association between pro-poor policies on the one hand, and smallholder farming on the other hand is broken as sustainable futures for the rural south have to be sought in supporting poor people's efforts to leave farming and by allowing land concentration and the emergence of large agricultural entrepreneurs. When translating this to the Rwandan context, we would plead for a combination of both (see figure 2 for a visual interpretation).

Figure 2: Policies for a broad-based agricultural growth with maximal trickle-down towards the non-farm sector



On the one hand, we reject - at least for the immediate future - the image of a countryside consisting of amalgamated large-scale farms. Our papers have tried to demonstrate that there still is considerable unexplored productive potential in the group of small-scale farmers (see PhD paper 4 and 5). There are viable alternatives to the large farmer biased model. A pro-peasant initiative could be to focus research and policies on techniques that lower the ratio of capital to labour. Such policies could focus on investing in information on and access to land saving techniques within reach of small-scale peasants (f.e. by introducing new land/financial capital-saving techniques that allow them to increase their productivity; by introducing labour-intensive crops which small-scale farmers have a comparative advantage in, by introducing fertilisers suitable for small surfaces, etc.). Adopting such techniques would allow small-scale peasants to produce the same quantity with a lower capital input (f.e. with less land). Policies could also focus on facilitating access to working capital by providing the (most) local level with credit and risk-insurance mechanisms. This could enhance peasants' capacities to cope with risk and uncertainty related to

new types of agriculture. It would entail micro-finance institutions which concentrate less on clients with collateral who invest in larger projects and more on small-scale farmers (peasants) with little or no collateral who wish to invest in small-scale projects. The government will likely have to play a role here; as the private sector may have little interest in such initiatives.

The next step in the discussion is to consider the relative bargaining positions of both small-scale and large-scale farmers in local and regional markets. Small-scale farmers have two constraints. First, their transaction costs per unit (f.e. transport costs) to get their product to the market will often be higher than large-scale farmers. Second, their bargaining position in price negotiations is limited given the smaller quantities they offer. Policy makers, therefore, could concentrate on enhancing the relative market power of peasants by promoting initiatives that bring them together (f.e. by encouraging the development of cooperatives). To avoid that these cooperatives becoming exploiting mechanisms themselves, their management has to be organised by small-scale farmers in a participatory way that counters elite capture.

Small-scale peasants (more particularly the abakene and abakene bifashije categories in figure 1) could not only play an important role in growth strategies. Moreover, growth created through their hands would be broad-based and as a result, the gains would more easily trickle-down to the remainder of rural society. In the long term however, we do acknowledge that a land concentration movement will most likely be unavoidable.

In contexts with increasing competition over natural resources, it is crucial that wealth and well-being become increasingly detached from access to land. Therefore an investment in 're-skilling' the rural poor (more particularly the abatindi category in figure 1) towards non-farm activities in line with the 'revisionist' approach is equally important. This would make these rural actors capable to participate in off-farm activities, while the demand for off-farm products and services is assured through the increased well-being of a broad mass of small-scale farmers activated in creating agricultural growth.

Indeed, livelihoods of rural populations will increasingly become detached from farming and from land property in the future. But only if the rural society passes through a first stage of broad-based agricultural growth; then will the trickle-down effect of this growth, reaching those groups active in the non-farm sector, be maximally pro-poor.

3. Conclusion: Power relations and governance issues

Now that we have identified a ‘technical’ solution for the Rwandan development problem, the main issue remaining is its political feasibility. The World Development Report 2008 identifies two challenges for the implementation of the agriculture-for-development agenda: managing the political economy behind agricultural policy making, and strengthening governance for the implementation of agricultural policies.

Indeed, these are also the main challenges for Rwanda and the donors that financially support its development strategy. Chapter 2 has extensively shown that the current political economy context is one in which the elite’s economic, social and political interests have the upper hand. These interests differ profoundly from those of the majority of small-scale peasants, because of a profound physical, ethnic and mental gap between both worlds. The Rwandan government rigidly attempts to reengineer its society, while fitting its developmental model within the neoliberal model promoted by the World Bank and the IMF. As such, this seems an inherent contradiction, but this is not in the least so. The neoliberal vision joins very well with the Rwandan governments’ ambition to rigorously implement ‘modernisation’ from above.

The Rwandan government uses concepts such as target-oriented evaluation and decentralisation to present its developmental model as a responsibly monitored choice based upon a popular support base. But the reality is quite different. In fact, both concepts have become instruments in the nationally orchestrated reengineering campaign. Decentralised authorities are populated with public officials that are (nearly) not connected to and accountable towards the local populations they govern. Targets are used to rigidly push these officials towards reaching nationally-defined objectives in which the local level has had no voice.

The wide international applause for the Rwandan developmental strategies – at least within the public transcript - suggests an implicit acceptance by international actors of a ‘development dictatorship’ model. The concept of a ‘development dictatorship’ has been used to describe the economic success story within a context of constrained political freedom in East and Southeast Asia. However, a dictatorship that lacks any feedback mechanism to bring voices from below to the surface, combined with a pronounced alienation between the elite and peasant masses, seems to comprise few elements that could lead to successful socio-economic development. Donors therefore have a pronounced responsibility to support mechanisms that allow bringing the voices from below to the surface, the voices of the Rwandan peasants.

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Samenvatting:

Gezichten van armoede in hedendaags Rwanda

Rwanda is een land met een bewogen verleden. Zijn genocide in 1994, ondertussen vijftien jaar geleden, staat in ons geheugen gegrift als één van de meest wrede episodes van de twintigste eeuw. Het lijkt ondertussen heel wat beter te gaan met Rwanda. De economische groei onmiddellijk na de oorlog was spectaculair, en bleef op een behoorlijk niveau. En ook de internationale gemeenschap engageerde zich met belangrijke hulpfondsen. In tegenstelling tot buurlanden Congo en Burundi kon – en kan – Rwanda rekenen op een uitgesproken financieel engagement van de internationale gemeenschap. Rwanda stippelde een beleid uit voor de bestrijding van de armoede, dat werd uitgevoerd tussen 2001 en 2006. De Rwandese overheid werd door de internationale gemeenschap hierom zeer geprezen. Sommigen gewagen zelfs van een ‘Rwandese Renaissance’ om te refereren naar dit ogenschijnlijk spectaculaire succesverhaal.

Maar er duiken ook barsten op in de façade. Het armoedeprobleem blijft bijvoorbeeld enorm, vooral op het platteland. Tussen 2001 en 2006 daalde het percentage van de bevolking dat leeft onder de nationale armoedegrens van 1,22\$ (PPP, 2006 prijzen) van 60,3% naar 56,8%. Maar omwille van een sterke bevolkingsgroei is het aantal mensen dat leeft onder deze grens enorm toegenomen. Op het platteland leefden in 2006 een half miljoen méér mensen in armoede in vergelijking met 2001. De meerderheid van de plattelandsbevolking moet overleven met minder dan 1 hectare per familie. Bovendien is er ook een zeer sterke ongelijkheid: in 2001 consumeerden de 20% rijksten evenveel als de rest van de bevolking. Sindsdien is de ongelijkheid nog verder toegenomen.

Hoe gaat het nu met de Rwandese boeren? De grote meerderheid van Rwandezinnen leeft op het platteland. Slagen ze erin om te overleven, elk jaar opnieuw afhankelijk van wat er op hun velden groeit? Valt er genoeg regen, of misschien net te veel? Boeren worden geconfronteerd met enorme risico's en moeten hun overlevingsstrategieën daarop afstemmen. Lukt het hen om hun land te behouden, of zijn ze verplicht om werk te zoeken bij anderen wanneer ze zelf niet meer genoeg hebben om te overleven? En hoe ziet de Rwandese overheid de uitdagingen waarmee Rwanda geconfronteerd wordt in de strijd tegen armoede? Hoe bekijkt ze haar eigen rol in plattelandsontwikkeling via landbouw- en landbeleid? Op deze vragen geeft het doctoraatswerk van An Ansoms een antwoord. Globaal geeft dit doctoraat een uniek

inzicht in de processen van rurale verandering en toenemende polarisering die in het huidige Rwanda plaatsvinden.

Een eerste deel van het doctoraat zoekt in op de visie en ambities van de Rwandese elite. De auteur licht toe hoe het plattelandsbeleid is toegespitst op modernisering en professionalisering van de rurale sector, evenwel zonder dat hierbij aandacht wordt besteed aan de rol die kleinschalige boeren hierin moeten kunnen spelen. De auteur geeft voorbeelden die illustreren hoe de Rwandese overheid erin slaagt een kunstmatig beeld van ‘ontwikkeling’ te creëren, terwijl armoede en ongelijkheid worden weggestopt. Zo is er bijvoorbeeld de verplichting voor alle Rwandezen om schoenen te dragen. Ook binnen de landbouwsector worden boeren in toenemende mate geconfronteerd met ingrijpende verplichtingen, van bovenuit opgelegd. Zij moeten zich beperken tot welbepaalde ‘productieve’ gewassen, en in bepaalde gevallen wordt het hen verboden om traditionele landbouwtechnieken toe te passen die hen toelaten om het risico van een slechte oogst zoveel mogelijk te beperken. Dit alles past binnen het streven naar een meer grootschalige en gemoderniseerde landbouweconomie. De nieuwe landwet bepaalt dat landtransacties onder 1 hectare niet mogen, en geeft verregaande beslissingsmacht aan de lokale autoriteiten om boeren die hun land ‘niet productief’ gebruiken, te straffen. Het eerste deel van het doctoraat analyseert op welke manier de overheid erin slaagt dit beleid te implementeren, en hoe dit de levensomstandigheden van de plattelandsbevolking beïnvloedt.

In een tweede deel van het doctoraat analyseert de auteur nationaal representatieve cijfermatige data om te komen tot twee belangrijke bevindingen. Ten eerste identificeert ze verschillende types van boeren. Een cruciaal probleem in armoedebelief is dat ‘de arme plattelandsbevolking’ vaak bekeken wordt als een homogene bevolkingsgroep waarvoor het beleid één pasklare oplossing moet bedenken. In de realiteit zijn er echter verschillende groepen binnen de plattelandsbevolking, met elk hun eigen mogelijkheden en problemen. Beleidsmakers moeten aandacht hebben voor deze diversiteit bij het opstellen van hun beleid. Ten tweede bewijst de auteur dat er een omgekeerde relatie bestaat tussen de grootte van de boerderij, en de productiviteit van het land. Dit betekent dat kleinschalige boeren per hectare méér produceren dan boeren die over grotere landoppervlakten beschikken. Deze bevinding is van uitzonderlijk belang in het licht van het huidige landbouwbeleid dat net mikt op meer grootschalige landbouw.

Een laatste deel van het doctoraat bekijkt de problematiek vanuit het standpunt van de boeren zelf. Via kwalitatieve focusgroep-interviews analyseert de auteur de perceptie

van boeren uit verschillende socio-economische categorieën op hun eigen armoede. Ze bekijkt de opportuniteiten en vaak inventieve overlevingsstrategieën van boeren binnen alle categorieën, maar observeert ook met welke beperkingen en moeilijkheden boeren geconfronteerd worden. De auteur analyseert verder wat er mogelijk en nodig is voor verbetering van de levensomstandigheden, en bepaalt op welke manier verschillende categorieën boeren kunnen participeren in groeistrategieën. De auteur analyseert tenslotte de visie van de verschillende categorieën op specifieke beleidsmaatregelen die de Rwandese overheid ambieert of reeds toepast. Deze analyse geeft een inzicht in de vele problematische aspecten van het huidige plattelandsbeleid.

Het armoede- en plattelandsbeleid is gebaseerd op een streven naar substantiële economische groei in de landbouwsector via modernisering en schaalvergroting. Dit doctoraat toont duidelijk aan dat dit in de huidige context van Rwanda een problematisch objectief is. Op basis van haar bevindingen pleit de auteur voor een alternatief plattelands- en armoedebeleid vertrekkende vanuit twee invalshoeken. Enerzijds is er een onontgonnen potentieel bij kleinschalige boeren dat zou moeten geactiveerd worden door een landbouw- en landbeleid dat is afgestemd op kleinschalige boeren. Het beleid zou hen instrumenten kunnen aanreiken die toelaten om risico's te beperken (kleinschalige verzekeringen en micro kredieten). Het zou zich kunnen richten op maatregelen die de onderhandelingsmacht van kleinschalige boeren vergroot in prijsonderhandelingen op regionale markten. Op die manier zouden kleinschalige boeren zich kunnen wagen aan nieuwe inventieve maar meer risicovolle strategieën. En zo zou een grote meerderheid van de plattelandsbevolking een rol spelen in het creëren van economische groei met brede basis. Dit zal anderzijds de vraag stimuleren naar goederen en diensten binnen andere economische sectoren op lokaal niveau. Op die manier kan ook de plattelandsbevolking die niet (meer) actief is in de landbouweconomie – vaak door gebrek aan land – deelnemen aan het groeiverhaal. Zo kan vermeden worden dat de frustratie en ontredde van de vele Rwandese plattelandsbewoners verder toeneemt.

Maar dit verhaal heeft politieke implicaties. De huidige politieke elite is sterk vervreemd van de plattelandsbevolking en is weinig geneigd om een breed gedragen economische groei te steunen en te stimuleren. Er ligt dus een grote verantwoordelijkheid bij de internationale donoren die deze regering van financiële ademruimte voorzien. Het zal enkel via externe druk zijn dat de Rwandese overheid overtuigd kan worden van het belang om naar de stemmen van onderuit te luisteren, de stem van de Rwandese boeren.

Curriculum Vitae

An Ansoms was born in Turnhout, Belgium, on September 14th, 1979. In 1997, she started her Master study in 'Applied Economics' at the University of Antwerp. For her Master thesis, she conducted field research in Jharkhand, one of the poorest states of India. She focused on social capital creation and destruction in communities located nearby and on the sites of an opencast mining project sponsored by the World Bank. The thesis won the Development Cooperation Price 2001 of the Province of Antwerp.

In 2001, An started a second Master study in 'Gouvernance et développement' at the Institute of Development Policy and Management (University of Antwerp). For her thesis, she conducted field research in Rwanda, functioning as an intern in the Ministry of Finance and Economic Planning. Her research focused upon the participation of civil society organisations in the elaboration of the Poverty Reduction Strategy that was finalised in 2001. An graduated in 2002 with high distinction.

In that same year, she was employed by the Institute of Development Policy and Management as a mandate assistant. Over the next years, she conducted field research in Rwanda at several occasions, adding up to almost 7 months in total. In 2004, An conducted a quantitative survey in Gitarama and Gikongoro provinces. In 2006, she selected specific settings in which she did more in-depth qualitative field research in 2007. The various field research phases were financially enabled with funds from the Institute of Development Policy and Management, from the Flemish Interuniversity Council, and from the Fund for Scientific Research.

In the course of the 6,5 years that An worked on her PhD, she published part of her work in journals such as African Affairs, the Journal of Modern African Studies, the Review of African Political Economy, the European Journal of Development Research. She also published in various books, f.e. her yearly contributions in the Great Lakes Yearbook published by the 'Political Economy in Africa' theme group at the Institute of Development Policy and Management.

An also functioned as an expert in a policy research project financed by the Flemish Inter-university Council and the Belgian Department of International Cooperation. She acted as a member in the pilot committee of the Federal Public Service for Foreign Affairs, Foreign Trade and Development Cooperation, evaluating the Belgian cooperation with Rwanda. At several occasions, she used her research experience to inform agents from bilateral donors (USA, the Netherlands, Belgium) and civil society organizations based worldwide that are active in or working on Rwanda.

